

Black Country Core Strategy

Waste Planning Study

FINAL VERSION

Black Country Core Strategy

Waste Planning Study 2009

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Information from the Black Country Waste Planning Authorities has been added to this report, on their request, to inform the JCS and is presented as requested by the group. This was following the draft report issued on 10th September 2008.

Atkins Limited

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Glossary of Terms

Term	Meaning / Definition
AAP	Area Action Plan
AD	Anaerobic Digestion
AMRs	Annual Monitoring Reports
BCWMF	Black Country Waste Management Forum
BMW	Biodegradable Municipal Waste
BPEO	Best Practicable Environmental Option
CD&EW	Construction, Demolition and Excavation Waste
CHP	Combined Heat and Power
C&I	Commercial and Industrial (waste)
CLG	Communities and Local Government
CPO	Compulsory Planning Order
CRTs	Cathode Ray Tubes
CS	Core Strategy
DEFRA	Department of Environment, Food and Rural Affairs
DPDs	Development Plan Documents
EA	Environment Agency
EP	Environmental Permit
EMR	European Metal Recycling
EWC	European Waste Catalogue
GO-WM	Government Office for the West Midlands
GVW	Gross Vehicle Weight
HWRC	Household Waste and Recycling Centre
IPPC	Integrated Pollution Prevention and Control
IVC	In Vessel Composting
JCS	Joint Core Strategy
LATS	Landfill Allowance Trading Scheme
MBT	Mechanical Biological Treatment
MRF	Material Recycling Facility
MSW	Municipal Solid Waste
MT	Million Tonnes
MWMS	Municipal Waste Management Strategy
PINS	Planning Inspectorate
PPC	Pollution Prevention and Control

PPS	Planning Policy Statement
PRN	Primary Road Network
RPB	Regional Planning Body
RATS	Regis Attached Tonnage System
RSS	Regional Spatial Strategy
SCS	Sustainable Community Strategy
SINCS	Sites of Importance for Nature Conservation
SSSI	Sites of Special Scientific Interest
SWMA	Strategic Waste Management Assessment
TPA	Tonnes Per Annum
UA	Unitary Authority
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WDF	Waste Data Flow
WEEE	Waste Electrical and Electronic Equipment
WML	Waste Management Licence
WMRA	West Midlands Regional Assembly
WMRSS	West Midlands Regional Spatial Strategy
WMRTAB	West Midlands Regional Technical Advisory Board
WPA	Waste Planning Authority
WRATE	Waste and Resources Assessment Tool for the Environment
WRC	Waste Research Ltd

Executive Summary

This study is the culmination of work produced by Atkins for the Black Country Waste Planning Authorities of:

- Dudley MBC
- Sandwell MBC
- Walsall MBC
- Wolverhampton MBC

Previous versions of this report have been provided to the Black Country councils for feedback which has been incorporated into this final report.

Background

The four Black Country Authorities are producing a Joint Core Strategy; this is a development plan document covering a wide range of issues including waste planning policies.

Atkins have been commissioned by the councils to produce a waste planning study to provide:

- Current and future capacity requirements for all waste types
- Numbers and types of facilities required with the land take

And to ensure the information:

- Is based on robust and credible evidence
- Addresses waste issues in accordance with national policy guidance and sub regional policy objectives, including such policy as:
 - PPS10 Planning for Sustainable Waste Management
 - PPS12 Creating Strong, Safe and Prosperous Communities through Local Spatial Planning
 - Existing and emerging Municipal Waste Management Strategies and Community Strategies

In addition to related waste legislation and the Waste Midlands Regional Spatial Strategy.

Task 1 – Developing the Evidence Base

Municipal Solid Waste (MSW)

Current waste arisings, treatment and disposal tonnages were gathered from the best existing available data at the time of the study. For Municipal Solid Waste this information was provided through Waste Data Flow the quarterly monitoring tool which all Local Authorities must use. The total MSW arisings are decreasing and this is also reflected in the 2007/08 figures.

MSW is managed in a number of ways, however, at the current time the only facilities are the two energy from waste plants at Dudley and Wolverhampton, though all the Black Country authorities rely on taking green waste outside the sub region for treatment and Walsall and Sandwell take some MSW to the MRF at Aldridge. The current capacity modelling has highlighted the potential need for additional green waste treatment, materials recovery recycling facilities and residual waste treatment.

The Black Country Councils also run Household Waste and Recycling Centres for residents to dispose of bulky residual waste and recyclables. The sites in Walsall and Wolverhampton are

running under capacity while those in Dudley and Sandwell are operating over their original capacity and may require replacing or additional capacity in the near future.

Commercial & Industrial (C&I)

C&I waste arisings are more difficult to quantify with no tangible reporting system for waste arisings, therefore. The arisings have been taken from the West Midlands Regional Spatial Strategy 2007. Although it may be possible to identify C&I waste arisings from Environment Agency (EA) data this has not been used due to:

- No returns from exempt facilities
- Double counting as waste moves down chain of licensed facilities
- The returns do not identify the sources of waste, which is an issue in the Black Country as waste is believed to be imported from outside the sub region. Golders 2004 West Midlands Waste Capacity Survey also outlined the supply chain outside the Black Country bringing in C&I waste to the sub region, particularly for metal waste.

The EAs 2007 Waste Interrogator could be used in the future as this contains information on origin and destination of wastes; it was supplied to all authorities in February 2009. In addition a national study of C&I arisings is underway but they are both outside the time scale of this report.

Treatment and recovery facility throughput has been taken from the EA's RATS (Regis Attached Tonnage System) and the throughput at 59% used to calculate the capacity, based on SLRs 2007 Waste Treatment Facilities and Capacity Survey in the West Midlands Region for the West Midlands Regional Assembly (WMRA).

Construction, Demolition and Excavation Waste (CD&EW)

CD&EW has similar reporting issues to C&I, therefore, projected tonnages from the Capita Symonds survey for 2005 have been used in the study.

Site Waste Management Plans were introduced in April 2008 for construction projects. However, if they are to be used for monitoring, the Black Country councils need to introduce a reporting system as one is not being carried out by the EA. In addition, a SWMP is only a requirement for projects over £300,000, the large majority of CD&EW is processed and reused on site or under exemptions.

Moreover, many demolition and construction projects also produce contaminated soil. The national land use database shows how much land is classed as derelict and may require remediation. Facilities to treat contaminated soils, such as soils treatment hubs, are necessary as there are no current facilities in the Black Country. It is likely that such facilities will need to be developed as and when required, to support large scale regeneration projects, within the strategic centres and regeneration corridors, alternatively contaminated soils can be treated on site in a variety of ways.

Hazardous waste

Hazardous waste arisings are recorded by the Environment Agency and the data is provided on a sub regional basis. The hazardous waste arisings in the Black Country are predominantly from C&I waste. The treatment and recovery facilities capacity exceed arisings by 85,837 tonnes suggesting that there is ample capacity to treat hazardous waste arisings within the Black Country, other than for contaminated soils. However, at present there are no hazardous waste landfills and it is assumed any hazardous waste requiring final disposal is being sent outside the Black Country.

Landfill

Using information from the various sources provided a differing views on the void space available at the sub regions landfill sites. The background data from the 2007 Scott Wilson Study into the Future of Landfill Capacity in the West Midlands for the WMRA has been used. The results must be treated with caution, however it provides a total void space for active, pre operational and

planning obligated sites at 21,063,000m³, giving approximately 16 years of capacity using consumption rates at a proposed input that are based on current inputs.

Summary

The table below summarises the annual waste arisings and treatment and capacity gaps from the existing evidence.

Waste Category	Arisings (tonnes)	Throughput (tonnes)	Capacity (tonnes)	Gap (tonnes)
Total MSW	575,445	206,250¹	205,000	-370,445
<i>Residual MSW – Total Recycled composted</i>	444,588	206,250	205,000	-239,588
<i>Recycled/ Composted</i>	130,857	0	0	-130,857
C&I	1,627,000	1,228,076	2,081,484	454,484
<i>C&I metal recycling only</i>	227,780	1,119,579	1,897,591	1,669,811
<i>C&I excluding metal recycling²</i>	1,399,220	108,497	183,893	-1,215,327
CD&EW Total	1,445,262	53,576	53,576	-1,391,686
Hazardous	191,576	277,413	277,413	85,837

Task 2a – Need for Waste Management and Treatment Facilities

The modelling from the Regional Spatial Strategy has been revised in places and Atkins have carried out additional modelling for some waste types. The modelling provides waste projections until 2025/26, in line with the timescale for the RSS. BCWMF requested that the modelling was revisited following reduced waste growth in recent years.

MSW

MSW modelling, by Atkins and the revised RSS figures, produced comparable arisings for 2025/26. The differences between Atkins and the RSS arise from the treatment methods, as the Atkins modelling assumed all recycling and composting targets were met by the councils and included 4.5% of inputs to the Energy from Waste facilities being landfilled.

The capacity requirements in 2025/26 have been compared to the current capacity, including:

- 26,000TPA being taken to Greenstar MRF in Aldridge, Walsall (23,000TPA from Walsall and 3,000 TPA from Sandwell)
- 48,000 TPA green waste treated at composting sites outside the Black Country (excluding Dudley)

Also new capacity proposed:

- W2R EfW in South Staffordshire which will take 110,000 TPA from Sandwell and Walsall
- Pikehelve Eco park in Sandwell, 120,000 TPA treatment / energy recovery (MBT), 30,000 TPA In Vessel Composting and 50,000 TPA Materials Recovery / recycling facility (MRF)

BCWMF have confirmed that these facilities should be included in the capacity gap calculations. The table below outlines the capacity gaps including the facilities outlined above.

¹This is the throughput for all waste treatment facilities for MSW in the Black Country at the time of the study. We are aware of other facilities used by Black Country councils outside the sub region but this table is a summary of Black Country capacity only

² Using the EA's 2002/03 C&I waste composition it has been assumed that metals account for all recyclables present in the waste stream (14%). See Appendix D for a full explanation including assumptions made. This is for waste composition only.

Facility Type	Current Capacity	New Capacity Proposed	Total Capacity Existing + Proposed	2025/26 Required Capacity	Remaining Gap
Diversion					
Materials recovery / recycling facilities	26,000	50,000	76,000	150,000	-74,000
Composting	66,000	30,000 (IVC)	96,000	150,000	-54,000
Treatment/ Energy Recovery	205,000	230,000	435,000*	300,000	135,000
Residual					
Landfill	0	0	0	110,000	-110,000

*Includes MBT at Pikehelve + 110,000 TPA EfW capacity at Four Ashes

Existing waste management facilities may be lost due to the development proposed in the regeneration corridors outlined in the Joint Core Strategy Preferred Options. Therefore, the authorities have grouped the sites at risk; those at high, medium and low risk of requiring relocation or replacement due to regeneration. A worse case scenario for all the councils would be a loss of 4,897,847 tonnes licensed capacity or 1,389,437 tonnes throughput, a best case scenario would be 2,574,879 tonnes of licensed capacity or 489,823 tonnes throughput. Either way the councils need to address the issue of lost capacity in the JCS.

C&I

The outputs for the modelling for C&I waste differed between the RSS and Atkins models due to the difference in diversion amounts used in the calculations. The Atkins model used information from the EA 2002/03 survey on C&I waste outlining a possible maximum diversion of 61%. The RSS model used the high diversion rate target of 75% from landfill taken from the Waste Strategy 2000. The baseline amount of 58% in 2002 was used in both models. Once the current study into C&I arisings in the Black Country is completed the modelling could be revisited in light of the more recent, up to date, information.

From the EA 2002/03 study of C&I waste it is estimated that 14% of all C&I arisings are metal waste. This has been used for waste arisings only. As with the MSW capacity gap assessment facilities brought online in 2007/08 and proposals to 2025/26 have been assessed against the predicted waste arisings from the modelling to calculate estimated capacity gaps. The Table below outlines the RSS and Atkins modelling along with the capacity gaps at 2025/26.

Waste Category	Estimated Diversion Requirement * (2025/26) (TPA)	Estimated Capacity (2007/08) (TPA)	Capacity in the Pipeline March 2008 (TPA)	Total Existing and Potential Capacity March 2008	Capacity Gap (TPA)
RSS Projections					
C&I Metals Only	257,000	1,901,000	6,000	1,907,000	1,650,000
C&I Non Metals	1,576,000	298,000	280,000	578,000	-998,000
C&I Total	1,832,000	2,198,000	286,000	2,484,000	652,000
Atkins Projections					
C&I Metals Only	209,000	1,901,000	6,000	1,907,000	1,698,000
C&I Non Metals	1,285,000	298,000	280,000	578,000	-707,000
C&I Total	1,494,000	2,198,000	286,000	2,484,000	990,000

* Estimated diversion requirement has been split 14% metals/ 86% non-metals for consistency with the approach on arisings. Estimated capacity is based on the analysis in Tables 3.11 and 3.14.

Non metal wastes capacity gap is expected to be high, between 707,000 and 998,000 tonnes per annum. However, there is a surplus for metals capacity diversion of approximately 1,600,000 tonnes.

CD&EW and hazardous waste

The arisings for CD&EW are expected to remain constant at 0% waste growth. Due to the large quantities of waste assumed to be managed under exemptions, and the land development slow down due to the economic downturn, the current facilities are expected to be sufficient. Once timescales and areas for development in the Black Country are known facilities for treating contaminated soil can be planned and facilities for treating any hazardous material from the screening of such waste can be identified in the Area Action Plans (AAP).

Hazardous waste is mainly comprised of C&I waste (>80%) and so the arisings for this sector have been modelled on the same growth rate as C&I waste. The modelling for hazardous waste estimates figures of 286,706 tonnes per annum compared to the current treatment capacity of 343,714 tonnes. Therefore there is a capacity surplus of 57,008 tonnes and no further facilities are required. However, at present, there is not a hazardous waste landfill within the Black Country and so waste is transported for final disposal outside of the sub region. In addition, there may also be a need for more facilities to treat hazardous wastes arising from the management of commercial and household Waste Electrical and Electronic Equipment (WEEE).

Land take summary and opportunities for expansion

A land take summary for various types of waste facilities has been provided but land take will vary greatly depending on the technology supplier and exact nature of the facilities required. Transfer stations, MBT and EfWs are likely to have the highest throughput per hectare of land and therefore would require the least area of land per tonnes of waste.

The 2007 SLR survey, Waste Treatment Facilities and Capacity Survey identified that it may be possible for sites to expand by up to 480,000 tonnes. However, as the capacity gap for C&I waste could be nearly 1 million tonnes this will not breach the gap entirely and would rely on facilities expanding which is not always possible.

Regeneration and development

Given information provided in the RSS and JCS Preferred Options there are clear plans for development and regeneration within the Black Country. Development plans will impact on the amount of MSW, due to new houses, C&I due to new retail, leisure and manufacturing and CD&EW produced during the development of these new buildings and facilities. It is difficult to quantify this information and only the increase in MSW has been factored into the modelling.

Data collection and monitoring

MSW has a robust reporting system; the data is collected quarterly and published by DEFRA on their website. C&I waste has been lacking in a robust reporting system, however the introduction of the EA's waste interrogators and the current C&I waste study underway should provide more up to date information on C&I waste quantities.

As large quantities of CD&EW are treated on site there is a paucity of data. The introduction of SWMPs may go some way to providing information on this type of waste but the Black Country councils would need to implement a system for collecting the data as one has not yet been put in place by the EA. Hazardous waste is reported in a comprehensive database and includes waste codes, source and destination of the waste, the councils could monitor hazardous waste on a yearly basis.

Baseline evidence and gap analysis – key conclusions

The key findings of Tasks 1 and 2a are as follows:

- The evidence suggests that the Black Country can demonstrate self sufficiency in managing its hazardous waste, however, there is a capacity cap for non metal waste facilities for C&I
- The Black Country is also probably self-sufficient in managing its CD&EW assuming that most of this is happening on-site, although evidence is lacking and the position should be reviewed if better information becomes available
- There are currently significant gaps in provision for MSW. The authorities rely on infrastructure outside the area to manage a significant proportion of their MSW, and will continue to be dependent on facilities outside the area to some extent. However, there are new proposals in the pipeline at Pikehelve Park in Sandwell which should enable the Black Country to manage more of its MSW within the area.
- Although there are currently gaps in MSW infrastructure, there are new proposals in the pipeline which should address this at least in the short- to medium-term, and there is some balance between existing / planned capacity in the Black Country and projected MSW arisings, though not for all material types.
- The study has identified significant gaps in the range of technologies available for managing MSW and C&I waste, and it has highlighted the limitations of the infrastructure currently available for managing particular types of waste.
- A very high proportion of C&I waste infrastructure in the Black Country is engaged in metal recycling, which is unlikely to be meeting all local needs so there is a clear need to broaden the range of infrastructure available to manage a wider range of the wastes that arise locally.
- Evidence on C&I waste arisings and composition and CD&EW arisings and management is currently lacking so there is a need to address this in the future, to provide a better understanding of local needs – see Recommendations for details.
- Capacity that might be lost as a result of Core Strategy regeneration proposals also needs to be factored in, and any resulting gaps addressed in the Core Strategy.
- In the Core Strategy, the authorities will need to decide how much new infrastructure they need to plan for to maintain overall self-sufficiency up to 2026

- The authorities should also consider how the Core Strategy can encourage a broader range of commercial waste facilities to locate in the Black Country, giving local businesses more options to manage their waste locally.

Task 2b – Location of Waste Management Facilities.

Atkins have provided a number of criteria identified in PPS10. This information has been taken forward and discussed at the waste workshop on 17th February, with criteria to assess the suitability of sites put forward by stakeholders as well as other work. This workshop also finalised the definition of a “strategic” or “major” site which is deemed necessary for the Core strategy as a strategic plan. The definition is:

- All facilities that form a vital part of the Black Country’s Municipal Waste management infrastructure, e.g. Energy from Waste Plants, Waste Transfer Facilities, HWRCs and Depots
- All commercial waste management facilities that fulfil more than a local role, e.g. they are part of a nationwide or regional operation linked to other facilities elsewhere, and take in waste from all over the Black Country and/ or beyond
- All commercial facilities specialising in a particular waste stream or waste management technology, of which there are no others, or very few others, of the same type operating elsewhere in the Black Country
- All existing or proposed open gate landfill facilities, which are likely to fulfil more than a purely local role given the shortage of such facilities nationally
- All facilities with a significant annual capacity/ throughput, for example:
 - Recovery/ treatment/ processing facilities with an annual throughput capacity of 50,000 TPA
 - Waste transfer/ ancillary facilities with an annual throughput capacity of 20,000 TPA

It is anticipated that this definition will be utilised in the JCS to identify which sites need protecting.

Other factors about major/strategic sites are:

- They handle a large proportion of waste managed
- Losing a sites would have a significant impact on waste management infrastructure and the capacity gaps
- The JCS must look at developing major new facilities or those which can incorporate a cluster of smaller sites

As the issue of finding locations for new waste management facilities is a controversial and often long process the study provides information on suitable and unsuitable locations for waste treatment and disposal facilities. For example:

- Within or on the edges of town centres, where developing brownfield sites is a possible use for waste facilities. However, depending on the road infrastructure facilities within centres may cause added congestion and not be suitable.

The operational requirements of waste facilities and the options for clustering waste facilities were also provided in this section of the study.

Recommendations

The recommendations provided were to:

- Continue to monitor MSW and hazardous waste as currently collected.
- Review C&I waste arisings information in the light of the new national C&I waste arisings study, currently underway, when the results become available. This new information could also be used to revisit the modelling if so required by the BCWMF.
- Review the hazardous waste arisings on a yearly basis as well as planning applications for any expansion of existing or new facilities.

- Explore the use of the Environment Agency's 2007 waste interrogator as a source of C&I data.
- Collate information on CD&EW for waste produced in the Black Country from SWMPs (subject to availability of data), although small construction projects under £300,000 will not be included. For example make a SWMP a requirement when a planning application is submitted and receiving a completed version as part of the planning conditions for a site. This information should include estimated waste treatment and disposal quantities.
- Establish an estimate of realistic capacity for the facilities across the Black Country is recommended to understand sites' operational capacity and the maximum volume of waste that can actually be handled. This is largely unknown, and would involve a comprehensive survey of waste operators within the Black Country to quantify. This may prove a worthwhile exercise in the future.
- Plan for the development of soil treatment hubs as and when required to support large scale regeneration projects within the strategic centres and regeneration corridors. In addition hazardous treatment facilities may be necessary to treat the waste from these facilities such as filter cake.
- If possible, revisit this study on current treatment sites ability to expand to provide information on the capacity which could be available without completely new sites.

In terms of further work it is recommended to undertake the following:

- Finalise the criteria and weightings for waste sites within housing, low and high employment areas to identify which strategic sites will definitely be at risk. This has been carried out.
- If constituent councils decide there is a need to allocate strategic waste sites in the Joint Core Strategy we recommended that these should be assessed using a framework based on the criteria themes identified. A scoring system would need to be adopted that allows a weighting be assigned to each of the criteria. Weighting these criteria will be important, since not all issues are considered to have equal standing. The weighting will also give the Councils the flexibility identified via the stakeholder consultation exercise. This has been carried out.
- Identification and assessment of new sites with potential for waste management activity for site allocation.
- Identify suitable areas for hub and cluster soil remediation and hazardous waste disposal facilities for the generated hazardous waste.

Currently there is considered to be insufficient information in the report to justify allocating strategic sites or broad areas in the Joint Core Spatial Strategy.

1. Introduction

1.1 The Black Country

The Black Country forms a part of the West Midlands conurbation, comprising Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Metropolitan Borough Council and Wolverhampton City Council. Each of the authorities is a Unitary Authority (UA) and, as such, has the function of Waste Collection Authority (WCA), Waste Disposal Authority (WDA), and Waste Planning Authority (WPA).

With a resident population of approximately 1.1 million³ it is a densely populated region covering a total of 138 square miles (222km²). The Black Country together with Birmingham, Solihull and Coventry in the West Midlands collectively make up one of the most densely populated areas in the UK. Both the However, prior to the economic downturn, regional policy towards “urban renaissance” appears to have begun to reverse the decline⁴.

The total waste arisings in the Black Country for 2005/06⁵ are estimated to be 3.8 million tonnes. This comprises 592,585 tonnes of Municipal Solid Waste (MWS) managed by the four authorities, along with commercial and industrial waste, construction demolition and excavation waste, and hazardous waste arisings. Each WDA faces challenging strategic targets for the recycling and composting of this MSW and the diversion of Biodegradable Municipal Waste (BMW) from landfill. In addition, each WPA is tasked with ensuring sufficient future waste management capacity for all waste produced within the local authority area.

1.2 Black Country Joint Core Strategy

The four Black Country Authorities have agreed to work together on a Joint Core Strategy. The Core Strategy is a development plan document covering a wide range of issues such as housing, employment, transportation and also includes waste planning policies. The Core Strategy will be a key element of the Local Development Framework for each authority.

The Regional Technical Advisory Board (RTAB) has carried out significant technical work on waste to inform the Phase 2 Revision of the Regional Spatial Strategy (RSS) for West Midlands. This document forms the base evidence for the Joint Core Strategy. A large amount of technical work on waste has been collated by the Black Country to develop the baseline figures and these are reported in the Core Strategy Issues and Options Consultation Paper and Waste Background Paper.

Atkins has been commissioned by the Black Country Authorities to take this technical work forward and produce a waste planning document that develops a criteria framework for assessing current strategic and future waste infrastructure planned in the Black Country.

1.3 Objectives and Deliverables

The primary objectives of the Waste Planning Study for the Black Country are:

- That it is based on robust and credible evidence base.
- To address issues related to waste and resources in accordance with national policy guidance and regional/sub-regional policy objectives.
- To provide current and future capacity requirements for all waste types.

³ <http://www.bci-uk.com>

⁴ <http://www.westmidlandsltp.gov.uk/regional-spatial-strategy---examination-in-public/>

⁵ EA Regis database for Black Country

- That information is provided on the numbers/ types of facilities and the land take they require.

The waste planning study is split in to 3 tasks:

Task 1: Developing the Evidence Base – review existing data highlighting and addressing critical evidence gaps.

Task 2: Identifying the need for Waste Management and Treatment Facilities

Part a – Need for Waste Management and Treatment Facilities. Quantify current and future capacity requirements for Municipal Solid Waste (MSW), Commercial and Industrial (C&I) waste, Construction Demolition and Excavation Waste (CD&EW) and Hazardous waste up to 2026. Look at the implications on the number, type and spatial requirements of facilities.

Part b – Location of Waste Management Facilities. Develop criteria to assess the location of “strategic” waste management facilities, including existing and new major waste sites within the Black Country. Give guidance on how much land should be allocated within in each land use area for waste facilities and provide information on the suitability and unsuitability of land for different waste technology facilities. Detail what constraints there are when locating waste management facilities and the scope for co locating and clustering facilities.

Task 3: Following the draft versions of tasks 1 and 2 being presented to the Black Country councils for their feedback, the Black Country councils will produce draft policies. Atkins will provide advice to each council on the suitability of their proposal in light of the available evidence. **This will be provided in a separate document.**

1.3.1 Deliverables of Task 1

A) Review of Existing Evidence Base and Critical Evidence

- Carry out a review of the information gathered in the Waste Background Paper 2007 and highlight the uncertainties and critical gaps in the data.
- Identify the gaps in information for waste streams of MSW, C&I, CD&EW and Hazardous waste.
- Review the waste management and treatment capacity for each waste type and include the need and demand for the facilities, such as transfer stations and landfill sites.
- Provide information on contaminated soils storage and treatment from land remediation.

1.3.2 Deliverables of Task 2

A) Need for Waste Management and Treatment Facilities

- Produce modelling of future trends in waste arisings and give examples of the facilities needed to treat this waste.
- Provide information on the gaps in waste management facilities and the need for these facilities.
- Give options for expanding existing facilities.
- Provide information on the amount of CD&EW waste produced until 2026 and the need for treatment facilities.

B) Location of Waste Management Facilities

- Developing criteria to assess the location of strategic waste management facilities; key strategic existing and new facilities in the Black Country.

- Identify which waste management facilities are suitable for development in different locations and how much land should be allocated in specific land use areas.
- Provide information on what locations are not suitable for development as waste management facilities.
- Outline the operational constraints on facilities for the purpose of waste management and provide information on waste facilities which could be clustered.

1.3.3 Deliverables of Task 3

Provide feedback on each Core Strategy draft policy on waste for the Publication document. This will be provided in a separate document.

2. Legislative / Policy Drivers

2.1 Landfill Directive

Landfill Directive (99/31/EC) was implemented in England through the Landfill (England and Wales) Regulation 2002 (SI 1559) and aims to improve waste management practices in relation to landfill. This legislation and recent amendments had significant impacts on waste management practices including:

- Prohibiting the disposal of a number of wastes in landfill sites including liquids, tyres, flammable, corrosive, explosive, oxidising and infectious wastes.
- Prohibiting the co-disposal of hazardous waste and non-hazardous waste in the same landfill cells.
- Pre-treatment of hazardous and non-hazardous waste prior to disposal in landfill.
- Reduction/ diversion targets for all biodegradable waste types sent to landfill.
- Ensuring wastes being deposited in landfill sites meet the Waste Acceptance Criteria.

Waste Framework Directive 2008

Section 7 of the Waste Framework Directive requires Member states to draw up “waste management plans” to meet the requirements for an “integrated and adequate network of disposal installations that enable waste to be disposed of in one of the nearest appropriate installations.” These plans must be drawn up by 2010 otherwise action could be taken against the UK Government for failure to implement the directive. Recent advice from the Department of Communities and Local Government (CLG) is that Local Development Frameworks should fulfil the function of “waste management plans” and they will be expecting Core Strategies and other relevant Development Plan Documents (DPDs) to demonstrate compliance with the directive. This advice was presented to waste planning authorities at a seminar in Birmingham on 29th January 2009, organised by the Government Office for the West Midlands (GO-WM), which was attended by a representative from the Black Country authorities. The key advice for the Core Strategy was that it should:

- Provide a spatial portrait of the area
- Establish a spatial vision and objectives
- Outline the locally specific issues faced
- Set out the strategy for achieving that vision
- Establish appropriate targets for recycling, composting and recovery of waste
- Set out a strategy, policies and targets which are clearly based on robust, credible and proportionate evidence
- Set out how the residual waste is to be managed, including likely methods of waste management/ treatment
- Establish means of residual waste disposal and existing/future waste disposal capacity (including landfill and waste treatment)
- Identify broad locations/ specific sites/ areas of search to provide required waste management facilities
- Take the difficult decisions on waste strategy and location of facilities
- Be as specific as possible in terms of strategic guidance and spatial direction

- Provide a firm framework for subsequent DPDs and considering planning applications
- Plan positively for the required waste management facilities
- Don't leave an open book for the waste management industry to determine locations
- Address cross-boundary transfer of waste
- Create a positive framework for climate change
- Create a framework for private investment and regeneration that promotes economic, environmental and social well being

2.2 Waste Strategy for England 2007

The document was published on the 24th May 2007 and has 7 key points:

- An integrated approach to waste management
- A reduction in the quantity and hazardous nature of waste arisings
- Higher levels of re-use
- Increased recycling and composting
- Increased energy recovery
- Further development of alternative energy technologies
- Greater public participation in the decision making process

The strategy describes the changes needed to put these points into practice. A key aim is tackling the growth in waste, the need to use resources more efficiently and make greater use of secondary resources.

The key to gaining more value from waste is to substantially increase levels of recycling, making greater use of energy recovery from waste, increase awareness of waste and the importance of using recycled materials.

2.2.1 Targets

The Waste Strategy 2007 makes reduce, reuse, recycling and recovery of waste a priority. Businesses are encouraged to produce less waste and build resource efficiency into their business model. Retailers are advised to produce less packaging waste. Consumers are encouraged to purchase responsibly and separate waste into what can and cannot be recycled. Local authorities need to provide convenient recycling services for household and businesses and provide leadership to plan and invest in new infrastructure. WRAP (Waste Resources Action Programme) are encouraging companies to reduce the amount of CD&EW sent to landfill through a voluntary agreement to half the amount sent to landfill by 2012. Other measures introduced such as Site Waste Management Plans for large construction commissions also aim to reduce the amount of CD&EW to landfill. Waste management industry should invest in recycling and recovery of waste and high environmental standards must be observed. The targets are summarised in Table 2.1.

Table 2.1 – Waste Strategy for England 2007 Targets

	2010	2015	2020
Household Waste Recycling, Composting and Reuse	40%	45%	50%
Household Residual Waste (from 2000 levels)	29% reduction	35% reduction	45% reduction
Municipal Waste Recovery	53%	67%	75%
C&I waste landfilled	20% reduction from 2004 levels	-	-
CD&EW	Half amount of CD&EW going to landfill by 2012.		

2.3 Landfill Allowance Trading Scheme (LATS)

The Landfill Allowance Trading Scheme (LATS) is the government's key measure to meet the demands of the European Landfill Directive in England, and it came into force on April 1st, 2005.

Coupled with the targets of the Landfill Directive, the LATS system sees progressively tighter restrictions on the amount of biodegradable municipal waste - defined as paper, food and garden waste - that disposal authorities can landfill.

The LATS system works through councils being set allowances on the amount of biodegradable material they can send to landfill. In two-tier areas, this refers to waste disposal authorities (county councils) only.

These allowances are tradable, so that authorities with high landfill amounts can buy extra allowances if they expect to landfill more than their allowances. Similarly, authorities with low landfill rates can sell their surplus allowances.

Councils could be fined £150 for every tonne of BMW they landfill beyond the limit set by their allowances in the designated "target" years (2009/10, 2012/13 and 2019/20).

2.4 Hazardous Waste Regulations

The Hazardous Waste (England and Wales) Regulations 2005 were implemented on 16th July 2005. These introduced many changes to the out-going Special Waste Regulations, but the two key factors were that Hazardous waste producers were required to pre-register before any Hazardous waste can be collected from their premises and that the Regulations applied the European Waste Catalogue codes of hazardous wastes.

Businesses producing or managing hazardous waste are required to make returns to the EA detailing the types and quantities of hazardous waste produced or managed and how and where it has been treated or disposed (OPSI 2005). This information is recorded by the EA and is freely available.

2.5 Landfill Tax

This regulation introduces classification of wastes into 'active' and 'inactive' types for the purposes of applying a tax on wastes disposed of at landfill sites. Current landfill tax from 1st April 2008 is £32/tonne for active waste and £2.50/tonne for inactive wastes.

The tax for active waste will escalate annually by £8 until at least 2010 at which stage it will have reached a tax rate of £48/tonne.

The drive to increase the tax annually is to divert more waste from landfill to other disposal/treatment facilities.

2.6 Pre-Treatment Requirements

On the 30th October 2007, the Pre-treatment requirements of the Landfill Regulations came into force which means that no waste can be disposed of to landfill unless it has undergone a treatment process. The treatment process must meet the requirements of the “three-point test” outlined below:

1. It must be a physical, thermal or biological process including sorting
2. It must change the characteristics of the waste
3. It must change the characteristics of the waste in order to:
 - Reduce its volume; or
 - Reduce its hazardous nature; or
 - Facilitate its handling; or
 - Enhance recovery

All three criteria must be satisfied for all the waste to have been pre-treated. Compaction is not regarded as a form of treatment.

2.7 Site Waste Management Plans (SWMP)

Site Waste Management Plans came into operation in April 2008 and require construction projects above £300,000 to produce and abide by a SWMP. This outlines how the waste produced during the construction project will be managed, with a preference for reuse on site, and reuse and recycling off site. It will be an offence not to have a SWMP or to not actively implement the plan.

In the context of CD&EW it is envisaged that the amount of waste disposal directly to landfill will decrease. As this legislation only applies to projects over £300,000 the waste produced by exempt projects (under £300,000) will not be subject to a SWMP.

2.8 Aggregates Levy

The Aggregates Levy is a tax for the commercial exploitation of aggregate within the UK. This is to charge for materials “dug” from the ground such as sand, gravel and rock with some exceptions. This could act as an influence on companies to reduce the environmental impacts of the extraction and transportation of aggregates. This mainly relates to the use of recycled materials, reducing wastage and reusing materials particularly for construction projects, with some of the levy revenues being used to fund a new Sustainability Fund that will promote environmentally beneficial practices such as the use of recycled aggregate.

2.9 Waste Planning Policies

2.9.1 PPS 10 – Planning for Sustainable Waste Management

Planning Policy Statement 10 (PPS10) is Government policy on how waste should be managed using the land-use planning system. It sets out policies for all waste planning bodies, at both regional and local level, in England. It contains a number of important principles for waste planning, many of which are law across Europe and are therefore vital for local planners and politicians to follow. Delivering sustainable development is a key planning principle.

PPS10 replaces an earlier form of planning guidance on waste called PPG10. There are a number of key differences between the old and the new documents.

There is also a Companion Guide⁶ to be used in conjunction with PPS10 which has the aim of delivering the key objectives as outlined in PPS10. The following are included as they are relevant

⁶ Planning for Sustainable Waste Management: Companion Guide to Planning Policy Statement 10 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/150805.pdf>

to the development of Core Strategies (CS) in relation to the Black Country, this will be a Joint Core Strategy (JCS), which should:

- Set out policies and proposals for waste management in line with the Regional Spatial Strategy (RSS)
- Demonstrate how capacity equivalent to 10 years of RSS annual rates (MSW and C&I waste) will be met
- Look ahead for a period at least 15-20 year period in the RSS for waste management planning
- Inform and be informed by existing and emerging MWMS
- Identify sites and areas suitable for new or enhanced waste management facilities to meet the needs of the area, taking into account viability, suitability and significant environmental and other constraints

In relation to identifying land for waste management facilities:

- Allocate sites to support the pattern of waste management facilities identified in the RSS in relation to the areas set out in the RSS and show sites and areas where new or enhanced waste management facilities could support the apportionment set out in the RSS

2.9.2 PPS 12 – Creating Strong Safe and Prosperous Communities through Local Spatial Planning

PPS12 includes information on the different aspects of spatial planning in England. PPS12 specifically provides guidance relevant to the content of planning authorities Core Strategies which should:

- Be founded on a robust and credible evidence base (but it should be proportionate)
- Set out the most appropriate strategy when considered against reasonable alternatives
- Include strategic objectives for the area focussing on key issues to be addressed
- Include a delivery strategy setting out how much development should happen, where and how it will be delivered
- Identify clear arrangements for managing and monitoring delivery of the strategy
- Allocate sites for strategic development which should be indicated on a key diagram
- Be supported by evidence of physical, social and green infrastructure needed to support levels of development proposed
- Have a time horizon at least 15 years from date of adoption
- Engage with delivery stakeholders on the preparation of JCS, including waste management industry
- Demonstrate clear relationships and linkages with the Sustainable Community Strategy (SCS) and the Municipal Waste Management Strategy (MWMS).

(Taken from PPS12 (June 2008) and the Plan Making Manual, which include guidance relevant to the waste content of Core Strategies

<http://www.communities.gov.uk/publications/planningandbuilding/pps12lsp>. Plan-Making Manual: Waste Content of Core Strategies <http://www.pas.gov.uk/pas/core/page.do?pageId=77038>)

2.9.3 West Midlands Regional Spatial Strategy (WMRSS)

The West Midlands Regional Assembly, (WMRA) as the regional planning body, has the responsibility for preparing a Regional Spatial Strategy (RSS) as the development plan for the

West Midlands. The RSS provides the framework for all Local Development Frameworks and Local Transport Plans.

The West Midlands Regional Spatial Strategy was published by the Office of Deputy Prime Minister in June 2004. The Secretary of State supported the RSS and mentioned that further work had to be carried out to address some of the key issues in the West Midlands. The revision of the RSS is carried out in 3 phases;

Phase 1 – The Black Country, approved January 2008 – introduced new policies for the Black Country, No specific implications for waste.

Phase 2 - Launched in November 2005 covering issues of housing figures, centres, employment land, centres, transport and waste. Preferred Option submitted to the Secretary of State December 2007, consultation delayed pending further technical work on housing, but now completed. Public Examination scheduled for April 2009.⁷

Phase 3 – Will be examining critical rural services, culture/recreational provision, various regionally significant environmental issues, the provision of a framework for Gypsy and Traveller sites, quality of the environment and minerals. Draft Project Plan published November 2007, Section 4(4) consultation with strategic authorities took place May – July 2008⁸.

RSS Phase 2 Preferred Option (December 2007) contains 12 waste policies covering the revised regional waste strategy, waste management targets/ requirements, and guidance on the development of new facilities. The key requirements are as follows:

- Waste should be addressed as a resource and driven further up the “waste hierarchy”
- Each WPA should aim for net self-sufficiency (i.e. manage a tonnage of waste equivalent to that arising in its area)
- There are MSW and C&I Waste apportionments (landfill diversion rates) for each sub-regional area, including the Black Country.
- Although no specific “capacity gaps” are identified in the Black Country, the Black Country Core Strategy is required to give specific priority to identifying new sites for facilities to store, treat and remediate contaminated soils.

2.9.4 Unitary Development Plans (UDPs)

All four authorities have adopted old-style UDPs in place and all except Dudley have “saved” policies on waste management. The UDPs were all adopted between 2004 and 2006, and therefore pre-date the Waste Strategy for England 2007. The Sandwell and Walsall UDP policies are now somewhat out-of-date (Wolverhampton’s less so). The UDP policies will be mainly replaced by the new waste policies in the JCS.

Common themes of the UDP policies are:

- Support for “waste hierarchy”
- Clear preference for on-site waste management
- Clear preference for waste minimisation, recycling and composting facilities over incineration with waste recovery and landfill
- Support for developments which can demonstrate Best Practicable Environmental Options (BPEO) and will help achieve objectives of MWMS
- Support for sustainable transportation of waste (Wolverhampton)
- Guidance on the location of facilities (Sandwell and Wolverhampton)

⁷ West Midlands Regional Spatial Strategy – Phase Two Revision: Preferred Option (December 2007), WMRA

⁸ West Midlands Regional Spatial Strategy – Phase Three Revision: Draft Project Plan (November 2007), WMRA

- Encouraging use of recycled materials in new developments (Walsall)
- Requirement for waste management proposals to address potential detrimental impacts on health, the environment, and amenity of local communities
- Requirement for waste management proposals to include appropriate screening from other uses, such as landscaping/ containment within a building where practicable (Walsall)
- Requirement for waste management proposals to address impact of traffic generation (Sandwell)
- Requirement for waste disposal (landfill) to minimise detrimental environmental impacts, address potential pollution issues and make adequate provision for restoration and after-care (Sandwell and Walsall)
- Requirement for facilities handling special (hazardous) wastes to address hazards to health, pollution and other potential environmental impacts (Sandwell and Walsall)
- Requirement for new developments to make adequate provision for waste management (both during construction stage and afterwards) and for waste audits with major schemes
- Encouraging provision of centralised recycling banks in appropriate locations (Sandwell and Walsall)

2.9.5 Black Country Core Strategy Planning Inspectorate (PINS) advisory visit December 2008

In December 2008, the Black Country authorities obtained advice from the Planning Inspectorate (PINS) on a number of issues relating to the Core Strategy. This advice was delivered through advisory meetings and written advice. Table 2.2 summarises the main relevant to waste planning issues. This advice will need to be taken into account when drafting the Core Strategy waste policies, when setting annual rates/ targets for management of MSW and C&I waste, and when identifying sites and locations suitable for the development of waste management facilities.

Table 2.2 – PINS advice December 2008

Subject	PINS Advice	Proposed Action
New site allocations / strategic locations	JCS pre submission document should not contain new proposals that come as a “surprise” to any affected parties	Further informal consultation on potential new site allocations so no “surprises” at publication and submission
Level of detail	JCS should be as short as possible and should clearly identify issues faced – policies should come directly out of the objectives and visions	Limit to three waste policies: develop clear objectives for waste, linked directly to key issues, overall JCS spatial objectives and visions
Targets	JCS should set targets for infrastructure provisions etc and these should be based on sound evidence	MSW and C&I waste diversion targets in JCS must derive from / be supported by evidence from waste planning study

2.10 Municipal Waste Management Strategies

National policy guidance requires Core Strategies to inform and be informed by any relevant Municipal Waste Management Strategies (MWMS) (PPS10, paragraph 16, PPS10 Companion Guide, paragraph 2.4).

Although the authorities have agreed to work together to prepare a Joint Core Strategy for the Black Country, there is currently no similar arrangement in place for waste management and each authority is pursuing its own separate strategy for waste management.

However, there are informal joint working arrangements, through the Black Country Waste Management Forum (BCWMF) as described in Section 4.2.4.

The authorities were asked to provide details of their existing/ emerging MWMS. In March 2009 all of the authorities had a MWMS in place or were preparing one. The strategies were all at different stages of preparation or review. Progress at March 2009 is summarised below:

- Dudley – MWMS in preparation
- Sandwell – MWMS approved in January 2005, currently under review
- Walsall – MWMS approved in May 2004, review to commence 2009/10
- Wolverhampton – draft MWMS prepared

All MWMS assume that MSW will grow under the “do nothing” scenario (although in actual fact there has been negative growth since 2002/03 – see Section 3.1.1). Assumptions about this vary: Dudley is currently assuming a growth rate of 1.5%, Sandwell 1.13%, Walsall 2% and Wolverhampton 0.52%.

Key themes of existing and emerging MWMS in the Black Country are as follows:

- All four strategies cover a 20 year period although the end-dates vary
- All four strategies have (or will have) as objectives, meeting national guidance/ statutory targets/ performance standards for Municipal and household waste management
- The three strategies in place have objectives towards improving waste collection with a view to:
 - Reducing residual waste and significantly increasing recycling, composting and recovery rates – in the case of Walsall these improvements are now well underway
 - Improving direct access to recycling services to residents, aiming for 98 – 100% coverage
- No new municipal waste management infrastructure is proposed in any of the existing or emerging MWMS so far. However, Sandwell MBC has highlighted that outline planning permission has been granted for a major municipal waste treatment facility including MBT, MRF, biodegradable waste treatment and a depot (Pikehelve Eco Park)
- Sandwell MBC and Walsall MBC have also confirmed that they have entered into partnership with Staffordshire County Council and Warwickshire County Council to develop a new EfW facility in South Staffordshire (W2R), which now has planning permission
- The authorities are also currently working together on a “soft marketing” exercise to investigate the potential for treating a wider range of organic wastes.
- Unfortunately, some MWMS (in particular Dudley’s) are at too early a stage to enable us to identify specific new infrastructure requirements at the present time. This is something that the Core Strategy will need to address at a later stage if the timetable allows.

2.11 Community Plans and Strategies

National policy guidance requires Core Strategies to inform and be informed by community strategies (PPS10 Companion Guide, paragraph 2.4).⁹

⁹ This is also a requirement of Section 19 (2) of the Planning and Compulsory Purchase Act 2004 (as amended).

Community Plans and Strategies are prepared by Local Strategic Partnerships made up of various service providers within each local authority area. As well as the local authority, partnerships normally include the local NHS Primary Care Trusts, Police, Fire Service, social housing providers, regeneration companies and voluntary services.

At March 2009 all four authorities had community plans or strategies and related Local Area Agreements (LAAs) in place. The strategies were all at different stages of preparation or review but all LAAs cover the period 2008/09 – 2010/11. Progress on community strategies at March 2009 is summarised below:

- Dudley – Dudley Community Strategy (Dudley Borough Challenge) published in 2005; review underway
- Sandwell – Sandwell Community Plan (The Sandwell Plan) published in 2008, plan is reviewed and updated annually
- Walsall – Walsall Sustainable Community Strategy published in 2008
- Wolverhampton – Moving on Wolverhampton’s Community Plan (Refresh), published in 2006¹⁰

Common themes of existing and emerging community strategies which are or may be relevant to waste management are summarised below.

Visions

- Dudley - Stronger Communities
- Sandwell (2021) - Great People, Great Place, Great Prospects
- Walsall (2021) – Great place for people to live, work and invest
- Wolverhampton (2020) – Modern, forward looking, friendly diverse city

Economic regeneration themes

- Objectives - support for new/ growing businesses (Dudley, Sandwell, Walsall, Wolverhampton), encourage investment (Dudley), promote enterprise (Walsall), diverse and dynamic business base (Wolverhampton)
- Actions - improve local amenities/ environment for business (Dudley), marketing to emerging sectors/ encouraging business diversification (Sandwell, Walsall, Wolverhampton), provision of support for local businesses (Sandwell, Walsall)
- LAA Targets – local indicators, e.g. levels of support to businesses (measures to be determined) (Walsall)

Environmental/ sustainability themes

- Objectives - safeguard and improve the environment (Dudley), cleaner and greener environment (Sandwell, Wolverhampton), improve energy efficiency of homes and businesses (Sandwell, Wolverhampton), improve quality of life for residents (Dudley, Sandwell, Walsall, Wolverhampton)
- Actions - sustainable construction (Sandwell), energy efficiency/ reduction (Sandwell, Walsall), promote green technologies/ renewable energy (Sandwell, Walsall)
- LAA Targets – linked to new national indicators, e.g. NI 187 (tackling fuel poverty) (Sandwell, Walsall, Wolverhampton), NI 186 (per capita CO₂ emissions) (Dudley, Sandwell, Walsall, Wolverhampton), NI 188 (adapting to climate change) (Walsall)

¹⁰ Wolverhampton have since adopted (March 2009) a new Community Plan called the Wolverhampton Sustainable Community Strategy (“Wolverhampton CAN”) but was not available within the timeframe of this study.

Specific waste management themes

- Objectives - waste minimisation/ improve waste management (Sandwell, Wolverhampton), address climate change (Sandwell, Walsall)
- Actions – waste minimisation/ reduction, (Sandwell, Walsall, Wolverhampton), improve recycling, composting, energy recovery rates (Dudley, Sandwell, Walsall, Wolverhampton), tackle fly tipping and litter (Dudley, Sandwell, Wolverhampton)
- LAA Targets – linked to new national indicators, e.g. NI 192 (residual household waste) (Walsall), NI 192 (household waste recycling and composting)¹¹ (Dudley, Sandwell, Wolverhampton), NI 195 (improve street and environmental cleanliness) (Sandwell, Wolverhampton)

2.12 Waste Treatment and Disposal Technologies

At this stage we considered it prudent to include a summary of generic waste management facilities and sites which are referred to in this report. Table 2.3 outlines this information to provide a brief guide to the facilities, these are included in PPS10 Companion Guide and are in the list (W1) from the RSS and LDF core output indicators (2008) from the CLG website but only include those facilities relevant to the Black Country.

Table 2.3 – Waste Management Technology and Infrastructure

Waste Technology	Waste Type	Description
Non Hazardous Landfill site	MSW / C&I / CD&EW	Non Hazardous landfill sites can take waste which may breakdown such as biodegradable waste. This is broken down, usually under anaerobic conditions, producing leachate (a liquid) and a methane rich gas, which can be used to generate electricity. Many sites have gas generating plants.
Inert Landfill	MSW / C&I / CD&EW	Inert landfill sites are only licences to accept waste which will not break down such as soil and rubble.
Hazardous / Landfill site	MSW / C&I / CD&EW	Hazardous landfill sites can only accept waste classed as hazardous.
Energy from Waste Incineration	MSW / C&I	This is the combustion of mixed waste in the presence of oxygen. The heat generated is usually used to raise steam to generate electricity. Emissions from EfW facilities are strictly controlled via legislation and the accompanying regulatory regime.
Pyrolysis / Gasification	MSW /C&I	Both gasification and pyrolysis are thermal treatment (high temperature chemical reaction) technologies that seek to process waste in controlled conditions. Most are not fully proven in the UK, but offer opportunities in terms of electricity and heat production. As per conventional EfW the emissions are strictly controlled via the regulatory regime.
Transfer station	MSW / C&I /	Used for the bulking and storage of wastes pending onward movement. Transfer stations can be used for bulking almost

¹¹ These have now replaced the old Best Value Performance Indicators (BVPI).

Waste Technology	Waste Type	Description
	CD&EW	all waste streams from inert to hazardous.
Materials Recovery / Recycling Facilities (MRFs)	MSW / C&I	MRFs deal with mixed dry recyclable waste fractions such as paper, cans, glass and plastics. Hand sorting and machines are used to sort the materials into different types. The exact configuration is dependant of the nature of the input materials.
Household Civic Amenity sites (referred to in this report as HWRCs)	MSW / C&I	HWRCs mainly deal with MSW delivered directly by householders, though C&I is also sometimes accepted. They rely on source separation to achieve recycling rates and collect a wide range of waste materials i.e. organic, inert, general, recycling and hazardous. Normally there is no waste treatment, just bulking or compaction before onward movement to final disposal or recovery.
Open windrow composting	MSW / C&I	Essentially static piles of green organic waste naturally decomposing under aerobic conditions. The quality of the final product is determined by the length of time the material remains in the piles. Composting sites may also involve a pre and post treatment shredding and screening phase.
In Vessel Composting	MSW / C&I	Organic waste treatment that can include catering type wastes i.e. food. The IVC process is aerobic but the microbial activity occurs in enclosed, controlled conditions. The outputs are compost like and soil improvers.
Anaerobic Digestion	MSW / C&I	Anaerobic digestion happens in the absence of oxygen, dealing with organic waste. Following pre treatment the material is placed in sealed vessels to allow the microbial activity to take place. Outputs are usually a biologically stable liquid, biogas, such as methane and a fibre like fertiliser/soil improver.
Any combined Mechanical, biological or thermal treatment (MBT)		The treatment of residual waste fractions, especially those arising from MSW, are becoming increasingly popular. Their existence is driven by legislation that seeks to divert BMW from landfill. There is usually a physical separation process (mechanical - shredding, sorting, and pre treatment) followed by the biological step. (AD, IVC or autoclave). The outputs of such process include restoration materials, biostabilised landfill material, biogas and waste fuels suitable for thermal treatment.
Recycling facilities for Construction, Demolition and Excavation Waste	CD&EW	This could include sites such as soil remediation hubs and contaminated treatment facilities.

3. Task 1 – Developing the Evidence Base

3.1 Current Waste Arisings

In order to establish the baseline waste arisings within the Black Country, Atkins have undertaken a desk top review of all available published information. This includes an initial review of the Black Country Core Strategy Waste Background Paper 2007 produced by the Black Country Authorities, along with core reference documents provided by the Authorities and information obtained from the Environment Agency (EA). A full list of the reports and data sources is located in Section 7 References.

The baseline information compiled in this section details the waste arisings and current available waste treatment and disposal capacity within the Black Country Region.

The study focuses on the following types of waste arisings:

- Municipal Solid Waste (MSW), comprising household waste and any other waste collected or handled by the WCA or its agents, such as municipal parks and gardens waste, street cleansing waste, fly tipped waste, and some commercial and industrial waste.
- Commercial and Industrial (C&I) Waste, comprising waste arising from commercial premises such as businesses, sports/ recreation or entertainment facilities and industrial premises such as factories.
- Construction, Demolition and Excavation Waste (CD&EW), comprises waste arising from the construction and demolition of buildings or structures and excavations. This includes brick, concrete, hardcore, subsoil, top soil, and can also include timber, metals, plastics and occasionally hazardous waste materials.
- Hazardous Waste, comprises waste arisings defined as hazardous by the European Waste Catalogue (EWC).

This study was largely carried out during 2008 and used the most up-to-date EA data available at the time, i.e. the 2006 Regis data.

3.1.1 Municipal Solid Waste (MSW)

Figures for MSW arisings are largely well documented and reliable as authorities are required to report the types and quantities of waste handled to DEFRA via Waste Data Flow (WDF). Table 3.1 shows the annual reported MSW tonnages for each of the Black Country Authorities over the last 5 monitoring years (April – March), along with the % change in waste arisings combined for the 4 local authorities. The information for 2002/03, 2003/04 and 2004/05 has been provided by the Black Country Waste Disposal Authorities.

Table 3.1 – MSW Waste Arisings

	2002/03 (tonnes)	2003/04 (tonnes)	2004/05 (tonnes)	2005/06 (tonnes)	2006/07 (tonnes)
Dudley MBC	143,571	141,626	144,860	139,672	143,883
Sandwell MBC	157,240	159,233	158,174	150,543	140,250
Walsall BC	146,006	147,260	154,139	150,349	144,505
Wolverhampton CC	160,093	156,422	155,800	152,021	146,807
Total	606,910	604,541	612,973	592,585	575,445
% Change	-	-0.39%	1.39%	-3.33%	-2.89%

(source: Defra for 2005/06 and 2006/07 and Study of Waste Management Disposal and Minimisation for the Black Country 2005 for 2002/03, 2003/04 and 2004/05)

From the above data, it is evident that there is trend of declining MSW arisings in the Black Country. Information relating to the year 2007/08 became available towards the end of the project. However, the modelling was based on the 2006/07 data, which was the latest information available at the time the modelling was carried out.

In 2006/07, 88.3%¹² of MSW was made up of household waste, with the remainder comprising mainly of collected trade waste taken from Defra statistics.

An update showing the 2007/08 data is now available and provides the MSW arisings in each council as:

- Dudley – 146,729 tonnes
- Sandwell – 142,504 tonnes
- Walsall – 138,382 tonnes
- Wolverhampton – 142,417 tonnes

Giving a total of 570,032 tonnes for all the Black Country and therefore giving a decrease of - 0.94%

The 2007/08 WasteDataFlow information shows that the downward trend appears to be continuing, with more significant falls in arisings in Walsall than the other authorities.

MSW management

Table 3.2 illustrates how MSW was managed within the Black Country in 2005/06 and 2006/07. The rate of diversion of materials for recycling and composting has increased across all four authorities to 22.74% in 2006/07.

Table 3.2 – MSW Management in Black Country

Management Method	2005/06 (tonnes)	2005/06 (%)	2006/07 (tonnes)	2006/07 (%)
Landfill	286,199	48.3	238,332	41.4
Incineration with recovery	188,167	31.75	206,124	35.82
Incineration without recovery	94	0.02	126	0.02
Recycling/Composting	118,104	19.93	130,857	22.74

(Source: Defra waste statistics <http://www.defra.gov.uk/Environment/statistics/wastats/index.htm>)

Each of the four authorities within the Black Country manages MSW in different ways. Residual MSW in Dudley and Wolverhampton is predominantly disposed via Energy from Waste (EfW) facilities located within their respective areas. Sandwell and Walsall rely heavily on landfill for the disposal of residual MSW. This is reflected in the percentages of MSW disposed of to landfill and incineration with recovery shown in Table 3.2 above. However, there are small quantities of waste sent to EfW from Sandwell and Walsall, which is dependant on surplus capacity available at EfW facilities in Dudley and Wolverhampton and neighbouring authorities.

Cross boundary issues

Along with MSW being transported outside of the Black Country for treatment at EfW facilities and final disposal at landfill sites in places such as Staffordshire and Warwickshire, green garden waste composting also happens outside the boundaries of the Black Country, although just outside in southern Staffordshire. From late 2008 Walsall are taking recyclables to the Greenstar MRF in Aldridge (approximately 23,000 TPA) and Sandwell are also taking waste to this facility (approximately 3,000TPA).

¹² <http://www.defra.gov.uk/Environment/statistics/wastats/index.htm>

3.1.2 Commercial & Industrial (C&I) Waste

C&I waste arisings are far more difficult to quantify than MSW arisings, as there is no equivalent reporting system. The information currently available is limited to:

- Environment Agency Commercial and Industrial Waste Survey (2003) on C&I arisings based on a sample survey for England.
- Golders Associates West Midlands Waste Capacity Survey (2004) investigated the need for future waste capacity.
- West Midlands Regional Assembly (WMRA) (2007) The West Midlands Regional Spatial Strategy – Phase Two Revision

It may be possible to quantify C&I waste arisings from information reported to the EA by licensed waste management sites via quarterly operator waste returns. All waste management facilities operated under a Waste Management Licence (WML) are required to report all waste accepted at the site, by waste type, quantity and area of origin, to the EA on a quarterly basis. Depending on how the EA record this information, the potential exists to give a reasonable indication of C&I waste arisings within the Black Country Region.

Data is available from returns on the waste deposited / collected at licensed waste management facilities. There are a number of drawbacks of using this information:

- No returns are received from exempt facilities.
- There is potential for double counting as waste may move down a chain of licensed facilities.
- This information is notoriously difficult to obtain and would add little value as the returns do not identify the source of the waste in terms of business sector.

Cross boundary issues

Returns do not show the geographical source of the waste accurately, therefore waste transported from outside the Black Country is listed with waste from within the Black Country and as it is believed the Black Country is an importer of C&I waste this is an issue. The 2004 Golders waste capacity survey outlines that there is an extensive supply chain outside of the West Midlands for waste input to the Black Country, particularly for metal recycling, but also to physical treatment facilities and EfW plants.

It is understood that the Environment Agency's 2007 Waste Interrogator contains data on the origin and destination of wastes. This was supplied to all waste planning authorities in February 2009. Although it did not become available in time to use it in the study, the interrogator may be useful in establishing movements of waste into and out of the Black Country, and it is recommended that the authorities explore this as a potential source of information in future reviews.

Further information required

More work could be carried out to identify the capacity/ throughput at treatment facilities in the Black Country, if possible, to include the sources of waste for each facility. However, to gain meaningful information and correctly identify the sources of waste processed in the Black Country would require an in depth study which is likely to involve site visits, interviews and would therefore be time consuming and costly. A new national study into C&I waste arisings has recently been published (April 2009), but the results were not available within the timeframe for this study.

C&I waste arisings

The 2002/03 survey undertaken by the EA, estimates C&I waste arisings based on a survey of 7,000 commercial and industrial businesses across England and Wales. The survey estimated

that in 2002/03, around 3,147,000 tonnes of C&I waste arose in the West Midlands Metropolitan area¹³. Of this 1,711,000 tonnes was industrial waste and 1,436,000 commercial wastes.

The 2002/03 EA C&I survey also highlights a fall in industrial waste arisings alongside an increase in commercial waste arisings, as compared with a previous study undertaken by the EA in 1998/99. This is characteristic of the general decline in manufacturing and heavy industry experienced across the West Midlands. Overall C&I waste arisings are reported to have declined slightly between the 1998/99 and the 2002/03 surveys.

This trend is likely to continue as the Black Country Core Strategy Preferred Options propose to change significant areas of the Black Country from employment to housing and commercial use. Coupled with the current economic climate, this may influence the amount of C&I waste produced as some companies may close or relocate, and those that remain will look to avoid unnecessary waste generation to costs and make savings.

Information detailing C&I waste arisings and modelling work was undertaken in the WMRA Report 2004, West Midlands Waste Facilities – Phase 2: Future Capacity Requirements. The report modelling is based on C&I waste arisings as reported by the EA Strategic Waste Management Assessment (SWMA) undertaken in 1998/99, projecting future arisings to 2021 in five year periods. The total for the West Midlands is broken down by WPA, allowing estimates for the Black Country Authorities to be made. The West Midlands Regional Spatial Strategy¹⁴ has used this information, in conjunction with other technical work, to estimate C&I waste arisings for 2005/06 as a baseline for modelling future diversion scenarios. This has been used to establish estimated C&I arisings within the Black Country, as shown in Table 3.3.

Table 3.3 –Estimated C&I Waste Arisings in the Black Country 2005/06

Authority	Estimated Waste Arisings (tonnes)
Dudley	378,000
Sandwell	558,000
Walsall	380,000
Wolverhampton	311,000
Black Country Total	1,627,000

(Source: West Midlands Regional Spatial Strategy – Phase Two Revision, December 2007)

In the absence of more accurate data detailing C&I waste arisings from the Black Country, these figures have been utilised in this Waste Study.

C&I waste management

The 2003 EA C&I survey also details how the commercial waste and industrial waste streams were managed in the West Midlands in 2002/03, suggesting that industrial businesses recycle or re-use a significantly higher proportion of their waste than commercial businesses, and send less waste for disposal to landfill. Table 3.4 shows how the C&I waste was managed, according to the EA survey in 2002/03.

¹³ West Midlands Metropolitan area comprises of Birmingham, Coventry, Dudley, Sandwell, Walsall, Wolverhampton and Solihull.

¹⁴WMRA West Midlands Regional Spatial Strategy – Phase Two Revision 2007

Table 3.4 – C&I Waste Management in West Midlands Metropolitan Area 2002/03

Management Method	Industrial		Commercial	
	Tonnes	%	Tonnes	%
Landfill	672,000	39%	755,000	53%
Reuse/Recycle	755,000	44%	509,000	35%
Treatment/Transfer	215,000	13%	127,000	9%
Fate not recorded	67,000	4%	44,000	3%
Total	1,711,000	100%	1,436,000	100%

(Source: Environment Agency Commercial and Industrial Waste Survey 2002/03)

The survey does not break this information down by WPA allowing closer examination of how C&I waste arisings are managed purely within the Black Country, although does provide a good indication of the likely situation.

3.1.3 Construction Demolition & Excavation Waste (CD&EW)

Similar problems exist in quantifying CD&EW arisings as those identified for C&I waste arisings, primarily as a result of the lack of a robust reporting system such as that in place for MSW. In addition, an unknown quantity of CD&EW waste is recycled/ reused on site or via exemptions, never reaching the point at which it might be recorded through a licensed facility.

Site Waste Management Plans (SWMP)

Site Waste Management Plans (SWMP) were introduced in April 2008 for all construction projects worth more than £300,000. Although construction companies are required to have a completed SWMP on the work site there is currently not yet a mechanism for reporting this information to the EA nor an intention to do so. As the SWMPs only cover projects which are over £300,000 smaller projects do not have to complete a plan and so no information is recorded for these smaller projects.

However, as planning authorities the Black Country councils could add a requirement to submit at least a draft SWMP with each planning application. This may be a way to record the estimated amount of waste generated and could also include a condition of the planning application to send a copy of the SWMP, to the planning authority, once completed. It is recommended that all four authorities should agree and adopt an approach for monitoring SWMPs which could include that outlined above. It must be remembered that this is only for larger projects and a full assessment of all the CD&EW is not likely to be available until this is made compulsory by the regulatory authorities.

National and regional surveys

Capita Symonds' Survey of Arisings and use of Construction, Demolition and Excavation Waste as Aggregate in England 2003, undertaken for the Office of Deputy Prime Minister (ODPM), establishes estimates for arisings and use of CD&EW. The survey covered operators of crushers and screens, licensed landfill sites and Paragraph 9 & 19 registered exempt sites. The surveys reported estimates for recycled aggregate and soil, CD&EW waste used and disposed of at licensed sites and CD&EW spread on land at registered sites.

Capita Symonds survey identifies CD&EW arisings in the West Midlands region as detailed in Table 3.5 below and is compared to the arisings in the Black Country taken from the information in 3.6 and 3.7.

Table 3.5 – CD&EW Estimates for the West Midlands in 2003 in Comparison to Black Country 2003 and 2005

CD&EW	Black Country 2003	West Midlands 2003	Black Country 2005
Total	1,448,722¹⁵	8,130,000¹⁶	1,445,262¹⁷

The WMRA 2004 Report, West Midlands Waste Facilities – Phase 2: Future Capacity Requirements estimates the annual projected tonnage based on the ODPM report for individual WPA's. To establish a representative split across the WPA's within the West Midlands a development index methodology was employed. A percent weighted share was allocated to each WPA based on projected future housing development, demolitions and use of previously developed land over three time periods (as per RPG11 – West Midlands). The arisings for 2003 for the Black Country Authorities have been extracted and summarised in Table 3.6.

Table 3.6 – CD&EW Annual Projected Tonnes 2003 Black Country

Authority	Weighted % Share	Tonnages
Dudley	4.05	329,440
Sandwell	7.37	598,981
Walsall	2.95	239,846
Wolverhampton	3.45	280,455
Black Country Total	17.82	1,448,722

(Source: WMRA 2004 Report, West Midlands Waste Facilities – Phase 2: Future Capacity Requirements)

Capita Symonds in association with Waste Research Ltd (WRc) have recently undertaken a Survey of Arisings and use of Alternatives to Primary Aggregates in England 2005: Construction, Demolition and Excavation Waste for the Department for Communities and Local Government. The survey is similar to the one undertaken in 2004 by the ODPM/ Capita Symonds, comprising; operators of crushers and screens, and of licensed landfills. Data on Paragraph 9A&19A registered exempt sites was also analysed.

These are only estimates grossed up from the survey data and the local results are less robust than the regional or national ones as the survey response rates were not high enough to give complete confidence. Using the weighted share of housing development methodology employed by the 2004 WMRA report these arisings have been broken down for the Black Country authorities, as shown in Table 3.7 below.

¹⁵ WMRA 2004 Report, West Midlands Waste Facilities – Phase 2: Future Capacity Requirements

¹⁶ ODPM Capita Symonds – Survey of Arisings and use of Construction, Demolition and Excavation Waste as Aggregate in England 2003.

¹⁷ Department for Communities and Local Government Capita Symonds in association with WRc – Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005: Construction, Demolition and Excavation Waste.

Table 3.7 – 2005 CD&EW Arisings in Birmingham and the Black Country

Authority	WMRA Weighted Share %	Revised Weighted Share %	Recycled Aggregate (tonnes)	Recycled Soils (tonnes)	Para 9a & 19a Exempt (tonnes)	Landfilled (tonnes)	Total CD&EW (tonnes)
Dudley	4.05	11.41	172,033	20,725	78,992	56,745	328,495
Sandwell	7.37	20.76	313,006	37,708	143,723	103,245	597,682
Walsall	2.95	8.31	125,293	15,094	57,531	41,328	239,246
Wolverhampton	3.45	9.72	146,552	17,655	67,292	48,340	279,839
Black Country Total	17.82	50.2	756,883	91,183	347,537	249,659	1,445,262
Birmingham	17.68	49.8	750,883	90,456	344,768	247,669	1,433,746
Birmingham and Black Country	35.5	100	1,507,767	181,638	692,306	497,327	2,879,008

(Source: Capita Symonds in association with WRc – Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005: Construction, Demolition and Excavation Waste, CLG)

The 2005 Symonds report on CD&EW identifies that there was a significantly more limited response from the industry when the surveys were undertaken as compared with the response rate in the 2003 ODPM surveys. The report also highlighted that the national, regional and local figures are only estimates, and that in some cases, “out-of-area” working may distort the figures. The figures in Table 3.7 should therefore be treated with extreme caution and cannot be regarded as reliable. In addition the landfill data may also be questionable as it is based on EA data and they have coded some landfill licences to the wrong Waste Planning Authority.

However, the total CD&EW arisings of 1.44 million tonnes arising within the Black Country from the 2005 report does correlate with the 1.44 million tonnes calculated from the 2003 ODPM data by the WMRA report.

The survey results suggest CD&EW arisings within Birmingham and the Black Country of 2.88 million tonnes, comprising 1.50 million tonnes recycled to aggregate, and 0.87 million tonnes of soils either recycled or spread to land (Para 9a and 19a).

CD&EW waste management

The WMRA West Midlands waste facilities – phase 2 future capacity requirements report identifies that the 2004 ODPM/ Symonds survey “indicates that, whilst changes between 2001 and 2003 are not statistically significant at a national level, there are more significant changes in West Midlands. In general terms, the quantity of CD&EW waste has reduced by 6% in the region, whilst the proportion recycled has increased from 50% to 61%.”

This is supported by the information provided in Table 3.7 above, with a comparable percentage recycled of 58.7% for the Black Country. If the inert material spread to land under paragraph 9A and 19A exemptions is included in this the total diversion rate from landfill equates to 82.7% for the Black Country.

While these figures may not be 100% representative, they do suggest that a very high rate of recycling and reuse of CD&EW is undertaken within the Black Country.

3.1.4 Hazardous Waste

The quantities of hazardous waste produced and handled in the Black Country are comparatively smaller than the other waste streams discussed in this waste study. The data is closely monitored by the Environment Agency and available on a sub-regional basis.

The hazardous waste arisings for 2006 in the Black Country are summarised below. The EA hazardous waste database lists wastes by EWC (European Waste Catalogue). Using this breakdown Atkins have judged which might fall into MSW, C&I, and CD&EW hazardous waste, as is shown in Table 3.8.

Table 3.8 – Hazardous Waste Arisings in the Black Country 2006

Authority	MSW (tonnes)	C&I (tonnes)	CD&EW (tonnes)	Total (tonnes)
Dudley	451	23,798	13,757	38,012
Sandwell	1,074	51,869	4,277	57,268
Walsall	1,615	43,695	1,056	46,366
Wolverhampton	693	36,760	12,476	49,930
Black Country	3,833	156,123	31,565	191,576
% of Total Arisings	2%	82%	16%	100%

(Source: Environment Agency 2006 Hazardous Waste Database)

As Table 3.8 shows hazardous waste arisings within the Black Country are predominantly from the C&I waste stream, with comparatively very little being produced by the MSW waste stream.

The introduction of the Hazardous Waste Regulations in 2005 also included the re-classification of a significant number of waste streams, such as Cathode Ray Tubes (CRTs), fridges and freezers, fluorescent tubes and oil based paints. The figures produced by the EA for 2006, are therefore the first full year of information relating to hazardous arisings following the re-classification. The fact that numerous wastes streams are now classed as hazardous waste explains the increase of 25% in arisings of hazardous waste between 2004 and 2006.

Hazardous waste management

As discussed, hazardous arisings and management are now well documented by the EA. Table 3.9 has been compiled from information provided by the EA, to illustrate how hazardous waste arisings within the Black Country were managed in 2006.

Table 3.9 – Management of Hazardous Waste Arising within the Black Country 2006

Authority	Treatment/Recovery (tonnes)	Transfer (tonnes)	Landfill (tonnes)
Dudley	16,803	5,190	16,013
Sandwell	42,202	9,151	5,867
Walsall	38,602	6,885	879
Wolverhampton	14,203	23,355	12,372
Black Country	111,809	44,581	35,131
% of Total arisings	58%	23%	18%

(Source: Environment Agency Hazardous Waste Database)

The table above shows that the Black Country directly treats or recovers 58% of the hazardous waste arising within the sub region. 23% is handled via transfer stations for onward treatment/recovery or disposal to landfill, and only 18% is landfilled directly. Of the four authorities Sandwell and Walsall have the highest rates of treatment/ recovery, which may be further explained when capacity within the Black Country, is examined. Wolverhampton and Dudley landfill a high proportion of their hazardous waste arisings. However, as there are no hazardous landfills within

the Black Country it is assumed this waste is deposited in hazardous landfills outside the sub region.

3.2 Establishing Capacity

Licensed capacity

To understand the current waste management capacity within the Black Country, Atkins have utilised the EA RATS (Regis Attached Tonnage System) waste returns database for the Black Country in 2006. The RATS database uses the Regis database with actual throughput tonnages for each site where available. The database details all the licensed waste management sites within each authority, including the types of waste accepted, annual throughput and annual licensed tonnage. This information is useful to understand the types of facilities currently operating within the Black Country, and the types and quantities of waste they handle. It should be remembered when considering this information that there is no distinction between waste originating from the Black Country and waste imported from other regions for treatment/ disposal.

Appendix A provides a summary of the different waste facilities within the Black Country by waste type and Authority. The locations and type of each facility has been mapped for the whole Black Country and are included in Appendix C.

Exempt facilities

In addition to the licensed facilities within the Black Country there are an unknown number of exempt sites in operation. Information pertaining to the number, exempt activity and waste throughput at these sites was not available from the EA at the time of this study. These exemptions are likely to relate to relatively small operations, which could include composting, aggregate recycling, re-use of materials, land spreading and sorting of waste materials.

While the throughput information and the licensed tonnages provide a good indication of waste managed within the Black Country, neither give the available capacity with any real degree of accuracy. Just because a site is accepting 10,000 tonnes of waste per annum, does not necessarily mean it is operating to its full capacity. Equally a site that is licensed to take 74,999 tonnes of waste per annum is not necessarily operationally able to handle such a large volume of waste. The licensed tonnage applied for is more realistically related to site banding for annual subsistence fees, and potential for future flexibility. In addition, the Regis database does not provide a breakdown of the licensed tonnage by waste type; defaulting to the overall licensed tonnage for each waste type handled. A summation of the licensed tonnages would therefore include a significant amount of double counting, making it highly inaccurate.

Operational Capacity – SLR Waste Treatment Facilities and Capacity Survey West Midlands Region, 2007

In order to establish a realistic capacity for the facilities across the Black Country it is essential to understand sites operational capacity; the maximum volume of waste that can actually be handled. This is largely unknown, and would involve a comprehensive survey of waste operators within the Black Country to quantify. Unfortunately, this does not fall within the scope of this waste study, but may prove a worthwhile exercise in the future.

To some extent, SLR have considered operational or theoretical capacity within their WMRA report¹⁸. A telephone survey was undertaken of 265 priority waste treatment or recovery sites in the West Midlands. The facilities covered by the survey included:

- Material recycling facilities
- Physical treatment facilities
- Physio-chemical treatment facilities
- Metal recycling site

¹⁸ SLR Waste Treatment Facilities and Capacity Survey, 2007

- End of Life Vehicles facilities
- Chemical treatment facilities
- Composting facilities
- Biological treatment facilities

The survey asked facility operators to provide their actual throughput, maximum licensed tonnage and following on from this the theoretical maximum throughput based on the existing site infrastructure and operations (ignoring the waste management licence conditions). Information from the facilities that responded showed the actual throughput was 59% of both the maximum licensed tonnage and the theoretical operational capacity. It should be noted that there was a very limited response to these questions. Only 52 facilities provided their actual throughput and maximum licensed tonnage, while 50 facilities provided the theoretical operational capacity. It appears unlikely that the actual throughput would equate to 59% of both the licensed and theoretical capacity (SLR 2007). It is likely that this could reflect reluctance from the operator to divulge potentially sensitive commercial information.

In light of the limited information available, the information attained from the SLR report for the West Midlands has been utilised to predict current capacity within the Black Country. Due to the limitations of the information from the SLR report the capacities shown in the following sections should only be considered an indication. The actual throughput for 2006 has also been utilised to provide a ‘worst case’ capacity scenario, i.e. the maximum capacity within the Black Country is already utilised.

3.3 Treatment and Recovery Capacity

3.3.1 MSW – Treatment and Recovery

There are two EfW facilities in the Black Country which are currently operating close to their maximum capacity, this is information supplied from the Black Country Waste Management Forum Members. Most of the capacity is utilised by residual MSW arisings largely from Dudley and Wolverhampton as these are the locations of the plants. For example at Wolverhampton approximately 75,000 tonnes of the throughput in 2007/08 was Wolverhampton MSW, with the rest imported from other Waste Disposal Authorities.

Table 3.10 shows the capacity at the Black Country’s treatment and recovery (EfW) facilities.

Table 3.10 -MSW Treatment and Recovery Capacity in the Black Country

Site Type	Dudley (tonnes)	Sandwell (tonnes)	Walsall (tonnes)	Wolverhampton (tonnes)	Black Country (tonnes)
EfW	95,000	0	0	110,000	205,000

(Source: Environment Agency 2006 Regis database)

Figures 1 and 2 in Appendix C show the location of these sites within the Black Country.

Cross boundary issues

The Regis database identifies no licensed facilities for the treatment of green/ organic waste within the Black Country. The composting of green MSW is therefore taking place outside the Black Country (mostly at sites in southern Staffordshire) or possibly under exemptions. In 2008 Dudley took green waste to Jack Moody at Hollybush and Simpro at Coven and Telford, Sandwell took green waste to Jack Moody at Hollybush and Eccleshall in addition to the Simpro sites at Coven, Telford and Haydon. Walsall took green waste to Jack Moody Hollybush and Biffa site at the Poplars Cannock. Wolverhampton transported green waste to Jack Moody’s Hollybush and sites at Staffordshire.

In addition, the database identifies no MRFs within the Black Country and no recyclable MSW is recorded as having been handled at such facilities up to summer 2009. However, from November

2008, Walsall has been sending some of its dry recyclables (up to 23,000 TPA) to the Greenstar facility in Aldridge. Sandwell are sending up to 3,000 TPA of recyclables to this facility as well. While other facilities within the sub region may be licensed to accept MSW, they are not utilised by the authorities, and are therefore thought unlikely to be suitable for sizable long term MSW contracts.

3.3.2 C&I Treatment and Recovery

Treatment and recovery capacity for C&I waste within the Black Country, during 2006, is estimated in Table 3.11. Within the 2007 SLR study, Waste Treatment Facilities and Capacity Survey, West Midlands Region on behalf of the West Midlands Regional Assembly, the operators were asked their total throughput and licence maximum along with theoretical maximum. It was calculated that the facilities who returned this information were operating at 59% of the theoretical and WML maximum. The theoretical maximum capacity and licence maximum within the Black Country has been estimated based on the assumption that facilities have a throughput of 59%, of their maximum capacity, as reported by the SLR study. Table 3.11 has been calculated from the EA RATS database for 2006. In a few cases the Regis database, used in RATS, has recorded licensed facilities as being in the wrong WPA area, so these estimates should be regarded as approximate.

Table 3.11 – Estimated C&I Treatment and Recovery Capacity in the Black Country 2006

Site Type	Total Throughput from EA Regis Database (tonnes)					Theoretical Maximum Capacity ¹⁹ (tonnes)
	Dudley	Sandwell	Walsall	Wolverhampton	Black Country	
Car Breaker	102	0	5,987	302	6,391	10,832
Material recycling facility (MRF)	2,770	6,905	1,537	0	11,212	19,003
Metal Recycling	445,588	275,528	368,625	23,447	1,113,188	1,886,759
Physical treatment	860	142	0	45,215	46,217	78,334
Physical-Chemical Treatment	0	29,597	21,471	0	51,068	86,556
Total	449,320	312,172	397,620	68,964	1,228,076	2,081,484

As can be seen in the table above, 91% of the C&I waste treatment or recovery capacity within the Black Country is associated with metal recycling and car breakers, particularly in Dudley, Sandwell, and Walsall. The metal recycling industry is well established in the Black Country and it was identified in the 2004 Golders Associates study that a proportion of the throughput relates to waste arising outside the Black Country.

The Regis database does not identify any licences for green/ organic treatment, such as composting, within the Black Country. Treatment of this type of waste must therefore be taking place outside the Black Country or on a small scale under exemption.

¹⁹ Based on facilities operating at 59% of their theoretical maximum as per SLR's 2007 WMRA Survey

In 2006, material recycling facilities (MRFs) accounted for less than 1% of the overall treatment/recovery capacity, and physical/ physical/chemical treatment just under 10% of capacity within the Black Country.

However, there are more MRFs in the Black Country than the Regis data suggests. In some cases they have been licensed as waste transfer operations and in other cases they do not appear on the database at all. We know from the SLR study that transfer stations are probably diverting significant amounts of waste away from landfill (see Section 3.4.3 below) although this doesn't necessarily mean they are associated with a MRF.

At the time of writing, the following MRFs are believed to be operating in the Black Country:

- AWM group, Budden Road, Coseley (Dudley)
- AWM group, Hickman Road, (Wolverhampton)
- AWM group, Western Way, Wednesbury (Walsall)
- Foreman Recycling, Bull Lane, Wednesbury (Walsall)

The total capacity of these facilities is not known, but is likely to be least 200,000 TPA, based on the capacity of the facilities for which information is available. It may be possible to clarify this by contacting the operators. The Greenstar facility in Aldridge (Walsall) is not included here as it is understood that it handles mainly MSW.

Figures 1 and 2 in Appendix C show the locations of the individual sites.

3.3.3 CD&EW Treatment and Recovery

SLR Waste Treatment Facilities and Capacity Survey West Midlands Region, 2007 excluded CD&EW sites from the survey and in the absence of any other information, the throughput is considered as the capacity, representing the worst case scenario.

Table 3.12 - CD&EW Throughput/Capacity within the Black Country 2006

Site Type	Dudley (tonnes)	Sandwell (tonnes)	Walsall (tonnes)	Wolverhampton (tonnes)	Black Country Throughput (tonnes)	Estimated Capacity (tonnes)
Metal Recycling	813	32,310	7,688	0	40,811	40,811
Physical-Chemical Treatment	0	992	127	11,646	12,765	12,765
Total	813	33,302	7,815	11,646	53,576	53,576

(Source: Environment Agency 2006 Regis database)

Throughput and capacity within the Black Country for CD&EW waste appears to be relatively small compared with other waste streams. As discussed in previous sections this is largely due to much of the inert waste arisings being treated or recycled on site or under an exemption, therefore, it is not identified on the Regis database. For this reason, the Regis data cannot provide a comprehensive picture of CD&EW processing and treatment in the Black Country. All it can tell us is how much CD&EW is processed or treated at licensed waste management facilities.

A small amount of CD&EW shown in Table 3.12 is treated via physical-chemical treatment sites. Much of the CD&EW arisings are likely to contain an amount of metal, hence the comparatively large proportion of metal recycling throughput.

Recycled and secondary aggregates

Construction and demolition activities for development of land results in large quantities of waste produced on site which is reused as aggregate. The increase in supply of used aggregate is considered as sustainable policy to maintain supply of aggregate in the sub region for the future.

The Core Strategy Waste Background Paper identifies five permanent facilities for storage, handling and/ or processing CD&EW within the Black Country. However, in addition to these, there are believed to be two other operational facilities, making a total of seven, which are listed below:

- Glenside Recycling, Smethwick, Sandwell
- Midland Quarry Products, Bescot Sidings, Sandwell
- Aldridge Quarry, Birch Lane, Aldridge, Walsall
- Bace Groundworks, Coppice Lane, Aldridge, Walsall
- Bliss Aggregates, Branton Hill Quarry, Aldridge, Walsall
- Stitchacre Ltd, Bilston, Wolverhampton
- Midland Quarry Products, Ettingshall, Wolverhampton.

Permission has also been granted for a “resource recovery park” facility in Bloxwich (Walsall) which includes an aggregates washing plant, although this proposal has not yet been implemented.

The Capita Symonds 2005 Report²⁰ carried out a survey of arisings and use of alternatives to primary aggregates in England 2005. The report estimated that 33 crushers were in operation at the time of the report in Birmingham and the Black Country. In addition to these facilities, it is likely that a substantial amount of CD&EW soils and inert materials are applied to land under exemption across the Black Country.

Although it is not clear how much CD&EW was processed by these crushers on-site or at recycling facilities, the survey estimated that around 1.7 million tonnes of recycled aggregate and soil was produced as an output, which represented around 59% of the total arisings (around 2.9 million tonnes) for Birmingham and the Black Country.

Regionally, the split between crushers, landfill and exemptions is slightly different and the proportion of material managed under exemptions is much higher and the Capita Symonds report outlines:

- Crushers = 4.9 million tonnes (mt) (50%)
- Landfill = 2.0 mt (20%)
- Exemptions = 2.9 mt (30%).

The report highlighted that the figures are only estimates and in some cases the import or export of material may distort the figures, therefore the figures not completely reliable. While throughput and capacity information is not available, this does highlight that a significant volume of CD&EW is recycled or reused on site.

²⁰ Capita Symonds: Survey of Arisings and Use of Alternatives to Primary Aggregates in England 2005

3.3.4 Hazardous Waste Treatment and Recovery

The SLR Waste Treatment Facilities and Capacity Survey West Midlands Region, 2007 does not include hazardous waste sites, hence in the absence of information, the EA RATS data has been used and the throughput is considered to be the capacity, representing the worst case/low scenario for capacity in the Black Country. This information is taken from the EA RATS database outlined in Table 3.13.

Table 3.13 - Hazardous Waste Throughput/Capacity in the Black Country 2006

Site Type	Dudley (tonnes)	Sandwell (tonnes)	Walsall (tonnes)	Wolverhampton (tonnes)	Black Country Throughput (tonnes)	Estimated Capacity (tonnes)
Car Breaker	400	1,686	3,373	5,261	10,720	10,720
Material Recycling Facility (MRF)	328	22,514	40,756	18,983	82,581	82,581
Metal Recycling	82	3,324	8,225	2,618	14,249	14,249
Physical Treatment	260	0	0	0	260	260
Physical-Chemical Treatment	0	72,962	96,641	0	169,603	169,603
Total	1,070	100,486	148,995	26,862	277,413	277,413

Taken from EA RATS database

The predominant hazardous waste treatment capacity within the Black Country lies in the MRFs and physical-chemical treatment accounting for 91% of the total throughput. This may represent the changing composition of hazardous waste with increasing proportions of hazardous waste electrical and electronic equipment (WEEE).

The RATS classification relates to licences, so it doesn't necessarily reflect all the facilities present on each site or what they do. The assumption that some of the hazardous waste capacity operating under "MRF" and "metal recycling" licences is handling WEEE fits what is known about the facilities operating in the area. Some facilities may also be handling WEEE and therefore small quantities of hazardous wastes. There are several facilities treating and processing WEEE in the Black Country, including:

- Overton Recycling (Dudley) – capacity 75,000 tonnes
- European Metal Recycling (EMR), Darlaston (Walsall) –has capacity to handle 300,000 fridges
- AWM group (not sure whether at Dudley or Wolverhampton site, or what capacity)
- Foreman Recycling, Wednesbury (Walsall)

However, a high proportion of the hazardous waste managed in the Black Country is handled by two major facilities operated by Veolia (Polymeric Treatments) in Walsall and Biffa (Foxyards Site) in Dudley, and the Black Country Authorities are reliably informed that they mostly handle liquid wastes.

There is no current or planned hazardous landfill capacity within the Black Country and therefore it is assumed that hazardous waste requiring final disposal is taken outside of the Black Country.

With the introduction of the new hazardous waste classification that affects many household electrical items, the authorities have had to put in place arrangements for collecting and managing these wastes, as they contain small quantities of wastes that are now classed as hazardous, and require special treatment. HWRCs have therefore recently been adapted to accept a wide range

of WEEE items, and contracts are in place with commercial operators to manage the WEEE deposited at HWRCs and collected from households by special arrangement. However, there may be a need to develop further facilities to handle WEEE collected by the authorities if the amount of this waste increases significantly, and/or if existing contractual arrangements prove inadequate.

3.3.5 Recovery and Treatment Capacity Gaps

In order to establish current treatment and recovery capacity gaps within the Black Country, the waste arisings for each waste type have been compared with the estimated treatment capacity within the sub region. When considering the waste arisings discussed in previous sections only MSW and hazardous waste could be considered with a reasonable degree of accuracy. The arisings established for C&I and CD&EW are estimates based on assumptions and the best available information at the time of writing. In addition, the established capacities are based on assumptions and available information, and do not include treatment and recovery capacities at unlicensed facilities.

It should be noted that due to different reporting systems MSW arisings cover the period 2006/07, while throughput and capacity figures relate to the calendar year 2006, however the figures are broadly comparable for this exercise. On the basis that the Black Country Authorities recycled and composted 130,857 tonnes of MSW in the year 2006/07, the treatment capacity gap can be considered in terms of residual MSW and recycled and composted MSW. Table 3.14 outlines this information, using 2006/07 (April to March) data for MWS and 2005/06 (calendar year) for the other waste types.

Table 3.14 - Treatment Capacity Gap Analysis

Waste Category	Arisings (tonnes)	Throughput (tonnes)	Capacity (tonnes)	Gap (tonnes)
Total MSW	575,445	206,250²¹	205,000	-370,445
<i>Residual MSW (excluding total Recycled / composted)</i>	<i>444,588</i>	<i>206,250</i>	<i>205,000</i>	<i>-239,588</i>
<i>Recycled/ Composted</i>	<i>130,857</i>	<i>0</i>	<i>0</i>	<i>-130,857</i>
C&I	1,627,000	1,228,076	2,081,484	454,484
<i>C&I metal recycling only</i>	<i>227,780</i>	<i>1,119,579</i>	<i>1,897,591</i>	<i>1,669,811</i>
<i>C&I excluding metal recycling²²</i>	<i>1,399,220</i>	<i>108,497</i>	<i>183,893</i>	<i>-1,215,327</i>
CD&EW Total	1,445,262	53,576	53,576	-1,391,686
Hazardous	191,576	277,413	277,413	85,837

MSW

Table 3.14 shows that there is a significant treatment gap for MSW treatment in the Black Country of 370,455 tonnes in 2006/07.

This includes a significant gap in energy recovery capacity (the two existing EfWs do not have sufficient capacity to meet all of the Black Country's needs), and a major gap in capacity for MSW recycling and composting as the Regis Database shows very limited or no capacity for recycling or

²¹This is the throughput for all waste treatment facilities for MSW in the Black Country at the time of the study. We are aware of other facilities used by Black Country councils outside the sub region but this table is a summary of Black Country capacity only

²² Using the EA's 2002/03 C&I waste composition it has been assumed that metals account for all recyclables present in the waste stream (14%). See Appendix D for a full explanation including assumptions made. This is for waste composition only.

recovery of recyclable materials, or for the treatment of green and organic household waste. Current recycling and composting of MSW is carried out on behalf of the Councils by commercial operators under short-term contracts, and a significant proportion of this waste is managed outside the Black Country sub-region.

The Greenstar Aldridge MRF is now fully operational and is capable of processing up to 250,000 – 300,000 tonnes of dry recyclables per annum. Other commercial MRF facilities have also recently been developed in the Black Country, including a facility operated by AWM group in Wolverhampton with a capacity of up to 70,000 tonnes.

The availability of these new facilities must be taken into account, at December 2008 Walsall MBC had a contract to send up to 23,000 TPA of waste to one of these facilities (Greenstar) and Sandwell MBC had a contract to send up to 3,000 TPA to the same facility.

Although the commercially-led MRFs currently operating in the Black Country probably have sufficient capacity to accommodate the Black Country authorities' recycling requirements, whether or not they can, in reality, depends on contracts being agreed between the operators and the authorities. There is no guarantee that these facilities can provide for all of the Black Country's MSW recycling requirements between now and 2026, under such contracts.

C&I

Table 3.14 illustrates an overall positive capacity gap for C&I waste treatment within the Black Country of circa half a million tonnes. However, 91% of this licensed capacity relates to car breakers and metal recycling. If the car breakers and metal recycling capacity is removed from the calculation then the capacity gap becomes negative, at -1,215,327 tonnes. Using a composition analysis carried out by the EA and detailed in Appendix D 14% of all C&I arisings, in the West Midlands Region, are metal which was used for this calculation. However, this needs to be treated with caution as the information is from 2002/03 and therefore, the proportion of C&I waste arisings which comprise metals in the Black Country could be significantly more than 14%. An increase in metal composition would decrease the amount of non metals requiring treatment and therefore decrease the capacity gap.

CD&EW

The available data suggests a significant shortfall in CD&EW treatment capacity of 1,391,686 tonnes. However, due to the way CD&EW is managed; with particular regard to recycled aggregates, on site treatment and exempt activities within the sub region, this level of shortfall is thought unlikely. Until more accurate information is available (e.g. from SWMPs or waste audits) relating to actual treatment/recovery operations and throughputs, any capacity gap for CD&EW is difficult to quantify.

Hazardous

Hazardous waste treatment and recovery capacity within the Black Country exceeds arisings by 85,837 tonnes, giving 45% more capacity. However this capacity is based upon throughput at the licensed facilities, suggesting that a relatively large amount of Hazardous waste is imported into the Black Country for treatment.

Summary

The Black Country capacity gaps are summarised below:

- MSW – minus 370,445 tonnes
- C&I excluding metal recycling and car breakers – minus 1,215,327 tonnes
- CD&EW – minus 1,391,686 tonnes
- Hazardous - positive 85,837 tonnes

It is considered that there is a potential treatment capacity gap in the sub-region of 2.9 million tonnes; accounting for the treatment of residual and recyclable and organic MSW, and C&I waste

arising (excluding metal recycling) but excluding hazardous wastes. This is based on a number of assumptions as outlined for each waste stream above, and the overriding assumption that the Black Country Authorities wish to manage a tonnage of MSW and C&I waste equivalent to the tonnage arising in the area in line with the emerging RSS phase 2 revision.

Although a target of 100% diversion of waste from landfill is probably unrealistic the West Midlands region has now been selected as a Zero Waste place in which waste to landfill should be minimised as far as possible, see <http://www.lga.gov.uk/lga/core/page.do?pagelid=1212879> for more information. A more realistic objective for the Black Country would be to manage a tonnage of MSW and C&I waste equivalent to the tonnage arising in the area, in line with the emerging RSS Phase 2 Revision.

With the introduction of the new hazardous waste classification that includes household electrical items there is a need to develop facilities to handle the increasing amounts of waste electrical equipment collected by the authorities

3.3.6 Scope for Expansion

In order to meet the potential capacity gap as discussed above, the requirement for additional capacity will mean the provision of new facilities or the expansion or intensification of existing facilities. In some locations these options may not be welcomed as the current sites may be unpopular with their neighbours and new facilities may have difficulties gaining planning permissions due to the perceived negative aspects of waste management facilities. Notwithstanding any physical and environmental constraints.

When considering the potential capacity gap for residual and recyclable/ organic MSW and C&I arising, there are currently a limited number of licensed facilities. In order for these facilities alone to meet the potential estimated 1.5 million tonne treatment capacity gap for MSW and C&I (excluding metal) each facility would need to expand their operations by over 500%. This is clearly not feasible, and even if it were this would not necessarily incorporate the optimum range of facilities needed, e.g. current lack of organic treatment facilities.

SLR, as part of the WMRA Waste Treatment and Capacity Survey, 2007, examined the potential for future expansion and the certainty of expansion plans within the West Midlands. It should be noted that this includes Metal Recycling Sites. Of the 265 facilities surveyed, a total of 93 responses were collected from operators of facilities. 65% of the responses indicated that there was a potential for future expansion at their site, the remaining 35% reported the site was currently operating at its maximum.

Further information regarding future expansion plans was gathered for 89 facilities, 34% had some form of expansion plan in place, 61% had no plans, and 6% had plans to close (2 of which identified the site as having potential for a new waste management facility). 29 of the facility operators quantified their expansion plans, equating to 480,000 tonnes of increased throughput capacity (SLR 2007).

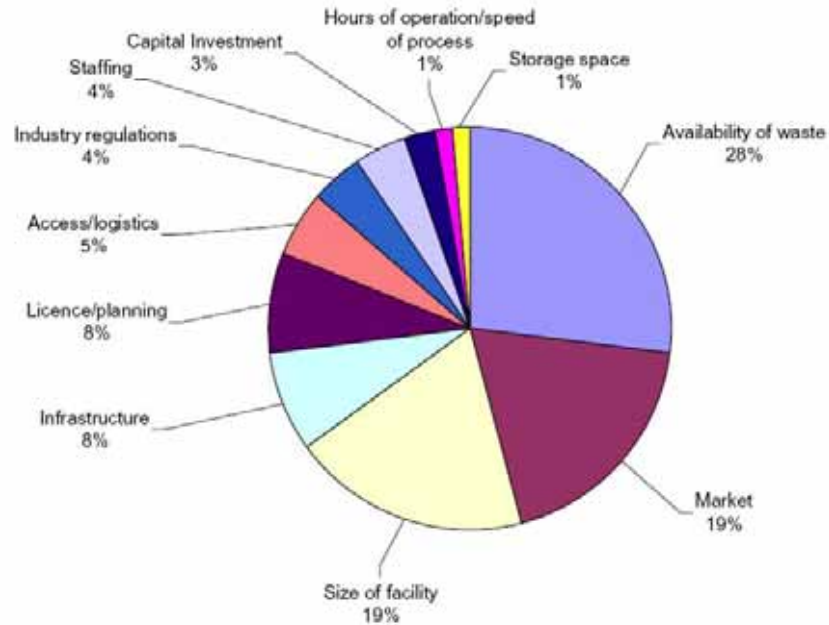
The survey found that the most common methods of planned expansion included:

- Improvement to or purchase of equipment
- Increase in facility size
- Increasing operational hours
- Increasing manpower, moving to a new site, expanding markets.

The survey went on to establish levels of certainty in expansion plans, finding that 36% had a good level of certainty with planning permission granted, 23% moderate certainty with submitted applications, 18% low certainty with no application submitted but advanced plans, and only 18% uncertain with plans at a conceptual stage.

Constraints provided by the site operators on the operation and potential expansion of facilities and detailed in Figure 3.1. Availability of waste and markets for outputs were consistently the main constraint across all facility types.

Figure 3.1 – Summary of Constraints to Future Potential Expansion



3.4 Waste Transfer Capacity

Historically waste transfer facilities simply bulked up waste for onward transportation directly to landfill sites, however more recently a significant proportion of waste transfer facilities carry out some form of pre-treatment, such as sorting of recyclable materials via hand sorting, mechanical extraction, or screening. SLR have quantified this in their 2008 study Waste a Future Resource for Business, Developing the Evidence base for a Targeted Intervention Strategy for the West Midlands detailing that of the responses to the survey 70% of transfer facilities in the West Midlands undertake some form of pre-treatment, contributing to landfill diversion. It was found that the rate of diversion varied between responses from 27% to 100% of waste throughput, identifying 60% as an average performance.

There are currently 59 licensed waste transfer facilities in the Black Country based on the EA Regis Database for 2006. The two types of transfer facilities reported in the Black Country are

- Civic Amenity Sites (6)
- Transfer Stations (53)

Appendix B lists the names of all the transfer facilities and the WPA in which they are located.

Based on the EA Regis Database for 2006, the total quantity of waste transferred in the Black Country in 2006 was 1,156,427 tonnes. This included 21,762 tonnes of hazardous waste handled by the transfer facilities which differs from the EA hazardous waste database of 44,581 tonnes .

3.4.1 Household Waste Recycling Centres (HWRCs)/ Civic Amenity Sites

There are total of 6 HWRCs (referred to as Civic Amenity Sites by Defra and the EA and Household Civic Amenity Sites by the CLG) in the Black Country. These tend to be operated by Local Authorities via a contractor, primarily for the management of household waste. Some

HWRCs also handle small quantities of C&I waste from small businesses. All waste, once accepted at HWRCs, is classed as MSW. The HWRCs operating within each Authority are:

- Dudley – Stourbridge HWRC
- Sandwell – Shidas Lane HWRC
- Walsall – Fryers Road and Merchants Way HWRCs
- Wolverhampton – Anchor Lane and Shaw Road HWRCs

Table 3.15 shows MSW throughput as reported by each Authority for 2006/07 taken from Defra Waste Data Flow statistics.

Table 3.15 – Household Waste Recycling Centres - Site Throughput 2006/07

Authority	Diversion for Recycling/ Composting (tonnes)	% Diversion	Landfill (tonnes)	Total Input (tonnes)
Dudley	14,895	41%	20,642	35,537
Sandwell	9,151	39%	14,322	23,473
Walsall	9,302	38%	14,895	24,197
Wolverhampton*	6,076	22%	15,685	27,302
Black Country	39,424	35%	65,544	110,509

*5,541 tonnes of HWRC waste sent to EfW from Wolverhampton.

The total waste handled by the HWRCs in 2006/07 is 110,509 tonnes. Information provided by the BCWMF²³ has identified that the HWRCs at Walsall and Wolverhampton have spare capacity. While those in Dudley and Sandwell are operating above the designed capacity, Sandwell has a throughput of circa 25,000TPA compared to the original capacity of 18,000TPA and Dudley are investigating a possible new location due to their Stourbridge site operating over capacity.

Shown in Table 3.15 a total of 39,424 tonnes of MSW was separated and sent for recycling or composting at HWRCs across the Black Country, giving a diversion from landfill rate of 35%. The table also shows individual site diversion performance ranging from 22% to 41%.

Potential exists for the rates of diversion from HWRCs to be significantly increased. The National Assessment of Civic Amenity Sites in the UK reported recycling rates in excess of 60% for sites in England in 2002/03 (Cameron Beaumont et al 2004). A site's ability to achieve these high diversion rates is dependant upon current infrastructure, for example in terms of layout and space, and the potential for each site would therefore need to be assessed individually.

3.4.2 Waste Transfer Stations

Table 3.16 provides an estimate of capacity of waste transfer stations in the Black Country in 2006, information has been obtained from the EA Regis Database for 2006. These are the sites licensed as transfer stations and as such may include some double counting as the EA have incorrectly coded some transfer stations as Civic Amenity Sites (HWRCs), which we have dealt with separately above.

Furthermore, this data can only be regarded as an estimate, as actual capacity at the transfer stations is unknown. The SLR methodology previously employed, from the 2007 study, does not cover transfer facilities, therefore the capacity has been assumed to be equivalent to the throughput, reflecting a worst case scenario.

²³ BCWMF is an informal forum comprising representatives from the four Black Country Waste Disposal Authorities.

Table 3.16 - Waste Transfer Stations - Estimated Capacity 2006

Waste Type	Capacity
MSW	113,988
C&I	448,824
CD&EW	611,758
Hazardous	21,762
Total excluding hazardous	1,174,570
Total including hazardous	1,152,808

The Black Country Councils have raised the issue of the under supply of transfer stations within the Black Country and this is of concern to them.

The transfer stations used by the councils are as follows:

- Dudley – Lister Road Dudley, managed by Dudley MBC
- Sandwell – Taylors Lane Oldbury, managed by Sandwell MBC and Tipton transfer station managed by Biffa
- Walsall – Fryers Road Bloxwich, managed by May Gurney
- Wolverhampton – Crown Street, managed by Enterprise PLC/Wolverhampton City Council

Potential Diversion of Materials Undertaken at Transfer Stations in the Black Country 2006

Applying the findings from SLR's survey, waste a future resource for businesses for Advantage West Midlands (AWM) 2008, of a minimum, maximum and 'common' diversion performance at transfer stations across the West Midlands can be estimated. The results of the survey suggest that approximately 70% of those facilities who responded to the survey were performing some kind of pre-treatment e.g. hand picking, screening, mechanical segregation, chemical extraction. SLR have made the assumption that 70% of the number of facilities equates to 70% of overall throughput within the West Midlands. It should be noted that this has been identified in the report as an assumption.

Of the 70% of throughput pre-treated at the transfer stations, SLR found that the actual tonnage diverted ranged from 27% to 100% of waste input. The report utilises a minimum diversion of 27%, and calculates a common diversion rate of 60% in its analysis. As the report identified 60% as a common diversion rate this has been used. Therefore, due to the findings of this report a range of diversion has been used in Table 3.17 from 27% (minimum) to 60% (common).

Table 3.17 has been compiled to illustrate potential diversion occurring at transfer stations across the Black Country.

Table 3.17 - Potential Diversion of Waste from Landfill occurring at Transfer Stations within the Black Country (2006)

Total Waste Throughput Tonnage 2006	Proportion of Pre-Treatment	Estimated Treated Throughput Tonnage	Potential Diversion tonnage at 27% (min)	Potential Diversion tonnage at 60% (common)
1,156,427	70%	809,499	312,235	693,856

3.5 Waste Disposal Facilities

Landfill

The Black Country is still heavily reliant upon landfill as a waste disposal option, both for MSW and C&I waste arisings. Both Sandwell and Walsall rely upon landfill to dispose a significant proportion of residual MSW arisings. Following the introduction of the Landfill Allowance Trading Scheme (LATS) and the landfill tax escalator, landfill is becoming an increasingly expensive and unfavourable option.

There is likely to always be a need for landfill to dispose of wastes that cannot be re-used, recycled or recovered. Recent research into landfill capacity nationally and in the West Midlands Region indicates there is a shrinking pool of landfill capacity both nationally and regionally, suggesting that in the long term the Black Country's landfill capacity may be seen as a valuable resource.

EA landfill capacity survey

The EA undertook a national survey of landfill capacity in 2004/05, this identified a number of operational and non-operation landfill sites within the Black Country, operating under a Waste Management License (WML) or PPC (Pollution Prevention Control) Permit.

The results of the survey were reflected in the joint response by the Black Country authorities to the RSS Phase 2 Revision Section 4 (4) consultation. This formed part of the West Midlands Metropolitan authorities' response which was submitted to the Regional Assembly in May 2006. As the 2004/05 EA survey was the best information available at the time, information was extrapolated from this to provide an estimate of current void capacity in the Black Country. The estimate of existing capacity in 2006 is reproduced in Table 3.18 below.

Table 3.18 – Black Country - Landfill Void Estimate Capacity in 2006

Status		Estimated Void m3
Licensed	Non-hazardous	14,130,000
	Hazardous	0
	Inert	1,570,000
Planning Permission	Non-hazardous	0
	Hazardous	0
	Inert	0
TOTAL		15,700,000

Subsequent to this, the Waste Background Paper 2007 revisited the EA survey data, and included a revised estimate of the additional capacity likely to come forward as a result of proposed restoration schemes at Aldridge Quarry and Highfields South Quarry in Walsall. The paper estimated that a further 2,500,000 cubic metres of void capacity could become available as a result of these (N.B. due to a typing error the report actually said tonnes not cubic metres).

Scott Wilson landfill survey

A study by Scott Wilson in 2007 (commissioned by WMRA to inform the RSS Phase 2 Revision) also reviewed and updated the results of the EA 2004/05 survey.²⁴ Although this included a summary of the void space in the West Midlands Metropolitan area (based on the EA survey information), this was not presented in a way that gave a definitive figure for landfill void capacity

²⁴ A Study into Future of Landfill Capacity in the West Midlands (2007), Scott Wilson for WMRA

in the Black Country. Table 3.19 illustrates the findings relating to the Black Country authorities and relates to Table 3.3 in the Scott Wilson study and the underlying survey data.

Table 3.19 – Black Country - Landfill Void Space 2004/05

WPA	Operational Sites	Void Space m³
Birmingham City, Coventry and Dudley	3	4,703,228
Sandwell	3	475,844
Wolverhampton	0	0
Walsall	4	3,517,240
TOTAL	10	8,696,312

Landfill sites and their capacity

For this study we have been able to obtain the underlying data for Black Country sites from both the EA 2004/05 survey and the Scott Wilson survey, which has enabled us to produce a more accurate estimate of existing and possible future void capacity in the Black Country. We have also been able to refer to the EA Regis database for 2006, which includes inputs into landfill sites.

Using this information, the following operational or pre-operational landfill sites in the Black Country were identified:

- Himley Quarry landfill in Dudley operated by Cory Environmental. The site is classified as A01 by the EA i.e., site licensed to accept hazardous, non-hazardous and inert waste.
- Edwin Richards landfill in Sandwell operated by Waste Recycling Group. The site is classified as A01 by the EA i.e., site licensed to accept hazardous, non-hazardous and inert waste.
- Vigo/Utopia landfill in Walsall operated by Cory Central Limited. The site is classified as A04 by the EA i.e., site licensed to accept non-hazardous and inert waste.
- Branton Hill Quarry, in Walsall operated by Bliss Aggregates. The site is classed as A05 by the EA i.e., site licensed to accept inert waste
- Aldridge Quarry in Walsall operated by Cemex. The site is classed as A05 by the EA i.e., site licensed to accept inert waste
- Highfields South Quarry in Walsall, operated by Cory Central Limited. The site is classed as A04 by the EA, i.e. site licensed to accept non-hazardous and inert waste.

The Scott Wilson survey treats Edwin Richards as both an operational and a pre-operational site (later phases being pre-operational). Other “planning obligated” sites were also identified in the Scott Wilson survey – these are active quarries which have a mineral planning permission requiring restoration by landfill. The facilities at Aldridge Quarry and Highfields South Quarry fall under this heading. They are highlighted above because both sites have approved restoration schemes and permits, although they were not operating at January 2007, and no inputs were recorded on the Regis database in 2006. Landfilling at Highfields South Quarry commenced during 2008. There are currently no landfill sites that accept hazardous waste operating within the Black Country and therefore any residual hazardous waste is disposed of outside the sub region.

Table 3.20 provides a summary of the information from the underlying data for the Scott Wilson report²⁵ for the estimated void space of active, pre operational and planning obligated sites along with EA RATS data for 2006 to identify the licensed capacity and inputs in 2006. However, some warning should be attached to the Scott Wilson data as in some instances it does not appear to use realistic assumptions to calculate the remaining life.

Table 3.20 – Landfill Capacity for Active, Pre- Operational and Planning Obligated Sites 2007

Type of Site	Existing Sites: Estimated Void Space Jan 2007 (m3)	Pre-Operational and Planning Obligated Sites: Estimated Void Space Jan 2007 (m3)	All Sites: Total Estimated Void Space (m3)	All Sites: Total Estimated Capacity (tonnes)
Non-Hazardous	3,563,000	16,600,000	20,163,000	20,163,000
Inert Only	300,000	600,000	900,000	1,350,000
Total	3,863,000	17,200,000	21,063,000	21,513,000

NB All figures are rounded to the nearest 1,000 tonnes and are approximate only. Conversion of void space to tonnages uses the same assumptions as Scott Wilson in the Survey of Landfill Capacity in the West Midlands, i.e. 1 tonne per cubic metre of non-hazardous waste and 1.5 tonne per cubic metre for inert waste.

As suggested by the Black Country Authorities the lifespan of some of the sites appears very optimistic, given that the Scott Wilson data is based on estimates of the annual tonnages of waste likely to be deposited into each site. Where these estimates can be compared with actual inputs in 2006 from the EA Regis database, in only one case is the estimate close to the actual input rate, and in three cases the estimate is significantly lower. This should be taken into account when utilising these figures. Future monitoring will show whether inputs will continue at 2006 rates or the more cautious input rates assumed by Scott Wilson are more accurate.

The data currently available suggests that at January 2007, a total void space of around 3.9 million m³ was available within active sites, and a further 17.2 million m³ was likely to become available by 2026 within pre-operational and planning obligated sites. This gives a total void space of around 21.1 million m³ available or potentially available at all of the active, pre operational and planning obligated sites, significantly more than that estimated in the EA's survey of landfill capacity in 2004/05 of 15.7 million m³. However, as the higher figure includes the most up to date information and that taken from the 2006 RATS database it is assumed that this is the best estimate of landfill capacity in the Black Country and will be used in this report.

Converting the void space to tonnes using the same assumptions as the Scott Wilson report identifies 21.5 million tonnes of capacity as of 2007, this is used to inform Table 3.27.

There is no current or planned hazardous landfill capacity within the Black Country and therefore it is assumed that hazardous waste requiring final disposal is taken outside of the Black Country.

3.6 Contaminated Soils

3.6.1 Implications for the Black Country

Regional Spatial Strategy

The RSS proposes significant redevelopment within the West Midlands. Within the Black Country, the existing RSS and emerging RSS Phase 2 Revision propose 236,000m² of new retail floorspace, 845,000 m² of new office floorspace, 61,200 new dwellings (net) and 25,806 residential demolitions 2006 - 2026. This scale of development and redevelopment will inevitably produce significant amounts of both clean good quality and contaminated soils. Maximising the reclamation of contaminated soils is therefore identified as a priority issue within the emerging

²⁵ Scott Wilson (2007) Aggregated data published in A Study into Future Landfill Capacity in the West Midlands for WMRA

RSS waste policies, encouraging on-site treatment where possible, but requiring WPAs to make provision where necessary for new off-site facilities (RSS Phase 2 Revision Policy W10).

Black Country Core Strategy Preferred Options

The Preferred Options propose to accommodate the levels of retail, commercial and housing growth required by the RSS and emerging RSS Revisions. It is proposed that this will take place within the urban areas. New development will be concentrated in 4 strategic centres (Brierley Hill, Walsall, West Bromwich and Wolverhampton) and 16 Regeneration Corridors.

Delivery of these proposals will depend on implementing effective programmes of land assembly, demolition and land reclamation. In some cases, areas will need to change from industry to housing or community/ commercial use, in which case there will be a need to deal with contamination as a result of the legacy of previous industrial activities.

Mott Macdonald Phase One Infrastructure Study (forthcoming)

Mott Macdonald have carried out phase one of an infrastructure study which included a section investigating the possible sites where contamination may have occurred due to man made deposits only. This was a very high level analysis on the potential for contamination. It summarised that 50% of areas in the west and central regeneration corridors within the Black Country are covered by made ground and risks from this are considered to be moderate, whereas in the east and north corridors the risks are considered to be low due to the lower proportion of areas covered by made ground. Mott Macdonald recommend that further study is carried out to gain a more detailed insight into the potential contaminated land in the regeneration corridors.

3.6.2 Wastes from Land Redevelopment

The emerging RSS Phase 2 Revision proposes that the Black Country Core Strategy should "give specific priority to identifying new sites for facilities to store, treat and remediate contaminated soils." (RSS Phase 2 Revision Preferred Option Policy Quality of the Environment 2007). However, the Black Country authorities have challenged this in their response to the consultation, highlighting the fact that the Regional Planning Board (RPB) has put forward no technical evidence in support of such a requirement and in light of the following information.

The redevelopment of land may involve surface and sub-surface clearance of structures and vegetation, excavation of soils and other materials then remediation followed by construction.

This gives rise to wastes, which may be "normal" construction and demolition waste and soils, or may be classified as "contaminated". Demolition waste may contain asbestos, and sometimes contain chemicals from processes operated in the buildings. Soils may be contaminated by a range of substances spilt or disposed of on the land.

Most mixed construction and demolition waste will be classed as non-hazardous and is usually inert. Both these waste streams will fall within the classification of CD&EW, as outlined in section 3.1.4 above. This section of the report considers just the contaminated soils element of CD&EW.

Any contamination has to be assessed with regards to both the use of land on which it is present, and, if necessary, to the disposal of the contaminated material. In both respects, approaches to the assessment have evolved over the last 30 years. In respect of land use, assessment is made in accordance with the contaminated land regime implemented by Part IIa of the Environmental Protection Act 1990. This legislation and guidance provides a framework for assessment of risk and hence to indicate the need of remedial measures.

Assessment of contamination

The amount and nature of any contamination will depend on the land-use history of the site. This may be very specific, such as leakage or spillage of fuel or oil in the area of storage tanks, or it may be varied, for example in the case of chemical plants. In some cases the contamination results from deliberate disposal of materials, for example former landfill sites or waste lagoons.

Therefore, assessment of land contamination normally proceeds using a phased approach, typically involving a desk study, followed by one or more phases of ground investigations. The desk study considers historical information about the site to indicate the likely type and possible

distribution of contaminants. An intrusive ground investigation usually follows, in which samples of soil, water and soil vapour are obtained for analysis.

Options for remediation

There is range of remediation options available for contaminated soils:

- Left in-situ
- Sealed off in-situ
- Treated in-situ
- Treated on site
- Moved and reburied on site, usually in engineered containment
- Treated off site
- Landfilled off site

The selected mix of options will depend on the drivers for redevelopment, the size of the site, the scale of the contamination, and the economic aspects. Government policy is to encourage treatment of contaminated soils, in preference to “dig and dump” approach, in which contaminated soil is not treated but disposed of in landfill sites.

Site specific implications

From the previous section the amount of waste produced for off-site disposal on a particular site will be very specific to that site depending on:

- The three dimensional distribution of contaminants
- The type of contaminants
- The detailed after-use proposals
- Whether the pollution or liability drivers are important
- The availability of remedial options
- The cost of remediation options
- Funding for remediation

3.6.3 Quantifying Land Affected by Contamination

The EA produced ‘Indicators for Land Contamination’ in 2005 to identify contaminated land in England and Wales. 4 indicators were developed:

- CS1 – Extent of Industrial Land Use (total contaminated land)
- CS2 – Identification of Land Contamination (how far are the regulatory bodies in identifying contaminated land)
- CS3 – Remediation of Land Contamination (how much remediation has taken place)
- CS4 – Newly created Land Contamination (quantity of contaminated land since the introduction of the contaminated land regime)

Based on national data sources and 12 case studies, the EA estimated 300,000ha (CS1) of Land affected by Contamination in England and Wales²⁶, Table 3.21 shows this information for the Midlands (all midlands areas). As the report is a national indicator it included data for Midlands and no further breakdown was available at regional (West Midlands) and sub-regional (Black Country) levels.

²⁶ Environment Agency (2005) Indicators of Land Contamination. <http://publications.environment-agency.gov.uk/pdf/SCHO0805BJMD-e-e.pdf>

Table 3.21 - Midlands Land Affected by Contamination

Classification	Region	%CS1	Of Land Identified as CS1	
			%CS2	%CS3
Centres with Industry	Midlands	26.2	5.9	5.9

In absence of information the following paragraphs explore the RSS Derelict Land Returns and National Land Use Database (NLUD) to quantify the contaminated soils arising in the Black Country.

3.6.4 Derelict Land

There is a significant amount of derelict land in the Black Country that has the potential for redevelopment. Atkins have identified two sources of information to use for identifying the derelict land in the Black Country:

- RSS Derelict land returns

The RSS Derelict land returns are records maintained by the Local Authorities, and have been provided by them for this report, providing information about derelict sites and a brief description regarding the nature of dereliction affecting each site. This information is updated on an annual basis. The database includes the sites that have been remediated on an annual basis.

- National Land Use Database (NLUD)

The NLUD provides an inventory of the national stock of vacant and/or derelict land or buildings in England. It also provides an inventory of occupied land and buildings with redevelopment potential. The NLUD Previously Developed Land (PDL) is a crucial component in formulation of national Brownfield strategy that aims to meet the Governments objective in maximising the use of PDL in England.

NLUD has 5 classifications of land types:

Land Type A is land where there are no buildings that could be redeveloped without treatment, although on or off site constraints, e.g. infrastructure, may exist.

Land Type B covers buildings, residential and industrial, which may have been vacant for a year or longer and are structurally sound and in reasonable condition.

Land Type C is land or buildings so damaged by previous development, e.g. contamination, sub-surface structures, that it is incapable of beneficial use without treatment.

Land Type D is land or buildings that are currently in productive use, whether fully or partially occupied, rather than vacant or derelict. These sites have been formally identified by the planning system, as redevelopment opportunities, through development plans or planning consent.

Land Type E is land and buildings that are currently in productive use, whether fully or partially occupied, rather than vacant or derelict. These sites have not been formally identified by the planning system but are considered to have potential for redevelopment.

Sites under land type A to E may or may not have presence of contamination. Hence the data for the Black Country by NLUD does not account for the amount of contaminated land.

Table 3.22 shows the amount of derelict land in the Black Country during 2007.

Table 3.22 - Total Area of Derelict Land 2007

Authority	Area (hectares)
Dudley	166.85
Sandwell	92.18
Walsall	161.54
Wolverhampton	86.63
Black Country	507.2

Summary from the RSS Derelict land returns 2007 on land remediated is illustrated in Table 3.23. The RSS derelict land returns quantify the derelict land remediated in 2007.

Table 3.23 - Derelict Land Remediated in Black Country 2007

RSS Derelict land returns	Area (hectares)
Dudley	17.15
Sandwell	3.79
Walsall	2.2
Wolverhampton	9.74
Black Country	32.88

Dudley's NLUD returns only identify land type D partly because NLUD does not accommodate more than one land type being entered in each site instance and contaminated land data was not necessarily available on a site by site basis (and to what extent or by what type a site is contaminated).

3.6.5 Quantifying waste

In order to quantify the need for off-site facilities, both currently and in the future, for the treatment of contaminated soil from the redevelopment of land within the Black Country, it is necessary to understand the likely volumes of waste arising. Based on Atkins professional experience of land remediation the following methodology is applied to calculate the tonnages of contaminated soils from remediation reported by the RSS Derelict land returns for 2007. In any regeneration area the estimated proportion of land excavated is 50% to a depth of 1 metre. Of this excavated soil 30% is assumed to be contaminated and 70% uncontaminated. The sources of treatment for the contaminated soil are:

- Redeposit on site – 50%
- Treatment on site – 40%
- Off site disposal – 10%

Of the soil treated on site we estimate there will be 70% non hazardous residue and 30% hazardous residue. The estimated quantity of contaminated soil arisings in 2007 is outlined in Table 3.24 below.

Table 3.24 - Quantity of Contaminated Soil Arisings in 2007

Issue	Assumption	Output (tonnes)
Regeneration area	32.88 ha (328,800m ²)	-
Proportion to be excavated	50% (164,400m ²)	-
Depth of strip	1 m (164,400m ³)	-
Tonnes of soil	Density 1.5t/m ³	246,600
Contaminated	30%	73,980
Uncontaminated	70%	721,620
Contaminated for redeposit on site	50% of contaminated	36,990
Contaminated for treatment on site	40% of contaminated	29,592
Contaminated for off-site disposal	10% of contaminated	7,398
Non-hazardous residue from on-site treatment	70% of contaminated for treatment	20,714
Hazardous residue from on site treatment	30% of contaminated for treatment	8,877

In order to put this in context until 2026, the same process was carried out for the total amount of derelict land currently in the Black Country, 507.2 hectares. This information is shown in Table 3.25.

Table 3.25 - Waste Generation Estimation from Contaminated Land up to 2026

Issue	Assumptions	Output (tonnes)
Regeneration area	507.2 ha (5,072,000m ²)	-
Proportion to be excavated	50% (2,536,000m ²)	-
Depth of strip	1m (2,536,000m ³)	-
Tonnes of soil	Density 1.5t/m ³	3,804,000
Contaminated	30%	1,141,200
Uncontaminated	70%	2,662,800
Contaminated for redeposit on site	50% of contaminated	570,600
Contaminated for treatment on site	40% of contaminated	456,480
Contaminated for off-site disposal	10% of contaminated	114,120
Non-hazardous residue from on-site treatment	70% of contaminated for treatment	319,536
Hazardous residue from on site treatment	30% of contaminated for treatment	136,944
Total contaminated for off site disposal	Contaminated for off-site disposal and hazardous residue from on site treatment	251,064

Issue	Assumptions	Output (tonnes)
Total contaminated land disposed of each year	Averaged for 18 years	13,948

Although Table 3.25 could be used to estimate the amount of contaminated soil which may need treatment and therefore disposal in each year to 2026, the derelict land data reflects levels of reclamation activity in the past rather than what has to be dealt with in the future. The Joint Core Strategy (JCS) is proposing growth and redevelopment in areas which do not fall within the definitions of “derelict” in NLUD or RSS monitoring, estimates of future requirements based on this will not provide a complete picture. The forthcoming Mott MacDonald Phase One Infrastructure Study does consider the geotechnical and contamination risks across the corridors as a whole, but gives only a broad indication of the scale of the potential problems.

In addition to this current market conditions have reduced the amount of development currently taking place and in the future the amount of waste may increase as the development increases if and when the market picks up.

Approach to refinement

It may be possible to expose the assumption to a wider selection of professionals, to obtain the most robust ‘average’. Such an approach would be greatly assisted by any records available of these parameters from actual remediation. However, the nature of the data available varies across the Black Country depending on the resources available. Some authorities can only respond to site-specific enquiries and cannot provide comprehensive borough-wide data. It is therefore unlikely to be possible to refine the data at a strategic level in the timescale for this study.

It may be possible to refine the approach by gaining greater knowledge of the sites concerned that is, by moving in the direction of site specific approach using land use information and proposed after use. The Mott MacDonald Phase One Infrastructure Study considered the geotechnical and contamination risks across the corridors as a whole, but was only able to give a broad indication of the scale of the potential problems. They concluded that they couldn’t quantify the scale of the problem at a strategic level on the basis of the data they had available, and recommended that further assessments should be done at a local level (e.g. this could be done through Area Action Plans (AAPs) for each corridor/ centre).

Within the JCS the Black Country Councils need to show sites will be viable (one of the key messages of PPS12 is that Core Strategy must be deliverable paragraphs 4.1, 4.4) so further information on contamination may be available if such studies are conducted to inform site allocation DPDs or as part of Strategic Housing Land Availability Assessments. Wolverhampton hope to do more detailed site analysis for AAPs.

3.6.6 Development of Facilities to Treat Contaminated Soils

The available data from the EA Regis database has identified no facilities treating contaminated soil in the Black Country.

Churngold operated a soil remediation site at Himley Quarry Landfill in Dudley, but has ceased operation due to a lack of soils available for treatment in the catchment area. We would anticipate that the catchment areas was within reasonable travel time of the site and could include other Councils in the Black Country but not necessarily areas beyond the Black Country.

One of the major factors affecting the development of land is the economy of the country. With the global credit crunch and current difficulties in the financial markets affecting mortgages, developers are cautious in investing money in the development of land for new housing. With less development of land, coming forward in the short term than anticipated a few years ago, permanent infrastructure to treat soils might not be economically feasible for the private sector. Contaminated Land Application in Real World (CL:AIRE) has mentioned the Hub and Cluster

approach and prepared a generic working plan where a number of sites in an area direct all their soils for treatment to the temporary hub, which can then treat the soils and redirect them to the sites with disposal of the residues in a nearby disposal facility.

With the introduction of the pre-treatment of waste prior to landfill and the cost of landfilling hazardous waste as discussed earlier, it is understood that large amounts of waste are to be treated on site by mobile treatment facilities. The post remediation use of land and the level of treatment would dictate the type of treatment undertaken.

The economics of the development of land encourages the use of recycled aggregate thus creating a demand in the Black Country. This trend is understood to exist in the future as more economic development of the Black Country is achieved.

With the increasing costs of landfilling waste especially hazardous in nature, more CD&EW is expected to be treated on site prior to landfill.

3.7 Waste Management Infrastructure within the Black Country

The Black Country generated approximately 3.8 million tonnes of waste in 2005/06. This is compared to treatment facilities with the capacity of 2.6 million tonnes and a total landfill void space of 21,063,000m³ at all of the active, pre operational and planning obligated sites. In some instances waste is taken outside the Black Country for treatment as the facilities are not available within the area. Likewise waste is imported to the area for treatment and disposal.

The information on the treatment of each type of waste is outlined in the following section.

3.7.1 Need for New Facilities to Treat Different Waste Types

MSW

Analysis from the EA Regis database and the Municipal Waste Management Statistics from DEFRA, shows there is a treatment capacity shortage for MSW. Currently there are two EfW facilities located at Dudley and Wolverhampton primarily sustained by MSW arisings in the respective authorities.

There are no licensed composting facility in the Black Country and all the green waste is transported outside the Black Country. This has been confirmed by the BCWMMF members in their data requests supplied in March 2009. However, the current contracts for treating green waste outside of the Black Country are all going to expire within the next 3 years and therefore this treatment method cannot be relied upon in the future and puts the Black Country Councils in a position of relying on external sources for the treatment of green waste. It is essential to have capacity to deal with green waste and kitchen food waste in the Black Country to enable the authorities to continue to divert BMW from landfill in line with LATS requirements, in the future, beyond the current contracts.

There are 6 Household Waste and Recycling Centres (HWRCs) in the Black Country with Walsall and Wolverhampton having two sites each. It is understood that the sites in Walsall and Wolverhampton have spare capacity and the Dudley and Sandwell sites are currently operating at or above their maximum capacity. New HWRCs, especially in Dudley and Sandwell, will help deliver higher diversion of waste from landfill.

Implementation of new technologies is considered as a huge financial risk if the technology is not proven on a large scale. However, there are many waste management companies now operating Mechanical Biological Treatment and Anaerobic Digestion facilities for treatment of MSW. The Black Country authorities have recognised there is an unmet need for local facilities to manage organic wastes. They are currently investigating the potential for identifying suitable operators/sites in the Black Country but investigations are at a very early stage at the moment. The DEFRA technology demonstrator programme has also proven the worthiness of some new technologies such as Plasma Arc Technology and Gasification. However, each technology would have to be investigated to show its suitability for the location and composition of the waste to be treated.

C&I

The metal processing and handling industry is well established in the Black Country. The sub-region is importing waste metals and has large number of facilities concentrated in Sandwell, Walsall and Dudley as discussed earlier. The throughput from metal processing accounts for nearly 91% of C&I waste. Due to limited information on C&I waste arisings, only assumptions can be made on the capacity need of this waste sector. This has been discussed in detail in the section on Waste Treatment Capacity.

At a later stage, further studies focussing on waste arisings from C&I excluding metals and the composition of C&I waste would be helpful in analysing the need and demand for treatment facilities to check that the assumptions made in this study are valid. However, the Black Country Councils had a recent advisory meeting with Planning Inspectorate (PINS) and this has confirmed that the current evidence is adequate for the purposes of the Core Strategy. A new national survey of C&I arisings is underway but unfortunately the results will be too late to be used in this study. Further work on C&I arisings in the Black Country may take place at a later stage if the outcome of this suggests it is necessary. The authorities believe that this provides a tool for estimating and forecasting C&I waste arisings at WPA level, based on employment profiles (SIC codes and employee size bands). This is likely to provide a more accurate estimate of C&I waste arisings in the Black Country than the data used in this report and should be reviewed by the authorities.

CD&EW

Due to nature of the waste management with respect to CD&EW, using exempt facilities and lack of data reported, from the analysis of the available information there is high level of recovery from CD&EW in the Black Country. This is economically driven as there is demand in the Black Country for recycled aggregate.

There are no dedicated treatment facilities for treating contaminated soil from brownfield development. With preference to develop brownfield land for housing and employment sectors by the Government, there is need for facilities in the Black Country to be developed as and when they are required to support large-scale regeneration projects within the strategic centres and regeneration corridors. As the need for such facilities cannot be quantified at the strategic level with any accuracy and facilities are likely to be of a temporary nature/ linked to specific regeneration projects, this is probably best addressed at a local level through Area Action Plans, Masterplans or other development plan documents and is likely to include such facilities as soil treatment hubs.

Hazardous waste

The Black Country is believed to be a net importer of hazardous waste handling hazardous metal wastes, waste oils, batteries, fridge/ freezers, etc. There may be a need to develop further facilities to handle WEEE collected by the authorities from HWRCs and from households if the amount of this waste increases significantly, and/or if the existing contractual arrangements prove inadequate. There are also no hazardous waste landfills operating within the Black Country and therefore any residual hazardous waste must be transported outside the sub region for disposal.

Need for Waste Facilities

Table 3.26 provides a summary of this information outlining the need for different waste management facilities to treat the various waste types.

Table 3.26 - Need for Waste Facilities

Waste Type	Need for New Waste Treatment / Management Facilities
MSW	<ul style="list-style-type: none"> • Composting facilities for green waste and food waste • Expansion to existing or new CA sites for all Councils, but especially Sandwell and Dudley • New depots required by Dudley and Walsall Councils

Waste Type	Need for New Waste Treatment / Management Facilities
	<ul style="list-style-type: none"> Treatment options for mixed MSW such as Energy from Waste, Materials Recycling Facilities and Mechanical Biological Treatment facilities
C&I	<ul style="list-style-type: none"> Likely to be a need for new recycling/ treatment facilities but as they are commercially driven, and we cannot anticipate which technologies will be brought forward, a range of sites will need to be identified to accommodate different types of facility
CD&EW	<ul style="list-style-type: none"> Mostly on-site recycling which can only be encouraged/ addressed through sustainable construction policy. Need for permanent “urban quarry” style facilities cannot be quantified but suitable locations should be identified where possible.
Contaminated Soils	<ul style="list-style-type: none"> Not possible to quantify need at strategic level – needs to be dealt with locally as integral part of large-scale regeneration projects.
Hazardous	<ul style="list-style-type: none"> Could be a need for new WEEE recycling/ treatment facilities so suitable locations may need to be identified Currently no hazardous waste landfills within the sub region and it is assumed this is transported outside the Black Country for disposal.

3.7.2 New Waste Management Infrastructure

Obtaining local support and planning permission for waste treatment facilities can be a lengthy process and can result in delays and sometimes the termination of the development of waste facilities. As outlined above new waste management / treatment facilities are needed for all types of waste handled in the Black Country. The main barriers and potential incentives to developing new facilities are outlined below:

Barriers and potential incentives for developing new facilities

- Barriers
 - Availability of suitable land due to dense urban environment already in place in the sub region;
 - Suitability of land available and its proximity to sensitive land uses;
 - Lack of suitable land in council ownership;
 - Lack of resources to purchase suitable sites;
 - Gaining planning permission for new sites and showing that the waste treatment / management infrastructure proposed for the site will not have a negative effect on the surrounding environment;
 - Maintaining the levels of waste required to run the service and the costs involved in the treatment operation.
 - State of air quality may affect technologies likely give rise to harmful emissions (either directly or as a result of increased traffic movements)
- Potential Incentives
 - The need to achieve LATS targets to avoid fines by landfilling too much BMW;
 - To increase recycling and composting rates in line with the targets set out in the Waste Strategy 2007;
 - Value of some recyclable materials (e.g steel);but since the start of this study the price for recycled materials has reduced dramatically;

- Increasing landfill tax;
- Definitive plans identifying the areas of potential redevelopment and the extent of contaminated soils;
- Providing a greater depth of information on the waste streams generated within the Black Country;
- Meeting renewable energy target set by Government.

3.7.3 Landfill

High landfill capacity in the Black Country has dictated the waste management methods in the past. The Black Country has a total of 5 operational landfill sites in December 2008 (though one of these is restricted and another is due to close in 2009).

The need for landfilling will continue in the future, but depending on the amounts of waste produced and the diversion of waste from landfill the capacity may be sufficient for waste produced in the foreseeable future. The current fiscal measures have put landfill tax to £48 in 2010, thereby enabling technologies for the recovery and re-use of waste to become a potentially cheaper option.

The introduction of LATS and limitation on Biodegradable Municipal Waste (BMW) landfilled has encouraged all authorities in the Black Country to improve diversion of BMW from the MSW stream. Dudley and Wolverhampton have the option of a revenue stream based on having spare LATS to trade whereas Sandwell and Walsall need to avoid huge penalties by meeting the stringent targets.

The estimated impact of local authorities meeting their LATS targets would involve an overall decrease in the tonnages of waste being disposed of via landfill sites. Therefore, the future need is expected to decrease, even though there will always be residual waste, generated either direct from source, or the residue from the various treatment processes.

3.7.4 Waste Arisings and Capacity within the Black Country 2005/06

The current waste infrastructure within the Black Country is summarised in Table 3.27 below. These figures are taken from the tables in the baseline information section of this report. Defra data for 2006/07 (April to March) have been used for MSW and the 2006 (calendar year) EA Regis (RATS) data for C&I and CD&EW as this is the most recent data available for these waste types. The hazardous waste arisings figures are based on the EA hazardous waste database information for the calendar year 2006. The inert and non-hazardous landfill arisings figure is based on the 2006 EA RATS data and the capacity figure is based on the results of the Scott Wilson survey which reflects the position at January 2007. There is no current capacity for hazardous waste landfill within the sub region so it is assumed that any residual hazardous waste is transported outside the Black Country for disposal.

Table 3.27 - Summary of Waste Arisings, and Treatment Capacity within the Black Country

Waste type	Fate	Estimated Arisings (tonnes)	Estimated Capacity (tonnes unless otherwise specified)	GAP (tonnes unless otherwise specified)
1) MSW	Total Arisings	575,445	-	-
	Treatment	130,857	0	-130,857
	Energy from Waste	206,250	205,000	-1,250
	Landfill	238,332	See 5) total landfill	See 5) total landfill
2) C&I	Total Arisings	1,627,000	-	-
	Treatment	831,397	2,081,484	+*
	Landfill	795,603	See 5) total landfill	See 5) total landfill
3) CD&EW	Total Arisings	1,445,262***	-	-
	Treatment	1,445,262	53,576	-1,391,686**
	Landfill	unknown	See 5) total landfill	See 5) total landfill
4) Hazardous	Total Arisings	191,576	-	-
	Treated	111,809	274,980	163,171
	Landfill	79,712	0	-79,712
5) Total Landfill	Non Haz and inert (total of MSW, C&I and CD&EW)	1,283,594	Active sites 3,863,000m ³ Non Operational sites 6,000,000m ³ Planning Obligated sites 11,200,000m ³ TOTAL 21,063,000m³ 21.5 million tonnes	Circa 16 years

NB:

* Surplus mainly due to excess metal recycling and scrap yards

** Negative due to materials being recycled and used on site.

*** data from 2005

- indicates deficit in capacity and + indicates a surplus

4. Task 2a - Need for Waste Management and Treatment Facilities

4.1 Current Provision

The current waste arisings and capacity of the existing facilities has been discussed in previous sections of this document. The summary table (3.14) is repeated here for illustrative purposes and shows the arisings, throughput and capacity of the current treatment facilities in the Black Country. The MSW figures relate to 2006/07 and the other waste figures are 2005/06, as these are the most recent figures currently available.

Table 4.1 - Treatment Capacity Gap

Waste Category	Arisings (tonnes)	Throughput (tonnes)	Capacity (tonnes)	Gap (tonnes)
Total MSW	575,445	206,250²⁷	205,000	-370,445
<i>Residual MSW (excluding total Recycled / composted)</i>	<i>444,588</i>	<i>206,250</i>	<i>205,000</i>	<i>-239,588</i>
<i>Recycled/ Composted</i>	<i>130,857</i>	<i>0</i>	<i>0</i>	<i>-130,857</i>
C&I	1,627,000	1,228,076	2,081,484	454,484
<i>C&I metal recycling only</i>	<i>227,780</i>	<i>1,119,579</i>	<i>1,897,591</i>	1,669,811
<i>C&I excluding metal recycling²⁸</i>	<i>1,399,220</i>	<i>108,497</i>	<i>183,893</i>	<i>-1,215,327</i>
CD&EW Total	1,445,262	53,576	53,576	-1,391,686
Hazardous	191,576	277,413	277,413	85,837

Using this table, current capacity gaps can be identified as well as what sectors these capacity gaps relate to.

4.1.1 Municipal Waste Management

MSW currently has capacity gaps in relation to residual MSW treatment, waste recycling and composting facilities. This suggests the likelihood that new facilities are needed in the Black Country to treat approximately 370,445 tonnes of MSW. Potentially, of this 130,857 tonnes will need to be either composted or recycled based on current recycling and composting rates. The nature of the facilities required to treat this recycling and composting fraction of MSW will be dependant on the composition of the waste. Assuming that 50% of this is to be recycled and 50% to be composted, approximately 65,000 TPA capacity is needed for each facility.

²⁷This is the throughput for all waste treatment facilities for MSW in the Black Country at the time of the study. We are aware of other facilities used by Black Country councils outside the sub region but this table is a summary of Black Country capacity only

²⁸ Using the EA's 2002/03 C&I waste composition it has been assumed that metals account for all recyclables present in the waste stream (14%). See Appendix D for a full explanation including assumptions made. This is for waste composition only.

Table 4.2 –Size of Facilities Needed for Waste Management Treatment and Disposal (MSW)

Facility Needed	Waste type	Estimated Size (tonnes)
Treatment/energy recovery (EfW, MBT) likely to be any combined mechanical, biological or thermal treatment (MBT)	MSW residual waste	240,000
Composting site	MSW food and green waste	65,000
Materials recovery / recycling facility (MRF)	MSW recyclables	65,000

Treatment/energy recovery

Table 4.1 shows a shortage of treatment/energy recovery in the area for residual waste of 239,588 tonnes. This gap is likely to become significant and potentially needs to be addressed as a priority.

Facilities for the treatment of residual waste including generating energy (EfW, gasification, pyrolysis) and sorting residual waste into fractions suitable for recycling, composting, final disposal or energy recovery (MBT). The EfW facilities in Dudley are believed to be running at full capacity though the facility at Wolverhampton EfW is running near to capacity but accepts waste other than MSW from Wolverhampton.

Sandwell and Walsall have secured an agreement to send waste to the proposed Staffordshire EfW (W2R) to be developed at Four Ashes in South Staffordshire, which is expected to be operational by 2013/14. This would be in the region of 110,000 tonnes of waste per year.

A central large treatment facility or number of facilities with total capacity in excess of 200,000 tonnes would ensure self sufficiency in the near future. Sandwell have received planning permission and are preparing a Compulsory Planning Order (CPO) for a site called Pikehelve Eco Park (formerly known as Hill Top). It is proposed that this site would have a 120,000 TPA MBT. Dudley is also in ownership of a site that looks potentially suitable for treatment of MSW, possibly utilising MBT or MRF technology.

Composting

The Environment Agency Regis Database is currently reporting no licensed composting facilities in the Black Country region. The green waste collected by the authorities is currently transferred to facilities outside the Black Country for processing. With increased tonnages of green waste collected from Local Authority kerbside collections there could be a risk of a significant shortage of composting facilities for use by the Black Country Councils. A composting facility or facilities with approximately 65,000 tonnes of processing capacity may be needed for composting assuming 50% of all recycling and composting is composted. Currently the Black Country Councils are investigating suitable areas within the Black Country for windrow or IVC. The Pikehelve Eco park is expected to include a 30,000 TPA IVC unit for treating garden and food waste.

Recycling/materials recovery

From Figure 4.1 there is no treatment capacity for mixed material recycling in the Black Country at present. However, the sites dealing with C&I waste may also take some MSW and further information is needed about the treatment facilities. It is estimated that approximately 65,000 tonnes of capacity may be needed for recycling in the Black Country, if 50% of waste for recycling and composting is recycled. The Greenstar MRF in Aldridge is now fully operational and has the potential to process at least 250,000 of dry recyclables per annum. From December 2008 Walsall have a contract to take up to 23,000 TPA of recyclables to this facility and Sandwell 3,000TPA. Although this is in Walsall it is merchant capacity.

The Pikehelve site in Sandwell is expected to include a 50,000 TPA MRF. Dudley is also in ownership of a site that looks potentially suitable for treatment of MSW, possibly utilising MBT or MRF technology.

Landfill

Himley Quarry landfill in Dudley, Edwin Richards in Sandwell, Vigo Utopia, and Highfields South Quarry in Walsall together appear to have sufficient non-hazardous waste void to meet the current demands of the Black Country. The estimated number of years landfill capacity at all the sites in the Black Country, including those not yet operational but planning obligated, is approximately 16 years. However, it is anticipated that the landfills may also accept increasing amounts of MSW from neighbouring authorities with lack of landfill capacity. In addition, some only accept inert waste and will mainly be taking CD&EW. The Black Country councils are unable to bring forward any new landfill capacity themselves, as all potential new landfill sites which have been identified are owned by quarry operators.

4.1.2 C&I and Hazardous Waste

Hazardous waste and C&I waste shows a positive gap or variance, the implications of this is that there appears to be sufficient, even a surplus, capacity to treat all of these waste types within the Black Country. However, it is worth noting that if metal recycling facilities and arisings are excluded from the C&I figures, there is a negative gap of 1,215,327 tonnes for non metal waste treatment facilities. This calculation is using the assumptions set out in Appendix D using a C&I composition in the West Midlands is 14% metals. Therefore, non metal waste may need to be transported outside of the Black Country for treatment and significant amounts of metal waste may be imported to the sub region.

C&I facilities in the Black Country are operated by the private sector and thus accept waste from producers outside the Black Country as well as waste arising within the Black Country, but as the location of waste arisings is not known this cannot be quantified. Therefore, the facilities may have enough capacity to treat waste solely arising in the Black Country. There is a study currently being undertaken on regional C&I arisings and The Black Country Councils should assess the results of this study through future monitoring of the Core Strategy.

Quarterly returns do not provide the information to quantify what percentage of the input is from the Black Country region, therefore it has not been possible to establish a more accurate current capacity in the Black Country and identify any potential capacity gaps that may exist in regard to treating this type of waste. Using the information available, additional facilities for treating non metal C&I waste in the Black Country are required at the current time.

4.1.3 CD&EW

CD&EW has the largest capacity gap between total waste arisings, and the capacity of treatment and disposal sites. However, this is not necessarily an indicator that the Black Country requires an increase in capacity as often a large proportion of this waste is reused in situ on construction sites or treated by waste companies operating under exemptions. Previous studies such as the Capita Symonds 2005 report identified at least 59% of the total amount of CD&EW was recycled aggregate and soil and this would not require treatment or disposal as it is recycled.

4.2 MSW Projections and Capacity Gaps to 2026

4.2.1 MSW Modelling

In line with the requirements of PPS10, the RSS Phase 2 Revision sets out annual rates of Municipal Solid Waste (MSW) requiring management from 2005/06 to 2025/26 (see proposed RSS Policy W2, Table 5). This provides targets for the Black Country as a whole rather than for individual authorities, as the Black Country authorities have agreed to work together on a joint

Core Strategy. It has been left to the Black Country Joint Core Strategy to set targets for the individual Black Country authorities.

The assumptions underlying the RSS MSW modelling are explained in the RSS Phase 2 Revision Preferred Option Waste Background Paper (December 2007), which was published alongside the Preferred Option document. It was noted at the study inception meeting that the MSW annual rates in the RSS appeared to be rather high. They appeared to have been based on an applied growth rate of 1% per annum up to 2010/11 with no growth thereafter, and on a projection of arisings in 2005/06. However, WasteDataFlow shows negative waste growth in the Black Country in recent years (-3.33% in 2005/06 and -2.89% in 2006/07). This suggested that Table 5 of the RSS had over-estimated the tonnages of MSW likely to arise in the Black Country.

The authorities also approached Adrian Cooper, chair of WMRTAB, with concerns about the RSS modelling done previously. Therefore, WMRTAB agreed to re-run the RSS model for the Black Country using more up-to-date information on waste arisings and the JCS housing growth data. It was agreed that the RSS and Atkins modelling exercises would be done concurrently, thus enabling the results to be compared/ verified.

Within the scope of this study the Black Country Councils requested that Atkins “test” the RSS assumptions through further modelling using a model previously developed for the Black Country waste disposal authorities. They also requested that the modelling should provide annual rates for each authority, based on the housing growth rates proposed in the JCS Preferred Options.

4.2.2 Regional Spatial Strategy MSW Modelling

The results of the revised RSS modelling up to 2026 are set out in Table 4.3 below.

Table 4.3 – Revised RSS MSW Modelling

MSW	2006/7			2007/8			2010/11		
	Total Quantity	Diversion	Landfill	Total Quantity	Diversion	Landfill	Total Quantity	Diversion	Landfill
Dudley	143,881	127,038	16,843	145,928	129,386	16,542	152,247	137,699	14,548
Sandwell	140,250	72,174	68,076	142,475	77,071	65,404	149,366	92,650	56,716
Walsall	144,505	57,802	86,703	146,481	58,593	87,889	152,574	80,864	71,710
Wolverhampton	146,808	133,114	13,694	148,971	135,428	13,543	155,654	143,715	11,939
Black Country	575,444	390,127	185,317	583,856	400,479	183,378	609,841	454,929	154,912

MSW	2015/16			2020/21			2025/26		
	Total Quantity	Diversion	Landfill	Total Quantity	Diversion	Landfill	Total Quantity	Diversion	Landfill
Dudley	155,495	143,009	12,486	161,654	149,582	12,072	168,058	152,784	15,274
Sandwell	153,800	102,114	51,686	162,286	121,715	40,572	171,241	128,431	42,810
Walsall	155,399	104,118	51,282	160,755	120,566	40,189	166,296	124,722	41,574
Wolverhampton	159,374	146,082	13,292	166,428	153,933	12,495	173,795	154,150	19,645
Black Country	624,068	495,322	128,746	651,124	545,796	105,328	679,390	560,087	119,303

* All figures are in tonnes

Assumptions for RSS MSW modelling

Waste modelling was carried out within the Phase 2 Revision using three different options for housing growth. This modelling was revisited by Adrian Cooper, Chair of West Midlands Regional Technical Advisory Body (WMRTAB); using the preferred housing data from the Black Country Waste Planning Officers, in order to make the modelling as Black Country Specific as possible. In addition the modelling was rerun using a number of different waste growth scenarios of:

- 1% until 2011 followed by 0%

- Waste Strategy 2007 0.5%
- 0%

The growth rate of 1% until 2011 followed by 0% was used in the modelling which is enclosed here.

In preparing projections of the future generation and management of MSW the technical information for the Regional Spatial Strategy Phase 2 Revision has been used, together with its assumptions which are as follows:

Waste quantity

- Most recent figures for each Black Country Council for households at May 2008
- Projected number of households to 2026 for each authority as per the JCS housing growth data
- Since the generation of municipal waste is, to some extent, related to the number of households, these average annual household growth rates are taken as a proxy of the rate of growth of municipal solid waste (MSW). The growth rates are therefore applied to the latest full available household waste data (May 2008) in order to generate annual projections for the quantity of MSW;
- MSW has a higher growth rate than households, therefore, it has been assumed that MSW will grow at the annual household growth rate in each area (& for each option), plus 1% for the period until 2010/11;
- From 2011, waste growth is assumed to fall to a level consistent with the household growth rate;
- The projections assume 68% of municipal waste is biodegradable (for consistency with the Waste and Emissions Trading Act).

Waste management

- Waste composted is based on actual data for the latest year available (2002/03), followed by incremental increases each year until 50% total recycling and composting is achieved by 2010. Composted waste is assumed to be 100% biodegradable;
- The amount of waste recycled is based on actual data where available, increased to reach 50% of recycling targets by 2010. Recycled waste is assumed to be 50% biodegradable;
- The projections assume that the targets for recycling set out in "Waste Strategy 2007" and that Best Value performance standards, along with any 'stretch targets' that apply following a Public Service Agreement between individual local authorities and central Government will be met (where these are known). The projections do not apply national recovery targets, but assume that Landfill Directive targets for biodegradable municipal waste (taken from provisional LATS allowances prepared by DEFRA in July 2004) will be met;
- The level of municipal waste requiring diversion away from landfill has been calculated from the combined requirements of national recycling targets and LATS allowances for biodegradable municipal waste;
- The capacity required to attain these standards is based on an assumption that the quantity of waste diverted represents 80% of throughput for recycling and 70% of throughput for other forms of waste treatment;
- The quantity of residual waste which will require further management or disposal to landfill has been calculated by deducting the quantity requiring diversion from the total arising for that year.

4.2.3 Atkins MSW Modelling

Table 4.4 shows the modelling undertaken by Atkins. The Atkins model was developed by Atkins for use in the Black Country study. This was undertaken assuming the Councils would achieve all targets for recycling, recovery and composting and utilise EfW contract tonnages which are higher than the proposed recovery targets, reducing the tonnages landfilled compared to the revised RSS model.

Table 4.4 – Atkins MSW Modelling

MSW	2006/7			2007/8			2010/11		
	Quantity	Diversion	Landfill	Quantity	Diversion	Landfill	Quantity	Diversion	Landfill
Dudley	143,883	121,658	22,204	145,926	120,712	28,814	152,231	141,013	14,818
Sandwell	140,250	44,215	96,035	142,480	55,455	87,025	149,385	85,714	63,671
Walsall	144,505	49,803	94,702	146,485	59,795	86,690	152,588	87,516	65,072
Wolverhampton	146,807	118,306	25,931	148,965	125,623	27,434	155,631	144,165	15,558
Black Country	575,445	333,982	238,872	583,856	361,586	229,963	609,836	458,409	159,119

MSW	2015/16			2020/21			2025/26		
	Quantity	Diversion	Landfill	Quantity	Diversion	Landfill	Quantity	Diversion	Landfill
Dudley	155,455	151,449	7,606	161,613	158,192	7,021	168,015	161,289	10,326
Sandwell	153,844	109,491	44,353	162,333	121,750	40,583	171,290	128,468	42,823
Walsall	155,432	110,186	45,246	160,789	120,592	40,197	166,331	124,748	41,583
Wolverhampton	159,323	153,475	9,940	166,376	159,624	10,844	173,740	162,664	15,168
Black Country	624,054	524,601	107,146	651,111	560,157	98,646	679,376	577,169	109,899

* All figures are in tonnes

Assumptions for Atkins MSW Modelling

In preparing projections of the future generation and management of MSW, the following assumptions have been made:

- The number of houses in 2006/07 is the actual reported by the Councils. Utilising the same growth pattern as the RSS Phase 2 Revision (which has been taken forward in the JCS Preferred Options), the future housing numbers are calculated. The growth rate has been computed based on the JCS Preferred Options Report Core Policy Area – 6 delivering in excess of 61,200 net new homes during the period 2006-2026 (Black Country Authorities, March 2008). The Councils have confirmed there are no proposals to change the RSS housing requirement for the Black Country as a result of the Nathaniel Lichfield study into housing growth.
- Since the generation of municipal waste is, to some extent, related to the number of households, these average annual household growth rates are taken as a proxy of the rate of growth of MSW. The growth rates are therefore applied to the latest consistently available household waste data (2006/07) in order to generate annual projections of the quantity of MSW.
- Since the quantity of MSW is currently growing faster than the number of households, it has been assumed that MSW will grow at the annual household growth rate in each area (& for each option), plus 1% for the period until 2010/11.
- From 2011, waste growth is assumed to fall to a level consistent with the household growth rate.
- The projections assume 68% of municipal waste is biodegradable (for consistency with the Waste and Emissions Trading Act).
- Dudley and Wolverhampton exceed the recovery targets set by WS 2007 and thus no projections are calculated. For Sandwell and Walsall the target tonnages are calculated for the respective years and apportioned for the time period between them.

- Landfill tonnages have been calculated based on achieving WS 2007 targets and long term EfW contracts. These are lower than that proposed by the LATS.
- It is assumed that 4.5% of total input to EfW facilities would be landfilled as fly-ash. This has been accounted for in the landfill tonnages.

4.2.4 MSW Modelling - Feedback from Black Country Waste Management Forum (BCWMF)

The Black Country Waste Management Forum (BCWMF) is an informal forum comprising representatives from the four Black Country Waste Disposal Authorities and has been involved in the development of MSW projections.

The BCWMF agreed that the Black Country MSW annual rates in the RSS Phase 2 Revisions were far too high, in the light of the trend towards negative waste growth and that further modelling needed to be done. A meeting with BCWMF was organised in 2008 to discuss the methodology, and BCWMF were also invited to comment on the projections once they had been completed. BCWMF have made the following comments on the projections, and it must be remembered that these projections were carried out during spring /summer 2008:

- BCWMF have expressed general concerns that the projected waste arisings are still too high, as the trend towards falling waste arisings is still continuing
- Sandwell MBC and Walsall Council have pointed out that the projected arisings underpinning the Outline Business Cases (OBC) for the Four Ashes (W2R) EfW are lower than the RSS and Atkins projections
- Falling arisings is a particular concern in Walsall, although the Council has acknowledged the difficulties of predicting future waste arisings, as the figures are subject to change over time
- Dudley MBC has expressed a preference for the Atkins projections over the revised RSS projections, on the grounds that the diversion rates in the RSS projections would be hard to achieve however, this feedback is confused as the diversion rates in the Atkins model are higher
- Dudley MBC has also expressed concerns about the tonnages of residual waste (landfill) in Dudley in the Atkins projections – they consider these should be comparable to those for Wolverhampton (which has similar infrastructure), but there are significant variations

Total waste arisings

Walsall Council has provided details of the projections underpinning their OBC for the W2R project. Extracts from these projections are reproduced in Table 4.5 below alongside the relevant figures from the RSS and Atkins projections for comparison.

The Council has confirmed that this information is in the public domain and may be published in the report. They have also stressed that as the figures were in an outline business case there is an inherent assumption that they might change over time.

Table 4.5 compares the Walsall W2R OBC projections with the RSS and Atkins projections carried out as part of the waste planning study.

Table 4.5 –Projected MSW Arisings in Walsall

Year	Total MSW Arisings (tonnes)		
	MSW Projections (RSS)	MSW Projections (Atkins)	Walsall W2R OBC MSW Projections
2007/08	146,481	146,485	136,350 (2008/09)
2010/11	152,574	152,588	139,091

Year	Total MSW Arisings (tonnes)		
	MSW Projections (RSS)	MSW Projections (Atkins)	Walsall W2R OBC MSW Projections
2015/16	155,399	155,432	146,186
2020/21	160,755	160,789	153,643
2025/26	166,296	166,331	161,480

Source: Revised RSS and Atkins MSW projections, Walsall Council Outline Business Case for W2R Proposal

It can be seen from this that the differences are not significant, bearing in mind that the JCS is meant to be a strategic plan, and that national policy guidance cautions against “spurious precision” when handling waste data. Annual waste management rates set in the RSS and JCS are meant to provide “benchmarks” and a basis for future monitoring, rather than tablets set in stone (PPS10, paragraph 10).

Balance between diverted waste and residual waste

Dudley MBC has made the following detailed observations on the Atkins projections (please note that these relate to an earlier version of Table 4.4 which had different five-year bands to Table 5 of the RSS).

Residual landfill as a percentage of quantity (residual) in Dudley and Wolverhampton are as follows:

Dudley:	Wolverhampton:
2012/13 = 6.5%	2012/13 = 7.5%
2019/20 = 4%	2019/20 = 6.1%
2025/26 = 6.1%	2025/26 = 8.7%

Thus, Wolverhampton's 2025/26 is higher than 2012/13 but Dudley's is less. This seems incorrect, as both Councils have the same infrastructure for waste disposal. Atkins response - however, both councils send a different tonnage of their waste to EfW facilities and different housing figures which drive the model.

Within the modelling:

- The amount of MSW is only increasing due to housing growth of 0.78% after 2016/17.
- After 2019/20 there is no longer an increase in recovery and recycling and composting (only relative to waste growth) and so the amount of landfill increases.

Their other comments are:

Why there is a dip in the allocations of the materials for 2019/20 to 2019/20 and then an increase for 2025/26?

- See above until 2019/20 there are recovery targets which have increased the amount of waste recovered each year (EfW, recycling and composting) and to compensate this the amount of landfill decreases. However, from 2019/20 the only increase in recovery is the same as that for overall MSW related to housing increases. Therefore the % of recovery does not increase as in previous years, so the amount of landfill does.

In the Atkins projections for Dudley (2025/26 compared to 2012/13) there is a quantity increase of 14,502 tonnes, a diversion increase of 14,444 tonnes and a landfill increase of 59 tonnes where Wolverhampton's increase to landfill is 3,286 tonnes.

- The amount of waste sent to EfW facilities has been modelled for 80,000TPA for Dudley and 90,939TPA for Wolverhampton. The housing figures for each council are also different. The

waste figures used in the modelling reflect the tonnages sent to EfW and the amount of waste growth relative to housing.

Dudley MBC considers it will be unachievable to expect to divert all of the increase in waste away from landfill even if further EfW capacity becomes available, as whatever forms of alternative treatments are used there will always be residual wastes that will have to be disposed of to landfill unless there is a recycling outlet for them.

- The Atkins model uses the current amount of waste sent to EfW facilities and the targets for Recycling and Composting which is 50% for 2019/20. Therefore, as Dudley and Wolverhampton are sending such a large proportion of waste to EfW facilities there is very little left for landfilling under the modelling. The reality is that there will always be waste which requires landfilling, e.g the bottom and fly ash from the incinerators, rejects from the recovery processes and other large items unsuitable for EfW facilities such as sofas etc.

4.2.5 Analysis of the MSW RSS and Atkins Modelling

The overall difference in the two models is the diversion and landfill figures. The Atkins model assumes all the statutory targets for MSW are met as per the WS 2007 enabling the Black Country to divert 11% more waste and landfill approximately 8% less waste in 2025/26 as compared to the RSS model. Essentially, the revised RSS modelling and Atkins modelling do not differ greatly in terms of MSW arisings.

The complete modelling data is presented in Appendix E.

4.2.6 MSW Capacity and Future Capacity Gaps

Changing MSW arisings have been modelled using information from the Joint Core Strategy for the Black Country. The information outlined in the Regional Spatial Strategy Revision 1 and 2 expects an increase in houses being built for occupation by 1 person (WMRA 2007). New homes need to be built in the location and of the size required; this in turn will impact on the development of waste facilities. It is best practice for waste to be treated and managed as near to its source as possible. In the modelling the housing figures are based on the JCS housing growth.

MSW waste modelling summary

Table 4.6 below summarises the key information recorded in 2006/07 and projected to 2025/26 as per RSS and Atkins waste modelling. These figures do not total in all instances, in the Atkins model this is due to the fact that 4.5% of the inputs to the EfW facilities has been double counted as bottom and fly ash which will be disposed of via landfilling.

The high recycling and composting targets are achievable but would require a marked increase in recycling and composting across the sub region. The statutory recycling/composting target of 40% is a challenge to the Black Country Councils as only Walsall exceeds the 30% recycling and composting for 2007/08.

Table 4.6 - MSW Waste Modelling

RSS	Quantity (tonnes)	Diversion (Recycling and Composting) (tonnes)	Diversion (Energy recovery)	Landfill (tonnes)
2006/07	575,445	161,124	229,003	185,317
2025/26	679,390	326,778	217,077	119,303
Atkins	Quantity	Diversion (Recycling and Composting)	Diversion (Energy recovery)	Landfill

RSS	Quantity (tonnes)	Diversion (Recycling and Composting) (tonnes)	Diversion (Energy recovery)	Landfill (tonnes)
2006/07	575,445	116,981	206,125	238,872
2025/26	679,376	299,998	290,939	109,899

The views of BCWMF have been sought on what the long-term MSW capacity gaps should take into account. They have commented that the existing EfW facilities at Dudley and Wolverhampton should be included and:

- Existing contracts with open windrow composting facilities in southern Staffordshire (used by all four authorities for managing green garden waste),
- Walsall's and, to a lesser extent, Sandwell's contract to manage co-mingled dry recyclable waste at the new Greenstar MRF in Aldridge.

No landfill capacity is owned by the Black Country authorities and they are entirely reliant on merchant facilities for waste disposal. This will continue up to and beyond 2026.

In reality, is difficult to take into account short-term and medium-term contractual arrangements when calculating the long-term capacity gap. If the analysis is to be robust, only contracts where WDAs have provided clear evidence of the timescale of the contract can be included, as it is known when it will run out.

Most contracts for which there is information are likely to expire by 2010/11 or 2015/16 at the latest, so they do not cover the whole of the plan period. Therefore, they cannot be included in the calculations of the long-term capacity gaps up to 2026, although where a medium-term contract exists, new capacity need not come on stream until part-way through the plan period. Any annual targets set in the JCS for development of new infrastructure should reflect this.

MSW capacity excluding proposed facilities

From the information in Table 4.6 the treatment and capacity gaps can be assessed for MSW in 2026. This is estimating capacity without any proposed facilities or alternative disposal methods. However, as requested above the information in Table 4.7 includes:

- Dudley – 18,000TPA to external composting sites
- Sandwell – 12,000 TPA to external composting sites and 3,000 TPA to Greenstar
- Walsall – 18,000 TPA to external composting sites and 23,000 TPA for Greenstar
- Wolverhampton – 18,000 TPA to external composting sites

Therefore, a total of 56,000 TPA of composting and 26,000 TPA for materials recovery, this information shows a more realistic capacity gap for 2026 in Table 4.7.

Table 4.7 - MSW Capacity Gap

	Current Capacity	2025/26 required capacity	Gap
Materials Recovery Recycling facilities	26,000	150,000	-124,000
Composting	66,000	150,000	-84,000
Treatment/ Energy Recovery	205,000	300,000	-95,000
Landfill	N/A	110,000	-110,000

The quantity of MSW estimated to need diversion in 2025/26 is 600,000 tonnes representing 85% of the total waste arisings. Currently, the Black Country has a treatment capacity of 205,000 tonnes from the two EfW facilities therefore the current provisions for MSW treatment/recovery are not adequate for 2025/26 and a further 95,000 tonnes of capacity is needed.

It is evident from the baseline data on waste management that there are composting facilities in the Black Country for green garden waste collected and planned food waste collections. Total treatment capacity of circa 150,000 tonnes per annum for green garden waste and food waste will be required by 2025/26. However, the Black Country authorities have in place contracts and these have been taken into account in Table 4.7, reducing the composting capacity gap from 150,000TPA to 84,000TPA.

Currently there are no council owned / operated treatment facilities for recyclables in the Black Country and a capacity gap of 150,000 tonnes per annum is evident for a facility such as a MRF. However, Walsall and Sandwell are currently sending recyclables to the Greenstar MRF in Aldridge, which is in Walsall, but merchant capacity, and this has been included as it is likely to continue and even increase.

A capacity gap for landfill is included as the modelling shows that even reaching the targets for diverting BMW from landfill and recycling and composting there is still a need for landfill capacity within the Black Country. A total void space of 21,063,000m³ currently exists which should have a life span of 16 years. The Black Country Councils are entirely dependent on contracts with commercial operators to secure landfill capacity for residual MSW in the plan period. There is no prospect of them bringing forward new landfill capacity themselves. Therefore, Table 4.7 has assumed there is no current capacity owned by the Black Country councils and this is a capacity gap.

MSW capacity including proposed / planned facilities

The estimated capacity gap for MSW needs to take into account planned/ proposed MSW recovery and treatment capacity. BCWMF were invited to provide details of any proposals currently being brought forward through MWMS or through other mechanisms. In some cases, proposals were not sufficiently advanced to be regarded as firm commitments. Aspirations that authorities have discussed with us informally were not taken into account as they are not yet in the public domain.

BCWMF consider that the following proposals should be regarded as firm commitments for inclusion in the capacity gap analysis:

- W2R EfW in South Staffordshire (which will be managing waste from Sandwell and Walsall) (110,000 TPA)
- Pikehelve Park in Sandwell (a major proposal being brought forward by Sandwell MBC which is likely to include a range of different facilities/ technologies) this includes:
 - 120,000 TPA for MBT (treatment / energy recovery)
 - 30,000 TPA for IVC
 - 50,000 TPA for MRF (materials recovery / recycling facilities)

Both of the above proposals have planning permission and there is clear evidence that implementation is underway warranting their inclusion.

Table 4.8 summarises the MSW capacity gaps remaining when current proposals are taken into account (although it should be borne in mind that the exact mix of facilities at Pikehelve may be subject to change) and the councils do not plan to have their own landfills and so will be reliant on commercial landfill operators.

Table 4.8 - MSW Capacity Gap Including Proposed New Infrastructure

Facility Type	Current Capacity	New Capacity Proposed	Total Capacity Existing + Proposed	2025/26 Required Capacity	Remaining Gap
Diversion					
Materials recovery / recycling facilities	26,000	50,000	76,000	150,000	-74,000
Composting	66,000	30,000 (IVC)	96,000	150,000	-54,000
Treatment/ Energy Recovery	205,000	230,000	435,000*	300,000	135,000
Residual					
Landfill	0	00	0	110,000	-110,000

*Includes MBT at Pikehelve + 110,000 TPA EfW capacity at Four Ashes

BCWMF have also identified the following issues/ potential “gaps” in provision of other essential MSW infrastructure:

EfWs:

Authorities are seeking to retain/ protect existing EfW facilities at:

- Lister Road (Dudley)
- Crown Street (Wolverhampton).

Transfer stations:

Authorities are seeking to retain/ protect existing MSW transfer stations at:

- Lister Road (Dudley)
- Shidas Lane (Sandwell)
- Fryers Road (Walsall)
- Crown Street (Wolverhampton).

HWRCs:

- Dudley are seeking to retain/ protect existing HWRC at Stourbridge
- Sandwell are seeking to retain/ protect existing HWRC at Shidas Lane
- Walsall are seeking to retain/ protect 2 existing HWRCs at Fryers Road and Merchants Way
- Walsall have an aspiration to develop an additional HWRC (Willenhall/ Darlaston area)
- Wolverhampton are seeking to retain existing HWRC at Shaw Road and Anchor Lane

Depots:

- Dudley are seeking to protect existing MSW depot at Lister Road
- Walsall are seeking to develop a replacement depot (2 options – find a new site in Leamore area or redevelop on existing site)

4.3 Existing Facilities – Potential Impact of JCS Proposals

In the Black Country there are, theoretically, various waste facilities that may be lost or need relocating. For example, sites which lie within regeneration corridors may be lost due to the types of wider regeneration proposed.

Methodology

Atkins GIS team carried out a mapping exercise of all the waste facilities in the Black Country (based on the 2006 Regis database) for each regeneration corridor. The regeneration corridors are shown on the maps in Appendix 2 of the JCS Preferred Options (March 2008). Within each corridor proposed uses are shown, which include:

- Retained Local Employment Areas
- Proposed High Quality Employment Areas
- Retained High Quality Employment Areas
- Proposed New Housing Areas

As the proposals are intended to be indicative and may not cover the whole of the area proposed for the above uses, the authorities have analysed the mapping in more detail to check which of the existing facilities fall within the areas specified. This has been carried out with reference to the findings and recommendations of the Employment Land Capacity Study Refresh 2008 and supporting local knowledge (e.g. pre-application discussions for the redevelopment of sites/areas).

The authorities provided high level information on the sites at low medium and high risk due to the proposals for the regeneration corridors. This involved:

- Identifying the operational waste management facilities in each council area including
 - Known facilities not appearing on EA Regis database
 - Facilities that have received planning permission since 2006
- Establishing which facility falls within an employment area as defined in the GVA Grimley study.
- Determining the likelihood of the facility being lost due to the location of the facility according to the following categories:

High risk

- Sites with planning permission or UDP allocation for another use which are likely to be lost anyway
- Sites covered by JCS housing “blobs” where there is little or no prospect of retaining the facility in situ

Medium risk

- Sites in areas where there is uncertainty over whether the facility can be retained, such as:
- Sites in JCS corridors which still have alternative “options” where one or more options could result in loss
- Sites in JCS housing “blobs” where some employment land will be retained but it isn’t clear which areas will be kept
- Sites in JCS “high quality employment” blobs where the facility may not be compatible with that use

Low risk

- Sites in JCS retained local employment areas
- Sites in areas proposed for “high quality” employment in JCS, where the facility is compatible with a “high quality” employment location
- Sites not affected by any JCS designations and which are not threatened by any other factors

These have been summarised for best and worst case scenarios meaning:

- Best case scenario is losing only the facilities in the high risk category
- Worse case scenario is losing all high and medium risk sites

The sites at low, medium and high risk are summarised in the Tables 4.9 - 4.12 below for each Council. These include strategic sites which are explained further in Section 5.2.

Table 4.9 - Dudley MBC Waste Management Sites at Risk

	Licensed capacity	2006 annual throughput capacity	No of facilities	Strategic sites	Types of facilities
Low risk	2,301,095	553,036	26	14	Mixture of sites, including landfill and councils EfW facility.
Medium risk	408,794	59,156	18	5	Mainly waste transfer, car breakers and metal recyclers. This includes a number of waste transfer facilities with approx licensed capacity of 240,000 tonnes
High risk	371,196	33,810	11	4	Mostly car breakers and metal recyclers. Includes a strategic waste transfer site (licensed capacity 50,000 tonnes) and strategic metal recycling sites (licensed capacity 225,000 tonnes).
Total	3,081,085	646,002	55	23	

Table 4.10 – Sandwell MBC Waste Management Sites at Risk

	Licensed capacity	2006 annual throughput capacity	No of facilities	Strategic sites	Types of facilities
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	Licensed capacity	2006 annual throughput capacity	No of facilities	Strategic sites	Types of facilities
Low risk	9,319,039	638,821	27	12	Mixture of sites, including landfill and a number of large facilities.
Medium risk	1,027,153	238,587	15	6	Mainly waste transfer and metal recycling. However includes sites such as Shidas Lane HWRC site and a number of strategic waste transfer sites with licensed capacity of approx 700,000 tonnes that are at risk as being potentially incompatible with new neighbouring land uses.
High risk	984,393	246,781	28	7	Mainly metal recycling/car breakers but includes strategic waste transfer sites of approx 300,000 tonnes licensed capacity and two sites dealing with physical chemical treatment with approx 100,000 tonnes licensed capacity.
Total	11,330,585	1,124,189	70	25	

Table 4.11 – Walsall MBC Waste Management Sites at Risk

	Licensed capacity	2006 annual throughput capacity	No of facilities	Strategic sites	Types of facilities
Low risk	2,965,239	1,419,193	39	16	Mixture of sites with varying capacities, including landfill
Medium risk	563,627	479,886	21	5	Mainly metal recycling/car breakers. However includes a major metal recycling / WEEE / ELV facility (licensed capacity 350,000 tonnes), a tyre shredding facility of 50,000 tonnes capacity, what is believed to be the leading battery recycling / storage facility in the West Midlands, a large waste transfer facility and an unimplemented waste transfer proposal, each with a capacity of around 25,000 tonnes.
High risk	114,999	72,420	9	2	Mainly metal recycling/car

	Licensed capacity	throughput capacity	facilities	sites	facilities
					breakers but also includes Walsall MBC waste management depot and a major paper recycling facility (capacity of 70,000 tonnes).
Total	3,643,865	1,971,499	69	23	

Table 4.12 – Wolverhampton MBC Waste Management Sites at Risk

	Licensed capacity	2006 annual throughput capacity	No of facilities	Strategic sites	Types of facilities
Low risk	332,994	176,191	14	7	Mixture of sites, includes council's EfW facility.
Medium risk	323,394	121,985	16	2	Mainly waste transfer and metal recycling / car breakers. However includes a number of waste transfer sites all with licensed capacity circa 25,000 tonnes and a strategic physical treatment site with licensed capacity of 75,000 tonnes.
High risk	1,104,291	136,812	27	7	Mainly metal recycling/car breakers but includes a number of strategic waste transfer sites (approx licensed capacity 300,000 tonnes) and a MRF of 75,000 tonnes licensed capacity.
Total	1,760,679	434988	57	16	

In addition, Table 4.13 provides a summary of the best and worst case scenarios for the waste sites which may be lost due to the recommendations of the Joint Core Strategy.

Table 4.13 – Summary of Black Country Waste Management Sites at Risk

	Council	Licensed Capacity	2006 annual throughput capacity	No of facilities	Strategic sites
Best Case Scenario	Dudley	371,196	33,810	11	4
	Sandwell	984,393	246,781	28	7

	Council	Licensed Capacity	2006 annual throughput capacity	No of facilities	Strategic sites
	Walsall	114,999	72,420	9	2
	Wolverhampton	1,104,291	136,812	27	7
Total Best Case Scenario		2,574,879	489,823	75	20
Worst Case Scenario	Dudley	779,990	92,966	29	9
	Sandwell	2,011,546	485,368	43	13
	Walsall	678,626	552,306	30	7
	Wolverhampton	1,427,685	258,797	43	9
Total Worst Case Scenario		4,897,847	1,389,437	145	38

Therefore, if the worse case scenario occurs then over 4.8 million tonnes of licensed capacity will need to be replaced. However, as most facilities do not operate at their licensed capacity this is more realistically the annual throughput of 1.4million TPA. If the best case scenario occurs then approximately 500,000 TPA of capacity will need to be replaced in the Black Country. Even the best case scenario represents significant amount of facilities and will require careful consideration along with large areas of land required, depending on the facility type. See Section 4.6.1 for further information on this.

Which ever option is taken the JCS needs to address the issues of loss of capacity across the Black Country. A number of different approaches can be taken for dealing with potential losses:

- Option 1 – accept loss and add to “capacity gap”
- Option 2 – do not accept loss and protect capacity in situ by amending designation in emerging JCS
- Option 3 – protect capacity through policy requirement (onus on developer to replace capacity elsewhere)

4.4 C&I Projections and Capacity Gaps to 2026

4.4.1 C&I Modelling

The RSS Phase 2 Revision sets out annual rates for C&I waste requiring management from 2005/06 to 2025/26 in accordance with PPS10 (see proposed RSS Policy W2, Table 6). As with MSW, these relate to the Black Country as a whole and it is left to the Black Country Core Strategy to set targets for each authority.

The assumptions underlying the RSS C&I waste modelling are explained in the RSS Phase 2 Revision Preferred Option Waste Background Paper (December 2007), which was published alongside the Preferred Option document. The authorities approached Adrian Cooper, Chair of WMRTAB, for further information on the C&I waste modelling. WMRTAB agreed to provide details of the methodology used and to break this down into annual rates for each authority (based on the information used in the Phase 2 Capacity Study). This information was provided in the form of a spreadsheet.

It was noted that the RSS projections assumed “high” rates of diversion away from landfill, rising from a baseline of 58% (based on the EA 2002/03 C&I arisings survey), to 65% by 2010/11, 70% by 2015/16 and 75% by 2020/21 – see Table 4.14 below for reference. However, the results of the EA 2002/03 C&I survey suggested that maximum diversion may be closer to the “low” levels of diversion in Table 4.14. The authorities therefore requested Atkins to model C&I waste projections for the Black Country based on the “low” diversion rate, for comparison.

However, the RSS modelling is in line with the targets within the Phase 2 revision Preferred Option that by 2025/26 at least 1,832,000 tonnes of C&I should be diverted from landfill and 611,000 is the maximum amount of waste landfilled.

C&I waste assumptions

The assumptions for the C&I modelling have been derived from 2002 baseline data which may not prove to be completely reliable given that these are now 7 years out of date. However, as the reporting system for C&I waste is not robust these are the most accurate figures at the current time. The Black Country Councils are currently undertaking a study into C&I waste arisings which, once completed, could be used to update the baseline data.

In preparing projections of the future generation and management of C&I waste, the following assumptions have been made, these are from the RSS Phase 2 Revision waste technical work.

4.4.2 RSS C&I Waste Modelling

Waste quantity

- The 2002 base quantities for each authority area are derived from the WMRA Phase 2 Capacity Study (excluding 'Special Waste' arising) and not from EA survey data for 2002/03 because this was not available broken down into individual WPA areas. There is a 3,000 tonnes (0.3mt) difference between the two sources for the Black Country as a whole for this year (the EA survey data is higher, but this may reflect the fact that they were measuring how waste was managed in these areas, rather than where it was generated).
- The quantities of waste indicated in the table for the years, calculated from the 2002 data, has been calculated using the assumptions adopted by the Government in the National Waste Strategy Review (Feb 2006), which reflect predicted economic growth and changes in the sectoral mix of the UK economy. The quantity of waste has not been included as a variable and therefore remains constant for all three performance based options, of low, medium and high outlined in Table 4.14;
- The projections assume that 1998-99 imports and exports as shown in the Environment Agency's 'Strategic Waste Management Assessment' remain unchanged, with a reduction to allow for Special Waste movements in 1998;
- The level of C&I waste requiring diversion away from landfill for each of the three performance options has been calculated using the WS 2000 performance standards shown in Table 4.14
- The RSS modelling has used the high targets for diversion from landfill.

Table 4.14 - Landfill Diversion Estimations

Diversion from Landfill as a % of total commercial and Industrial waste	Existing Performance 2002*	2010 %	2015 %	2020 %	2025 %
Low	58	59	60	61	61
Medium	58	63	64	65	65
High	58	65	70	75	75

* Existing Performance measured using average quantity of C&I waste landfilled in the region (EA SWMA Update 2002-03) as a proportion of the projected quantity of C&I waste arising in the sub region (Phase 2 Capacity Report)

- The capacity required to attain these standards is based on an assumption that the quantity of waste diverted represents 80% of throughput for recycling and 70% of throughput for other forms of waste treatment;
- The quantity of residual waste which will require further management or disposal to landfill has been calculated by deducting the quantity requiring diversion from the total arising for that year;

Table 4.15 summarises the revised RSS modelling carried out by Adrian Cooper chair of the WMRTAB.

Table 4.15 – RSS C&I Waste Modelling

	2006/7		2007/8		2010/11	
	Diversion	Residual	Diversion	Residual	Diversion	Residual
Dudley	231,190	147,810	235,600	144,400	249,600	134,400
Sandwell	341,600	218,400	348,440	213,560	367,900	198,100
Walsall	232,410	148,590	236,840	145,160	250,900	135,100
Wolverhampton	190,320	121,680	194,060	118,940	205,400	110,600
Black Country	995,520	636,480	1,014,940	622,060	1,073,800	578,200

	2015/16		2020/21		2025/26	
	Diversion	Residual	Diversion	Residual	Diversion	Residual
Dudley	310,800	133,200	426,000	142,000	426,000	142,000
Sandwell	458,500	196,500	628,500	209,500	628,500	209,500
Walsall	312,200	133,800	427,500	142,500	427,500	142,500
Wolverhampton	255,500	109,500	350,250	116,750	350,250	116,750
Black Country	1,337,000	573,000	1,832,250	610,750	1,832,250	610,750

* All figures are in tonnes

4.4.3 Atkins C&I Waste Modelling

In preparing projections of the future generation and management of C&I waste, the following assumptions have been made:

Waste quantity

- The growth is similar to that used by the RSS modelling as described in the earlier section.
- As the EA survey on C&I waste in 2002-03 reported waste composition of 61% made up of recyclables, organics, WEEE, and inert and the remaining 39% of mixed residual, hazardous waste and unclassifiable waste. Assuming maximum possible diversion of 61%, the C&I diversion figures are calculated for individual authorities in the Black Country.
- Table 4.16 shows the modelling for C&I projections. 2005/06 was used as the baseline information and the subsequent years figures calculated from this baseline, using waste growth from 2005/06.
- The figures for 2006/07 give a total of 1,632,000 tonnes for C&I waste arisings in the Black Country. The figures used previously in this study are 1,627,000 for 2005/06 taken from the RSS Phase two revision 2007.

Table 4.16 below outlines the Atkins C&I waste modelling.

Table 4.16 - Atkins C&I Waste Modelling

	2006/7		2007/8		2010/11	
	Diversion	Residual	Diversion	Residual	Diversion	Residual
Max diversion as per SLR 2007 study						
Dudley	231,834	147,166	232,553	147,622	234,676	148,969
Sandwell	342,552	217,448	343,614	218,122	346,750	220,113
Walsall	233,058	147,942	233,780	148,401	235,914	149,755
Wolverhampton	190,850	121,150	191,442	121,525	193,189	122,634
Black Country	998,294	633,706	1,001,389	635,670	1,010,529	641,471

	2015/16		2020/21		2025/26	
	Diversion	Residual	Diversion	Residual	Diversion	Residual
Max diversion as per SLR 2007 study						
Dudley	271,339	172,243	347,053	220,305	347,053	220,305

Sandwell	400,924	254,502	512,796	325,517	512,796	325,517
Walsall	272,771	173,152	348,884	221,468	348,884	221,468
Wolverhampton	223,372	141,794	285,701	181,359	285,701	181,359
Black Country	1,168,406	741,691	1,494,434	948,649	1,494,434	948,649

*All figures are in tonnes

4.4.4 Difference in C&I Modelling

Table 4.17 below provides a direct comparison of the RSS and Atkins models

Table 4.17 – C&I RSS and Atkins Model Comparison

RSS	Quantity (tonnes)	Diversion (tonnes)	Residual (tonnes)
2006/07	1,632,000	995,520	636,480
2025/26	2,443,000	1,832,250	610,750
Atkins	Quantity (tonnes)	Diversion (tonnes)	Residual (tonnes)
2006/07	1,632,000	998,294	633,706
2025/26	2,443,083	1,494,434	948,649

National policy guidance compels the Black Country councils to adopt the RSS annual rates of waste to be managed (see PPS10 Companion Guide, paragraph 7.15), so they should adopt the RSS figures unless there is clear evidence that they are inappropriate.

The RSS modelling shows a minimum amount of waste which would need to be disposed of to landfill if the targets are reached, while the Atkins model provides a more conservative, even pessimistic, view that more waste will need to be disposed of to landfill identifying the need for more landfill capacity and less capacity needed to divert recyclables from landfill.

Therefore, the range for each waste option in 2025/26 is:

- Landfill – 610,750 to 948,649
- Diversion from landfill – 1,494,434 to 1,832,250

The landfill diversion estimate used within the study will impact on the capacity gap in the future and therefore the amount of waste facilities required to treat C&I waste. The difference in the figures is at least 300,000 TPA which is significant and the severity of this should not be overlooked, especially as the Black Country does not want to encourage waste import from outside the sub region, due to spare capacity, in the future. A waste composition analysis for C&I waste may prove helpful at this juncture to check the information obtained in the EA study for 2002/03. A study of C&I waste arisings is currently underway and will be useful in the future. However, the Black Country Councils cannot assume that there will be enough C&I waste suitable for diversion from landfill to fulfil the targets set out in the RSS Phase 2 Revision Preferred Option.

At this stage it is only possible to provide the range of results from the modelling, should further information become available then the probability of meeting the high diversion targets can be more definitely realised.

4.4.5 Addressing C&I Capacity Gaps: Current

Capacity gaps have been estimated at a regional level in the recent studies done by SLR for WMRA (2007) and Advantage West Midlands (AWM) (2008). However, the gap analysis in these studies did not go into detail and therefore did not fully take into account the limited range of facilities available in the Black Country, where most of the capacity relates to metal recycling. Consequently, the RSS Phase 2 Revision does not identify any specific treatment gaps in the Black Country. The analysis in this report suggests that there are significant recovery and treatment gaps.

The majority of the C&I treatment capacity in the Black Country is related to metal recycling. It is expected that a great deal of waste metal, from external sources, is imported into the Black Country for treatment/recovery. However, it is unknown if within the current economic climate this trend will continue. In 2025/26 the models estimate there is 1,494,434 tonnes of C&I waste requiring diversion and 948,649 tonnes of residual waste.

Table 3.11 indicates that in 2006, the Black Country had C&I waste recycling, recovery and treatment capacity of around 2,081,484 TPA, of which around 1,897,591 TPA (91%) was involved in metal recycling and car breaking (see Tables 3.11 and 4.1). This means that if metal recyclers and car breakers are excluded, C&I waste treatment capacity in the Black Country is only around 183,893 TPA (9%).

Waste diversion

When this is compared to the estimate of non-metal arisings of around 1,399,000 tonnes in 2005/06 (see Table 4.1 above), it suggests that the current “capacity gap” is very significant (around 1,215,000 TPA). However, this doesn’t tell the whole story, because this table compares capacity with total waste arisings, rather than waste tonnages requiring diversion.

Waste diversion is an important distinction, as the RSS Phase 2 Revision makes assumptions about the amount of waste requiring diversion (through treatment) and residual waste (waste going to landfill). Thus, authorities are not expected to make provision for facilities for residual waste, as this will be going to landfill. Therefore, for the purposes of calculating the capacity gaps, the tonnages of waste requiring diversion have been focused on. Landfill requirements are considered in Section 3.5.

Different diversion rates are assumed in the RSS and Atkins C&I waste projections and a summary and comparison of these is provided in Table 4.17 above. The following sections provide a comparison between both sets of projections, because in the JCS the authorities must decide which set of projections they should use as the basis for their C&I waste annual diversion targets. To make an informed choice, they need to understand whether there are any significant differences, and if so, how these might impact on future requirements.

Metal composition impact on current capacity gaps

The result of applying the 14% metals / 86% non-metals split to the baseline 2006/07 diversion rates is summarised in the tables below.

Table 4.18 –RSS C&I Waste Projections – 2006/07 Diversion Rates

Authority	Total Diversion	Diversion Metal Only (14%)	Diversion Non Metal (86%)
Dudley	231,190	32,367	198,823
Sandwell	341,600	47,824	293,776
Walsall	232,410	32,537	199,873

Authority	Total Diversion	Diversion Metal Only (14%)	Diversion Non Metal (86%)
Wolverhampton	190,320	26,645	163,675
Black Country Total	995,520	139,373	856,147

Table 4.19 – Atkins C&I Waste Projections – 2006/07 Diversion Rates

Authority	Total Diversion	Diversion Metal Only (14%)	Diversion Non Metal (86%)
Dudley	231,834	32,457	199,377
Sandwell	342,552	47,957	294,595
Walsall	233,058	32,628	200,430
Wolverhampton	190,850	26,719	164,131
Black Country Total	998,294	139,761	858,533

Overall, the differences between the two sets of projections are negligible. However, applying the 14% metal composition does make a difference to the capacity gap. As the Black Country has a surplus of metal recycling capacity, the main attention should focus on the non-metal diversion rates, both of which are around 856,000 TPA. If this is compared to the available treatment capacity of around 183,000 TPA, a capacity gap of around 677,000 TPA is evident.

4.4.6 Addressing Capacity Gaps: New Capacity 2006/07 – 2007/08

However, this is not the complete story, because it does not take into account new capacity developed since 2006. The authorities monitor new waste management capacity coming forward on an annual basis through their annual monitoring reports (AMRs). Analysis of 2007 and 2008 AMRs shows that during the 2006/07 – 2007/08 monitoring years (1 April 2006 – 31 March 2008), the following new C&I waste recovery and treatment capacity was developed in the Black Country:

- Metal Recycling Capacity = 2,500 TPA
- Non-Metal Recycling Capacity = 114,400 TPA

Even this capacity represents an under-estimate of total capacity, as capacity information is not available for all implemented schemes. However, known new capacity is factored in the capacity gap as set out in Table 4.20 below the figures have been rounded at the request of the Black Country authorities and due to rounding the totals may not add up.

Table 4.20 – Estimated Black Country C&I Waste Treatment Capacity Gap in 2007/08

Waste Category	Estimated Diversion Requirement * (2006/07) (TPA)	Estimated Capacity (2006) (TPA)	New Capacity Developed 2006/07-2007/08 (TPA)	Total Estimated Capacity 2007/08	Capacity Gap (TPA)
RSS Projections					
C&I Metals Only	139,000	1,898,000	3,000	1,901,000	1,762,000
C&I Non Metals	856,000	184,000	114,000	298,000	-558,000
C&I Total	996,000	2,081,000	117,000	2,198,000	1,202,000

Waste Category	Estimated Diversion Requirement * (2006/07) (TPA)	Capacity (2006) (TPA)	Developed 2006/07-2007/08 (TPA)	Estimated Capacity 2007/08	city Gap (TPA)
Atkins Projections					
C&I Metals Only	140,000	1,898,000	3,000	1,901,000	1,761,000
C&I Non Metals	859,000	184,000	114,000	298,000	-561,000
C&I Total	998,000	2,081,000	117,000	2,198,000	1,200,000

* estimated diversion requirement has been split 14% metals 86% non metals for consistency with the approach on arisings.

The capacity gap for non metal facilities is around 550,000 TPA.

Using the projected total C&I waste arisings from the modelling in 2025/26 waste arisings would be around 2,443,000 TPA according to the RSS and Atkins modelling (see Table 4.17). However, as we have explained above, the diversion rates assumed are different; 75% in the case of the RSS modelling and 61% in the case of the Atkins modelling. The results of applying the revised 14% metals/ 86% non-metals split are shown in Tables 4.21 and 4.22.

Table 4.21 -RSS C&I Waste Projections – 2025/26 Diversion Rates

Authority	Total Diversion	Diversion Metal Only (14%)	Diversion Non Metal (86%)
Dudley	426,000	59,640	366,360
Sandwell	628,500	87,990	540,510
Walsall	427,500	59,850	367,650
Wolverhampton	350,250	49,035	301,215
Black Country Total	1,832,250	256,515	1,575,735

Table 4.22 - Atkins C&I Waste Projections – 2025/26 Diversion Rates

Authority	Total Diversion	Diversion Metal Only (14%)	Diversion Non Metal (86%)
Dudley	347,053	48,587	298,466
Sandwell	512,796	71,791	441,005
Walsall	348,884	48,844	300,040
Wolverhampton	285,701	39,998	245,703
Black Country Total	1,494,434	209,221	1,285,213

Due to rounding as requested by BCWMF, these figures do not total.

For consistency, the same assumptions of 14% metal/ 86% non-metal waste have been applied to the 2025/26 projections. However, as the proportion of arisings that comprise metals may increase or decrease over time, the situation in 2025/26 may be different to that in 2006/07 (which

is itself based on data from 2002/03). Future surveys of C&I waste arisings and composition should give a clearer picture and confirm whether or not the assumptions are correct.

If the authorities “do nothing,” i.e. do not plan to provide new C&I waste treatment capacity through the JCS, by 2025/26 the gaps will be as set out in Table 4.23 below. The estimated diversion requirement has been split 14% metals/ 86% non-metals for consistency with the approach on arisings. Estimated capacity is based on the analysis in Tables 3.11 and 3.14.

Table 4.23 – Estimated C&I Waste Treatment Capacity Gaps in 2025/26

Waste Category	Estimated Diversion Requirement * (2025/26) (TPA)	Estimated Capacity (2006) (TPA)	New Capacity Developed 2006/07-2007/08 (TPA)	Total Estimated Capacity 2007/08	Capacity Gap (TPA)
RSS Projections					
C&I Metals Only	257,000	1,898,000	3,000	1,901,000	1,644,000
C&I Non Metals	1,576,000	184,000	114,000	298,000	-1,278,000
C&I Total	1,832,000	2,081,000	117,000	2,198,000	366,000
Atkins Projections					
C&I Metals Only	209,000	1,898,000	3,000	1,901,000	1,692,000
C&I Non Metals	1,285,000	184,000	114,000	298,000	-987,000
C&I Total	1,494,000	2,081,000	117,000	2,198,000	704,000

All figures in this table are based on the supporting information above, but are rounded to the nearest 1,000 tonnes to avoid “spurious accuracy.” Due to rounding totals may not add up.

In each case, the treatment gap for non-metal wastes will have increased significantly from that required in 2006/07. As expected is the RSS high diversion rates are reached then an extra 300,000 TPA of capacity needs to be provided.

4.4.7 Addressing Capacity Gaps: Overall New Capacity Expected to 2025/26

When projecting forward to 2025/26, new C&I waste recovery and treatment proposals need to be considered that would reduce the projected capacity gaps. The AMRs for 2007 and 2008 have provided information on outstanding commitments. Analysis of AMRs shows that Walsall is the main focus for new merchant waste management proposals. At March 2008, the following potential new capacity could be identified in unimplemented permissions:

- Metal Recycling Capacity = 5,720 TPA
- Non-Metal Recycling Capacity = 280,300 TPA

Most of this relates to a proposed resource recovery park in Walsall, which is expected to include a MRF, aggregates washing facility and CHP plant. It is understood that a significant amount of the capacity will be involved in processing of waste into aggregates. As with recent completions, the total capacity figure is an under-estimate, as some applications did not include details of capacity.

Table 4.24 – Estimated C&I Waste treatment Capacity Gap 2025/26 – Including Proposals

Waste Category	Estimated Diversion Requirement * (2025/26) (TPA)	Estimated Capacity (2007/08) (TPA)	Capacity in the Pipeline March 2008 (TPA)	Total Existing and Potential Capacity March 2008	Capacity Gap (TPA)
RSS Projections					
C&I Metals Only	257,000	1,901,000	6,000	1,907,000	1,650,000
C&I Non Metals	1,576,000	298,000	280,000	578,000	-998,000
C&I Total	1,832,000	2,198,000	286,000	2,484,000	652,000
Atkins Projections					
C&I Metals Only	209,000	1,901,000	6,000	1,907,000	1,698,000
C&I Non Metals	1,285,000	298,000	280,000	578,000	-707,000
C&I Total	1,494,000	2,198,000	286,000	2,484,000	990,000

* Estimated diversion requirement has been split 14% metals/ 86% non-metals for consistency with the approach on arisings. Estimated capacity is based on the analysis in Tables 3.11 and 3.14.

All figures in this table are based on the supporting information above, but are rounded to the nearest 1,000 tonnes to avoid “spurious accuracy.” Due to rounding totals may not add up.

By including projects in the pipeline, the capacity gaps are reduced, but they are still significant for non-metal recycling, recovery and treatment. Although, if the current level of metal recycling capacity is maintained up to 2026, there will still be a significant surplus of this under both scenarios.

In the “worst case” scenario (RSS projections) the gap for non-metal recycling, recovery and treatment is around 1 million tonnes, and in the “best case” scenario (Atkins projections) it is around 0.7 million tonnes. However, although the “best case” scenario means that less provision needs to be made for recovery and treatment, it also means that waste arisings will need to reduce significantly by 2026 or that more waste will have to be sent to landfill.

Summary

In 2025/26 the treatment capacity gap would be high for non metal recycling waste diversion. Commercial waste facilities for energy from waste, composting, gasification, material recycling and MBT would be expected to have the same landtake as is outlined in Appendix F. However, land take for sites such as car breakers is not readily available due to the limitations of the data and the uncertainty over what the market will want to provide between now and 2026. It cannot definitely be assumed what facilities are required, as the current treatment methods of C&I waste produced in the Black Country are unknown. Therefore if these facilities may have future capacity gaps.

In addition to this, C&I facilities in the Black Country accept waste from producers outside the Black Country as well as from waste arising within the Black Country. Therefore, the facilities may have enough capacity to treat waste solely arising in the Black Country, but this would have to be quantified with a full study of waste arisings from commercial and industrial premises within the area.

A study focussing on C&I waste arisings is underway by the Black Country councils and this should help to clarify, the need and demand for new treatment facilities.

4.5 CD&EW and Hazardous Waste Modelling

4.5.1 CD&EW

The CD&EW waste tonnages are expected to remain steady with a 0% growth. Therefore, current provisions are expected to be sufficient for the Black Country with the demand in land development slowing down due to unstable conditions in the financial sector. There are large quantities of waste managed under exemptions from waste management licensing from the EA. With the revision in exempt facility regulations and introduction of SWMP’s, accurate data monitoring should be more achievable in the future.

Due to the regeneration planned for the Black Country, the opportunities and possibilities for temporary, strategically placed soils treatment facilities are viable and once the stages and time table for areas of redevelopment are set these facilities could be planned.

The current level of development and reuse of materials is assumed to remain steady and self sustainable and thus a 0% waste growth rate is considered. Tables 4.25 – 4.26 show the RSS and Atkins estimated amount for CD&EW waste until 2026, in which the management of CD&EW will not change.

Table 4.25 - RSS Modelling for CD&EW

Growth 0%	2006/07				2020/21	2025/26
Dudley	328,495	328,495	328,495	328,495	328,495	328,495
Sandwell	597,682	597,682	597,682	597,682	597,682	597,682
Walsall	239,246	239,246	239,246	239,246	239,246	239,246
Wolverhampton	279,840	279,840	279,840	279,840	279,840	279,840
Black Country	1,445,263	1,445,263	1,445,263	1,445,263	1,445,263	1,445,263

* All figures are in tonnes

Table 4.26 - Atkins Modelling for CD&EW Waste Management

Waste Type	2006/07	2007/08	2010/11	2015/16	2020/21	2025/26
Recycled Aggregate (tonnes)	756,883	756,883	756,883	756,883	756,883	756,883
Recycled Soils (tonnes)	91,183	91,183	91,183	91,183	91,183	91,183
Para 9a & 19a Exempt. (tonnes)	347,537	347,537	347,537	347,537	347,537	347,537
Landfilled	249,659	249,659	249,659	249,659	249,659	249,659
Black Country	1,445,263	1,445,263	1,445,263	1,445,263	1,445,263	1,445,263

* All figures are in tonnes

4.5.2 Hazardous Waste

Hazardous waste is a subset of MSW, C&I and CD&EW. The major component of hazardous waste as per the EA hazardous waste database is C&I (>80%). Thus the C&I waste growth figures are applied to hazardous waste to understand the waste arisings up to 2015/26, taken from the national Waste Strategy Review (2006).

The current management methods for hazardous waste have been extrapolated to 2025/26.

The Atkins modelling for hazardous waste is shown in Table 4.27.

Table 4.27 - Atkins Modelling for Hazardous Waste

Waste Management	2006/07	2007/08	2010/11	2015/16	2020/21	2025/26
Treatment/ Recovery (58%)	111,809	112,156	113,179	130,862	167,377	167,377
Transfer (23%)	44,581	44,719	45,127	52,178	66,737	66,737
Landfill (18%)	35,131	35,240	35,562	41,117	52,591	52,591
Black Country	191,522	192,116	193,868	224,157	286,705	286,706

* All figures are in tonnes

The predominant hazardous waste treatment capacity within the Black Country is MRF's and physical-chemical treatment is currently 90% of the total throughput. The modelling for 2025/26 is 286,706 tonnes. Given the current capacity of 343,714 no further facilities would be required as there is a surplus. However, there would be need for a hazardous landfill as there are no current facilities in the Black Country. Although there is a need, in reality the RSS phase 2 revision Policy W12 appears to be steering hazardous waste final disposal towards areas outside the region.

There may also be a need to develop additional facilities to process WEEE collected by the authorities from HWRCs and from households if the amount of this waste increases significantly, and/or if the existing contractual arrangements prove inadequate. It is understood the authorities have no plans to develop any new infrastructure for managing WEEE at the present time.

4.5.3 Contaminated Soils

The RSS Phase 2 revision proposes that the Black Country Core Strategy should give specific priority to identify new sites for facilities to store, treat, and remediate contaminated soils.

As discussed previously the total derelict land in the Black Country as of 2007 is 507.2 ha. If this land is all used for regeneration to 2026 then the estimated total amount of contaminated soil requiring treatment will be 1,141,200 tonnes and the amount of total contaminated for off site disposal would be 251,064 tonnes. Without definite plans for each development and timescales for any remediation of this land the most robust way to plan for remediation of soil is to average this figure until 2026. Therefore on average every year 13,948 tonnes of contaminated soil will require disposal following treatment. This is if the soil is treated on site.

However, due to the current economic climate it may be unrealistic due to timescales for planning and the cost of the infrastructure for this much development to take place each year. During this regeneration temporary sites for soil remediation could be set up close to regeneration centres

within the Black Country. They would move location as the regeneration is completed in one area, then move to another place.

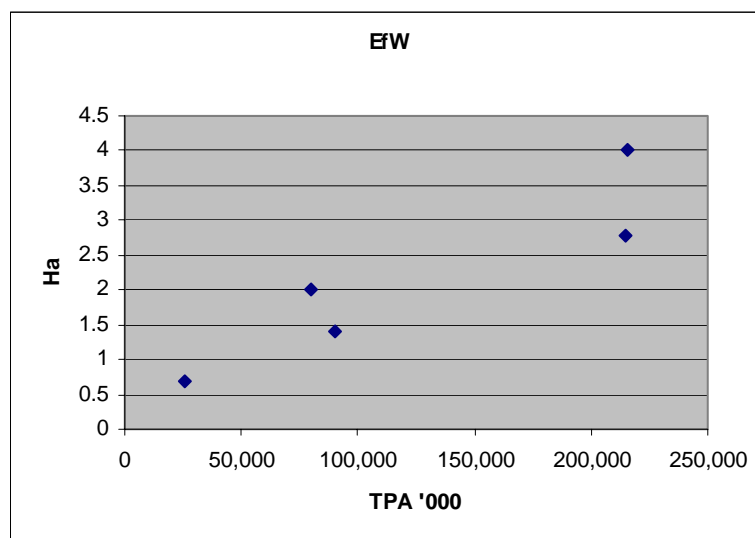
Regeneration programmes for the Black Country strategic centres and regeneration corridors are expected to result in significant redevelopment, not just of contaminated land, leading to an increase in the production of contaminated soils requiring treatment and/ or remediation. Currently, there are no facilities in the Black Country for the storage, treatment, remediation of contaminated soils, or for the final disposal of residues.

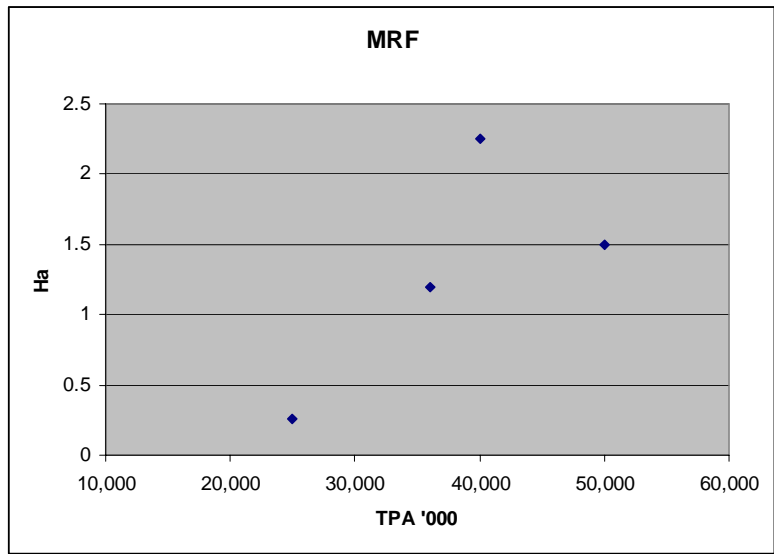
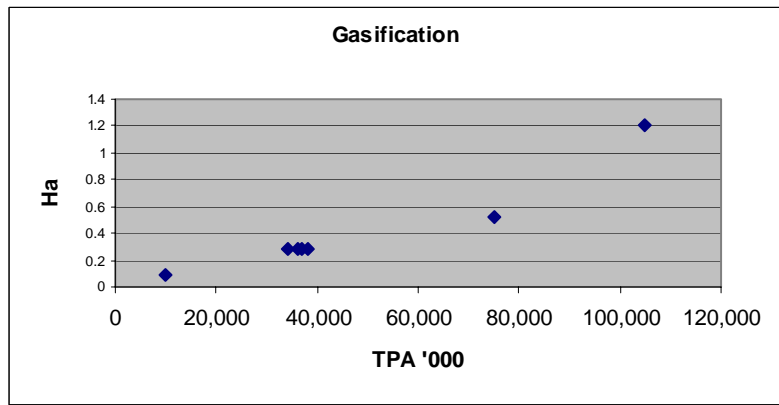
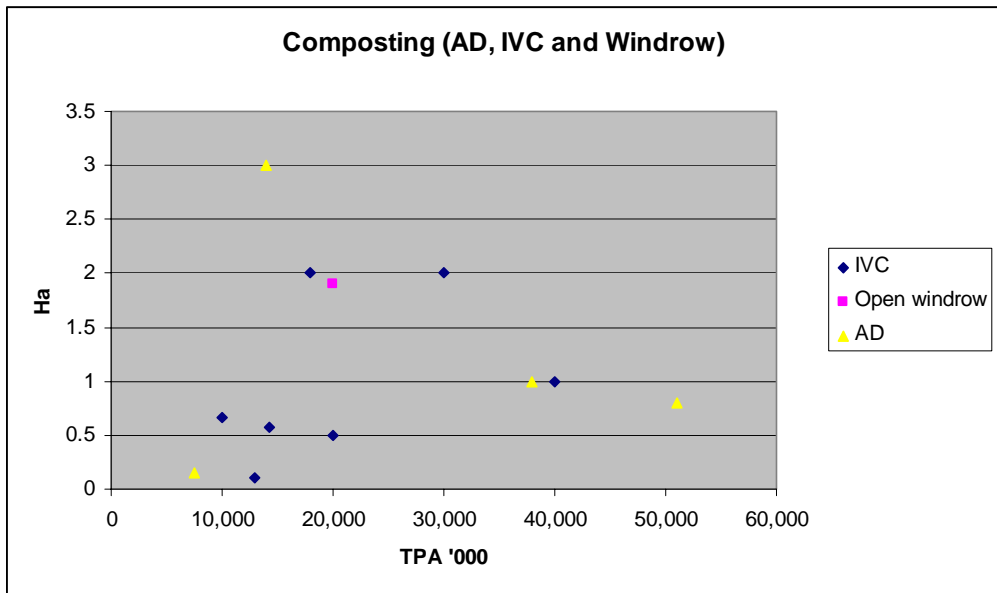
However, the Contaminated Land Application in Real World (CL:AIRE) outlines the Hub and Cluster approach, which could be used in the Black Country as temporary sites to service and treat all contaminated soils from development sites in a particular area. The treated soil is re-used either on-site or elsewhere, and the residues disposed of at a disposal facility which can accept hazardous waste residues. As has been discussed above, there does not appear to be any prospect of allocating new final disposal facilities for hazardous waste residues in the Black Country through the Joint Core Strategy. It is therefore likely that filter cake and other residues arising from the screening of contaminated soils will need to be disposed of outside the area. It is also unlikely to be feasible to identify specific sites or locations in the Core Strategy for the storage, treatment and remediation of contaminated soils. However, it should be possible to identify such sites once the operational and locational requirements are known, for example in delivery plans for Site Allocations DPDs, AAPs, or Masterplans forming part of major planning applications.

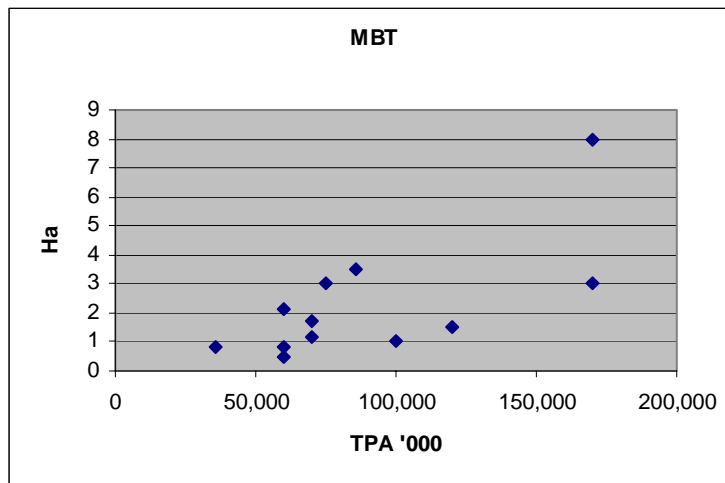
4.6 Addressing Capacity Gaps - Overall Requirements and Landtake

The area of land required by different waste treatment technologies is briefly summarised in Figure 4.1. This mainly relates to facilities for MSW. Based on the availability of land, a single large facility can be built or a number of smaller facilities can be strategically located. The data has been sourced from WRATE (Waste and Resources Assessment Tool for the Environment) the Environment Agency's life cycle assessment tool for MSW and other work that Atkins has been involved with. A full list of this information is provided in Appendix F. The information presented in Figure 4.1 is for EfW, Composting (IVC, AD and windrow), gasification, MRF and MBT technologies.

Figure 4.1 – Land take Vs Capacity







In most examples as the Tonnes Per Annum treated increases so does the area of land required for the facility. The composting graph does not show this trend, outlining the difference between different technology providers and technology types on the size of land required for their facilities. The land take required is not linked exponentially to capacity. For example a 200,000 tonnes EfW plant will not have double the land take of a 100,000 tonnes plant.

Although a capacity gap for C&I waste has been established and is expected to be in the region of 700,000 to 1 million tonnes it is not known what type of facilities will be required. Therefore, the information on land take is most relevant to MSW.

4.6.1 Land take summary

The Black Country Employment Land Capacity Study gives the total employment land for waste allowance as 21 hectares for all new waste facilities (GVA Grimley 2008). CD&EW waste arisings remain steady to 2026, hazardous waste facilities have a surplus of capacity and although we can provide an estimate of C&I capacity this may require further refinement if better information becomes available in the future.

Table 4.28 uses the throughput and land take required for various waste treatment facilities from the Environment Agency’s WRATE tool to show the approximate land take needed for the MSW facilities required in 2026, over and above the additional facilities planned for in Table 4.8. However, as this is an average taken from a relatively small number of facilities the average figure could be skewed.

Table 4.28 – Land Take Summary for MSW Critical Gaps 2025/26

Waste Type Capacity Gap (tonnes)	Waste Treatment Technology	Average yearly processing capacity per hectare (tonnes)	Estimated Number of New Facilities Required	Hectares required Total	Hectares per facility
Recycling/ Material Recovery (74,000)	MRF	44,316	2	3.4	1.7
Composting (54,000)	IVC	39,083	1 (or 2)	1.3	1.3 (or 0.7)
	AD	39,104	1 (or 2)	1.3	1.3 (or 0.7)

Table 4.28 gives the approximate land take requirements in hectares for different waste treatment facilities to fill the critical treatment gaps estimated for the Black Country in 2026. The authorities have confirmed that they are not interested in developing new open windrow capacity for managing BMW so IVC and AD provision has only been included. It is also assumed that the authorities will continue to address the need for landfill capacity for the disposal of residual MSW through contracts with commercial operators, as there is no realistic prospect of them bringing forward new landfill capacity themselves.

Though these figures are useful the graphs in Figure 4.1 show there is a wide range of land takes for various sized facilities and the exact size for each site will be dependant on a number of factors, not least, the technology provider, the composition of the waste streams, the shape of land available and the configuration of the technology. Therefore, although estimates can be given on the size of footprint needed for each treatment technology this can't be a definitive figure

The requirements may differ from that given in Table 4.8 if the range of facilities at Pikehelve Eco Park changes. However, the land take is similar for most types of facility, and will not alter greatly. As Sandwell are developing IVC facilities at Pikehelve it would be reasonable to suggest any further IVC facilities or similar should be developed within the other 3 Black Country Councils, though at this stage the WDAs are at a very early stage to suggest possible locations.

In addition to facilities for treating MSW the Black Country Councils have also identified a need for transfer facilities such as HWRCs and transfer stations, which would require additional land.

4.6.2 Land Allocation for Waste Management

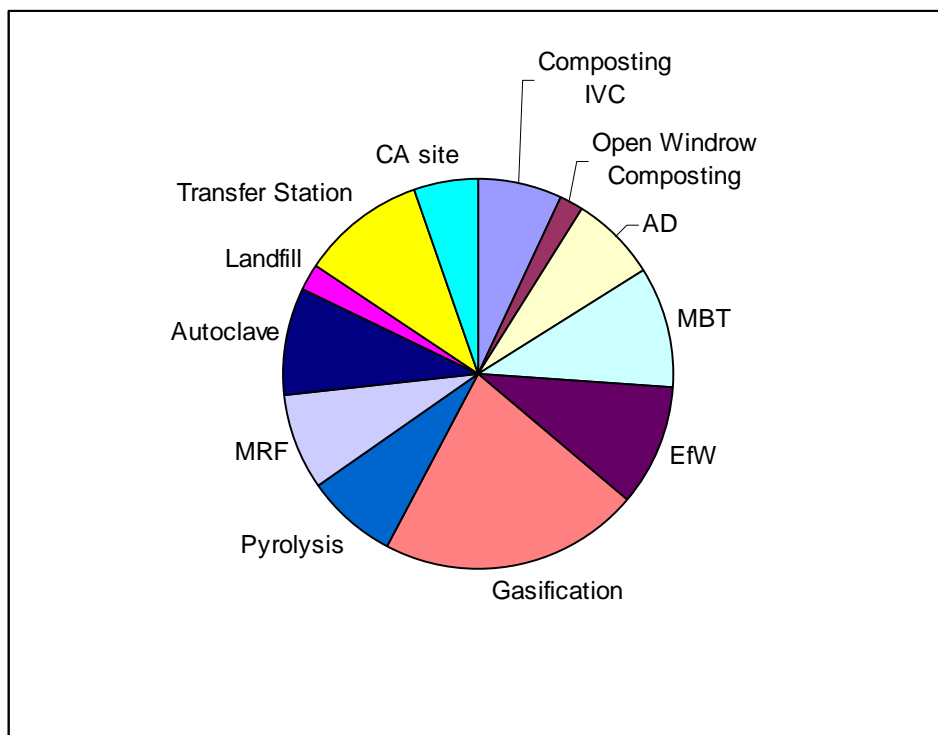
The amount of land which should be allocated for each type of waste facility varies according to the type of facility and the throughput of the facility. Within the Black Country there is a need to develop waste treatment and disposal capacity and therefore, an understanding of the likely land take requirements will be advantageous for allocation purposes and spatial planning. GVA Grimley study includes an assumption that 21 hectares of retained employment land will be required for waste facilities. However, land outside of employment areas could also be used for the development of waste sites.

Table 4.29 presents a summary of the most common waste facilities, taken mostly from the Environment Agency's Waste and Resources Assessment Tool for the Environment (WRATE). To calculate an average tonnage per year throughput for each hectare of land, the information set out in Appendix F has been used. Figure 4.2 presents Table 4.29 graphically as a comparison. Processes such as landfill and open windrow composting have relatively low processing capacity per hectare capability, the effect of this will be relatively high land take requirements in comparison with other technology types.

Table 4.29 - Average Tonnes per Year Throughput for Different Technologies

Waste Treatment Technology	Average yearly processing capacity per hectare (tonnes)
Composting IVC	39,083
Open Windrow Composting	10,526
AD	39,104
MBT	55,874
EfW	54,862
Gasification	120,406
Pyrolysis	41,875
MRF	44,316
Autoclave	49,432
Landfill	12,500
Transfer Station	56,408
CA site	29,275

Figure 4.2 – Visual Comparison of the Waste Treatment Technologies Processing Capacity



4.7 Scope for Expansion of Existing Facilities and Sectors

4.7.1 Scope for Expansion

As outlined above there appears to be a capacity gap in relation to certain facilities involved in waste management in the Black Country. For MSW, Table 4.8 this is 128,000 tonnes per annum (excluding landfill) and for C&I waste this is estimated to be 707,000 to 998,000 TPA depending on the modelling used for non metal recycling tonnes per annum. Theoretically, extensions and upgrades to existing facilities are a possibility in order to meet the capacity gap. However, this would require each facility to expand greatly. This is unlikely to be feasible, given the scale of the increase and the variation in types of waste treatment facilities required i.e. composting facilities of which there are none currently in the Black Country.

In 2007 SLR conducted a survey of 265 facilities, Waste Treatment Facilities and Capacity Survey West Midlands Region, a total of 93 responses were collected from the operators. 65% of the responses indicated that there was a potential for future expansion at their facility, the remaining 35% reported the site was currently operating at its maximum throughput. In summary the SLR report (2007) quantified the amount of tonnage increase by the expansion plans for C&I waste site operators to be approximately 480,000 tonnes. The capacity gap outlined above is up to 1 million tonnes and so even if all these expansion plans went ahead there would still be a capacity gap of 500,000 tonnes. However, in reality there will be numerous constraints associated with expansion, such as those linked to planning and regulatory compliance.

4.7.2 Voluntary Sector Involvement

There are many examples of voluntary sector or third sector involvement in small scale waste reuse and recycling initiatives, i.e. the Furniture Reuse Network²⁹, who are mainly involved with

²⁹ www.frn.org.uk

furniture collection schemes and reuse shops. However, going forward organisations like WRAP³⁰ have seen the benefit of such synergies and are investing in research in how the third sector can expand and become more effective in the waste management business. Traditionally the third sectors involvement has been limited to running facilities such as on site recycling/reuse shops and WEEE testing and recyclable sorting. These facilities/schemes are mainly run alongside Household Waste and Recycling Centres to allow goods to be sold in order that money can be generated, usually for charitable purposes. There are other examples, such as in Sandwell, where some kerbside recyclables are collected by the voluntary sector (Community Recycling Venture³¹). In the future, once they have built capacity there is little reason why voluntary sector organisations cannot be involved a lot more heavily in the waste management sector and be capable of running much more complex waste treatment facilities.

4.8 Regeneration and Development and the Impact on Waste Produced

Given the information outlined in the West Midlands RSS and the Joint Core Strategy for the Black Country Preferred Options Report a large amount of redevelopment and regeneration is planned to take place in the Black Country in the future. There is a “clear strategy for achieving urban renaissance by 2031” (Paragraph 1.3 Black Country Authorities (2008) Joint Core Strategy for the Black Country Preferred Options Report).

Given this target, four centres within the Black Country have been named as strategic centres, these are:

- Wolverhampton
- Walsall
- West Bromwich
- Brierley Hill

Within these areas the priorities will be focused investment and development in comparison, shopping (shopping for goods other than food and drink and every day items), office employment, leisure, tourism, and culture (Black Country Authorities (2008) Joint Core Strategy for the Black Country. Preferred Options Report, it is estimated that by 2026 in the strategic centres there will be:

- 350,000m² gross new comparison shopping floor space and 880,000 m² gross new office floor space
- Major new leisure and cultural facilities
- 5,900 new homes (excluding West Bromwich centre) mostly high density

Much of this will require redevelopment and site remediation and the CD&EW produced during the build of these new shops, offices, leisure and cultural facilities and homes will require careful management and planning. The introduction of Site Waste Management Plans should encourage more developers and contractors to adopt “best practice” in terms of diverting waste from landfill and reuse of aggregate waste on site and on other building sites. However, once the shops, offices, leisure and cultural facilities are operational the amount of C&I waste produced by the end-users will require management, generating a need for additional waste facilities.

The JCS Preferred Options also identify 16 regeneration corridors and free standing sites where new development will take place. The outline plans are as follows:

- 1,400 hectares of high quality employment land

³⁰ www.wrap.org.uk

³¹ <http://www.laws.sandwell.gov.uk/ccm/navigation/environment/rubbish--waste-and-recycling/recycling/community-recycling-venture/>

- 37,000-37,890 new homes (includes West Bromwich centre) and is dependant on free standing employment sites in Wolverhampton
- 1,020 – 1,050 hectares of retained local employment land

This additional housing outlined in the plans has been included in the waste modelling and the expected additional MSW waste included in section 4.2.3. The proposed retail, commercial and industrial growth has not been factored into the C&I projections, rather they were calculated using the assumptions adopted by the Government in the National Waste Strategy Review (2006).

Walsall and West Bromwich have also been named as regeneration priority centres (WMRA 2007). For the strategic centres the amount of commercial and industrial properties, but especially commercial development, will increase, one aim being to attract “new, high technology and logistics businesses” (Black Country Authorities (2008) Joint Core Strategy for the Black Country. Preferred Options Report)

The amount of retail and leisure facilities across the Black Country will also increase in relation to the population of each area (West Midlands Regional Spatial Strategy – Phase Two Revision Spatial Options 2007).

The waste produced whilst developing these centres and from the additional housing needed for people estimated to be brought into the area to live and work will have a substantial effect on the waste arisings of the Black Country.

We are unable to quantify the exact arisings for the development of the new facilities without plans of the site and building design. The nature of the shops and leisure facilities will play an important role in determining the waste arisings for these commercial premises. Therefore, the additional residential properties are the only facilities where an approximation can be made and these have been included in the waste modelling.

4.9 Data Collection and Monitoring

Waste data collection and monitoring is essential in order that Local Authorities can show the destinations of their waste and how they are diverting waste away from landfill to achieve targets. There are many sources of waste data, both nationally and regionally produced, to monitor generation and the management of wastes.

4.9.1 MSW

WasteDataFlow (WDF) is a web based system, introduced in 2004, for local authorities to report on MSW data. It enables faster, accurate data collection and reporting for strategic planning, performance monitoring and to ensure compliance with regulations.

The WDF data summary for each local authority is published annually by DEFRA. The main indicators are set out below:

- Municipal waste arisings
- Management of municipal waste
- Local Authority key performance statistics

The information is published on the DEFRA website for users to download in an Excel spreadsheet. The information is in a format designed in order to facilitate measuring and comparing performance against targets set by the Waste Strategy 2007 for diversion and recovery of MSW.

In almost every case, new facilities and expansions of current waste management facilities will have to go through the formal planning process. These records also present an opportunity to help predict the waste treatment capacity being developed in the Black Country.

4.9.2 C&I

Data on C&I waste has been of poor quality, however, this waste makes up a major part of waste produced in the UK. The data on C&I at national, regional and sector levels has inconsistencies due to the different data collection methodologies used and the timing and frequency of the data collection. The introduction of the EA's waste interrogator should allow easier access to waste arisings and findings of the current national C&I arisings survey currently underway will also provide more recent data.

Until the interrogator was introduced the most comprehensive datasets on C&I waste arisings are the EA waste surveys carried out in 1998/99 and 2002/03.

The EA require waste management facilities to produce quarterly waste returns on waste arisings and treatment used. As discussed earlier, in Section 3.1.2 information about waste type, facility type and location is collected. Access to this data is problematic, though improving as there are now arrangements in place via RTAB for EA RATS data to be made available on a regular basis, manipulation is also challenging given the quantity of data.

A summary of annual waste returns from all the waste management facilities handling C&I waste in the Black Country would indicate the current capacity and the waste types handled. However, this exercise is time consuming and there is currently a study being carried out into C&I waste arisings in the Black Country. There is also a national study being carried out and the authorities believe the methodology can be used to estimate levels of C&I waste at a WPA level. This may enable the authorities to develop more accurate estimates and forecasts of C&I waste arisings in the future.

4.9.3 CD&EW

There is paucity on data with respect to CD&EW. Large quantities of CD&EW are treated on site under exemptions by mobile treatment facilities and there is limited information on the waste handled as already mentioned in the baseline section of this document.

The ODPM report by Capita Symonds in 2003 estimated the CD&EW arisings for West Midlands. There is no updated information on CD&EW arisings for the West Midlands and limited information is available from the EA Regis database.

Site Waste Management Plans (SWMP) were introduced in April 2008 for all construction projects that have a value in excess of £300,000. The SWMP identifies the types of waste removed from site, the person who removed the waste and their waste carrier registration number, a description of the waste, and the site the waste is taken to. The information is currently not reported to the EA and so the best way for this to be collated by the councils could be for them to request a SWMP when companies are completing a planning application and this could be used for monitoring across the Black Country as a whole. However as it does not apply to smaller projects, there is still likely to be gaps in the data.

4.9.4 Hazardous Waste

The EA have a comprehensive database on hazardous waste arisings for the UK. The database includes the type of waste as per the EWC code, source and destination of the waste and what treatment the waste has undergone.

The total capacity for handling hazardous waste in Black Country is not known very accurately, however the data suggests that the sub region is a net importer of hazardous waste. Monitoring data from previous years can also be used to establish trends in capacity for the sub region for the hazardous waste handled.

The Black Country may wish to consider reviewing the hazardous waste arisings reported by the EA annually, as well as planning applications for any expansion of existing or new treatment/management facilities for hazardous waste.

5. Task 2b - Location of Waste Management Facilities

5.1 Locations for Strategic Waste Sites

Atkins was asked to provide advice on suitable/ unsuitable locations for waste management and on the development of criteria for assessing the suitability of sites for waste management. Initial advice was provided to the authorities in draft form. It was clear from this that there were outstanding issues that needed to be resolved before the advice could be finalised, so it was recommended that a waste planning workshop be organised. The workshop took place on 17th February 2009. Participants included other planning officers involved in the preparation of the Joint Core Strategy (i.e. representatives from Employment Group, Delivery Group and Monitoring Group), as well as representatives from BCWMF. The workshop focused on the development of a criteria-based assessment framework for assessing the suitability of sites for waste management, and a possible definition for “major/ strategic sites.” The Workshop notes are included in the report as Appendix G and the feedback received during the workshop is reflected in this chapter.

5.1.1 Criteria for Assessing the Suitability of Location for Strategic Waste Sites

The Black Country Joint Core Strategy (JCS) will help implement the Key Planning Objectives in PPS10, where necessary by including policies tailored to the Black Country as required by Planning for Sustainable Waste Management: A Companion Guide to Planning Policy Statement 10. The policies in the CSS should be widely applicable rather than providing individual policies for every eventuality.

The suitability of sites for waste management facilities will be determined by the interaction of the operational requirements of facilities with the characteristics of the site and its surroundings.

The characteristics of the sites and their surroundings could include some of the following themes which could apply to safe guard existing sites but also as a basis for criteria for assessing new sites:

- Proximity of the site to residential housing;
- Access routes through residential areas;
- Previously developed or greenfield land;
- Proximity to the Primary Road Network (PRN) and capacity of that network;
- Potential to transport waste by non-road based forms of transport;
- Land drainage;
- Townscape/landscape and visual amenity;
- Proximity to waste arisings;
- Hydro geological vulnerability;
- Not pose a risk to European and National protected sites;
- Proximity to controlled waters;
- Habitat and species;
- Flood risk;

- Current or proposed land use;
- Proximity to conflicting use, both existing and proposed;
- Land stability;
- Heritage assets;
- Proximity to air quality management areas;
- Cumulative effect of the proposed facility with existing waste management sites.

As well as the physical characteristics above there will be a number of operational features that will need to be considered in the evaluation criteria, i.e:

- Waste types accepted at the site;
- Numbers and types of vehicles accessing the site;
- What treatment process the waste will undergo;
- Process specific risks.

At this stage, (strategic assessment or site identification exercise) the detail in terms of the specific process, i.e. the exact technology type may be limited. For example the “generic” process specific risks associated with EfW can be commented on, however EfW can include a number of different technologies all with a slightly different process dependent on the exact supplier.

For example, open windrow composting sites must not be within 250 metres of a workplace or the boundary of a dwelling (Environment Agency 2007). As large areas of the Black Country are heavily developed finding a site within these parameters could be problematic. However, an In Vessel Composting site does not have these restrictions and therefore it should be easier to site an In Vessel Composting facility in the Black Country, although the unit rate for treating materials, otherwise included for conventional windrows, could be twice as much.

In Annex E of PPS10 a number of locational criteria for waste management facilities are presented:

- Protection of water resources
- Land instability
- Visual intrusion
- Nature conservation
- Historic and built heritage
- Traffic and access
- Air emissions
- Odours
- Vermin and birds
- Noise and vibration
- Litter
- Potential land use conflict

PPS10 also suggest that WPAs should:

“Also bear in mind the envisaged waste management facility in terms of type and scale”

However, the criteria used by the Black Country Authorities are likely to be much broader for example:

- Constraints - significant environmental/ amenity constraints

- Suitability for use – ability to meet particular operational requirements (where known)
- Flexibility - suitability for a range of different facility types
- Accessibility – proximity to motorway network/ scope to transport waste by rail/ inland waterway
- Meeting Strategic Waste Management Requirements – would it meet needs identified in MWMS/ JCS/ RSS?
- Spin Offs – is there scope for energy generation, recycled aggregates production, other environmental benefits, e.g. good design or direct benefits to local businesses/ communities?

If an assessment of existing and proposed sites is to take place in terms of determining their suitability as strategic waste management facilities a set of criteria will need to be developed that take into account the following guidance. These are likely to be different for assessing sites which the Black Country wish to keep and any identified new sites. The guidance includes:

- PPS10
- A companion Guide to PPS10
- Phase II of the Review of the West Midlands Regional Spatial Strategy
- Circumstances and issues which prevail in the Black Country as set out local spatial planning documents (including consultation responses on the Preferred Options for the Joint CSS and Community Strategies.
- PPS12

The Black Country Authorities have decided that there is a need to allocate strategic waste sites in the JCS and following the workshop on 17th February 2009 this has been discussed and agreed that criteria will be identified and used with a scoring system which will allow a weighting be assigned to each of the criteria. It will be important to weight these criteria, since not all issues are considered to have equal importance.

For example protection of water resources, is likely to be treated more seriously than litter. Therefore, the weighting would be varied in accordance with importance of each factor in order to create a proportional approach.

The weighting of the criteria would also be influenced by issues which are specific to the Black Country as identified in the respective Sustainable Community Strategies and the emerging Joint Core Strategy. In the case of the latter the responses from consultees on the Preferred Options provides justification for weighting the criteria. A weighted quantitative assessment of site suitability may need to be the subject of further public consultation depending on what commitments are made in the respective Statements of Community Involvement.

By way of examples weight could be attached to the following criteria, for new sites, which are known to be important issues for the Black Country:

- Congestion;
- Heritage;
- Open Space;
- High Quality Employment Land;
- Social and Economic Development in the four Strategic Centres of the Black Country.

Before a site is allocated in the Core Strategy there should be reasonable certainty about the site coming forward for development.

5.2 Existing “Major” / “Strategic” Waste Sites

The Black Country Councils have considered the need for a definition of a “strategic” or “major” site given that the Core Strategy is a strategic plan and will need to plan for facilities at this scale.

5.2.1 Major / strategic sites

At the waste planning workshop in February 2009 the definition of a major / strategic site, as suggested by Walsall, was discussed. This is outlined below:

- All facilities that form a vital part of the Black Country's Municipal Waste management infrastructure, e.g. Energy from Waste Plants, Waste Transfer Facilities, HWRCs and Depots
- All commercial waste management facilities that fulfil more than a local role, e.g. they are part of a nationwide or regional operation linked to other facilities elsewhere, and take in waste from all over the Black Country and/ or beyond
- All commercial facilities specialising in a particular waste stream or waste management technology, of which there are no others, or very few others, of the same type operating elsewhere in the Black Country
- All existing or proposed open gate landfill facilities, which are likely to fulfil more than a purely local role given the shortage of such facilities nationally
- All facilities with a significant annual capacity/ throughput, for example:
 - Recovery/ treatment/ processing facilities with an annual throughput capacity of 50,000 TPA
 - Waste transfer/ ancillary facilities with an annual throughput capacity of 20,000 TPA

Minor changes were agreed on this definition and will be used in the JCS to identify sites which need protecting.

The main points about the major sites, are that:

- They manage a high proportion of the waste managed in the Black Country,
- If you lost one it would have significant impact on capacity and this would have to be factored into the capacity "gaps" identified in Section 4
- In addressing critical "gaps" through the JCS, the Black Country Councils must look towards developing new major infrastructure rather than small stuff – certainly, any site allocations will be expected to be "strategic" and capable of accommodating something big or a cluster of smaller ones. The key questions are:
 - What scale/ level of waste facility should the Core Strategy aim to provide for?
 - Is there a minimum size that is viable for different types of facility, below which commercial operators will not develop?
 - Are there any useful criteria or thresholds we could use to define the types of "major" or "strategic" facilities we are planning for?

The definition above assumes that all existing and proposed MSW sites are "strategic." The strategic commercial waste sites are summarised for each council in Table 5.1 below. This relates to inputs into licensed facilities listed on the 2006 Regis database.

Table 5.1 – Summary of Strategic Licensed C&I Waste Management Sites in Each Council

Authority	Recovery/ Treatment			Transfer		
	Number of Strategic Sites	Total Licensed Capacity (tonnes)	2006 Throughput (tonnes)	Number of Strategic Sites	Total Licensed Capacity (tonnes)	2006 Throughput (tonnes)
Dudley	10	653,714	139,245	11	965,235	69,377
Sandwell	9	1,003,000	393,639	13	9,141,297	570,985
Walsall	3	925,036	463,661	5	106,498	61,089
Wolverhampton	5	529,988	75,843	5	469,048	110,609
Black Country Total	27	3,111,738	1,072,388	34	10,682,078	812,060

Assessment criteria for new sites

Assessment criteria were discussed at the workshop, this will be used to assess the suitability of sites and locations put forward by stakeholders or through other technical work such as the employment study. However, it was agreed that the study would provide advice from which we would develop the framework and not the framework itself. A full list of the information from the workshop is included in Appendix G.

5.3 Suitable Locations for Waste Treatment and Disposal Facilities

Taking into account the sites identified for housing it is potentially possible, to identify broad locations where waste management facilities can be accommodated. However in addition to the weighting of site criteria the assessment of sites within those broad areas should recognise the differences between the various types of facility for example, a HWRC may be acceptable in a housing area while an open windrow compost site would not and a CHP plant would need to be close to the housing or employment area it is designed to serve.

There cannot be a definitive answer in relation to the types of waste management facilities that are suitable for different types of location (this would be more relevant for allocation documents in line with PPS10 guidance). We can only give direction and guidance on the main issues relating to broad locations and their suitability for accommodating various types of waste management infrastructure. Well run waste management facilities can prove to be extremely good neighbours, the EA regulate the waste management industry by way of its Environmental Permitting scheme. The intention of the regulatory regime is to protect the environment and encourage regulators to promote best practice in the operation of regulated facilities. An operator responsible for a regulated facility and who is compliant with his/her licence should “theoretically” contribute to these overarching aims of the regulatory regime. The assumptions for the discussions below are based on a facility with planning consent (that is not breaching its planning consent) and is fully compliant with its Environmental Permit.

5.3.1 In/Near Residential Areas

The siting waste facilities in residential areas provides the opportunity to manage waste close to its source. However, this can create difficulties associated with amenity impacts, particularly in relation to noise, odour, visual impact and traffic flow. If sensitively planned and at the edge of residential areas some waste facilities may be acceptable such as a HWRC or MRF. However, this will be dependant on scale as throughput is in almost every case inextricably linked to scale.

5.3.2 Within or on the Edge of Town Centres

Town centres and edge of centres can often provide suitable sites for waste management facilities (e.g. providing the opportunity to develop brownfield land or providing sites with good access to the Primary Route Network). However, waste treatment and disposal facilities in the centre of towns and built up areas can cause problems linked to amenity. Highway capacity is of primary importance, for example Dudley’s HWRC is located off the main ring road and traffic queuing for the site causes tail backs and disruption on the ring road. Depending on the road infrastructure

large HGVs and RCVs have the potential to create unacceptable levels of congestion and nuisance. Again, potentially HWRC, MRF, MBT or even EfW could be suitable if the overall environmental and amenity impacts are considered.

5.3.3 Employment Land

The site requirements for uses in the B1 Office, B2 Industrial and B8 Storage & Distribution use classes are similar to those of waste management facilities e.g. good accessibility, away from residential properties. Indeed some waste management operations fall within the B2 use class. Therefore, existing employment sites and sites allocated for employment use have the potential to be suitable for some types of waste management facilities. However, waste operations such as energy from waste plants and open windrow composting, should not be located within higher quality employment zones where their associated impacts may threaten attempts to realise the development of high quality employment development. This is known to be a particular issue in the Black Country where there is a shortage of high quality employment sites.

5.3.4 Green Belt or Open Land

PPS10 gives a priority of using previously developed land. Major developed sites in the Green Belt may potentially be suitable for waste management uses which rely on being some distance from populated areas e.g. open windrow composting

Development of waste management facilities on sites in the Green Belt or other open land may be acceptable provided:

- It assists agricultural diversification;
- It causes no harm to open land or green belt objectives;
- There are no preferable alternative sites;
- It is close to the source of the waste arisings;
- It is necessary to support existing essential activity and facilitate other key developments.

5.3.5 Site Characteristics

For all types of waste management facilities the following site characteristics are desirable:

- Previously developed land, including derelict and contaminated land;
- Near the source of waste arisings;
- In low flood risk zones.

Table 5.2 is a summary to act as a generic guide for waste planning purposes. This assumes that the environmental impacts can be mitigated to an acceptable level.

Table 5.2 - Suitable Locations for Different Waste Facilities

Facility Name	Waste Type Processes	Potential Suitable Locations and Attributes
Energy from Waste	MSW / C&I	<ul style="list-style-type: none"> • Redundant employment land or land allocated for lower quality employment use; • Good access to the Primary Road Network (PRN) and/or access to non-road forms of transport; • Near transfer stations and HWRCs; • In close proximity to residential and/or commercial areas if the facility is a CHP plant (subject to assessment of impacts).
Inert/ Hazardous / Non-	MSW / C&I / CD&EW	<ul style="list-style-type: none"> • Green belt; • Redundant and proposed employment land

Facility Name	Waste Type Processes	Potential Suitable Locations and Attributes
Hazardous Landfill site		<p>(excluding high quality land), for example if land has been previously used for mineral extraction. Only likely to be suitable for inert waste;</p> <ul style="list-style-type: none"> • Near treatment facilities and transfer stations; • Where necessary to restore degraded land (e.g. former mineral working); • Where geological conditions are suitable to provide protection for water resources; • Where possible, near to facilities which can use landfill gas as a local source of energy; • Only where this will not inhibit the development of waste management facilities higher up the waste hierarchy; • In locations where opportunities exist to avoid or minimise negative impacts on landscape, townscape and environmental quality.
Transfer station	MSW / C&I / CD&EW	<ul style="list-style-type: none"> • Low quality redundant and proposed employment land, • Edge of residential areas; • Good access to PRN and non-road forms of transport (depending on throughput).
HWRCs	MSW	<ul style="list-style-type: none"> • Existing and proposed employment land; • Residential areas; • On edge of centres.
Materials Recycling Facilities (MRF)	MSW / C&I	<ul style="list-style-type: none"> • Redundant and proposed employment land (perhaps not high quality); • Close to final point of disposal; • Good access to the PRN and/or non-road forms of transport.
Hazardous waste treatment/ processing facilities	MSW / C&I / CD&EW	<ul style="list-style-type: none"> • Redundant and proposed employment land (lower quality employment land only).
Contaminated soils treatment (likely to be temporary hub and cluster sites)	CD&EW	<ul style="list-style-type: none"> • Redundant and proposed employment land (lower quality employment land only)
Residual waste Treatment e.g. MBT	MSW / C&I	<ul style="list-style-type: none"> • Existing and proposed employment land; • Good access to the PRN and/or non-road forms of transport.
Pyrolysis / Gasification	MSW	<ul style="list-style-type: none"> • Good access to the PRN and/or non-road forms of transport; • Near transfer stations or HWRCs; • Low quality redundant and proposed employment land.
Open windrow	MSW / C&I	<ul style="list-style-type: none"> • Low quality redundant and proposed employment

Facility Name	Waste Type Processes	Potential Suitable Locations and Attributes
composting		land; <ul style="list-style-type: none"> • Green belt or other open land; • Good access to the PRN and/or non-road forms of transport; • More than 250m from residential and employment uses.
In Vessel Composting	MSW / C&I	<ul style="list-style-type: none"> • Redundant and proposed employment land; • Good access to the PRN and/or non-road forms of transport.
Anaerobic Digestion	MSW / C&I	<ul style="list-style-type: none"> • Redundant and proposed employment land. • Good access to the PRN and/or non-road forms of transport;

5.4 Unsuitable Locations for Waste Treatment and Disposal Sites

There are some areas of land and particular land uses where certain types of waste management facility would not normally be permitted. The following designations may be regarded as significant constraints to the development of waste management infrastructure:

- Designated landscape areas;
- Conservation areas;
- Ancient woodland;
- Nationally important archaeological remains (whether or not scheduled);
- Listed buildings;
- Historic parks and gardens;
- Sites allocated for B1 use only, however, although most technologies wont fall within this use class some may be considered compatible with a B1 location;
- Sites of international and national importance for nature conservation;
- Green Belt (in some cases);
- Flood risk areas.

In addition the following represent constraints for landfills:

- Sites of Importance for Nature Conservation (SINCS)
- Sites of Special Scientific Interest (SSSI) designated for geodiversity value;
- Regionally important geological sites (landfill);
- Groundwater protection zones and major aquifers.

The following types of facility may not be considered acceptable within Air Quality Management Areas (depending on the circumstances), as the whole of the Black of the Black Country has been declared an AQMA for nitrous oxides, and there are also “hot spots” for other emissions:

- EfW;
- Open windrow composting;
- In-vessel composting;

- Landfill;
- Pyrolysis/gasification;
- Anaerobic digestion.

Other AQMAs may be declared in the future in the Black Country, where air quality monitoring indicates that emissions of harmful pollutants are exceeding the standards. Although there is no justification for a blanket ban on the development of the above types of facilities in the Black Country, there will certainly be a need to assess the cumulative impact of such a proposal on air quality, where a particular air quality problem has been identified.

Other possible constraints could include:

- Area of land available – land take;
- Road network, unsuitable and insufficiently robust road network linking the site to the surrounding area;
- Employment areas (basically should be within approx 15 minutes off peak time of national motorway network);
- More than 2km from the Primary Route Network, so the vehicles have some distance to travel along roads which may be unsuitable for a lot of HGV traffic;
- Proximity to environmental receptors e.g. residential receptors for air borne particles and noise;
- The impact on local water courses and drainage channels, in particular the impact on the flood risk of a location, this may be particularly relevant where impermeable surfaces are replacing permeable ones.

5.5 Suitability of Waste Sites

The planned development of waste sites can provoke a negative reaction from the community, especially from those sections in close proximity to the proposed development. Therefore, the assessment of a particular location, in terms of its suitability as a waste management facility with a specific use, needs careful consideration. It is unlikely that sites will be allocated in the JCS unless strategic and most of these allocations are likely to be in the form of broad locations rather than specific sites, reflecting the overall spatial strategy. Therefore, specific sites are more likely to be allocated in Site Allocations DPDs. The assessment of potential sites and locations will be less detailed than that required for a planning application for a specific site with specific uses and for other waste planning functions although it will need to cover the requirements of PPS10. The WPAs require a set of criteria that consider all the potential constraints of specific waste management operations.

5.5.1 Identification of constraints

Firstly potential site constraints must be identified and characteristics with relevance to assessing specific locations suitability for specified waste management uses. These are:

1. Has the site been subjected to the strategic site suitability assessment and been identified in the JCS?
2. Physical constraints;
3. Inclusion or adherence with planning policy;
4. Operational constraints;
5. Compatibility with adjoining land uses.

5.5.2 Operational Requirements

Depending on the types of waste management facility there are different operational requirements. For example an EfW may require 24 hour access for working vehicles causing light and noise pollution to surrounding properties. While a Household Waste and Recycling Centre is busiest at the weekends and bank holidays. A sites compatibility with the neighbouring uses is essential to ensure the site does not receive too many objections at the planning stage.

Table 5.3 provides a list of waste management sites and the operational requirements, compatibility with adjoining uses and other constraints which could impact on the location chosen for the different waste treatment and disposal types. These waste sites are described in Table 2.3 in section 2.9. The majority of the sites will require access for Heavy Goods Vehicles of various sizes up to 44 tonnes Gross Vehicle Weight (GVW) articulated.

Table 5.3 - Waste Management Facilities, Operational Requirements, Constraints and Co-Location Opportunities

Facility Type	Operational Requirements	Constraints	Potential Co-Location Opportunities
Energy from Waste (EFW)	<ul style="list-style-type: none"> Usually high throughput and therefore will require good transport links. Connection to utilities and off site exportation of energy. Often operate 24 hrs and need a constant stream of waste to be economically viable. 	<p>Public perception/local opposition to new schemes.</p> <p>Visual impact linked to chimney stack.</p>	TS, MRF, MBT, MPFR
Non hazardous landfill site (LF)	<ul style="list-style-type: none"> Usually high throughput and therefore will require good transport links. By their nature they need to utilise voids left by the mineral extraction industry. This will dictate and restrict the ultimate location. 	Visual impact, odour, windblown litter.	TS, HWRC, MRF, HWF, EFW, PY/GAS, IVC, AD, WC
Transfer station (TS)	<ul style="list-style-type: none"> Throughput can vary enormously. Transport requirements will be dictated by throughput. Will feature plant equipment for loading and compaction 	Transport issues. Process is extremely variable. Issues of noise, odour and litter.	MPFR, MRF,
Household Waste Recycling Centre (HWRC)	<ul style="list-style-type: none"> Can attract large volumes of public cars as well as various sizes of HGVs to remove waste materials. Need to be well located for equitable public access. The opportunity to speed up throughput and minimise queuing is preferential. Ideally located near to the majority of population they are intended to serve. Will include some plant equipment for waste handling. 	Congestion and other adverse impacts on the road network during peak input periods.	TS, LF
Materials recovery recycling facilities (MRF)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the plant throughput. Will contain various process handling equipment and plant. 	Transport issues, Process is extremely variable.	MBT, MBT, EFW
Hazardous waste facilities (HWF)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the plant throughput. 	Stigma attached to hazardous materials	

Facility Type	Operational Requirements	Constraints	Potential Co-Location Opportunities
Any combined mechanical, biological or thermal treatment (MBT)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the plant throughput. Reasonable proximity to disposal outlets for by products and end markets for recovered materials. 		MRF, EFW, PY/GAS, MPFR
Pyrolysis / gasification (PY/GAS)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the plant throughput. In most cases high throughput i.e. over 50 kTPA. Will need to export energy off site and be near water to raise steam for their process. CHP schemes will need to in sensible proximity of heat customers. 	<p>Can be seen as conventional mass burn incineration by another name.</p> <p>Will have a chimney stack for emissions.</p>	MBT, MRF, LF
Open windrow composting (WC)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the sites throughput. Plant equipment for turning static piles and processing products. 	Can be subject issues relating to odour. Need to be 250 m from residential receptors.	LF
In Vessel Composting (IVC)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the sites throughput Ideally located in sensible proximity to end markets for solid outputs. 	Can be subject issues relating to odour.	MBT
Anaerobic Digestion (AD)	<ul style="list-style-type: none"> Incoming and outgoing loads dictated by the sites throughput. Need for incoming loads of feedstock and outgoing loads of by product. If energy is being generated via biogas there will need to be a means of exporting this off site. Ideally located in sensible proximity to end markets for digestate and/or solid outputs. 	Can be subject to issues relating to odour.	MBT

5.5.3 Clustering of Facilities

A number of waste facilities can be clustered together and this is increasingly being done to make operations more efficient and decrease transport movements between facilities.

For example:

EfWs and can be located with HWRCs, MBTs and MRFs and used to dispose of the residues and rejected materials.

In Table 5.3 an attempt has been made to highlight opportunities for co-location based on known examples. In reality these relationships will be dictated by changes in the waste management industry and the emerging recycling markets. In some cases waste disposal authorities are considering such facilities “recycling super hubs that incorporate EFW, MBT and MRFs as well as transfer bulking and operational depots.

In 4.7.2 the opportunities for voluntary sector involvement in waste processing are discussed, there will undoubtedly be opportunities for the third sector to be involved in recyclables reprocessing. The third sector are in the process of building capacity, needed to ensure they can realise future opportunities in the waste management sector. For example, small scale “third sector” recycling ventures may be ideally located near MRFs or reclaimable bulking depots in order that materials can be easily and cost effectively transported for final reprocessing.

In fact PPS10 states 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;
- Broad range of locations including industrial sites, looking for opportunities to co -locate facilities together and with complementary activities.

6. Conclusions

6.1 Task 1 – Baseline Information

MSW

In 2006/07 the Black Country generated 575,445 tonnes of MSW with 41% being landfilled and 59% recovered through EfW, recycling and composting. It is evident that there is trend of declining MSW arisings in the sub region. There are no gaps in the data for MSW as these are produced through Defra's waste data flow.

MSW capacity is robust data, as the only facilities, at the time of the study, are the 2 EfW plants. There is currently a 360,445 tonne capacity gap for MSW treatment facilities and therefore more sites are needed including composting sites.

C&I

In 2005/06, it is estimated, the total arisings were 1,627,000 tonnes, as taken from the 2007 Regional Spatial Strategy-Phase Two Revision. It is also estimated that the Black Country is dominated by metal processing industry contributing 91% of the total C&I waste treatment capacity. The report highlights the fact that although there is surplus capacity in the C&I sector much of it is dedicated to waste metal processing and some of the recycled materials may be imported from outside the Black Country. The C&I survey also highlights a fall in industrial waste arisings alongside an increase in commercial waste arisings for the West Midlands as a whole. However, this does not include unlicensed facilities, and the capacity of waste management sites has been estimated based on 59% of throughput from the 2007 SLR study.

The Environment Agency's 2007 Waste Interrogator contains data on the origin and destination of wastes. This was supplied to all waste planning authorities in February 2009. Although it did not become available in time to use it in the study, the Interrogator may be useful in establishing movements of waste into and out of the Black Country, and it is recommended that the authorities explore this as a potential source of information.

CD&EW

CD&EW arisings were estimated using previous reports. While these figures may not be 100% representative, they do suggest that a very high rate of recycling and reuse of CD&EW is undertaken within the Black Country, with as much as 82.7% diverted from landfill. The amount of recycled and treated waste on site or under an exemption, therefore not defined under the REGIS database is high. The capacity of waste management sites has been estimated to be the same as capacity in the absence of any other information. There are 507.2 hectares of derelict land in west midlands and the estimated amount of contaminated soils requiring remediation each year to 2026 is 8,242 tonnes. Dedicated facilities strategically placed to support future development of land will be required for the development of land planned in the Black Country region.

There is a 1,391,686 tonne capacity gap for CD&EW waste. However, a large amount of this waste is treated and reused on site.

SWMPs have been introduced for construction projects over £300,000. There is not currently a reporting system for the SWMPs and therefore, although this information may prove useful it is not currently collated either by the Black Country councils nor the regulating authorities. The sub region could make it a compulsory inclusion in all new planning applications in order to collate this information or develop a monitoring system which would prove useful in this area.

Hazardous

Hazardous waste arisings are closely monitored by the Environment Agency and available on a sub regional basis. The fact that numerous wastes streams are now classed as hazardous waste explains the increase of 25% in arisings of hazardous waste between 2004 and 2006. There is scarce information about the capacity of sites, therefore the throughput was assumed to be the

capacity. Hazardous waste sites are estimated to have 30% spare capacity, but the Black Country is an importer of waste, and further study is needed on the location of waste arriving in the Black Country.

Transfer Stations and HWRCs

The throughput information has been attained from the EA Regis Database for 2006. The capacity at the transfer stations is unknown, and the SLR methodology, from their 2007 report, previously employed does not cover transfer facilities. More waste could be diverted at transfer stations through increased sorting, segregation and longer opening times.

The HWRCs in Dudley and Sandwell are believed to be operating at their full capacity, while those in Walsall and Wolverhampton are not. Therefore, new sites are needed in Dudley and Sandwell to further increase diversion from landfill.

Landfill

Using the underlying data from the 2007 Scott Wilson report there is estimated to be a landfill void of 21,063,000m³ across the Black Country region which includes pre operational and planning obligated sites.

6.2 Task 2a – Need for Waste Management and Treatment Facilities

The table below shows the current capacity gaps for waste treatment facilities based on estimates of current arisings.

Waste Category	Arisings (tonnes)	Throughput (tonnes)	Capacity (tonnes)	Gap (tonnes)
Total MSW	575,445	206,250	205,000	-370,445
<i>Residual MSW (Total MSW excluding Recycled/ Composted)</i>	444,588	206,250	205,000	-239,588
<i>Recycled/ Composted</i>	130,857	0	0	-130,857
C&I	1,627,000	1,228,076	2,081,484	454,484
<i>C&I metal recycling only</i>	227,780	1,119,579	1,897,591	1,669,811
<i>C&I excluding metal recycling³²</i>	1,399,220	108,497	183,893	-1,215,327
CD&EW Total	1,445,262	53,576	53,576	-1,391,686
Hazardous	191,576	277,413	277,413	85,837

* MSW for 2006/07 all other figures for 2005/06

³² Using the EA's 2002/03 C&I waste composition it has been assumed that metals account for all recyclables present in the waste stream (29%). See Appendix D for a full explanation including assumptions made.

Modelling was carried for future waste generation and treatment options up to 2026. The results can be summarized as follows:

Waste type	Arisings 2006/07 (tonnes)	Arisings 2025/26 Atkins (tonnes)	Arisings 2025/26 RSS (tonnes)
MSW	575,445	679,376	679,390
C&I	1,632,000	2,443,083	2,443,000
CD&EW	1,445,263	1,445,263	1,445,263
Hazardous	191,576	286,706	N/A

The modelling calculates an expected increase in waste arisings for all waste types except CD&EW which is predicted to remain at the current levels.

MSW modelling and future capacity gaps

The table below shows the current composting diversions, (66,000 TPA), and waste sent to Green star MDF, (Walsall, 23,000 TPA and Sandwell 3,000 TPA). Also proposed and planned facilities, W2R in South Staffordshire (110,000 treatment / energy recovery), Pikehelve Eco park (120,000 TPA MBT, treatment energy recovery, 30,000TPA IVC and a 50,000 TPA MRF).

Facility Type	Current Capacity	New Capacity Proposed	Total Capacity Existing + Proposed	2025/26 Required Capacity	Remaining Gap
Diversion					
Materials recovery / recycling facilities	26,000	50,000	76,000	150,000	-74,000
Composting	66,000	30,000 (IVC)	96,000	150,000	-54,000
Treatment / Energy Recovery	205,000	230,000	435,000*	300,000	135,000
Residual					
Landfill	0	0	0	110,000	-110,000

* includes 110,000 W2R and 120,000 Pikehelve MBT

Therefore, in 2026 for MSW around 74,000TPA of additional material recovery / recycling capacity, 54,000TPA of additional composting capacity and around 110,000TPA of additional landfill capacity is likely to be needed. The landfill figure is the least robust as according to current usage the landfill capacity in the Black Country would only last for approximately 16 years. However, in reality, future landfill capacity will be sought (as it is now) through short-term contracts with operators, so this is not an issue that the Core Strategy can address in any meaningful way.

Existing facilities which may be lost

Information provided by the authorities has identified the number and type of facilities at low, medium and high risk due to the proposals for the regeneration corridors. The analysis has identified that the total potential loss, via regeneration, could equate to 2,574,879 to 4,897,847 tonnes of waste management capacity. This will include 20 – 38 strategic sites. The JCS needs to address the issues of loss of capacity across the Black Country.

Once fully developed, the Councils may wish to apply their site suitability criteria to the existing sites to determine which ones should be retained in situ through appropriate policies in the Joint Core Strategy. This would ensure that any sites to be protected in situ are suitable for retention in

waste management uses, and would give weight to any policy towards protection. Criteria may also be applied to future sites and therefore may be different from the criteria for existing sites.

C&I modelling and future capacity gaps

C&I modelling was comparable for waste arisings, the differences were evident in the diversion tonnages. As the Black Country councils are only required to make arrangements for waste diversion these figures are shown in the table below. The diversion figures were split into metal (14%) and non metal (86%) arisings using the information from the 2002/03 EA survey on C&I waste composition. The table below shows the future capacity gaps including new capacity from 2006/07 to 2007/08 and capacity in the pipeline as of March 2008.

Waste Category	Estimated Diversion Requirement * (2025/26) (TPA)	Estimated Capacity (2007/08) (TPA)	Capacity in the Pipeline March 2008 (TPA)	Total Existing and Potential Capacity March 2008	Capacity Gap (TPA)
RSS Projections					
C&I Metals Only	257,000	1,901,000	6,000	1,907,000	1,650,000
C&I Non Metals	1,576,000	298,000	280,000	578,000	-998,000
C&I Total	1,832,000	2,198,000	286,000	2,484,000	652,000
Atkins Projections					
C&I Metals Only	209,000	1,901,000	6,000	1,907,000	1,698,000
C&I Non Metals	1,285,000	298,000	280,000	578,000	-707,000
C&I Total	1,494,000	2,198,000	286,000	2,484,000	990,000

* Estimated diversion requirement has been split 14% metals/ 86% non-metals for consistency with the approach on arisings. Estimated capacity is based on the analysis in Tables 3.11 and 3.14.

There is not a capacity gap for C&I metal capacity but for non metals this is 707,000 for the Atkins model and 998,000 for the RSS model. As these are based on differing levels of diversion, the authorities need to decide which diversion target to use in the JCS. A C&I waste composition is also necessary to be able to interpret this modelling information for future projections, although a national C&I waste arisings study is currently underway. The methodology from this study could be used to estimate arisings at WPA level more accurately.

CD&EW and hazardous waste

The CD&EW arisings are estimated to remain steady and so a 0% waste growth rate is used in the modelling and estimated to remain at 1,445,263 tonnes per annum. The Atkins and RSS modelling are the same.

Hazardous waste arisings are a subset of MSW, C&I and CD&EW. As a major component is C&I waste the C&I waste growth figures have been used. The modelling for 2025/26 shows arisings of 286,706 TPA and with current capacity at 277,413 TPA.

Monitoring waste arisings

- The WasteDataFlow data summary for each local authority is published annually by DEFRA (around November) and each Black Country authority submit returns for this.
- There are no definitive sources of information on the location of C&I waste arisings and management other than the EA Regis data, which from now on will be available to the

authorities on a more regular basis via WMRTAB. However this data has its limitations. A regional study into C&I arisings is currently underway and this may provide more accurate/up-to-date information on C&I waste arisings for the Black Country.

- Paucity on data for CD&EW and high quantities of waste treated on site under exemptions, however, changes to the exemptions and SWMP may improve this for large projects.
- For hazardous waste the EA has a comprehensive database, but capacity for waste handled in the Black Country is not known accurately.
- Ongoing review of new capacity provided through planning permissions through authorities' Annual Monitoring Reports

6.2.1 Key Implications of Tasks 1 and 2a

The authorities will need to decide what they should plan for in the Black Country Core Strategy in the light of the evidence set out in this report under Tasks 1 and 2a.

Overall the baseline evidence supports the view that the Black Country is already self-sufficient in managing its hazardous waste, and C&I waste arisings overall, though most capacity is metal recycling and there is a significant deficiency in capacity for managing non-metal waste. The Black Country is also probably also self-sufficient in managing CD&EW assuming that most of this is managed through on-site recycling, although evidence for this is lacking and it is recommended that this be addressed if possible. Capacity that might be lost as a result of Core Strategy regeneration proposals also needs to be taken into account.

Although there are currently gaps in MSW infrastructure, there are new proposals in the pipeline which should address this at least in the short- to medium-term, and there is some balance between existing / planned capacity in the Black Country and projected MSW arisings, though not for all material types.

The study has also highlighted significant gaps in the range of technologies available for managing MSW and C&I waste, and a possible mismatch between capacity available and the types of waste arising locally. A very high proportion of C&I waste infrastructure in the Black Country is engaged in metal recycling, whereas metal wastes arising in the area could be as low as 14%. Whilst evidence on movements of waste is lacking, the available evidence suggests there are significant in-flows into the Black Country of metals and liquid hazardous wastes, and out-flows of dry recyclable wastes, organic wastes and contaminated soils.

The capacity gaps suggest that although overall there may be sufficient capacity this is not meeting local need for the range of materials. There is a clear need to broaden the range of infrastructure available to manage a wider range of the wastes that arise locally. Further research on this is needed (see recommendations), to provide a better understanding of local needs and how they might be met.

The authorities will therefore need to decide how much new infrastructure they need to plan for to have overall self-sufficiency up to 2026. The authorities would like to encourage a broader range of commercial waste facilities to locate in the Black Country, giving local businesses more options to manage their waste locally.

6.3 Task 2b Location of Waste Management Facilities

The suitability of specific sites for use as waste management facilities will ultimately be determined by the interface between the operational requirements and the characteristics of the site and its surroundings. Section 5.1.1 introduces a number of themes for both the physical characteristics and the operational features that will need to be considered in any proposed site suitability evaluation criteria.

Major / strategic sites

The authorities have provided a summary of strategic sites in each council area, following a definition of a strategic / major site from the workshop held on 17th February. This would mean:

- All facilities that form a vital part of the Black Country's Municipal Waste management infrastructure, e.g. Energy from Waste Plants, Waste Transfer Facilities, HWRCs and Depots
- All commercial waste management facilities that fulfil more than a local role, e.g. they are part of a nationwide or regional operation linked to other facilities elsewhere, and take in waste from all over the Black Country and/ or beyond
- All commercial facilities specialising in a particular waste stream or waste management technology, of which there are no others, or very few others, of the same type operating elsewhere in the Black Country
- All existing or proposed open gate landfill facilities, which are likely to fulfil more than a purely local role given the shortage of such facilities nationally
- All facilities with a significant annual capacity/ throughput, for example:
 - Recovery/ treatment/ processing facilities with an annual throughput capacity of 50,000 TPA
 - Waste transfer/ ancillary facilities with an annual throughput capacity of 20,000 TPA

The assessment criteria, discussed at the workshop will be used to assess the suitability of sites and locations put forward by stakeholders or through other technical work.

The land take estimates for various facility types has been investigated. This analysis demonstrates how traditional waste management processes such as landfill and open windrow composting have relatively low processing capacity per hectare. This makes their spatial requirements comparatively high compared to other, often more "technologically advanced", waste management processes.

There are some areas of land and particular land uses where certain types of waste management facility would not normally be permitted or suitable. We have highlighted a set of constraints that need to be considered along with suitable and unsuitable locations.

This part of the report introduces waste management facility types and their associated operational requirements, as well as potential risks and constraints. Given the principles of regional self sufficiency that are embedded in PPS10, we have also considered co - location and facility types that compliment one another.

6.4 Recommendations

Due to the variations in reporting information for waste generated the recommendations are as follows:

- Continue to monitor MSW and hazardous waste as currently collected.
- Review C&I waste arisings information in the light of the new national C&I study. This new information could also be used to revisit the modelling if so required by the BCWMF.
- Review the hazardous waste arisings on a yearly basis as well as planning applications for any expansion of existing or new facilities.
- Explore the use of the Environment Agency's 2007 waste interrogator as a source of C&I data.
- Collate information on CD&EW for waste produced in the Black Country from SWMPs (subject to availability of data), although small construction projects under £300,000 will not be included. For example, make a SWMP a requirement when a planning application is submitted and receiving a completed version as part of the planning conditions for a site. This information could include estimated waste treatment and disposal quantities.
- Establish an estimate of realistic capacity for the facilities across the Black Country is recommended to understand sites' operational capacity and the maximum volume of waste that can actually be handled. This is largely unknown, and would involve a comprehensive survey of waste operators within the Black Country to quantify. This may prove a worthwhile exercise in the future.
- Plan for the development of soil treatment hubs as and when required to support large scale regeneration projects within the strategic centres and regeneration corridors. In addition hazardous treatment facilities may be necessary to treat the waste from these facilities such as filter cake.
- If possible, revisit this study on current treatment sites ability to expand to provide information on the capacity which could be available without completely new sites.

In terms of further work it is recommended to undertake the following:

- Finalise the criteria and weightings for waste sites within housing, low and high employment areas to identify which strategic sites will definitely be at risk. This has been carried out.
- If constituent councils decide there is a need to allocate strategic waste sites in the Joint Core Strategy we recommended that these should be assessed using a framework based on the criteria themes identified. A scoring system would need to be adopted that allows a weighting be assigned to each of the criteria. Weighting these criteria will be important, since not all issues are considered to have equal standing. The weighting will also give the Councils the flexibility identified via the stakeholder consultation exercise. This has been carried out.
- Identification and assessment of new sites with potential for waste management activity for site allocation.
- Identify suitable areas for hub and cluster soil remediation and hazardous waste disposal facilities for the generated hazardous waste.

Currently there is considered to be insufficient information in the report to justify allocating strategic sites or broad areas in the Joint Core Spatial Strategy.

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Appendix A

A.1 Regis Database 2006

Table A.1 – Waste management sites details – Black Country

Dudley-Treatment/Recovery	Site Type	Total Throughput	Total Capacity
MSW	EfW	95,000	95,000
C&I	Car Breaker	102	144
	Metal Recycling Sites	445,588	628,279
	Material recycling facility (MRF)	2,770	3,905
	Physical treatment	860	1215
CD&EW	MRS	813	1146
Hazardous	Car Breaker	400	
	MRS	328	
	Metal Recycling	82	
	Physical Treatmnet	60	
Dudley - Transfer			
MSW	CA Site	27,626	27,626
C&I	Transfer	45,875	45,875
CD&EW	Transfer	56,496	56,946
Hazardous	Transfer	716	716
Dudley - Landfill			
C&I	Non Haz (SNRHW) LF	178,371	178,371
CD&EW	Landfill	104,805	104,805
Hazardous	Landfill	5,721	5,721
Sandwell - Treatment/Recovery			
C&I	Car Breaker	0	0
	Material recycling facility (MRF)	6,905	9,737
	Metal Recycling	275,528	388,495
	Physical treatment	142	201
	Physical-Chemical Treatment	29,597	41,821
CD&EW	Metal Recycling	32,310	45,557
	Physical-Chemical Treatment	992	1401
Sandwell - Landfill			
Hazardous	Site Type	Total Throughput	Total Capacity
	Car Breaker	1,686	2,378
	Material recycling facility (MRF)	22,514	31,745
	Metal Recycling	3324	4676
	Physical treatment	0	0
	Physical-Chemical Treatment	72,962	103,095

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Sandwell - Transfer

MSW	CA sites	22962	22962
C&I	Waste transfer	216,744	216,744
CD&EW	Waste transfer	406,663	406,663
Hazardous	Waste transfer	16,302	16,302
C&I	Non Haz (SNRHW) LF	25865	25865
CD&EW	Non Haz (SNRHW) LF	26154	26154

Walsall - Treatment/Recovery

C&I	Car Breaker	5,987	8,442
	Material recycling facility (MRF)	1537	2167
	Metal Recycling	368,625	519,761
	Physical-Chemical Treatment	21471	30339
CD&EW	Metal Recycling	7,688	10,840
	Physical-Chemical Treatment	127	180
Hazardous	Car Breaker	3,373	4,757
	Material recycling facility (MRF)	40,756	57,466
	Metal Recycling	8,225	11,598
	Physical-Chemical Treatment	96641	136554

Walsall - Transfer

MSW	CA sites	30,527	30,527
C&I	Waste transfer	125,215	125,215

	Site Type	Total Throughput	Total Capacity
CD&EW	Waste transfer	44,885	44,885
Hazardous	Waste transfer	2632	2632
	In-House Storage	0	0

Walsall - Landfill

C&I	Restricted LF	45,766	45766
CD&EW	Inert LF	310268	310268
	Non Haz LF	57540	57540

Wolverhampton - Treatment/Recovery

MSW	EfW	110000	110000
C&I	Car Breaker	302	425
	Metal recycling	23,447	33,060
	Physical treatment	45215	63889
CD&EW	Physical treatment	11646	16456
Hazardous	Car Breaker	5,261	7,418
	Material recycling facility (MRF)	18,983	26766
	Metal Recycling	2618	263

Wolverhampton - Transfer

MSW	CA sites	32,875	32,875
C&I	Waste transfer	60,989	60,989

Waste Planning Study

CD&EW	Waste transfer	105,623	105,623
Hazardous	Waste transfer	5,517	5,517

Appendix B

B.1 EA Regis Database 2006 – CA and Transfer Facilities

Table B.1 – CA sites in the Black Country

1	Stourbridge CA site, Dudley
2	Shidas Lane CA site, Sandwell
3	Merchants Ways CA site, Walsall
4	Fryers Road CA site, Walsall
5	Anchor Lane CA site, Wolverhampton
6	Shaw Road CA site, Wolverhampton

Table B.2 - Waste transfer station in Dudley

1	A F North Skip Hire Transfer Station
2	Brian Hill Haulage & Plant Hire Transfer Station
3	Budden Road
4	E Stone Scrap Metal
5	G & M Industrial Services Transfer Station
6	Hammond Chemicals Ltd Transfer Station
7	M E S Environmental Ltd Transfer Station
8	Mucklows Hill Transfer Station
9	Oakham Environmental (C A Services) Transfer Station
10	P W Mills Ltd Transfer Station
11	Speedlink Waste Services
12	The Foxyards
13	The Leys Depot Transfer Station
14	Waste Management Site

Table B.3 – Waste transfer stations in Sandwell

1	A D Hill Skip Hire Transfer Station
2	Bagnall Street
3	Bescot Sidings
4	Goldshill Metals
5	Grinsells Skip Hire
6	Haz Waste Services Ltd
7	Jubilee Park
8	S& B Waste Management & Recycling Ltd
9	Safety Kleen Uk Ltd
10	Taylors Lane
11	Walsall Road Depot
12	Waste Management Site
13	Wednesbury Treatment Centre
14	West Smethwick Park

Table B.4 - Waste transfer station in Walsall

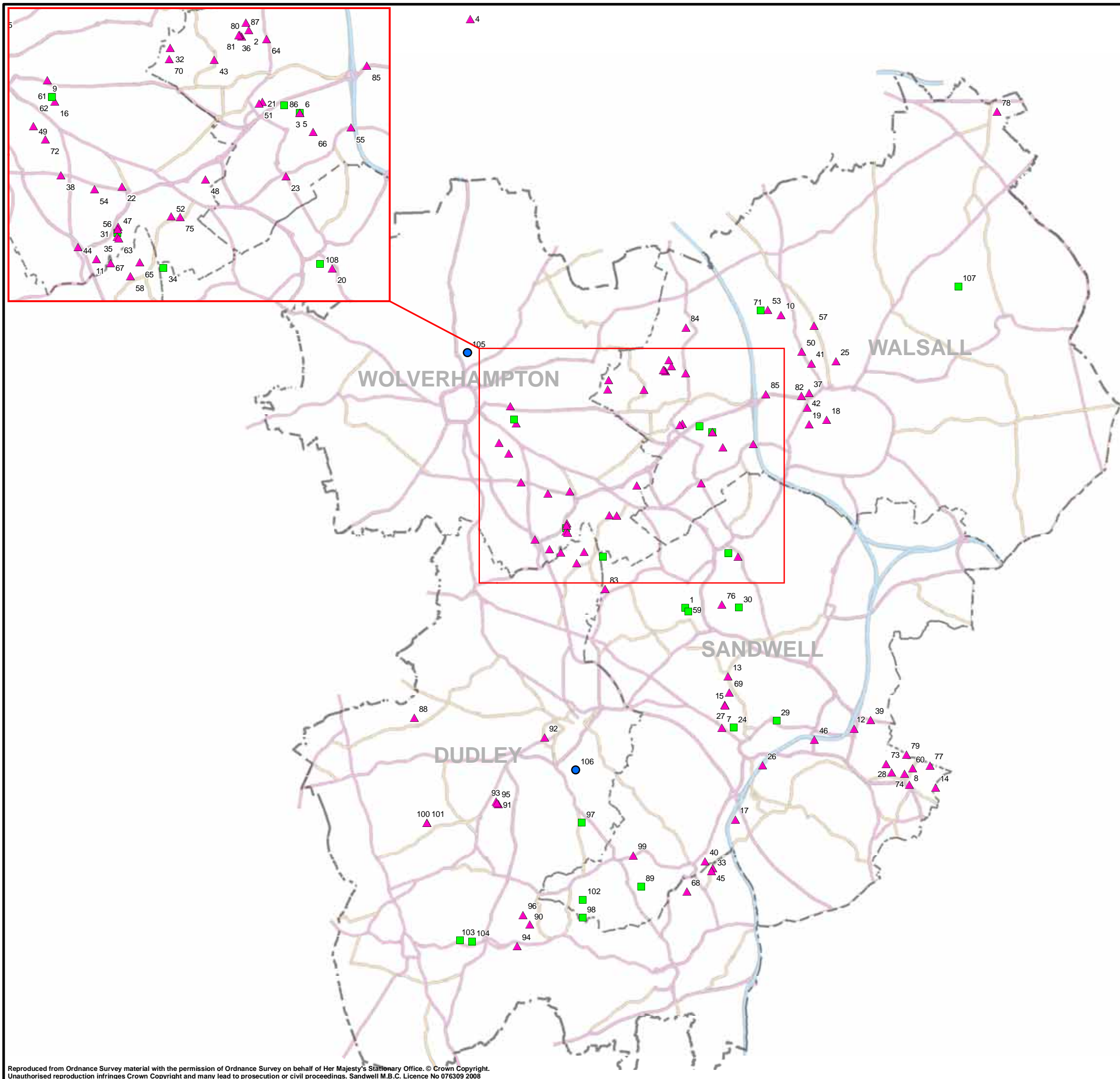
1	A B C Skip Hire
2	A B Skip Hire
3	Brownhills Skip Hire
4	Darlaston Tyre Ltd
5	Empire Brickworks
6	G W Skip Hire
7	Silver Lining Industries
8	Walsall Wood Skips
9	Waste Management Site
10	Wayne Perry Skips

Table B.5 - Waste transfer station in Wolverhampton

1	Bilston Skip Hire
2	Black Country Skips
3	Coseley Asbestos Transfer Station
4	Jones Mini Skips
5	Jone's Skip Hire
6	Neachells Lane
7	New Cross Hospital
8	Opal Waste Management
9	T J Boden & Son
10	Tettenhall Transfer Station
11	Use A Skip
12	W S S Purple Skips
13	Waste Management Site
14	Wolverhampton Skip Hire Transfer Station
15	Wright Brothers

Appendix C

C.1 Location of Waste Facilities in the Black Country



1	Waste Management Site	Drumcare Ltd
2	Waste Management Site	W & J Smith Metal Stockists Ltd
3	Darlaston	European Metal Recycling Ltd
4	Fridge Destruction Unit	Aqua Force Special Waste Ltd
5	Fridge Destruction	European Metal Recycling Ltd
6	Darlaston Fridge Storage	European Metal Recycling Ltd
7	Waste Management Site	A B C Auto Salvage
8	24/7 Recovery	Malhi Satbinderjit
9	Waste Management Site	Swan Street Salvage Ltd
10	Waste Management Site	John Farmer Tradings
11	Waste Management Site	Equilar Ltd
12	Waste Management Site	Keltruck Ltd
13	A A Autowreck	Atkinson Richard
14	A & A Auto Dismantlers	Laing Atkinson Claudia
15	T J Metals	T J Metals Ltd
16	Waste Management Site	Shinehill Ltd
17	1st Warley Motor Salvage & Breaker	Zarelli Mario
18	Just Renaults	Paul Fletcher
19	E & S Motors	Adam Ravat & Ebrahim Ravat
20	Midland Citroen & Peugeot	Garmston Colin
21	Waste Management Site	A J S Metals Ltd
22	R. G Commercial Enterprise Ltd	Mr R Glanesi
23	Best Of British Rover Spares	Ronald Mills & Carol Mills
24	Birmingham Service Centre	Cannon Hygiene Ltd
25	Just Jags Auto Services	Douglas Carr & Rosamonde Carr
26	Waste Management Site	Midland B M Ltd
27	Oldbury Motor Salvage & Spares	Shaub Talat
28	M K Salvage	M K Auto Salvage
29	Waste Management Site	Arrow Environmental Services Ltd
30	Waste Management Site	Central Waste Oils Collections Ltd
31	Waste Management Site	Valgrove Ltd
32	O B Metals	O'Brien J
33	Nimnings Road	Metro Alloys & Residues Ltd
34	Waste Management Site	Eimpic Ltd
35	T J Turner & Son	Turner T J
36	Springvale Metals	Brown Mr B G
37	Waste Management Site	A G S Zinc Alloys Ltd
38	Waste Management Site	J Smith Metals Ltd
39	Waste Management Site	J A Williams & Sons Ltd
40	Consolidated Stainless Recycling Ltd	Pearse Complex Alloys Ltd
41	J Lawrence Metals	Lawrence J
42	Jute Works	G D Metal Recycling Ltd
43	Waste Management Site	W H Marren Ltd
44	J Watton Scrap Metals	Watton John
45	Blackheath Dismantlers	Blackheath Vehicle Dismantlers Ltd
46	S & H Welborn	Atkinson P
47	Stone Bros	Stone Albert & David & Robert
48	Waste Management Site	B & A Metals Midlands Ltd
49	Waste Management Site	Smilie Metallica Midlands Ltd
50	Waste Management Site	L & J Lonsdale Metal Merchants Walsall Ltd
51	A J S Metals Ltd	Stanton Anthony John
52	Hatton Street Metals	Farmer John Leslie
53	Waste Management Site	Green Lane Motor Salvage
54	Cable & Alloys Ltd	Motor Salvage F C Ltd
55	Waste Management Site	C Fullard Metals Ltd
56	Withy Road	T L Harvey Ltd
57	Waste Management Site	Hodsons Of Bloxwich Ltd
58	Waste Management Site	Wades Of Wednesbury Ltd
59	Ramsden & Whale Ltd	Ramsden And Whale Ltd
60	Dunn Brothers	Dunn Bros 1995 Ltd
61	Hickman Avenue	Foundry Services West Midlands
62	Hickman Avenue	Foundry Services West Midlands
63	Boston Trading	Krishnani Mr Chuhermal Dayaldas
64	Autobits	Harris Darren John
65	Waste Management Site	Maurice Hughes Coseley Ltd
66	Whitworth Close	T L Harvey & Sons Ltd
67	George Johnsons Metal	Johnson Mr George Edward
68	Waste Management Site	Dartmouth Global Trading Co Ltd
69	Waste Management Site	Concorde Metals Recycling Ltd
70	K Jones Metals	Jones K
71	Waste Management Site	Oil Inventions Ltd
72	J & D Industrial	Mr John David Brummell & Mr David John Oakley
73	Waste Management Site	T J A Trading Ltd
74	T & M Commercials	Turton Mr J T
75	C M C	Cresswell C R
76	Maids Metals Ltd	Cartwright Mr H T
77	Waste Management Site	All Metal Recovery Ltd
78	Brownhills Motor Spares	Barber Michael John
79	Smethwick	European Metal Recycling Ltd
80	Alexander Brothers	Mr K J Alexander & Mr S Alexander & Mr V Alexander
81	Cable & Alloys	K Brown & D Brown
82	Walsall Iron & Steel	Gateame Ltd
83	Waste Management Site	Richards & Jerrom Ltd
84	Short Heath Iron & Steel Ltd	Short Heath Iron And Steel Ltd
85	Waste Management Site	John Hill & Sons Walsall Ltd
86	Crescent Works	G & P Batteries Ltd
87	Willenhall Commercials	Michael Haynes & John Follows
88	Shakespears M R S	B Shakespears & Co. Ltd
89	Victoria Works P C T F	M T B (midlands) Ltd
90	E R Coley Steel Ltd M R S	E R Coley Steel Ltd
91	E Milard Metals Ltd M R S	E Millard Metals Ltd
92	H O Thompson & Son M R S	Thompson Mr H O
93	Hudsons Of Dudley M R S	Hudsons Of Dudley Ltd
94	D & W Metals (Now An Exempt Mrs)	Daw Mr D M & Williams Mr F
95	Blair Metals Ltd M R S	Blair Metals Ltd
96	Saltbrook Motors M R S	Swingewood Mr Christopher J
97	H W Stockley & Sons Limited M R T F	H W Stockley & Sons Ltd
98	Waste Management Site	Overton Recycling Ltd
99	Macron	Wishaw Scott Ronald
100	Waste Management Site	E L V Recycling (Midlands) Ltd
101	Waste Management Site	E L V Recycling (Midlands) Ltd
102	Waste Management Site	Barnfords Recycling Ltd
103	Waste Management Site	Nulife Glass Ltd
104	Rufford Street	Overton Recycling Ltd
105	Wolverhampton	MES Environmental Ltd
106	Dudley, West Midlands	MES Environmental Ltd
107	Empire Brickworks	Polymeric Treatments Ltd
108	Wednesbury Treatment Centre	Biffa Waste Services Ltd



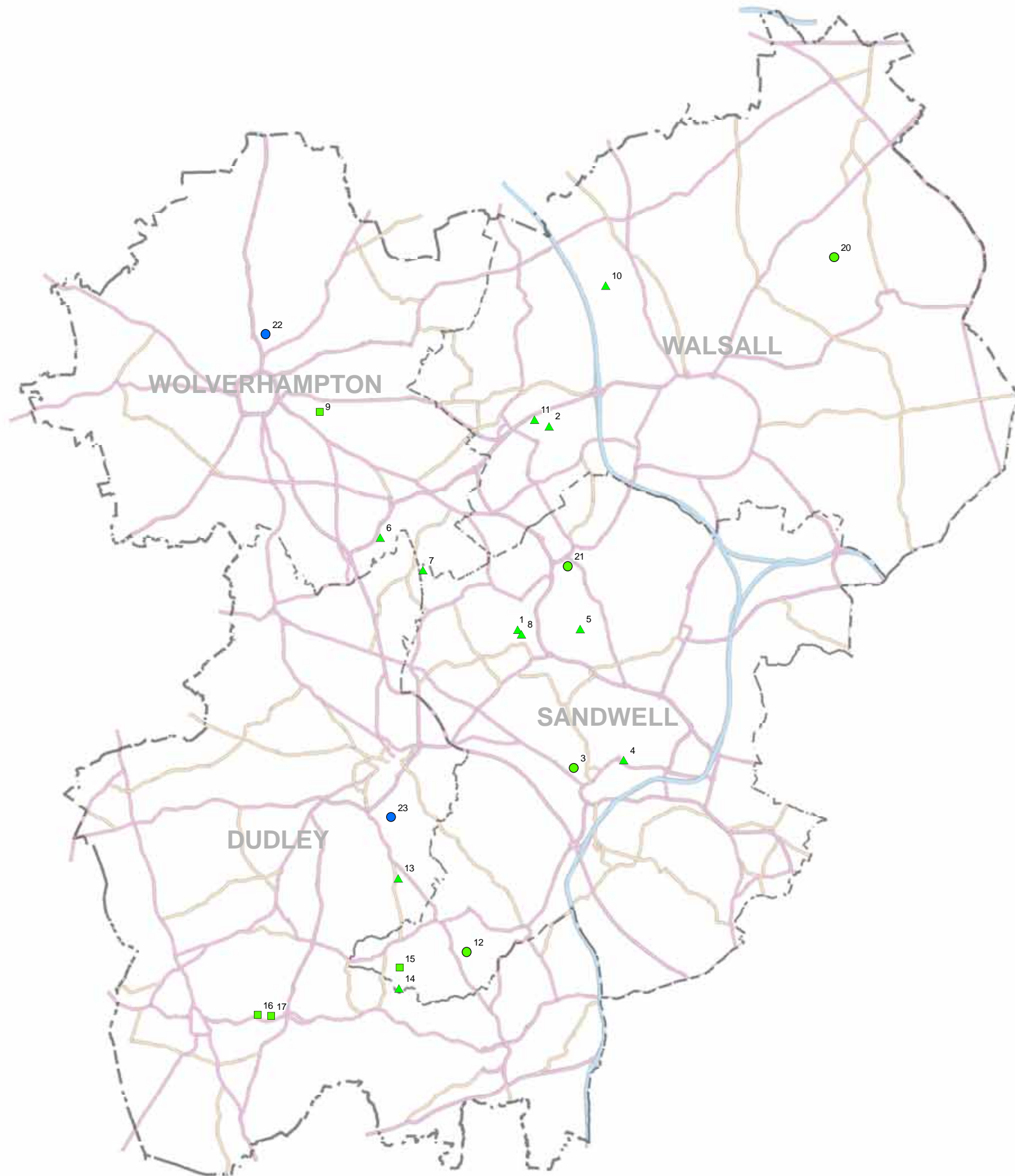
Legend

- Waste Sites**
- EfW
 - ▲ MRS
 - Treatment



CLIENT	Black Country Authorities	
PROJECT	Core Strategy - Waste Planning Study 2008	
TITLE	Figure 1 All Waste Sites	
SCALE	DATE	DRAWN
1:100,000at A3	April 2008	KA

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Legend	
Treatment/Recovery Site	
●	EFW
▲	Treatment, Material recycling facility (MRF)
■	Treatment, Physical treatment
●	Treatment, Physical-Chemical Treatment

1	Waste Management Site	Drumcare Ltd
2	Fridge Destruction	European Metal Recycling Ltd
3	Birmingham Service Centre	Cannon Hygiene Ltd
4	Waste Management Site	Arrow Environmental Services Ltd
5	Waste Management Site	Central Waste Oils Collections Ltd
6	Waste Management Site	Valgrove Ltd
7	Waste Management Site	Eilimpic Ltd
8	Ramsden & Whale Ltd	Ramsden And Whale Ltd
9	Hickman Avenue	Foundry Services West Midlands
10	Waste Management Site	Oil Inventions Ltd
11	Crescent Works	G & P Batteries Ltd
12	Victoria Works P C T F	M T B (midlands) Ltd
13	H W Stockley & Sons Limited M R T F	H W Stockley & Sons Ltd
14	Waste Management Site	Overton Recycling Ltd
15	Waste Management Site	Bamfords Recycling Ltd
16	Waste Management Site	Nulife Glass Ltd
17	Rufford Street	Overton Recycling Ltd
22	Wolverhampton	MES Environmental Ltd
23	Dudley, West Midlands	MES Environmental Ltd
20	Empire Brickworks	Polymeric Treatments Ltd
21	Wednesbury Treatment Centre	Biffa Waste Services Ltd

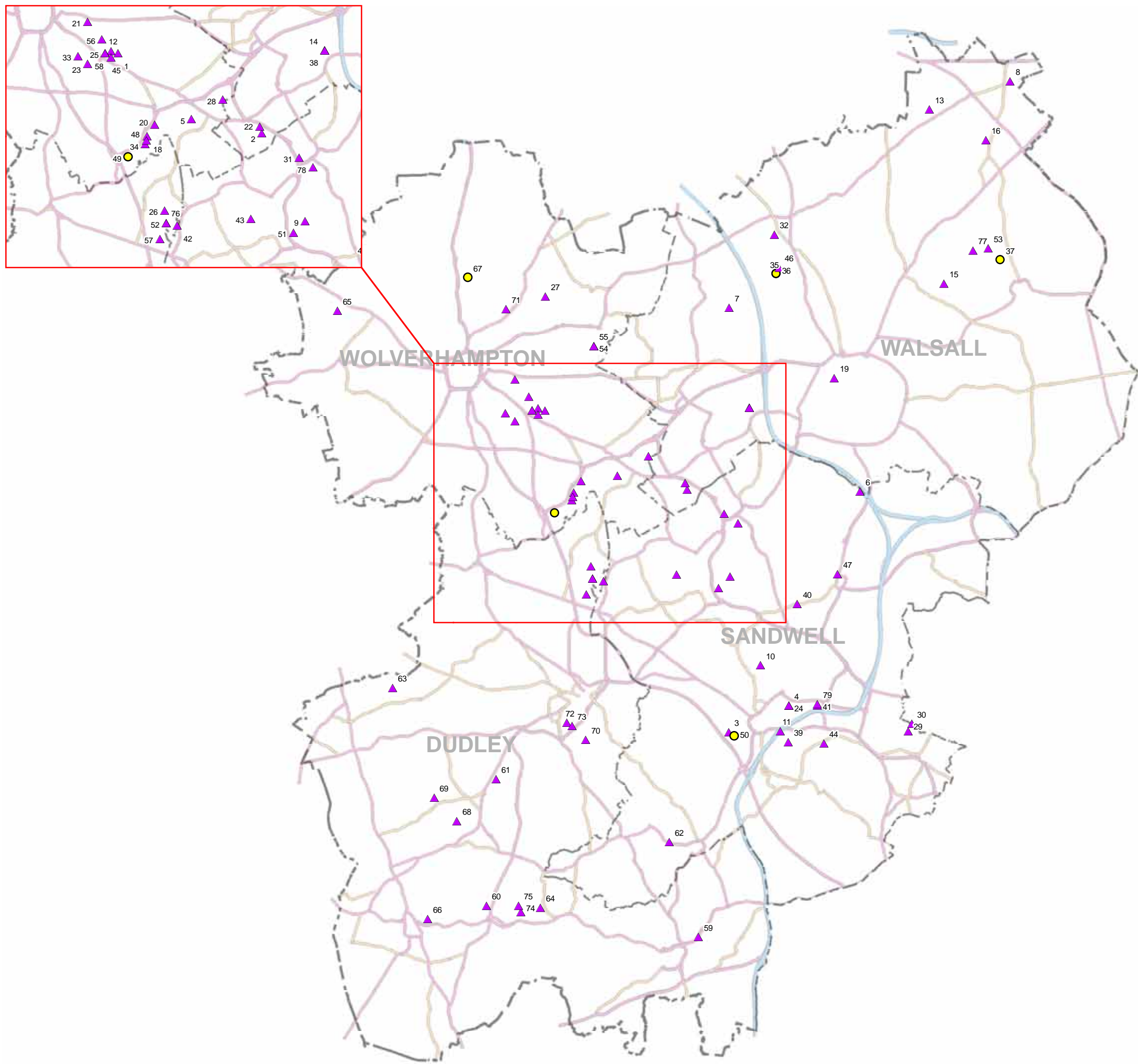


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PROJECT
Core Strategy - Waste Planning Study 2008

TITLE
Figure 2
EFW and Treatment sites

SCALE	DATE	DRAWN
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1	Jone's Skip Hire	Rushby Richard John & Lyndon
2	Waste Management Site	Credential Environmental Ltd
3	Taylors Lane	Sandwell Metropolitan Borough Council
4	Safety Kleen Uk Ltd	Safety Kleen U K Ltd
5	Waste Management Site	Stichacre Ltd
6	Bescot Sidings	Network Rail Infrastructure Ltd
7	Silver Lining Industries	Silver Lining Industries Ltd
8	Waste Management Site	J W Skip Hire Ltd
9	Goldshill Metals	Sandra Halloran, Allan Halloran
10	Waste Management Site	Need A Skip Ltd
11	Waste Management Site	Waste Tyre Solutions
12	W S S Purple Skips	W S S Purple Skips Ltd
13	Walsall Wood Skips	Walsall Wood Skips Ltd
14	A B Skip Hire	Bayless Andrew Michael
15	G W Skip Hire	Mr Robert Wesson And Mr Terence Wesson
16	Brownhills Skip Hire	Nozgrove Graham
17	Waste Management Site	Go Waste U K Ltd
18	Waste Management Site	Castle Skip Hire And Groundworks Ltd
19	Waste Management Site	Intercoat Industrial Paints Ltd
20	Waste Management Site	Midland Tyre Control Ltd
21	Opal Waste Management	Fuels Direct Ltd
22	Waste Management Site	Metal And Waste Recycling Ltd
23	Waste Management Site	J Hudson Metals & Waste Ltd
24	Safety Kleen Uk Ltd	Safety Kleen U K Ltd
25	Jones Mini Skips	Darren Slater & Edwin Alexander
26	E Stone Scrap Metal	Jack, James, Terrence & Russell Stone
27	New Cross Hospital	Wolverhampton Health Authority
28	Waste Management Site	P E Metals Ltd
29	Girnsells Skip Hire	Girnsell Mr P
30	S & B Waste Management & Recycling Ltd	S & B Waste Management & Recycling Ltd
31	Waste Management Site	H E Humphries Ltd
32	A B C Skip Hire	Hough Mr S J
33	T J Boden & Son	Boden Mr T J
34	Wright Brothers	Arthur Brazier & John Davies
35	Fryers Road Household Waste Site & Transfer Station	E C T Recycling Ltd
36	Fryers Road Household Waste Site & Transfer Station	E C T Recycling Ltd
37	Merchants Way Household Waste Site	E C T Recycling Ltd
38	Darlaston Tyre Ltd	Cooper Mr D A
39	Waste Management Site	Farnell Brothers Transport Ltd
40	Waste Management Site	Personnel Hygiene Services Ltd
41	Haz Waste Services Ltd	Haz Industrial Services Ltd
42	Waste Management Site	William Gabriel Ltd
43	Jubilee Park	Sandwell Metropolitan Borough Council
44	West Smethwick Park	Sandwell Metropolitan Borough Council
45	Use A Skip	Turnbul Mr G D
46	Wayne Perry Skips	L & J Lonsdale Metal Merchants Bromsgrove Ltd & Wayne Perry Skips Uk Ltd
47	Walsall Road Depot	Sandwell Metropolitan Borough Council
48	Black Country Skips	Stone Mr A
49	Anchor Lane Household Waste Site	Enterprise Pic
50	Shidas Lane Household Waste Site	E C T Recycling Ltd
51	Bagnall Street	A Smith & Sons Waste Disposal Ltd
52	Budden Road	Foundry Services West Midlands
53	Waste Management Site	Interserve Project Services Ltd
54	Neachells Lane	Sita Wastecare Ltd
55	Neachells Lane	Sita Wastecare Ltd
56	Waste Management Site	S & B Tyre & Haulage Ltd
57	The Foxyards	Biffa Waste Services Ltd
58	Bliston Skip Hire	Singh Ragbir
59	Mucklows Hill Transfer Station	Colin Parsons And Sons Ltd
60	A F North Skip Hire Transfer Station	North Mr Arthur
61	Hammond Chemicals Ltd Transfer Station	Hammond Chemicals Ltd
62	A D Hill Skip Hire Transfer Station	Hill Mr A D
63	Oakham Environmental (C A Services) Transfer Station	Smithyman Mr Colin
64	P W Mills Ltd Transfer Station	P W Mills Ltd
65	Tettenhall Transfer Station	Severn Trent Water Ltd
66	S I T A Transfer Station	Sita Wastecare Ltd
67	Shaw Road C A Site	Enterprise Pic
68	Brian Hill Haulage & Plant Hire Transfer Station	Hill Mr Brian, Mrs Marleen Ann Hill, Mr Carl Brian Hill And Mr Wayne Stuart Hill
69	The Leys Depot Transfer Station	Dudley M B C
70	M E S Environmental Ltd Transfer Station	M E S Environmental Ltd
71	Wolverhampton Skip Hire Transfer Station	Mr Bruce Saunders, Mr Brian Saunders And Mr Neil Saunders
72	Waste Management Site	Environmental Contracts Ltd
73	G & M Industrial Services Transfer Station	G & M Industrial Services Ltd
74	Waste Management Site	Midlands Skip Services Ltd
75	Speedlink Waste Services	Mr Craig William Allen And Mr Christopher David Tice
76	Coseley Asbestos Transfer Station	Foundry Services West Midlands Ltd
77	Empire Brickworks	Polymeric Treatments Ltd
78	Wednesbury Treatment Centre	Biffa Waste Services Ltd
79	Waste Management Site	Robert Hopkins & Son Ltd

ATKINS



- Legend**
- Transfer Sites
 - CA sites
 - ▲ Waste transfer



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PROJECT
Core Strategy - Waste Planning Study 2008

TITLE
Figure 3
Transfer Sites

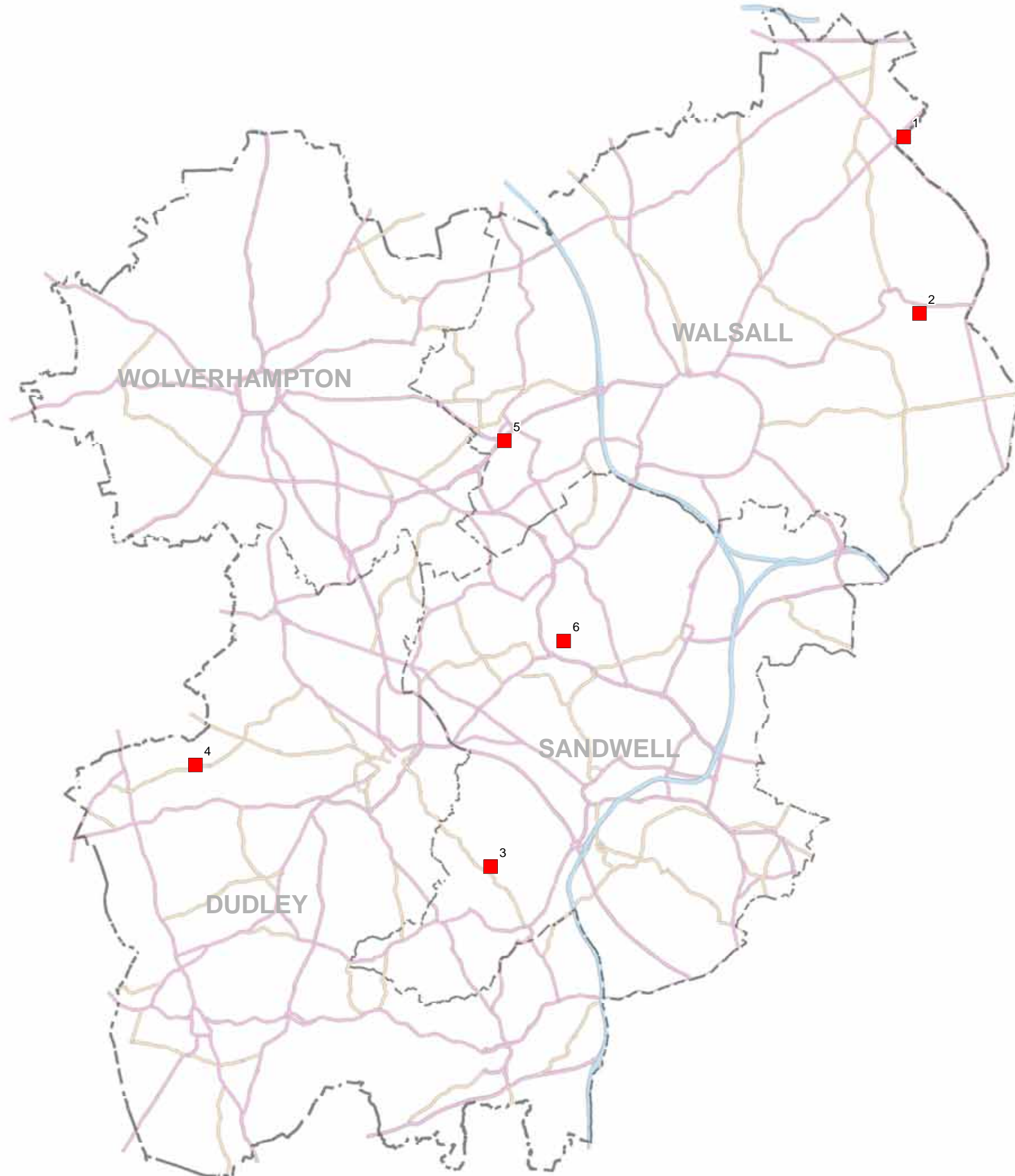
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Legend

■ Landfill Site

1	Shireoak Quarry	Tarmac Ltd
2	Inert Waste Landfill Site	Bliss Sand & Gravel Co Ltd
3	Waste Management Site	Dummy Regis Number For Edwin Richards L/fill (ppc Permit No. Bu0834ip)
4	Himley Quarry Landfill Site	Cory Environmental (Central) Ltd
5	Cory Environmental Central Ltd	Cory - Vigo/Utopia Quarry Landfill Site
6	RMC Aggregates Western Ltd	CEMEX - Aldridge Quarry



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TITLE
Figure 4
Landfill Sites

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Appendix D

D.1 Commercial and Industrial Waste Treatment Capacity Gap

Treatment Capacity Gap Analysis 2006 (Tonnes)

Waste Category	Arisings	Throughput	Capacity	Gap
C&I	1,627,000	1,228,076	2,081,484	454,484
<i>C&I excluding metal recycling³³</i>	1,399,220	108,497	183,893	<i>-971,277</i>
<i>C&I including metal recycling</i>	227,780	1,119,579	1,897,591	1,669,811

While the table shows a positive overall capacity variance for C&I waste, this is potentially misleading as the majority of the capacity estimated relates to a high number of metal recycling sites/ car breakers. Removing metal recycling capacity from the overall C&I treatment capacity estimate leaves a remaining capacity of 183,893 tonnes for C&I arisings that do not consist of metals.

In order to understand the actual capacity gap in more detail it is important to understand the composition of C&I waste arising within the Black Country. However, there is not an up to date study just for the Black Country for C&I waste.

SLR's 2008 AWM "Waste a Future resource for Business" study provides a broad compositional breakdown for C&I waste in the West Midlands based on the 2002/03 EA Survey. While it does not break down the composition to individual waste streams it can be used to give an indication. In the absence of Black Country specific C&I waste composition; the West Midlands composition has been applied, but should be viewed with some caution. The table below provides the information from the 2008 SLR report.

West Midlands C&I Waste Composition 2002/03

Materials Category	Total (2002/03) '000 tonnes	Fraction
Recyclable	2,138	29%
Organics	609	8%
Mixed Residual	2,328	32%
WEEE	39	1%
Hazardous	546	8%
Inert	1,324	18%
Unclassifiable	281	4%

It is assumed that metals make up all recyclable materials (29%). Therefore, at least 71% of C&I waste arisings will require some kind of treatment and are not recyclable. However, SLR used the

³³ Assuming metals comprise 14% of the C&I waste stream.

2002/03 C&I waste data and manipulated this into 7 core strategies. Therefore the 29% refers to material requiring treatment at MRFs and not only metal recycling

The authorities suggest using the West Midlands Metropolitan area waste type data from the Environment Agency (EA) 2002/03 C&I survey, as this includes a “metallic” waste type description. It is agreed this is the best information available on C&I composition at the present time, in the absence of any data specifically relating to the Black Country. Therefore this information has been included in the table below.

West Midlands EA 2002/03 C&I waste composition West Midlands Metropolitan Area

Waste Type Description	Tonnes	Percentage
Chemicals	364,000	11.6
Metallic	427,000	13.6
Non – metallic	612,000	19.5
Discarded equipment	20,000	0.6
Animal and plant	210,000	6.7
Mixed	1,095,000	34.8
Common sludges	24,000	0.8
Mineral Wastes	395,000	12.6
TOTAL	3,146,000	100

The figure for Metallic waste will be rounded to 14% and used in this study

A study of Black Country C&I waste composition would be useful to verify these figures. 14% may be lower than the actual metal composition of C&I waste arisings. As it was not within the scope of this study to assess the types of commercial and industrial facilities in the Black Country the actual composition of the C&I waste can only be assumed. A study of this nature could be used to determine the actual capacity gap in the sub region.

It is thought likely that actual capacity will fall somewhere between the throughput and the estimated capacity, due to limitations associated with assumptions made.

Appendix E

E.1 Waste modelling spreadsheets

See attached CD

Appendix F

F.1 Landtake and Throughput for a Variety of Waste Technologies and Suppliers

Technology	Supplier	TPA	Ha	TPA/Ha	Source
Composting IVC	Biodegma	30,000	2	15,000	WRATE
Composting IVC	Viridor IVC	20,000	0.5	40,000	WRATE
Composting IVC	Linde	18,000	2	9,000	WRATE
Composting IVC	VKW	40,000	1	40,000	WRATE
Composting IVC	Vital Earth	10,000	0.67	14,925	WRATE
Composting IVC	Orrtech	13,000	0.1	130,000	WRATE
Composting IVC	TEG	14,300	0.58	24,655	WRATE
AVERAGE TPA per ha				39,083	
Open Windrow Composting	Sita	20,000	1.9	10,526	WRATE
AVERAGE TPA per ha				10,526	
AD	Dranco	51,000	0.8	63,750	WRATE
AD	Linde	38,000	1	38,000	WRATE
AD	Cambi	14,000	3	4,667	WRATE
AD	Greenfinch	7,500	0.15	50,000	WRATE
AVERAGE TPA per ha				39,104	
MBT AD Composting RDF	Hasse	100,000	1	100,000	WRATE
MBT AD Composting	ArrowBio	70,000	1.7	41,176	WRATE
MBT AD Compost	Global Renewables	170,000	8	21,250	WRATE
MBT AD Stabilite	Generic	60,000	0.85	70,588	WRATE
MBT RDF	Ecodeco	60,000	0.5	120,000	WRATE
MBT RDF	Entsorga	70,000	1.2	58,333	WRATE
MBT RDF	Herhof	86,000	3.5	24,571	WRATE
MBT Composting RDF	Bedminster	120,000	1.5	80,000	WRATE
MBT Composting RDF	Linde	75,000	3	25,000	WRATE
MBT Composting RDF	SRS	36,000	0.8	45,000	WRATE
MBT Composting Stabilite	Generic	60,000	2.15	27,907	WRATE
MBT Composting Stabilite	VKW	170,000	3	56,667	WRATE
AVERAGE TPA per ha				55,874	
EfW	Coventry	215,000	2.77	77,617	WRATE
EfW	Billingham	216,000	4	54,000	WRATE
EfW	Chineham	90,000	1.4	64,286	WRATE
EfW	Dundee	80,000	2	40,000	WRATE
EfW	Shetlands	26,000	0.677	38,405	WRATE
AVERAGE TPA per ha				54,862	
Gasification	Energos Ranheim, Norway	10,000	0.09	111,111	Energos
Gasification	Energos Averoy, Norway	34,000	0.29	117,241	Energos
Gasification	Energos Hurum, Norway	36,000	0.29	124,138	Energos
Gasification	Energos Minden, Germany	37,000	0.29	127,586	Energos
Gasification	Energos Forus, Norway	38,000	0.29	131,034	Energos
Gasification	Energos Sarsborg, Norway	75,000	0.52	144,231	Energos
Gasification	Novera	105,000	1.2	87,500	WRATE
AVERAGE TPA per ha				120,406	
Pyrolysis	Wastegen	35,000	0.8	43,750	WRATE
Pyrolysis	Compact Power	30,000	0.75	40,000	WRATE
AVERAGE TPA per ha				41,875	
MRF Paper Mixed Waste RDF	Generic	25,000	0.26	96,154	WRATE
MRF RDF for cement kiln	Generic	36,000	1.2	30,000	WRATE
MRF Kerbside co-mingled	Generic	40,000	2.25	17,778	WRATE

Technology	Supplier	TPA	Ha	TPA/Ha	Source
MRF Kerbside co-mingled with plastics	Generic	50,000	1.5	33,333	WRATE
AVERAGE TPA per ha				44,316	
Autoclave	Estech	100,000	2.023	49,432	WRATE
AVERAGE TPA per ha				49,432	

Appendix G

G.1 Workshop notes

BLACK COUNTRY CORE STRATEGY

BLACK COUNTRY WASTE STUDY 2009

Waste Planning Workshop

10.00 a.m. 17 February 2009 Development House, Sandwell

Participants:

John Jackson (JJ) – Atkins
Rachel Turner (RT) – Atkins
Dawn Harris (DH) – JCS³⁴ M & W Topic Group³⁵ Lead (Walsall)
Craig Rowbottom (CR) – JCS M & W Topic Group (Wolverhampton)
Dave Piper (DP) – JCS M & W Topic Group (Dudley)
Pete Simpson (PS) – JCS M & W Topic Group (Sandwell)
Julia Bridgett (JB) – BCWMF³⁶ (Sandwell)
Heather Growcott (HG) – BCWMF (Walsall)
Ian Culley (IC) – JCS Employment Topic Group Lead
Trisha McCullough (TM) – JCS Monitoring Topic Group Lead
Martin Dando (MD) – JCS Delivery Group Lead

Apologies were received from Kaliegh Lowe, JCS SA/SEA Group Lead (Sandwell) Brian Roberts, JCS Environment Topic Group Lead (Dudley) and Les Brazier, BCWMF (Wolverhampton).

1. Introduction

1.1 DH introduced the Workshop by explaining that its purposes were to:

- Provide feedback to BCWMF and other JCS Topic Group leads on the interim findings of the Waste Planning Study;
- Develop criteria and a framework for assessing the suitability of particular sites or locations for waste management use;
- Develop a possible definition of a “strategic waste management site,” so that we would have a clearer idea of what kinds of proposals or sites the JCS should be identifying.

1.2 The Workshop was structured as follows:

- **Presentation 1:** Waste Requirements for Core Strategy (DH)
- **Presentation 2:** Waste Planning Study – Overview (JJ)
- **Comfort Break**
- **Workshop 1:** Developing an Assessment Framework for Waste Management Proposals

³⁴ JCS = Joint Core Strategy i.e. Black Country Core Strategy.

³⁵ M & W Topic Group = Minerals & Waste Topic Group.

³⁶ BCWMF = Black Country Waste Management Forum.

- **Workshop 2: What is a Strategic Site?**

2. Presentations

2.1 The presentations were generally well received. As the programme was over-running slightly, there was only limited time for questions and comments, but the following comments were made:

- **Projections** – JB and HG felt that the MSW projections were too high (even taking into account the housing growth), given that waste arisings have been falling in recent years.
- **MSW Capacity Gap** – it was generally agreed that there was a significant capacity gap for MSW in terms of recycling. However, the authorities felt that the report didn't fully take into account cross-boundary arrangements for managing waste just outside the area.³⁷ The authorities therefore questioned whether there were really gaps in provision with regard to EfW and composting.
- **Pikehelve Park** – JB confirmed that the information in the report does not reflect the current position and will need to be amended – she agreed to provide further details. It isn't clear at the moment what the exact mix of technologies will be as the tenders are all different.
- **Recycling/ MRF Capacity** – there was a feeling that merchant MRF capacity may have been under-estimated in the study, although JB noted the lack of information on these facilities. DH advised that some may not need planning permission, so they won't necessarily be picked up through monitoring.³⁸ DH also questioned the assumption that the authorities would have access to 50,000 TPA at Greenstar, as this could not be guaranteed.
- **C&I Capacity Gap** – DH felt this was too high, because it related to total arisings rather than arisings requiring diversion, and did not take into account new merchant facilities completed since 2006 or projects in the pipeline.
- **C&I Diversion Rates** – DH queried whether the diversion rates assumed for C&I waste were consistent with the national waste strategy³⁹ and RSS (Atkins have assumed a 61% diversion rate rather than the 70% diversion rate assumed in the RSS - based on the findings of an EA survey which found that 61% was achievable).
- **Sites at Risk** – DH confirmed that all four authorities had now completed the detailed analysis of sites at risk. This would be collated and sent to Atkins shortly.

2.2 DH confirmed that detailed comments on the interim report were currently being collated and would be forwarded to Atkins shortly. It was noted that many of the suggested changes were editorial, but some required further work. JJ felt that Atkins would not be able to make fundamental changes to the report.

2.3 The M & W Group had prepared detailed notes on capacity gaps to help with the editing process. They could also provide more up-to-date information about landfill capacity and recent waste

³⁷ The authorities consider that the Four Ashes EfW proposal will address existing gaps in EfW provision by 2012/13. They also consider that the report should acknowledge the existing contractual arrangements for composting green garden waste at open windrow sites in southern Staffordshire, which are currently considered to be adequate by the authorities. The current composting arrangements are likely to continue in Sandwell and Walsall until 2014/15 at least, and until such time as it becomes cost-effective/ necessary to bring forward alternative technologies such as AD or IVC.

³⁸ Some reprocessing, recycling and recovery facilities have been deemed to fall within the industrial Use Class B2. Greenstar in Walsall is one example (this is operating under a LDC). These types of operation may occupy an existing unit with a lawful B2 use without the need for planning permission, although an environmental permit may be required.

³⁹ See revised note on Waste Arisings and Capacity Gaps (sent to Atkins on 18.02.09)

management developments/ proposals in the pipeline. It was agreed that CR would forward the annotated report to Atkins as soon as possible, together with the additional information.

- 2.4 It was agreed that Atkins would aim to complete the Task 1 and Task 2 elements of the report by the end of March (subject to information being provided), and that Task 3 (appraisal of policies) would follow in April once the waste policies had been drafted. It was also agreed that there should be a further project meeting with Atkins to discuss any outstanding issues, before the Task 1 and Task 2 elements of the report were finalised.

3. **Workshop 1: Developing an Assessment Framework for Waste Management Proposals**

- 3.1 DH explained that a framework for assessing the appropriateness of sites and locations for waste management was needed, because national policy guidance says they should be “appropriate.” However, the framework did not need to consider environmental/ amenity impacts in detail, as the SA/ SEA will cover these.

- 3.2 Atkins had identified the following key factors influencing the location of waste management facilities:

- **Site characteristics**, e.g. location, access routes, brownfield/ greenfield land, townscape/ visual amenity;
- **Environmental factors**, e.g. drainage/ flood risk, threat to protected sites, habitats/ species protection requirements, land stability, AQMAs;
- **Operational features**, e.g. waste types accepted at the site, numbers and types of vehicles visiting the site, treatment processes/ risks.

- 3.3 Atkins had also suggested that in terms of weighting the following issues were particularly relevant to the Black Country:

- Congestion
- Heritage
- Open Space
- High Quality Employment Land
- Strategic Centres

- 3.4 A handout had been prepared setting out six suggested assessment criteria, based on the work done by Atkins. The suggested criteria were limited in number and focused on suitability for waste management, to avoid duplication with the SA/SEA framework. The workshop was in the form of a general group discussion based around the suggested criteria, other criteria and the weighting to be given to the criteria.

Suggested Criteria

- 3.5 Participants were invited to comment on the appropriateness and practical application of each of the suggested criteria. The following comments were made during the discussion.

1. Addressing strategic waste planning objectives:

- JJ felt it may be appropriate to assess contribution towards different strategic objectives separately (e.g. separate assessment of “fit” with objectives of national policy guidance, RSS, LDF, MWMS)
- It was agreed that we should consider including SCS objectives in the list (even though the current round of SCS don’t appear to address waste)
- It was also agreed that we should assess consistency of proposals with emerging MWMS/ interim Cabinet decisions on waste management as well as published MWMS, some of which are out-of-date

- IC thought we should consider to what extent the proposal would help to address identified capacity gaps and it was generally agreed that this was a key issue, particularly where sites will be key to the delivery of the strategy
- JB felt that in the case of MSW proposals, we should consider to what extent the proposal, site or location will fit in with the procurement and tendering process
- JB also felt we should consider whether proposals had scope to address both MSW and C&I waste objectives e.g. through co-location of facilities.⁴⁰

2. Addressing operational requirements:

- It was noted that Table 5.15 of the interim study report identifies potential suitable locations for different types of facility and Table 5.17 also provides a useful guide to assessing suitability of proposals against this criterion
- JJ explained that Table 5.17 summarises what different facility types require, e.g. EfW have different requirements to HRCs
- RT suggested that if we are assessing existing sites with potential for expansion as well as new proposals this will be an important criterion to use.
- IC confirmed that High Quality Employment Land and Local Employment Land areas will need to be a consideration (it is expected that High Quality Employment Land should be the location for new buildings/high quality development, rather than open storage areas)

3. Flexibility:

- In response to a query from IC, DH confirmed that operators had expressed a desire for flexibility, and wanted the JCS to identify a range of different sites and locations suitable for different uses, rather than a handful of major sites. This will also feed into the additional employment study being commissioned
- DH felt that there was potential to merge this with criterion 2 as the issues are inter-linked.

4. Transport and accessibility:

- MD noted that suitability would vary depending on the type of facility proposed, e.g. a HRC would need to be accessible to the general public arriving in cars whereas a transfer station would need to be accessible to HGVs
- It was felt that we should consider impact on congestion (highlighted by Atkins as an important issue) under this criterion
- It was also felt that impact on amenity of local communities should be considered, as transport effects tended to be the main source of complaint about waste facilities.

5. Synergies/ addressing other strategic objectives:

- TM felt that as well as assessing positive impacts of proposals, we should also be assessing detrimental effects – DH suggested that criterion 6 could include these.

6. Deliverability/ barriers to development:

- There was general agreement that deliverability is a very important criterion

⁴⁰ See Table 5.17 of interim study report which considers scope for co-location.

- JJ felt that the key issue was not whether or not there are barriers or constraints, but if there are, whether or not mitigation is feasible⁴¹
- JB agreed that land ownership is an important issue, but pointed out that opposition from neighbours/ incompatible neighbouring uses may also be barrier even if the owner is was supportive
- There was a debate about whether local opposition could be regarded as a potential barrier - the general conclusion was that this cannot in itself be a legitimate reason for rejecting a waste management proposal.

Other Criteria

3.6 Participants were invited to suggest other criteria in addition to or as alternatives to those listed. The following suggestions were made:

Other Strategic Planning Objectives:

- JJ and IC felt that contribution towards other strategic objections should be considered as well as contribution towards waste planning objectives (criterion 1).

Detrimental effects:

- TM felt that this should be separate to criterion 5 which would be considering positive effects.

Viability:

- MD felt that this should be considered either separately to or alongside criterion 6 which would be considering deliverability
- HG pointed out that when WDAs invite tenders from operators to provide capacity, they don't normally have to specify where the waste will be managed
- There was a brief discussion about what evidence we needed to demonstrate whether or not a proposal was viable. IC noted that there would be three potential types of designation in the JCS, existing sites to be safeguarded, new site allocations and broad locations for development, and the level of information required would need to be different in each case. It was agreed that evidence of viability and deliverability could include:

For existing sites:

- Confirmation from the waste operator that they wish to remain on site in the long-term/ expand, and that they want the site to be safeguarded for waste management use.

For specific site allocations:

- A recent planning permission or advanced planning application for a specific waste management development, accompanied by supporting information which provides reasonable certainty that the development can be delivered
- Confirmation from a waste operator that they are proposing to develop a facility on a particular site, with details of the type of facility proposed, the types of waste it will be managing, who will be funding it, how it will be brought forward, and the timescale for development.

For broad locations:

⁴¹ See Table 5.17 of the interim study report which considers potential constraints to the development of different types of facility and Section 5.3 which identifies locations considered unsuitable for waste management use.

- Monitoring information showing that waste operators are interested in locating in the area, such as planning permissions/ implemented schemes covering several years.
- It was also agreed that anyone promoting specific proposals through the JCS should be requested to provide the type of evidence indicated above if they have not already done so.

Weighting and Scoring System

- 3.7 Participants were invited to comment on the weight that should be given to the assessment criteria and whether some were more important than others. It was felt that the following issues were of particular importance and should be given a high weighting:
- Quality of supporting information – proposals should be weighted according to the quantity and quality of the information provided by those promoting them
 - Addressing capacity gaps – proposals for facilities which would significantly reduce capacity gaps should be weighted higher than those that wouldn't have much impact
 - Viability and deliverability - proposals supported by evidence of viability deliverability within a particular timescale should be weighted or scored higher than those that aren't
 - Transport – proposals that involve transporting waste by alternative modes and which will avoid/ minimise impacts on congestion should be weighted or scored higher than those that don't

Application of the Assessment Framework

- 3.8 There was a brief discussion about whether the criteria should be used to assess sites for inclusion in the JCS only, or whether they should also be applied to sites for inclusion in other DPDs and planning applications. The general consensus was that they should not be used for assessing planning applications, because they were too general. It was felt that at the planning application stage, it would be more appropriate to apply the locational criteria set out in Annex F of PPS10.
- 3.9 JJ advised the authorities to develop an assessment matrix from the criteria (similar to SA/SEA framework but less complicated), with suggested scores and weightings, and then to test this against a limited number of sites to see how well it worked. He also felt that peer review of the assessment framework would be important and advised the authorities to consult waste operators and other key stakeholders on it.
- 3.10 DH felt that this would be difficult to achieve in the time available. The Minerals & Waste Group was aiming to undertake further informal engagement with stakeholders during March – April on the scope of the minerals and waste policies and the sites and locations put forward so far, but would struggle to do this with the resources available. At best, she felt that it would only be possible to invite comments on the proposed criteria, without going into any detail.
- 3.11 It was agreed that through the informal consultation exercise, stakeholders should be invited to comment on the criteria and the weight they should be given. Any comments received could then be used to further develop and refine the assessment framework.

4. Workshop 2: What is a Strategic Site?

- 4.1 A handout had been prepared setting out a suggested definition drafted by Walsall Council. The workshop was in the form of a general group discussion based on what other JCS topic groups were doing, what is critical to delivery of the JCS objectives, and the appropriateness of the suggested definition.

Other JCS Topic Areas

- 4.2 IC and MD discussed whether there had been any "cut offs" for the size of employment and housing location chosen for inclusion in the JCS, and came to the conclusion that no hard and fast rules had been applied. It was noted that housing locations were mostly very large (100 dwellings +) but employment locations were more variable, ranging from around 12ha in size to more than 100ha.

The locations identified in the JCS Preferred Options were those considered essential to the delivery of the strategy, rather than being based on any particular size thresholds.

What is Essential to the Delivery of JCS Objectives?

4.3 With regard to waste, it was felt that the following types of development could be regarded as essential to the delivery of the JCS objectives:

- All existing and proposed Municipal waste management infrastructure
- Any commercial waste proposals which would make a significant contribution towards addressing capacity gaps.

Towards a Definition of a “Strategic Site”

4.4 The definition proposed by Walsall Council was generally supported. There was a discussion about the appropriateness of having capacity/ throughput thresholds, given that the capacity of existing facilities is not known in many cases. The thresholds in the Walsall definition had been based on the size of facilities typically coming forward as applications / inputs into licensed facilities where known.

4.5 JJ said that capacity information is now available in theory as operators are required to provide it with their public annual returns to the Environment Agency, although the information is not necessarily available in a form where it can be used for monitoring purposes. The Environment Agency registers are a licensing/ environmental protection tool rather than a planning tool, so the data in them relates to licences rather than to particular types of facility.

4.6 JJ also mentioned Site Waste Management Plans (SWMP) as a potential source of information on on-site processing of construction, demolition and excavation waste. However, it was noted that there was no requirement to submit SWMP WPAs or the Environment Agency, and no formal system in place for collecting data from them. Furthermore, there is no prescribed template for a SWMP, so the data in them will, depending on who has prepared the SWMP and what format or template they have used.

4.7 DH pointed out that planning applications for waste management development are also required to provide details of annual throughput capacity by type of facility on the standard application form. However, whether or not they actually do provide this information depends on the vigilance of development control teams when validating applications.

4.8 It was felt that the definition should include some reference to addressing capacity gaps, as a “strategic” facility should be making a significant contribution towards this. Other than this, it was agreed that the definition could be taken forward as proposed, including the suggested capacity thresholds. It was also agreed the forthcoming informal consultation should include the proposed definition so that stakeholders would have the opportunity to comment on it.

Identification and Protection of Strategic Sites

4.9 There was also a discussion on how “strategic sites” for waste should be shown in the JCS, and whether or not existing “strategic sites” should be included as well as proposals. It was felt that “strategic sites” should be shown on the Key Diagram/ Corridor Plans, and on an illustrative plan for waste. It was agreed that specific proposals should be shown as symbols and broad locations as “blobs” similar to those already shown on the Key Diagram and Corridor Plans. In some cases, broad locations may be employment areas and there will be a need to identify these in some way.

4.10 It was generally felt that it would be helpful to identify existing “strategic” sites as well as new proposals. DP pointed out that in the Preferred Option we had proposed to protect existing strategic sites. DH noted that several operators had specifically asked for sites to be protected against encroachment by housing. However, this may not always be possible. DP mentioned an example of an employment site next to a waste facility in Dudley, where it was felt permission for housing could not reasonably be withheld because there was no market for an employment use (although this should also link to the findings of the Employment Land Study)

4.11 JJ advised that the JCS should aim to protect capacity rather than actual sites. It was generally felt to be legitimate to require proposals resulting in a significant loss of capacity to demonstrate that it would be replaced elsewhere either in the Black Country or nearby.

5. Action Arising from Workshops

5.1 The following action was agreed.

Action	Who?	When?
Workshop handouts to be circulated to all JCS Topic Group Leads and BCWMF including those unable to attend the workshop, inviting comments by 27/2/09	DH	ASAP
Informal consultation documents to include: <ul style="list-style-type: none"> • Suggested site assessment criteria (bullet points only), highlighting those considered most important • Suggested definition of “strategic sites” • Proposal to protect capacity on “strategic sites” Stakeholders to be invited to comment on the above	M&W Group	March
Feedback received from consultation to be forwarded on to Atkins.	M&W Group	April

5.2 The workshop ended at 1.10 p.m.

