Gloucestershire County Council
Waste Core Strategy

Technical Paper WCS-A Waste Data (Update 2010)

November 2010

PART A – Non-Technical Summary

Contents

Non-Technical Summary Section	Page
S1. This Report	**3**
S2. Total Licensed Waste Management in Gloucestershire	**3**
S3. Household / Municipal Solid Waste Summary	**4**
S4. Commercial & Industrial Waste Summary	**5**
S5. Construction & Demolition Waste Summary	**5**
S6. Hazardous Waste Summary	**5**
S7. Landfill Capacity Summary	**6**
S8. Future Facilities Required in Gloucestershire	**6**

PART A – Non-Technical Summary

Waste data can be a complex field and this summary may be useful for those who want to know the headline facts, but don't want to get into too much detail. The summary just deals with Gloucestershire's key waste streams and issues and so does not deal with issues such as sewage treatment or agricultural waste. For those who are interested in the detailed data please refer to PART B of this report and to the Appendices.

S1. This Report

▶ Report contents

S1.1 This report contains data on different types of waste that are managed in Gloucestershire. Some of this waste will be produced by Gloucestershire residents and businesses in the County, and some will have come into Gloucestershire to be managed from nearby authority areas or further afield. The data presented in this report is mostly for 2008 and comes from the Environment Agency (EA). Data on 'Household waste' is for financial year 2009/2010 and is collected by Gloucestershire County Council in its function as the Waste Disposal Authority (WDA). Data has also been provided by Gloucestershire's waste operators.

▶ An evidence update

S1.2 This report is an important bit of evidence which contributes to the preparation of the County's Waste Core Strategy (WCS) – a plan that will provide an overall framework for the future planning of waste management in Gloucestershire between the years 2012 and 2027. It updates a previous waste data paper: *Technical Paper WCS-A Waste Data (September 2007).* The data contained in this report is the most up-to-date at the time of writing (August 2010).

S2. Total Licensed Waste Managed in Gloucestershire

▶ Latest figures for waste managed in Gloucestershire

S2.1 Table S1 below shows how much waste was managed in Gloucestershire for the base years 2008 and 2009/10.

Table S1. *Licensed Waste Management in Gloucestershire*

Waste Stream	Base Year	Total (Tonnes)
'Household Waste' also referred to as Municipal Solid Waste (MSW)	2009/10	294,000
Commercial & Industrial (C&I)	2008	375,000
Construction & Demolition (C&D)	2008	293,000
Metals (From all waste streams)	2008	131,000
Hazardous Waste	2008	90,000
Total	2008 / 2009/10	1,183,000

Note: MSW also includes a small tonnage of trade waste.
Figures are rounded to the nearest 1000 t.
Figures have factored double counting.
The MSW total is an arisings figure; all other totals are licensed waste managed in Gloucestershire.

▶ Trends in levels of Household waste

S2.2 The population of Gloucestershire is set to increase by just over 3000 people every year up to 2033 and clearly this will have an impact on the levels of waste both produced and managed in

the County. However, in the last few years the amount of household waste produced in the County has fallen from about 324,000 tonnes in 2006/7 to about 294,000 tonnes in 2009/10. The decline is predicted to continue until 2011/12 when there will be a slight rise. A slight increase year on year is then envisaged until 2027/28 when the tonnage is predicted to be around about 360,000 tonnes.

▶ Trends in levels of Commercial & Industrial Waste and Construction & Demolition waste

S2.3 The trend for C&I and C&D waste streams goes up and down and future growth or decline is difficult to predict. However, in line with regional and national predictions, there is an overall assumption of a 0% growth rate for C&I and C&D waste into the future. Greater awareness of the value of waste reduction in different sectors and Government measures such as the Landfill Tax appear to be having a significant impact. The current recession also seems to be having a significant impact in reducing waste produced; with less building going on there is less C&D waste being generated.

▶ Trends in levels of Hazardous waste

S2.4 Levels of hazardous waste managed in Gloucestershire have been gradually increasing in recent years. In 2002 the amount managed in the County was about 42,000 tonnes. By 2008 the figure was around 90,000 t. Annually, Gloucestershire imports a moderate tonnage of hazardous waste every year, but it also exports some of the hazardous waste that is produced in Gloucestershire.

S3. 'Household' or Municipal Solid Waste Summary

▶ Household waste: recycled and composted in Gloucestershire in 2009/10

S3.1 Of the 2009/10 total tonnage (293,815 tonnes) of Household (MSW) waste produced in the County, 75,548 tonnes was recycled either by means of kerbside collection schemes or through people taking their recyclables to Household Recycling Centres (HRCs) or bring banks (e.g. such as those often located in supermarket car parks). This figure includes a small amount of DIY/hardcore.

S3.2 49,244 tonnes of green/garden and kitchen waste was composted, either on open windrow composting sites or in more advanced 'In-Vessel' facilities.

▶ Current recycling/composting rates for each District and for the County

Table S2. *District & County Recycling and Composting Rates*

Authority	2009/10		Variance	2010/11
	Recycling & Composting Target	Performance		Target
Cheltenham BC	40%	33%	-7%	42%
Cotswold DC	50%	60%	+10%	52%
Forest of Dean DC	40%	40%	0%	42%
Gloucester City	50%	33%	-17%	50%
Stroud DC	40%	26%	-14%	40%
Tewkesbury BC	40%	32%	-8%	42%
HRCs	65%	68%	+3%	65%

County	48%	42%	-6%	49%

▶ Household 'residual' waste (waste left over after reuse/recycling/composting) sent to landfill

S3.3 In 2009/10, 169,023 tonnes of residual waste went to landfill either at Hempsted landfill in Gloucester or the Wingmoor Farm West landfill in Bishop's Cleeve, Tewkesbury. That is 57.5 % of the total amount of household waste produced by people and businesses in the County.

S4. Commercial & Industrial Waste Summary

▶ C&I waste managed in Gloucestershire in 2008

S4.1 Of the 375,000 tonnes of C&I waste managed in the County, 314,000 went to landfill. Some of this tonnage went to Frampton landfill which is now closed.

S4.2 Only around 15,000 tonnes of C&I waste was 'treated' in the County, but this is quite a specific definition of 'treatment' from the Environment Agency. Possibly because Gloucestershire has been fairly reliant on landfill for some time, there is a shortage of treatment capacity both for C&I waste as well as for residual Household waste.

S4.3 Around 131,000 tonnes of metals were managed in Gloucestershire in 2008, but this figure does not really reflect the very large annual tonnages that are being transferred from site to site in the County. Metal waste is considered separately from other C&I waste in this report.

S5. Construction & Demolition Waste Summary

▶ C&D waste managed in Gloucestershire in 2008

S5.1 About 211,000 tonnes of the C&D waste that was managed in licensed facilities in Gloucestershire either went to landfill, or was used for landraise (e.g. for agricultural land improvement or the creation of earth screening bunds etc), was treated (e.g. concrete being crushed and screened and then used in construction for low grade aggregate).

S5.2 Figures from Gloucestershire's landfill operators suggest that about 170,000 t of C&D waste was landfilled in their sites in 2008/09.

S5.3 A large amount of C&D waste is either never actually recorded e.g. that which is reused on buildings sites, or is used as restoration for quarries etc under an Environment Agency (EA) exemption.

S6. Hazardous Waste Summary

▶ Hazardous waste produced in Gloucestershire in 2008

S6.1 Gloucestershire produced around 38,000 t of hazardous waste in 2008, but the total that was managed in the County was around 90,000 t.

S6.2 Most Hazardous waste managed in Gloucestershire is landfilled at the specialist landfill site at Wingmoor Farm East in Bishop's Cleeve. The County Council is currently considering a planning application for this site (both the hazardous and no-hazardous parts of the landfill) to continue its operations into the future.

S7. Landfill Capacity Summary

▶ Landfills in Gloucestershire

S7.1 There are currently 4 major landfills in Gloucestershire:

- Hempsted, which is west of Gloucester City.
- Wingmoor Farm West near Bishop's Cleeve, Tewkesbury Borough.
- Wingmoor Farm East (Non-Hazardous) near Bishop's Cleeve, Tewkesbury Borough.
- Wingmoor Farm East (Hazardous) near Bishop's Cleeve, Tewkesbury Borough.

▶ Current landfill capacity or voidspace

S7.2 As of end of March 2009 (the latest figures) there was a combined non-hazardous voidspace of 6,029,500 m^3 in Gloucestershire and 1,206,200 m^3 of hazardous voidspace.

▶ Landfill life – how many years left?

S7.3 Although this is a complex matter, with a wide range of scenarios that need to be carefully considered, this paper suggests that, based on the current voidspace available, and current rates of tipping there is between 10 and 13 years of non-hazardous landfill life remaining in the County. It is also estimated that there is also over 22 years of hazardous landfill life remaining.

S7.4 However the estimates given are conservative and it is very likely that Gloucestershire's landfill life could be significantly extended as a result of increased recycling/composting activities, progress in building residual treatment facilities, future tax increases, and general changes in society's attitude to waste.

S8. Future Facilities Required in Gloucestershire

▶ Facilities needed in the future to manage Gloucestershire's waste

S8.1 The County Council as Waste Disposal Authority is committed to moving waste away from landfill. Various facilities will be needed in the near future in order to bring this about. Over the next few years, and certainly by the year 2020, in order to meet Regional and potentially National targets, Gloucestershire will need the following:

To manage Household waste / MSW:

S8.2

- A small / limited number of additional recycling / composting facilities to ensure that Gloucestershire's targets for 2020 are met.
- A residual treatment facility or facilities able to process between 136,000 to 148,000 tonnes per year (around 150,000[1] tonnes according to information from the WDA) of residual Household waste. This is waste that cannot be recycled or composted. This tonnage is likely to require either 1 large strategic site of about 5 ha or 2 to 3 smaller strategic sites of about 2 ha each.
- Some level of appropriate supporting infrastructure for the above, but not necessarily new facilities. It maybe that existing facilities could be expanded or that sufficient capacity would be available if their full capacity was utilised.

To manage C&I waste:

S8.3

- Recovery/Treatment or potentially other Strategic MRFs or other recycling facilities with the capacity to divert around 143,000 – 193,000 tonnes of C&I waste from landfill. This sort of tonnage may require up 3 to 4 Strategic sites (8 ha of land in total) or possibly 7 to 8 smaller sites which would not be allocated but would be assessed against a WCS criteria based policy.

[1] This is based on the latest available waste flow forecast produced by the Waste Disposal Authority and is based on achieving a 60% recycling rate by 2020.

S8.4 ▪ Some level of appropriate supporting infrastructure for the above, but not necessarily new facilities. As with Household waste facilities, it maybe that existing facilities could be expanded or that sufficient capacity would be available if their full capacity was utilised.

To manage C&D waste:

S8.5 ▪ When assessed against Regional targets, there is currently an adequate amount of provision for the management of C&D waste in the County. But based on a National target to reduce C&D Waste to landfill by 50% by 2012, there will be a need to divert an additional 85,000 t (top range) per year from licensed landfill.

Total hectares needed for Strategic site allocation:

S8.6 Based on the assumption that 2 ha is a minimum size to handle a strategic tonnage i.e. 50,000 t of waste per year, there is a requirement for:

Waste Facilities for:	**Tonnage per annum range**	**Hectares (ha) needed*** **	**Single Site**	**Multi Site**
MSW Residual Waste	136,000 to 148,000 (around 150,000** according to information from the WDA)	**5 - 6 ha** (based on the potential accommodation of 50,000 t on minimum 2 ha)	**1** large strategic site of about 5 ha	**2 - 3** smaller strategic sites of minimum 2 ha each
MSW Contingency / Supporting Infrastructure	As above	**5 - 6 ha** (based on the potential accommodation of 50,000 t on minimum 2 ha)	**1** large strategic site of about 5 ha as a specific MSW Residual Waste contingency site / Supporting Infrastructure	**2 - 3** smaller strategic sites of minimum 2 ha each as specific MSW Residual Waste contingency sites / Supporting Infrastructure
C&I Recovery*	143,000 to 193,000	**6 - 8 ha** (based on the potential accommodation of 50,000 t on minimum 2 ha)	**1** large strategic site of a minimum of about 5 ha and up to 8 ha	**2** large strategic sites of 4 to 5 ha each Or **3 - 4** smaller strategic sites of minimum 2 ha each
*A broad range of strategic facilities reducing waste to landfill such as strategic recycling facilities, MRFs, IVC, AD, MBT, Autoclave, Thermal Treatment. **This is an approximate figure based on the latest available waste flow forecast produced by the Waste Disposal Authority and is based on achieving a 60% recycling rate by 2020. ***Based on Key Planning Criteria Matrix – Regional Waste Management Strategy Appendix D.				

PART B – Detailed Data Analysis

Contents

Report Section	Page
Section 1: Introduction	**9**
Section 2: Key Guidance on Waste Data	**25**
Section 3: Municipal Solid Waste	**28**
Section 4: Commercial & Industrial Waste	**44**
Section 5: Metal Waste	**52**
Section 6: Construction & Demolition Waste	**55**
Section 7: Hazardous Waste	**62**
Section 8: Radioactive Waste	**68**
Section 9: Agricultural Waste	**70**
Section 10: Neighbouring Authorities / Cross Boundary Movements	**73**
Section 11: Gloucestershire Landfill Capacity	**82**
Section 12: C&D / Inert Exemptions	**95**
Section 13: Waste Water Treatment	**100**

Appendices

Appendix	Page
Appendix A: Municipal Solid Waste Summary Data Tables	**105**
Appendix B: Commercial & Industrial Waste WDI 2008 Summary Data Tables	**108**
Appendix C: Metal Waste WDI 2008 Summary Data Tables	**111**
Appendix D: Construction & Demolition Waste WDI 2008 Summary Data Tables	**113**
Appendix E: Hazardous Waste EA Data on Wingmoor Farm East Inputs	**115**
Appendix F: List of EA Inert Exemptions	**117**

Section 1: Introduction

1.1 Planning for Waste

1.1.1 Waste is everyone's business. The land use planning framework for waste has an important role in terms of balancing the need for facilities required for the sustainable management of waste, with the need to protect the environment and local communities that host such facilities.

1.1.2 Gloucestershire's Waste Core Strategy will provide the detailed land use plan within which waste management facilities in the County can be delivered. The WCS will have to indicate what waste management developments and facilities are required; where they are to be located; when they are to be provided; and how they will be delivered. The WCS will provide site-specific allocations (for Strategic Sites) and guidance for planning applications to be considered in both locational and criteria-based terms.

1.1.3 Successful delivery will be only be achieved if a wide range of sectors fully play their part. In particular the different sectors of the waste industry will need to embrace their responsibilities and work in co-operation with one another and with local authorities and agencies to ensure that the waste infrastructure that is required over the plan period can be delivered.

1.2 Waste Streams

1.2.1 Table 1a. below details the various waste streams that this Evidence Paper will consider and that Gloucestershire must provide for in its WCS and potentially other Development Plan Documents (DPDs) within the Minerals & Waste Development Framework (MWDF). See Section 2 of this report for more details about WCS waste data requirements and guidance.

Table 1a. *Waste to be provided /planned for in the MWDF.*

Waste Stream / Type	Description
Municipal Solid Waste (MSW) – including Household Waste	This is waste collected by Gloucestershire's 6 Waste Collection Authorities (WCA). It includes all household wastes, street sweepings or litter, waste from municipal parks and gardens and a small tonnage of "trade waste" where collection contracts are entered into with private businesses. Most of this waste is non-hazardous but there are some hazardous elements as well as some inert materials present. Most MSW is Household waste. This is the waste collected by the 'bin men' in weekly or fortnightly collection rounds. It also includes waste from bulky waste collections – sofas, mattresses etc, garden waste collections, kitchen waste collections, kerbside recycling schemes as well as waste taken to Household Recycling Centres and bring bank facilities.

Commercial & Industrial (C&I)	This is waste arising from industrial and commercial premises, from businesses, recreational facilities as well as waste from hospitals and other public sector premises. In many ways it is similar in composition to MSW.
Construction & Demolition (C&D)	This is waste from construction sites and that which is generated through the general repair, maintenance and demolition of buildings and structures. A significant proportion of C&D waste is inert e.g. bricks or concrete or soils generated through remediation and/or the preparation of for development.
Hazardous	Waste that is described as 'hazardous' is comprised of some 20 categories of material. Each has potentially different handling and management requirements. Hazardous waste includes, for example, fridges and TVs from households, asbestos and contaminated soils from the C&D waste stream, and processing residues such as sludges and oils from C&I wastes. Hazardous wastes therefore not only include substances that are usually recognised as being dangerous or harmful, but can also include waste from everyday activities such as engine oils, paints, solvents, batteries. These are materials which are commonly used and found in people's houses, but which, if not managed correctly might constitute a health hazard. Some clinical waste from hospitals will be classified as hazardous waste.
Radioactive	Radioactive waste is waste that has become contaminated with radioactive material or has become radioactive through exposure to neutron radiation. This waste can arise from both nuclear and non-nuclear industries. Some clinical waste can be low-level radioactive. Waste Core Strategies are required to address this waste stream even though it is likely to form only a minor element of the overall waste generated and will probably be dealt with at specially licensed sites within or outside the plan area. For Gloucestershire the main site to be considered is the Low-Level Storage Facility at the now decommissioned Berkeley Power Station.
Agricultural	There is no definitive list of Agricultural wastes,

	but some examples include: discarded machinery, empty pesticide containers, old silage wrap, out of date, medicines and wormers, used tyres and surplus milk.
Waste Water	Waste water, commonly referred to as sewage, is generally a mixture of domestic waste water from baths, sinks, washing machines and toilets, waste water from industry and rainwater run-off from roads and other surfaced areas.

1.3 Key Agencies and their Roles

Table 1b. *Key Agencies and their Roles*

Sector	Waste Management Responsibility
Central Government / Communities and Local Government (CLG) / DEFRA	Produce legislation and the overall National policy framework e.g. Planning Policy Statement 10 (PPS10) and Waste Strategy 2007.
The Regional Planning Body	PPS10 contains references to the role of Regional Planning Bodies and to Regional Spatial Strategies. However, following a change of government in May 2010, the South West Regional Spatial Strategy (RSS) has been formally revoked under Section 79(6) of the Local Democracy Economic Development and Construction Act (2009) and no longer forms part of the development plan for Gloucestershire.
The County Council as the Waste Planning Authority (WPA)	Prepare the Gloucestershire Minerals and Waste Development Framework. Determine planning applications for waste management development. Monitoring and enforce the implementation of planning controls associated with waste management development. Monitoring the implementation of waste planning.
The County Council as the Waste Disposal Authority (WDA)	Let contracts to waste operators/industry for the management of municipal waste collected by the Waste Collection Authorities.

	Prepare the Joint Municipal Waste Management Strategy (JMWMS) including the Residual Waste Project.
District Councils as Waste Collection Authorities (WCAs) and members of the Gloucestershire Waste Partnership (GWP) - **Cheltenham Borough Council** - **Cotswold District Council** - **Forest of Dean District Council** - **Gloucester City Council** - **Stroud District Council** - **Tewkesbury Borough Council**	Collect (or have contractors collect) waste from households and some commercial premises and transport it to waste management or disposal facilities. Prepare waste recycling, minimisation and other plans. Provide waste recycling facilities such as bring sites and neighbourhood recycling schemes. Provide kerbside recycling schemes in partnership with the Waste Disposal Authority. Work together to continuously improve waste management services in Gloucestershire.
The Environment Agency as the Waste Regulation Authority (WRA)	Regulate waste management from production to disposal through licensing and regulatory controls. Issue Integrated Pollution Prevention and Control (IPPC) permits for relevant waste management activities. Provide advice on planning policy formulation and planning applications as a statutory consultee. Collect and publishes waste data.
The Waste Industry	Undertake the collection and management / disposal of waste on behalf of WCAs and WDAs and private sector companies and businesses.
Industry and the Commercial & Business Sector	Have a duty of care to ensure responsible management of the waste they generate and recover a proportion of the packaging waste they produce.
The General Public / Local Communities / Non-Governmental Organisations (NGOs)	As waste producers they are increasingly being encouraged to play an active role in preventing waste and reducing, reusing and recycling the waste that is produced.

1.4 Data Sources

1.4.1 This report is part of the evidence base for Gloucestershire's Waste Core Strategy. It updates the *Technical Paper WCS-A Waste Data (September 2007.* The waste data contained in this Technical Evidence Paper is the most up-to-date at the time of writing. The data comes from 5 main sources as detailed below in Table 1c.

Table 1c. *Data Sources used in this Data Paper*

Organisation / Agency:	Data provided:	Date:
1. The Environment Agency (EA)	Waste Data Interrogator Disk 2008	Returns for the calendar year 2008
	Hazardous Waste Interrogator 2008	Returns for the calendar year 2008
	Other data on Gloucestershire sites / license information on request from Tewkesbury EA office	2009 / 2010
	The EA Public Register: http://www2.environment-agency.gov.uk/epr/search.asp	2009 / 2010
	EA Waste Information 2008 Summaries for the South West: http://www.environment-agency.gov.uk/research/library/data/111312.aspx	2008
2. The Gloucestershire County Council (GCC) Waste Facilities in Gloucestershire Survey 2010	Throughput and site capacity returns for Gloucestershire waste sites	The Survey was conducted in January February 2010 the returns related to 1st April 2008 to 31st March 2009
3. Latest Planning information from GCC CAPS database and Development Control files	Information on site throughputs and capacity allowed through planning conditions. Information on new waste sites permitted since 2008 (i.e. updating WDI 2008)	2010
4. The WDA – much of which comes from Waste Data Flow (DEFRA)	All Municipal waste data	The financial year 2009/10
5. Waste Directory Website – (EA recommended), site visits and local knowledge	Additional information on the location and operations of Gloucestershire waste sites	2009 / 2010

1.4.2 Additional to the above, data in the form of indicative targets (sub-regional apportionments to be met by 2020) was provided by the South West Councils in its role as Regional Planning Body (RPB) through the South West Regional Waste Management Strategy (RWMS – 2004) and the RSS. (See Section 2, paragraph 2.3 and Table 2a). Following a change of government in May 2010,

Regional Planning Bodies have been wound up; central government funding ending after September 2010. South West Councils was formerly advised by the RTAB on regional waste issues. Paragraph 15 of PPS10 highlights the specific role of the RTAB.

1.4.3 *'The regional planning body should convene a broadly-based regional technical advisory body (RTAB) to provide advice on the preparation of the strategy for waste management in the RSS and its implementation. The expected role of an RTAB is set out in Annex D.*[2] *To undertake this role, an RTAB will need to assemble data and information on waste. Regional planning bodies, working through their RTABs as appropriate, should therefore co-ordinate the programme of data collection and monitoring undertaken by constituent waste planning authorities and maintain consistency of approach.'*

1.4.4 On 6th July 2010 Steve Quartermain - Communities and Local Government (CLG) Chief Planner wrote to all Chief Planning Officers stating:

1.4.5 *'Planning Authorities should continue to press ahead with their waste plans, and provide enough land for waste management facilities to support the sustainable management of waste (including the move away from disposal of waste by landfill). Data and information prepared by partners will continue to assist in this process. For the transitional period this will continue to be the data and information which has been collated by the local authority and industry and other public bodies who currently form the Regional Waste Technical Advisory Bodies. We intend for this function to be transferred to local authorities in due course.'*

1.4.6 Additionally the letter stated:

1.4.7 *'The planning data and research they [i.e. the Regional Leaders' Board] currently hold will still be available to local authorities for the preparation of their local plans whilst they put their own alternative arrangements in place for the collection and analysis of evidence.'*

1.4.8 It should be noted here that the regional data that exists, refereed to above, only assists in general or broad terms; this paper supported by recent Waste Planning Authority and EA data collection and analysis thoroughly updates the picture in Gloucestershire.

1.4.9 As mentioned above, the Regional Planning Body has been wound up and on 6 July 2010, the revocation of Regional Strategies was announced with immediate effect further to section 79(6) of the Local Democracy, Economic Development and Construction Act 2009. The 6 July revocation decision was then subject to challenge in the Cala Homes (South) Ltd case (2010 EWHC 2866). This was decided on 10 November 2010 and the outcome was to quash the 6 July revocation. The Secretary of State has decided not to appeal this decision. The effect of the Cala Homes decision is twofold: The 6 July revocation decision has been quashed and as a consequence, the RS as it stood on 5 July forms an ongoing part of the development plan. However, the Government's intention to abolish Regional Strategies remains. This intention will be given statutory effect in due course. Bearing in mind all of the above, Local Authorities are still expected to continue to progress their own development plan documents including waste plans, with enough land being provided for waste management facilities to support the sustainable management of waste.

[2] Annex D sets out 10 specific and detailed functions, encouraging cross working with bodies/organisations such as the EA, Local Authorities, the Regional Assembly and Regional Development Agency, Waste Planning/Collection/Disposal Authorities, Government Office, industry and commerce, the waste management industry and key NGOs.

1.5 Managed Data / Arisings Data?

1.5.1 For MSW and Hazardous waste, Gloucestershire waste arisings figures are available from the County Council's Waste Management Team and the Environment Agency, and have been used in this report. However, for other waste streams such as C&I and C&D, specific arisings figures are not available and so managed figures have been used. This was the approach of Gloucestershire's Waste Local Plan which was adopted in October 2004 and the previous WCS data report: 'Technical Paper WCS-A Waste Data' (September 2007). This approach was broadly approved by the EA, Government Office for the South West (GOSW) and the Regional Planning Body (RPB) in their responses to the WCS Preferred Options consultation (January - March 2008). The RPB stated:

1.5.2 *"The WPA's research summarised in its evidence base represents an up to date and authoritative assessment of current needs that supersedes research completed for the draft RSS. We find that the suggested capacity requirements in the evidence base and preferred options paper to be in general conformity with the ambitions of the draft RSS. The County should move forward rapidly with the allocation of site/s required to meet the identified shortfall, this may include the allocation of strategic sites in the Core Strategy, in particular where these are required to ensure the County meets its statutory obligations for municipal waste diversion from landfill."*

The EA's Waste Data Interrogator Data

1.5.3 The EA data in *Technical Paper WCS-A Waste Data* (September 2007) was requested by the Council as WPA from EA officers at Regional and Local offices. However, since then the approach of the EA has been to send Waste Data Interrogator (WDI) disks for non-hazardous and hazardous waste to all Waste Planning Authorities. The first disk was released containing 2007 data, this report uses the WDI for the calendar year 2008.

1.5.4 The WPA have been advised by the EA to use the WDI data as the most accurate data available, particularly in terms of site inputs. Clearly for the Agency, standardisation is important across the country as efforts are made to improve the quality and audit of waste data (particularly for C&I) and keep it up-to-date.

DEFRA Arisings Study

1.5.5 In order to address the lack of arisings data, DEFRA have recently commissioned consultants to undertake a national arisings study. The South West Regional Technical Advisory Body (SWRTAB), commissioned a more detailed analysis of waste producers in the South West region as part of this study. Unfortunately, at the time of writing the results are not available, and it is unclear as to when the report will be finished and at what level of detail. Due to the impeding abolition of the RSS, the disbandment of regional planning through the South West Councils and uncertainties as to whether the SWRTAB will continue in its role, it is unclear how this DEFRA study will contribute to the WCS preparation process. However, the WPA will review its position should any appropriate data come to light.

Waste Core Strategy Technical Paper WCS-A Waste Data (2007)

1.5.6 This waste data paper is an update (so not necessarily a full replacement) of the waste data paper that was produced in 2007 for the WCS Preferred Options consultation stage. The 2007 paper still contains very useful and valid background information and details about projections and scenarios. For ease of reference the previous data paper *'Waste Core Strategy Technical Paper WCS-A Waste Data (2007)'* will, from this point, be referred to as WCS-A (2007).

1.6 The Time Period of the Plan

1.6.1 Planning Policy Statement 12 (PPS12) requires the WCS to look forward for a period of at least 10 years from the date of adoption. If the WCS is adopted early in 2012, as is projected on the latest revision of the Minerals & Waste Development Scheme (MWDS), this would take the WCS up to 2022. The RWMS, on which the waste 'apportionments' are set look to 2020. This is also the year the furthermost year for Landfill Allowance Trading Scheme (LATS) requirements. Previous advice from the Government Office for the South West (GOSW) was that it would be logical for the WCS to look to 2026, in line with the RSS. However given the government's intention to abolish the RSS, it is now difficult to logically apply this recommendation. In response to previous WCS consultations the EA have indicated that the longer the time period, the greater the uncertainty and this is also the considered opinion of the WPA.

1.6.2 Consequently, the most realistic option for the WCS (following WCS-A (2007)) is to use an end date of 2027 (15 years from adoption) but to look in detail to the target year of 2020, and flexibly thereafter. Following WCS adoption, there will be requirements for update and revision to take account of the latest requirements of both government and the fast moving and dynamic waste industry.

1.7 Population growth in Gloucestershire

1.7.1 Population growth, either through in-migration or through the birth rate exceeding the death rate will clearly have an impact on how much waste is produced. In theory, more people will equate to more waste production. However this will be balanced (an likely more than offset) by increased reduction / reuse and recycling.

Recent Population Trends

Table 1d. *Locally derived unconstrained mid-year estimates - from GCC Research and Intelligence Team.*

District	Mid Year 2001	Mid Year 2004	Mid Year 2008	Mid Year 2009
Cheltenham	108,854	110,614	115,298	116,244
Cotswold	81,402	83,260	84,412	84,059
Forest of Dean	81,342	82,616	83,672	83,091
Gloucester	111,644	113,292	119,712	120,498
Stroud	111,210	113,099	113,865	114,648
Tewkesbury	77,939	79,759	80,725	81,133
COUNTY TOTAL	**572391**	**582,640**	**597,684**	**599,673**

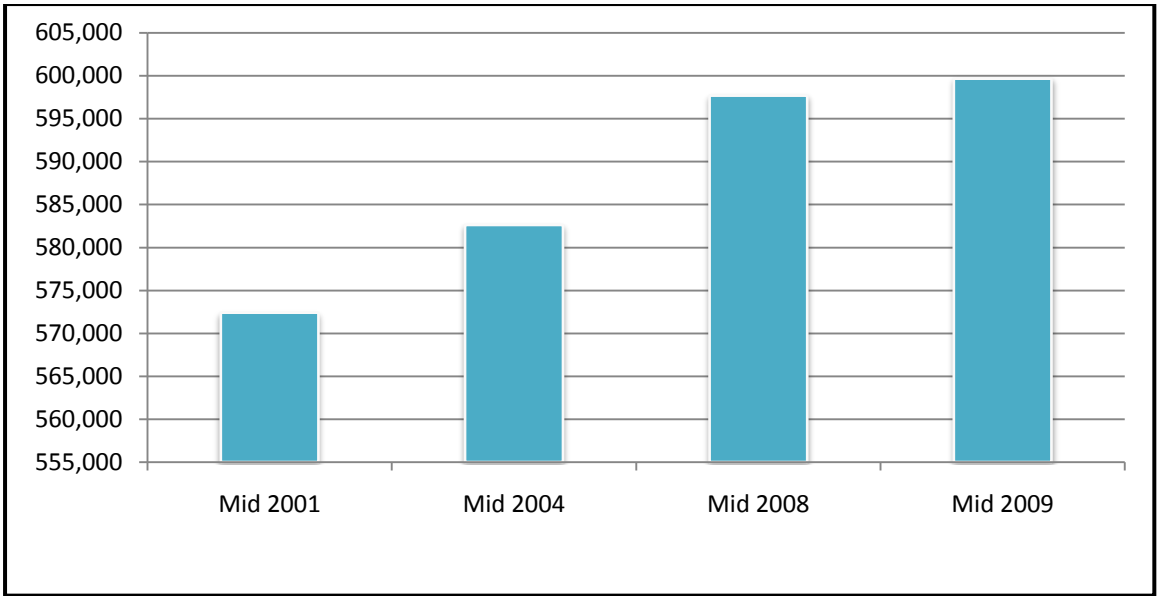


Figure 1a. *Graphic of locally derived unconstrained mid-year estimates - from GCC Research and Intelligence Team.*

Projections

1.7.2 The following the most up-to-date data is from The Gloucestershire Local Projection Report (June 2010) produced by the GCC Research and Intelligence Team:

1.7.3 *"Based on current trends, the Local Projection suggests that the Gloucestershire population will increase by 76,400 people, or an annual average of 3,100 people, from 597,600 to 674,000 between 2008 and 2033. In terms of areas of growth, the biggest increase is expected to continue to concentrate in the Districts of Gloucester (34,600), Cheltenham (12,000) and Stroud (10,600) between 2008 and 2033."*

1.8 Waste Growth

National Trends

1.8.1 According to the latest data on the EA's website[3], in England and Wales waste that is sent to landfill continues to decrease. It fell by over 11% between 2007 and 2008 and has fallen 33% since 2000. A key driver is the implementation of the Landfill Directive.[4] Many older landfill sites that did not meet the stringent requirements of the Directive had to close by July 2009. Remaining capacity at landfill sites fell by five per cent during 2008. Overall, since 2000 landfill capacity has decreased by 14 per cent. Inputs through permitted transfer facilities increased by five percent between 2007 and 2008. Inputs through permitted treatment facilities have decreased by two per cent, but there was an increase of around 300,000 tonnes (10%) in the waste through composting plants.

1.8.2 Recent data released by Her Majesties Revenue and Customs (HMCR) have indicated that the combined effects of the recession and various fiscal and legislative measure (including landfill tax rises) have had quite a significant effect on the tonnages of residual waste going to landfill. The headline figures showed that, in comparison with 2007/08, the total tonnage of Residual waste in

[3] Waste information 2008 – Key Trends.
http://www.environment-agency.gov.uk/research/library/data/111312.aspx

[4] Under the Landfill Directive, member states are required to cut the amount of biodegradable municipal waste they send to landfill to 75 per cent of 1995 levels in 2010, 50 per cent in 2013 and 35 per cent by 2020. The tax is currently £48 per tonne and will increase by £8 per tonne each April up to and including April 2013, when landfill tax will have reached £72 per tonne.

2008/09 (attracting the same rate of landfill tax) was down by nearly 15%; with residual MSW tonnages on average 11% lower and residual C&I waste tonnages down by 18%.[5]

Gloucestershire Trend Data

1.8.3 The following Table 1e and 1f and the accompanying Figures 1b and 1c represent the best available trend data for Gloucestershire from the EA's website.[6]

Table 1e. *Gloucestershire Inputs: Landfill (Figures in Tonnes)*

2000/1	2002/3	2004/5	2005	2006	2007	2008
675,000	993,000	420,000	766,000	908,000	889,000	815,000

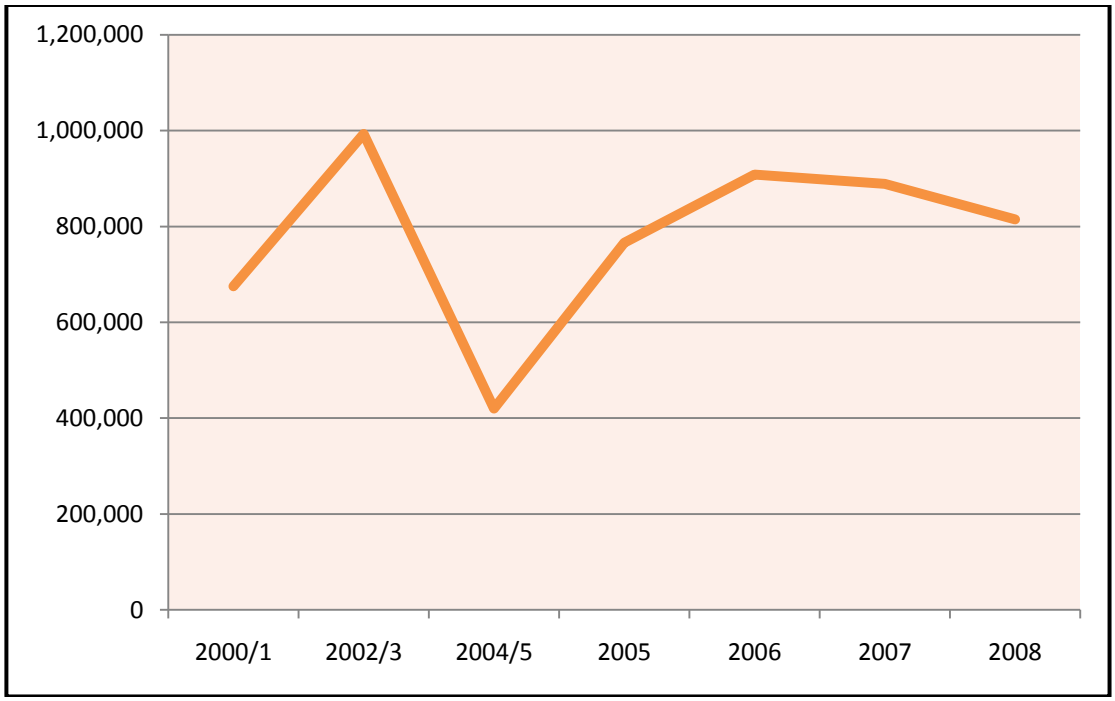


Figure 1b. *Gloucestershire Inputs: Landfill (Figures in Tonnes).*

Table 1f. *Gloucestershire Inputs: Treatment/Transfer/Metals (Figures in Tonnes).*

2000/1	2002/3	2004/5	2005	2006	2007	2008
489,000	642,000	1,385,000	979,000	1,396,000	1,336,000	718,000

[5] From Waste Market Watch: The decline in Residual Waste: www.tolvil.com
[6] Summaries for the South West, EA 2008.
http://www.environment-agency.gov.uk/research/library/data/111312.aspx

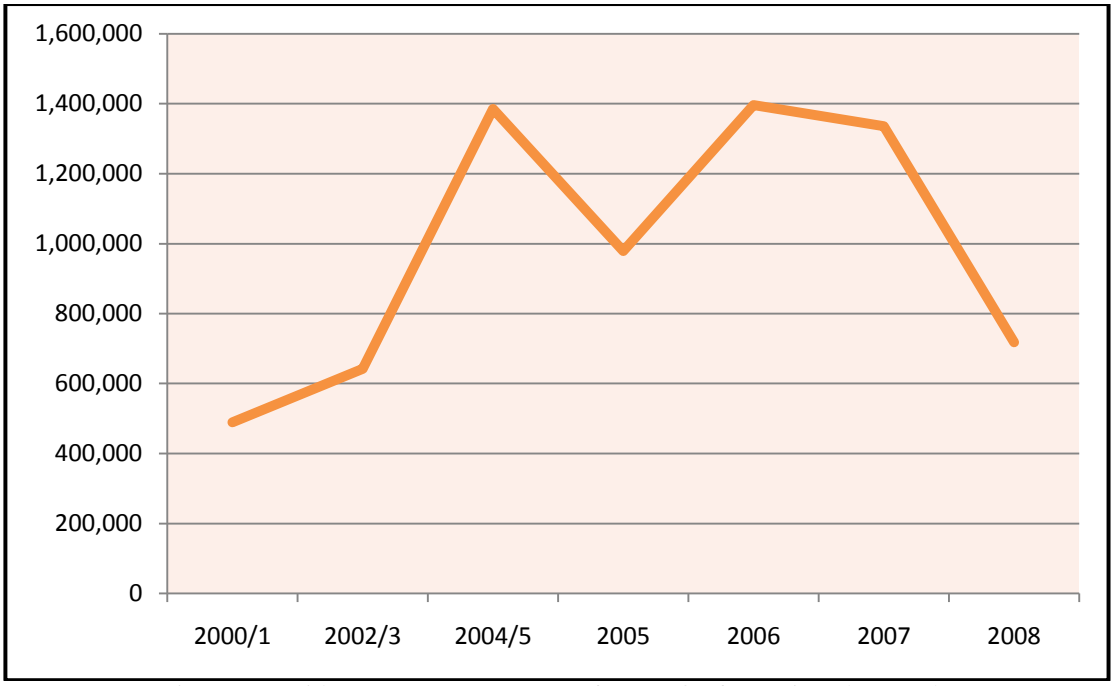


Figure 1c. *Gloucestershire Inputs: Treatment/Transfer/Metals (Figures in Tonnes).*

1.8.4 Municipal Solid Waste (MSW) or "Household waste" as it is often referred to, is a fairly small percentage (about one third) of the overall waste stream, but because it is something we all produce it generally seems to generate a significant amount of public interest. MSW Data is generally considered to be very accurate due to the fact that the figures are collected by Waste Disposal Authorities and the following Table 1g and Figure 1d give a good picture of the growth of MSW in Gloucestershire and the way it has been managed.

Table 1g. *Gloucestershire MSW Growth (Figures in tonnes)*

2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10
268,504	268,320	268,493	291,978	309,486	312,118	324,143	322,796	307,269	293,815

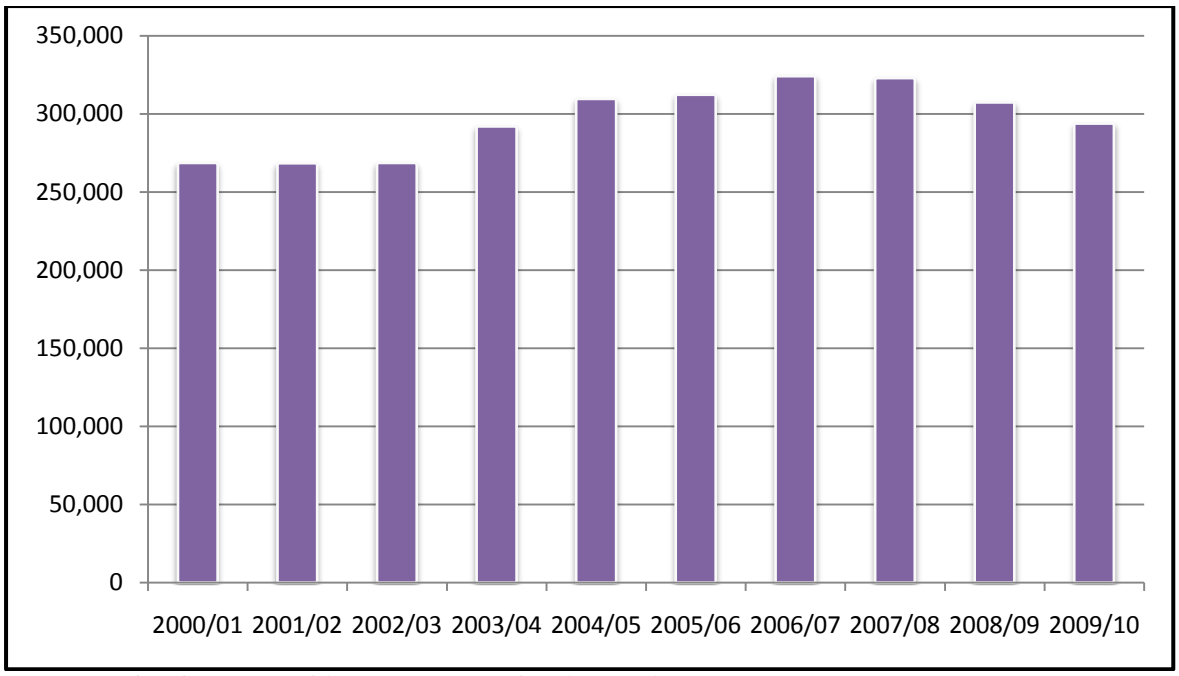


Figure 1d. *Gloucestershire MSW Growth (Figures in tonnes)*

Waste Growth Projections Used in this Report

1.8.5 In the sections of this report for specific waste streams there is further discussion on growth projections, but the following is a summary of GCC position.

MSW

1.8.6 The EA and DEFRA are both in broad agreement that MSW arisings data is of good quality and is reliable. Through 'Waste Data Flow' reporting mechanisms, the County Council as WDA have an accurate picture of current and past arisings and have thus been able to project future growth in this waste stream. See Table 3l in Section 3 for details.

C&I

1.8.7 WCS-A (2007) suggested that a 0% growth rate for C&I was appropriate. This was in line with the SW Regional Waste Management Strategy and the adopted Gloucestershire Waste Local Plan. The WDA has not changed its position, but it does note current downward trends and does not underestimate the continued impact of the escalating Landfill tax.

C&D

1.8.8 Again, as for C&I growth, WCS-A (2007) suggested that a 0% growth rate for C&D waste would be appropriate.[7] There is no doubt that the current recession has had a significant impact on C&D levels (and this has been confirmed by comments from local operators), but levels could just as easily increase in coming years as the economic situation improves.

Hazardous Waste

1.8.9 There are currently no specific National or Regional targets for reducing hazardous waste, but it is possible that targets may be included through DEFRA's current Review of Waste Policy. According to the latest National trend data from the EA, Hazardous waste production has increased since 2004 by 26 per cent.[8] In 2008 hazardous waste production increased by nearly 3%. Landfilling increased by 26% to over one million tonnes, treatment decreased by 7.5% and recycling /re-used

[7] See Paragraphs 129 – 132 on Page 30.

[8] However most of the increase was due to liquid inputs to one treatment facility on Teesside.

decreased by 6%. Section 6: Hazardous & Radioactive Waste points to the fact that, Gloucestershire arisings have increased slightly between 2002 to 2008 with major fluctuations in the trend in between. It is important to note that with Hazardous waste the managed figure is also important because, as a specialised waste stream, there are often significant levels of imports and exports into and out of an authority area.

1.9 Waste Capacity Survey 2010 Results

1.9.1 In January and February 2010 the WPA conducted a 'Waste Facilities in Gloucestershire Survey'. Over 120 forms were sent out either by post or by email and the response rate was 81%. This was a follow up survey from an earlier one which helped to inform WCS-A (2007). The purpose of the exercise was to gather as much local information as possible on waste management facilities in the County to inform this current data paper and the WCS. The survey asked for information on:

- Site address and details.
- Total employee numbers as well as office based employee numbers.
- Type of waste management facility.
- Origin of the waste received.
- What waste is handled.
- Tonnages.
- Fate of the waste.
- Total site capacity.
- Trends and plans for expansion.

1.9.2 The following Figures 1e and 1f show some of the results related to waste origin and trends in waste volumes.

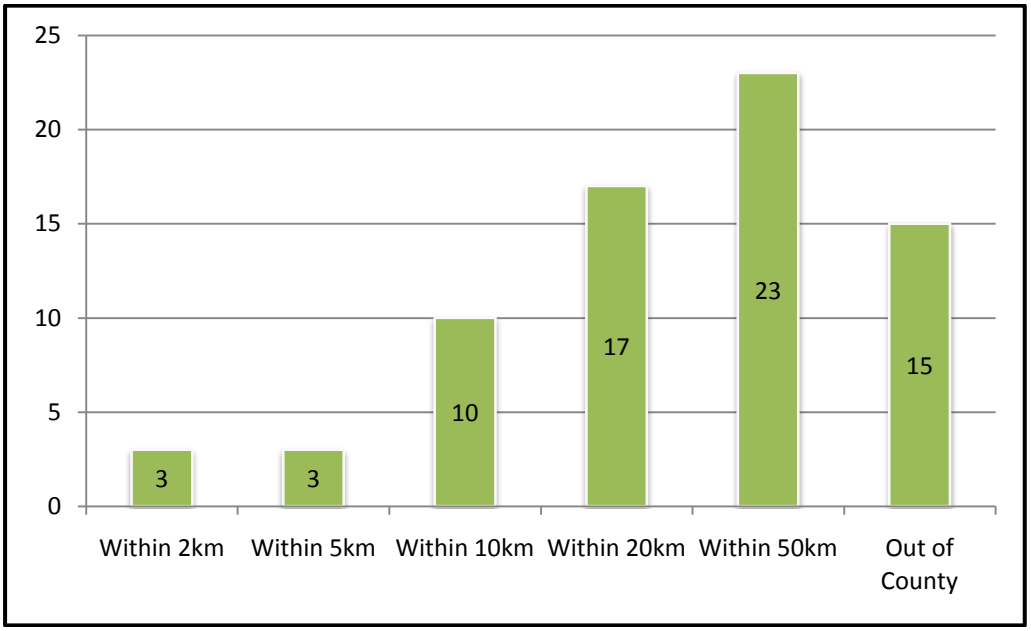


Figure 1e. *Capacity Survey 2010 – Where does the waste come from to Gloucestershire waste facilities?*[9]

[9] Out of 99 responses - 14 respondents did not answer this question and 14 were not at address/other.

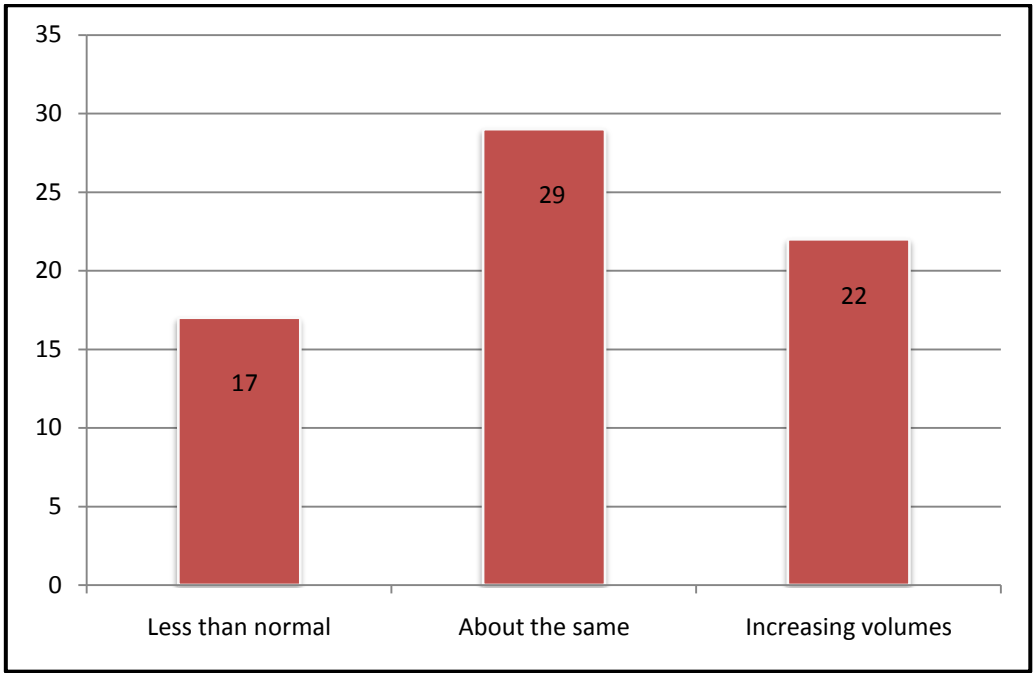


Figure 1f. *Capacity Survey 2010 – Gloucestershire waste operator views on waste volume of waste through their sites in the last 2 years.*[10]

1.10 Waste Facilities in Gloucestershire

1.10.1 One of the most useful outputs of the Capacity Survey was to clarify (and cross check with other planning records) the numbers of different type of waste facility currently operating in Gloucestershire. Clearly the number of facilities had changed since WCS-A (2007). For details see the information contained below in Table 1h., Figure 1g and Map 1a.

Table 1h. *Licensed Waste Facilities in Gloucestershire (2010).*

Figures based on CAPS Data / Planning Files & Latest Planning Updates, WDI 2008, CS 2010, and NetRegs Online Waste Directory / Monitoring & Enforcement Team	
Non Hazardous Landfill sites	3
Hazardous landfill sites	1
Household Recycling Centres	6
All Waste Transfer Stations (MSW, C&I, C&D) *Note: There are overlaps with C&D Management sites and C&I recycling/processing facilities)	22
ELV / Metals (Both Transfer & Treatment)	34
C&I Composting (including IVC) / Recycling / Processing	5
C&I Treatment Facilities (e.g. AD / MBT / Thermal Treatment)♦	1
MSW Composting (including IVC) / Recycling / Processing	2
MSW Treatment Facilities (e.g. AD /MBT / Thermal Treatment) *	1
C&D Inert Disposal sites (Including for mineral restoration)	19
C&D Management sites (This includes C&D transfer, treatment, crushing & screening and Storage) *Note: There are overlaps with Waste Transfer Stations)	29
Aggregate recycling (in Quarry)	2
Clinical Waste Transfer	2
Clinical Waste Treatment	1

[10] Out of 99 responses - 15 respondents did not answer this question and 16 were not at address/other.

Radioactive Waste Storage	1
Major Sewage Treatment Works	2
Storage of Road Surface Materials (Planings)	1
Other e.g. railways contractor waste / metal drum recycling etc	2

*The 1 facility refers to the small AD at Rose Hill Farm, Dymock, Forest of Dean – but this has yet to be implemented. This is not a 'residual' waste facility – it takes waste that would otherwise go into an IVC.
♦ This does not include the treatment element at major STW or the agricultural AD at Stanley's Quarry, Cotswolds.

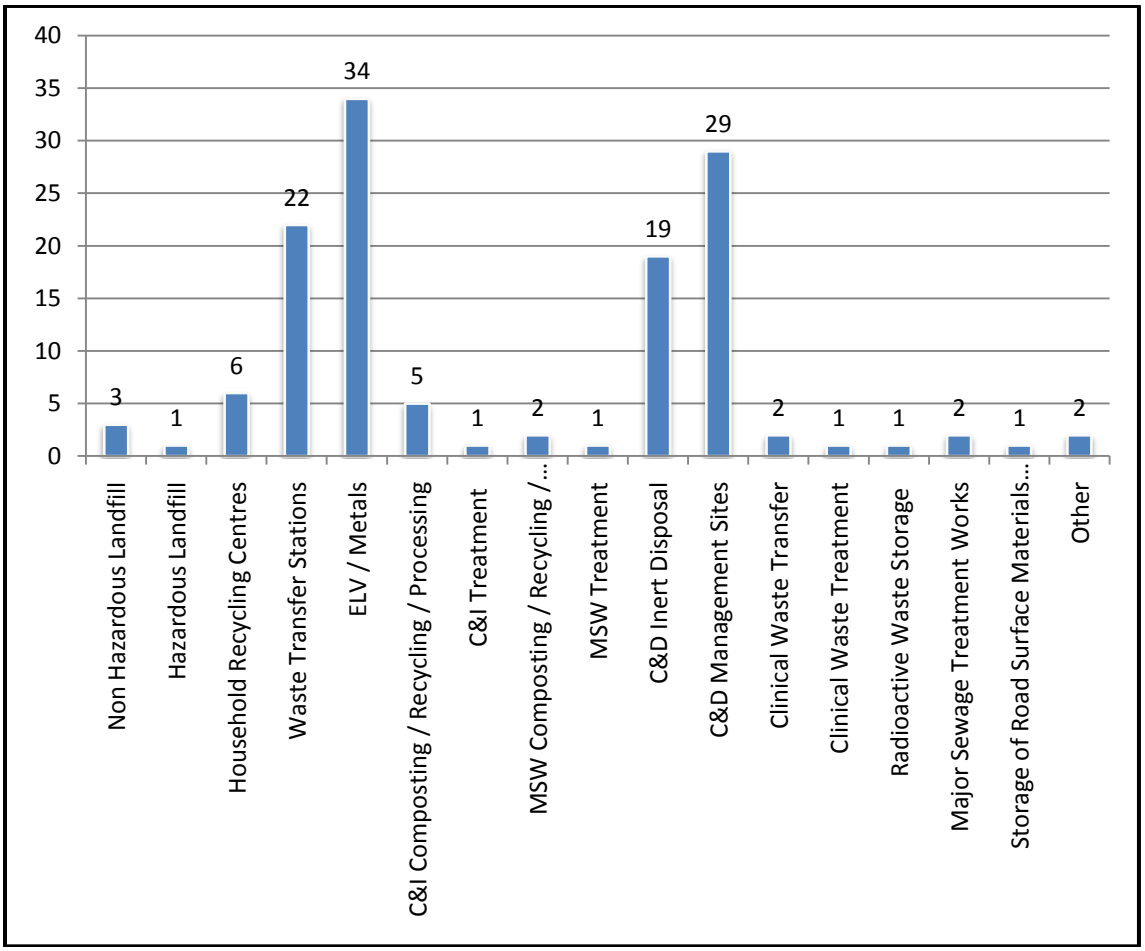


Figure 1g. *Numbers of Licensed Waste Facilities in Gloucestershire (2010).*

Map 1a. *Indicative locations of all waste sites in Gloucestershire (Not including sites with EA exemptions).*

Section 2: Key Guidance on Waste Data

2.1 PPS10

2.1.1 Planning Policy Statement 10: Planning for Sustainable Waste Management (PPS10) was published in July 2005. It focuses on the waste hierarchy and emphasises the need to treat waste as a resource. The apportionments (indicative targets) set at a Regional level are guides for Waste Planning Authorities (WPAs) to meet in their plans areas. Through this apportionment and the policies of PPS10, WPAs are required to make adequate and timely provision of waste management facilities, including the identification of suitable sites for such development in Waste Local Development Documents (LDDs).

2.2 PPS10 Companion Guide

2.2.1 This guide (published in November 2005) provides advice, ideas and examples of good practice. It also provides signposts to further information in support of the implementation of PPS10. Paragraph 4.1 of Section 4: *Data collection and Use* states that:

2.2.2 *'… LDDs should be founded on a sound evidence base provided by the best available data on the waste streams for which provision is being made.'*

2.2.3 The WPA has made every effort to use 'the best available data' from various sources (as outlined in Table 1c.) and the PPS10 Companion Guide has been used to inform this updated data paper, particularly in terms of the WPA's own efforts to gather good quality local waste data through its 2010 Waste Facilities in Gloucestershire Survey.

2.3 Regional Spatial Strategy

2.3.1 PPS10 contains references to the role of Regional Planning Bodies and to Regional Spatial Strategies. However, following a change of government in May 2010, the new government has expressed its intention to abolish RSS. Importantly however, the evidence that informed the preparation of the RSS may still be considered a material consideration. Furthermore, despite the impending abolition of RSS, local authorities are expected to continue to progress their own development plan documents including waste plans, with enough land being provided for waste management facilities to support the sustainable management of waste.

2.3.2 The following Tables 2a. and 2b. outline the RSS Allocations (i.e. the indicative targets) to be met. These figures are taken directly from The Regional Waste Management Strategy (From Rubbish to Resource 2004).

Table 2a. *Municipal Waste – Gloucestershire Annual Municipal Waste Management Capacities for Landfill Directive Target Years.*

By year	Minimum Source Separated in tonnes per annum	Secondary Treatment in tonnes per annum	Maximum Landfill in tonnes per annum
2010	130,000	80,000	160,000
2013	150,000	120,000	130,000

2020	170,000	200,000	60,000

Table 2b. *Commercial and Industrial Waste – Gloucestershire Annual Waste Management Capacities for Target Years.*

By year	Recycling / Re-use in tonnes per annum	Recovery in tonnes per annum	Landfilled in tonnes per annum
2010	260,000 – 280,000	150,000 – 180,000	285,000 – 315,000
2013	270,000 – 300,000	170,000 – 190,000	240,000 – 260,000
2020	300,000 – 320,000	260,000 – 290,000	110,000 – 120,000

2.4 Planning Inspectorate Requirements / Guidance

2.4.1 The WCS as a whole, this waste data paper and the rest of the extensive WCS evidence base will be required to pass tests of 'soundness'. Soundness is explained in PPS12 in paragraphs 4.36 – 4.47, 4.51 and 5.52. Specifically paragraph 5.52 states that to be sound a core strategy should be:
(i) Justified
(ii) Effective
(iii) Consistent with national policy.

2.4.2 Recent Planning Inspectorate (PINS) guidance states:
A waste strategy should indicate what waste management developments and facilities are required, where they are to be located; when they are to be provided; and how they will be delivered.[11]

2.4.3 Clearly the waste data detailed in this and previous reports will play a key role in meeting these requirements.

2.5 Recent Planning Advisory Service (PAS) Guidance

2.5.1 Generally in relation to the evidence base and specifically in relation to waste data, the Planning Advisory Service (PAS) in its document *Waste Content of Core* Strategies[12] states that:

2.5.2 *[The WCS]…should clearly draw from the supporting evidence base, sustainability appraisal and any appropriate assessment. In this work, it is important to avoid levels of detail that involve disproportionate efforts in data collection and stifle technological innovation.*

2.5.3 The PAS (June 2010) document states that:

2.5.4 *For waste core strategies, essential baseline information includes, the amount of waste being generated in different waste streams, how much is being managed currently, how much needs too be managed in future (to meet targets) and how many facilities are needed to manage this amount.*[13]

[11] PINS (2009) *Local Development Frameworks Examining Development Plan Documents: Learning from Experience – cited in PAS minerals and waste development frameworks evidence base* (June 2010).
[12] PAS Website: http://www.pas.gov.uk/pas/core/page.do?pageId=110004
[13] Page 12.

2.5.5 Through this data paper, the WPA have made every attempt to ensure that requirements have been met. An extensive local survey has been undertaken, all available Regional and Local EA data has been utilised, assessments of current capacity have been made (against regional targets) and this has been translated into facility numbers that are needed over the lifetime of the plan.

Section 3: Municipal Solid Waste

3.1 Introduction

3.1.1 Municipal Solid Waste (MSW) is waste that is produced by households, together with a small percentage of 'trade' waste which is collected by local authorities from shops, businesses and from road sweepings. MSW data is very generally very accurate and provided by the County Council's Waste Management Team (also referred to as the Waste Disposal Authority (WDA)).

3.1.2 The WDA are working with the Waste Collection Authorities (WCA), the County's six District Councils, in order to provide an appropriate strategy for managing MSW. The collective name for this working group is the Gloucestershire Waste Partnership (GWP).

3.1.3 The data in this section is from 2009/10 and this is the most up-to-date available at the time of writing. This data is audited by the Audit Commission.

3.2 MSW Current Arisings

3.2.1 In 2009/10 the total amount of MSW waste arising in Gloucestershire was 293,815 t. This compared with 307,269 t for the financial year 2008/09.

3.2.2 Of the 2009/10 total arisings: 49,244 t was composted, 75,548 t was recycled and the remaining 169,023 t residual waste was landfilled. This is shown graphically below in Figure 3a.

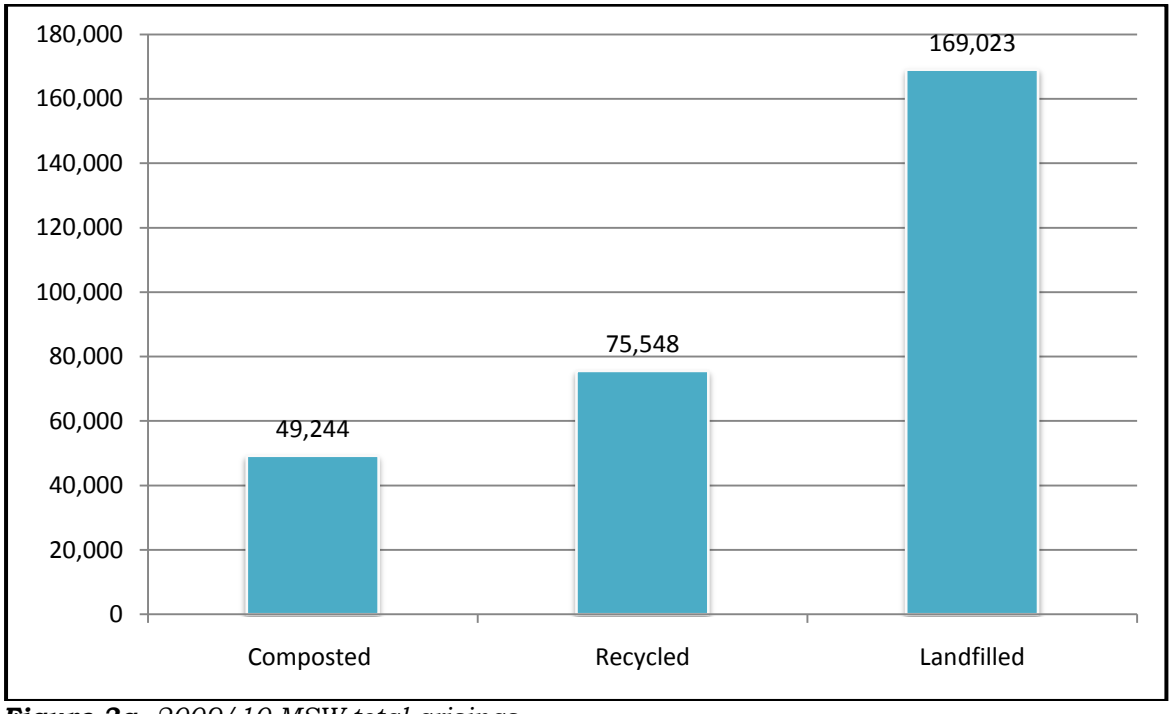


Figure 3a. *2009/10 MSW total arisings.*

3.2.3 Table 3a below shows the latest (2009/10) MSW arisings per District and the levels of recycling, composting and reuse achieved at Districts and HRCs.

Table 3a. *2009/10 District Arisings and Recycling, Composting, Reuse Performance.*

Authority	2009/10					
	Arisings Tonnage	Recycled	Composted	Reused	Total	Kg per household landfilled
Cheltenham	48,298	19%	14%	0.3%	33%	615
Cotswold	35,648	26%	34%	0%	60%	361
Forest of Dean	33,905	15%	25%	0%	40%	572
Gloucester	48,026	16%	16%	1.1%	33%	617
Stroud	35,645	25%	0%	0.3%	26%	533
Tewkesbury	33,832	18%	14%	0%	32%	608
HRC	52,684	45%	22%	0.7%	68%	54
County	293,815	24%	18%	0.4%	42%	609

Note: The 6 District arisings tonnages plus the HRC total do not add up exactly to 293,815. This is because for each District there is additional trade waste collected by WCAs through the GCC Contract, ex Contract and Fly tipping delivered by WCA. Columns 'Recycled' to 'Kg per household landfilled' are from 'Wastelines' Authority breakdown for recycling and composting from April 2009 until March 2010. Note, these figures do not necessarily show improved figures for both Gloucester City and Tewkesbury Borough Councils.

3.3 MSW Management Trends in Recent Years

3.3.1 As can be seen below from Table 3b, Figure 3b and 3c, from 2001/02 to 2006/07, Gloucestershire's MSW arisings grew slowly and steadily year on year. WCS-A (2007) reported an average 3% growth each year in the 5 years to 2006/07.[14] However, the totals for 2007/08 started to show a small decline in arisings. This trend has continued and the 2009/10 figure was down by about 13,000 t from 2008/09.

Table 3b. *Gloucestershire MSW Growth (Figures in tonnes).*

2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
268,504	268,320	268,493	291,978	309,486	312,118	324,143	322,796	307,269	293,815

[14] Paragraph 51, Page 15.

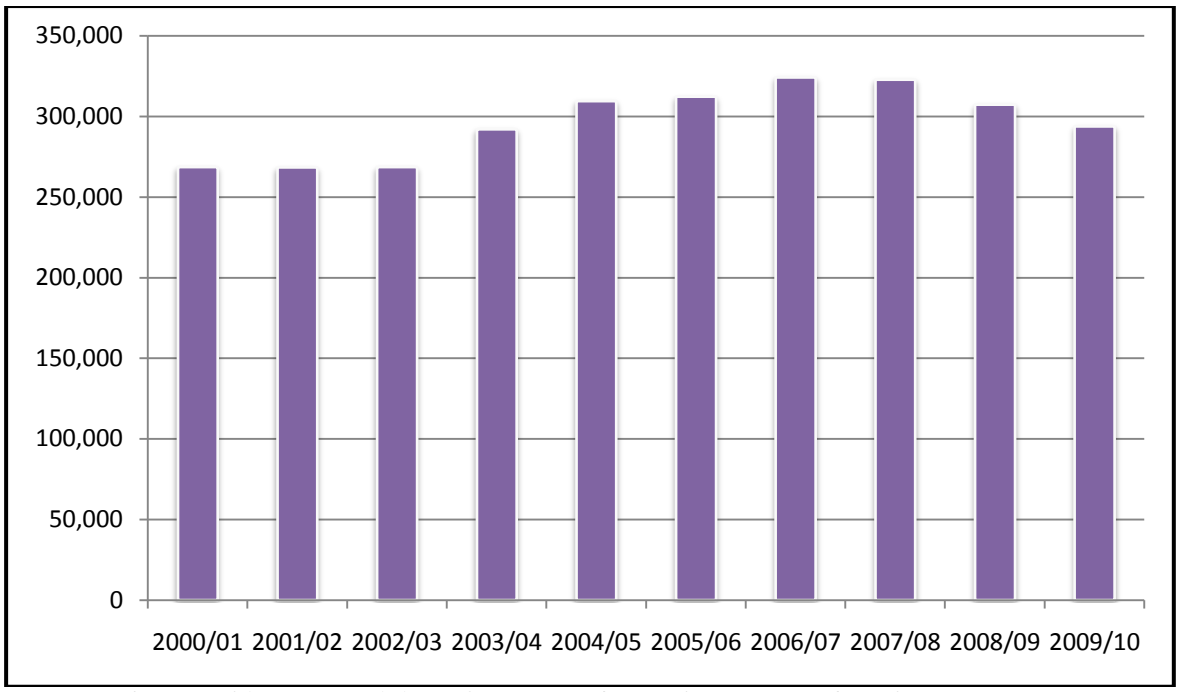


Figure 3b. *Trend in MSW arisings from 2000/01 to latest 2009/10 data year.*

3.3.2 Figure 3c. below shows the management (Landfilled / Recycled / Composted) trend as opposed to the general overall arisings trend above in Figure 3a. It is clear that both a reduction in arisings combined with increasing recycling and composting rates is having a very positive impact in reducing the tonnages of MSW that are landfilled. However, as detailed in Table 3l later in Section 3, significantly improved recycling and composting rates, allied with a facility (or facilities) to treat residual waste will still be needed in order for Gloucestershire to avoid severe Landfill Allowance Trading Scheme (LATS) penalties.

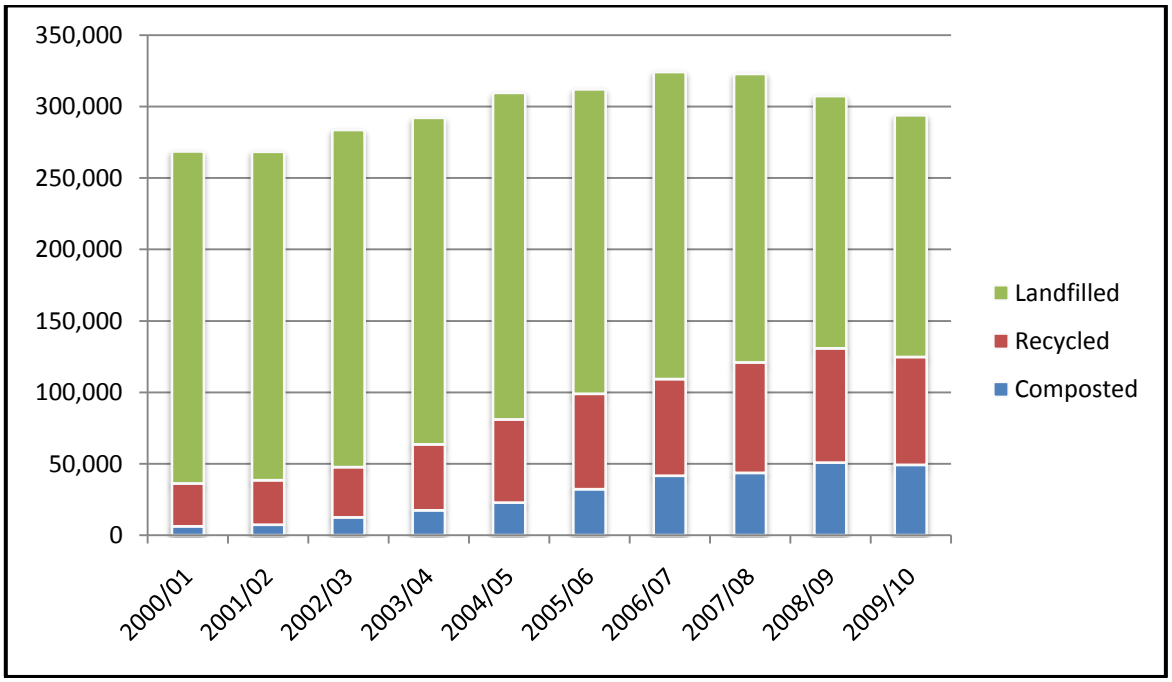


Figure 3c. *MSW management trends from 2000/01 to 2009/10.*

3.4 MSW Targets

3.4.1 The following (in Tables 3c. and 3d.) are the latest performance indicators and targets for MSW received by the WPA from the WDA in July 2010.

Table 3c. *Gloucestershire Recycling % Targets / Performance / Variance.*

Authority	2009/10		Variance	2010/11
	Recycling & Composting Target	Performance		Target
Cheltenham BC	40%	33%	-7%	42%
Cotswold DC	50%	60%	+10%	52%
Forest of Dean DC	40%	40%	0%	42%
Gloucester City	50%	33%	-17%	50%
Stroud DC	40%	26%	-14%	40%
Tewkesbury BC	40%	32%	-8%	42%
HRCs	65%	68%	+3%	65%
County	48%	42%	-6%	49%

Table 3d. *Gloucestershire Recycling Kg Targets / Performance / Variance.*

Authority	2009/10		Variance	2010/11
	Recycling & Composting Target	Performance		Target
Cheltenham BC	597 kg	615 kg	+18 kg	584 kg
Cotswold DC	464 kg	361 kg	-103 kg	452 kg
Forest of Dean DC	643 kg	572 kg	-71 kg	642 kg
Gloucester City	475 kg	617 kg	+142 kg	460 kg
Stroud DC	470 kg	533 kg	+64 kg	470 kg
Tewkesbury BC	581 kg	608 kg	+38 kg	572 kg
HRCs	84 kg	54 kg	-31 kg	85 kg
County	618 kg	609 kg	-9 kg	610 kg

3.4.2 The following are the key targets as set out in the (still current) Joint Municipal Waste Management Strategy (JMWMS).[15]

[15] See Recycle for Gloucestershire: http://www.recycleforgloucestershire.com/

 **T1: Changing Behaviour**

3.4.3 From 2007: Visit a minimum of 50 schools each year.

3.4.4 By March 2008: Increase recycling & composting through existing schemes by 3%; Increase participation in recycling & composting schemes in low performing areas by 20%; Achieve a rate of 85% of householders classifying themselves as committed recyclers.

3.4.5 By 2020: Achieve an average participation rate of 80% in recycling & composting collection schemes;

3.4.6 Achieve an average capture rate of 80% for targeted recyclable and compostable materials.

 **T2: Waste Reduction**

3.4.7 To reduce the growth of Gloucestershire's municipal waste arisings to zero by 2020.

 **T3: Recycling and Composting**

Table 3e. *Gloucestershire Recycling Targets to 2019 / 20.*

Year	County Recycling & Composting Target	Residual Waste Per Capita Target
2009/10	40%	314 kg
2014/15	50%	273 kg
2019/20	60%	228 kg

 **T4: Meeting BMW diversion targets (LATS)**

3.4.8 Reduce the amount of active biodegradable waste from landfill at least in line with the requirements of the Landfill Allowance Trading Scheme to: (as per Table 3f and Figure 3d. below).

Table 3f. *Amount of active biodegradable waste from landfill at least in line with the requirements of the Landfill Allowance Trading Scheme.*

Year	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013
Tonnes	150,100	138,721	124,497	107,428	95,471	83,513	71,555	68,486
Year	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20		
Tonnes	65,416	62,347	59,277	56,208	53,139	50,069		

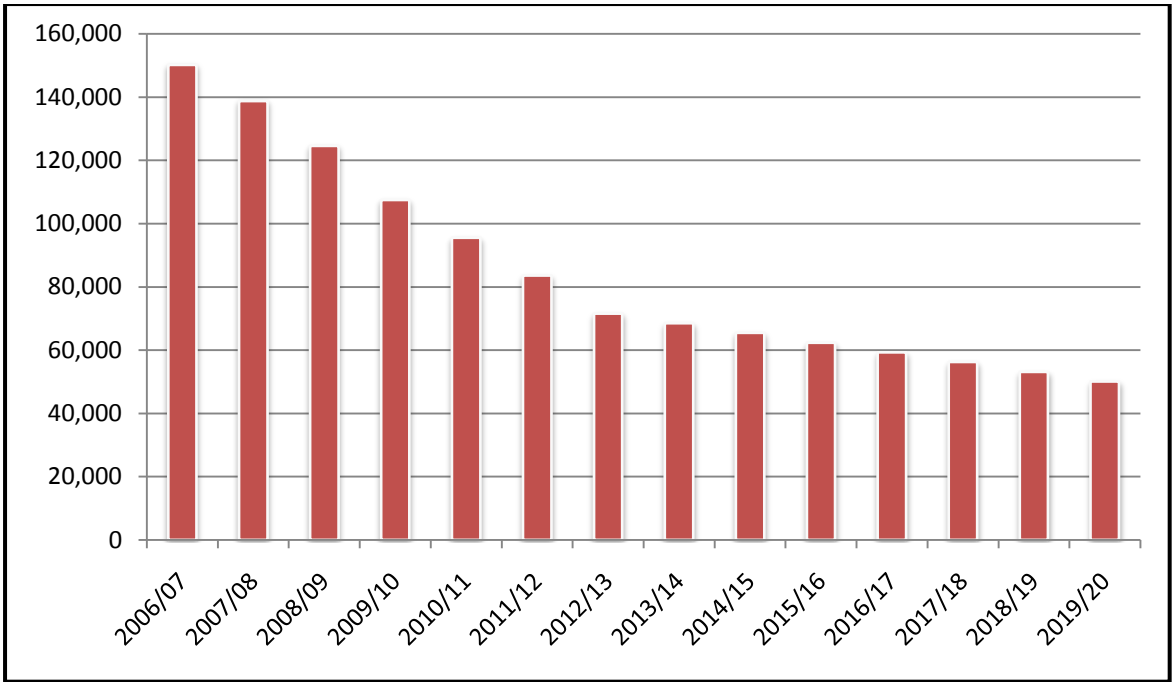


Figure 3d. *Amount of active biodegradable waste from landfill at least in line with the requirements of the Landfill Allowance Trading Scheme.*

3.5 Current MSW Facility Capacity

3.5.1 There are currently 17 facilities that manage[16] MSW / Household waste in the County on behalf of the 6 WCAs and the County Council as WDA. See Table 3g below.

Table 3g. *Facilities managing MSW / Household waste under contract from the WCAs and the WDA.*

Facilities / Sites	Type of Facility
Hempsted, Gloucester	Landfill and Bulking of Green Waste
Wingmoor West, Tewkesbury Borough	Landfill
Swindon Road, Cheltenham	HRC / CA Site / Transfer Bulking
Hempsted, Gloucester	HRC
Wingmoor West, Tewkesbury Borough	HRC and Windrow Composting
Pyke Quarry, Cotswold District	HRC
Oak Quarry, Forest of Dean District	HRC
Foss Cross, Cotswold	HRC
Rosehill Farm, Forest of Dean	Composting (IVC & AD)
Sharpness Docks, Stroud District	Composting (IVC)
Eastern Avenue, Gloucester	Transfer / Bulking
Cricklade (out of County)[17]	Transfer / Bulking
Love Lane, Cotswold	Transfer / Bulking
Moreton Valence, Stroud District	Transfer / Bulking
Northway Lane, Tewkesbury Borough	Transfer / Bulking
Printwaste, Tewkesbury Borough	Transfer / Bulking
Lydney Industrial Estate	Transfer / Bulking

[16] Or have a contract to manage e.g. New Earth Solutions IVC facility at Sharpness Docks, Stroud.
[17] SITA use of another company's transfer facility (Information from WDA – (11/08/2011).

Landfill

3.5.2 There are currently 4 licensed Landfill sites in the County[18] (with the Wingmoor East Hazardous site classified as a separate site to Wingmoor Farm East Non-Hazardous site) Map 3a. below shows their indicative locations. In terms of planning status, the 2 Wingmoor East sites had permissions that were time-limited to mid 2009. The sites are both currently operation, but the operators, Grundon Waste Management Ltd have submitted a complex planning application (Ref: 09/0028/TWMAJW) to extend the planning consents and the County Council is currently considering it.

3.5.3 There a 2 major landfills currently taking Gloucestershire's MSW residual waste; Hempsted (west of Gloucester) and Wingmoor Farm West (in Bishop's Cleeve, Tewkesbury). For more on landfill provision in the County, see Section 10 of this report.

Map 3a. *Indicative locations of Gloucestershire's operational landfill sites.*

Household Recycling Centres

3.5.4 There are 6 Household Recycling Centres in Gloucestershire: Swindon Road CA site (Cheltenham), Foss Cross HRC (Cotswold), Pyke Quarry HRC (Cotswold, but serving Stroud), Oak Quarry HRC (Forest of Dean), Hempsted HRC (Gloucester), Wingmoor Farm HRC (Tewkesbury). See Map 3 below. In 2009/10, excluding the Swindon Road CA site[19] a total of 52,684 tonnes was managed through the County's HRCs. Around 14,000 tonnes (26%) of this throughput went on to landfilled.

[18] This is not including small inert landfill / landraise sites in the County.

[19] The WDA includes the Swindon Road figures with the kerbside collected figures.

Map 3b. *Indicative locations of Gloucestershire's 6 HRCs.*

Composting

3.5.5 There are 3 composting sites[20] which are currently bulking or processing Gloucestershire's kitchen and green waste: Hempsted landfill (for bulking), Wingmoor Farm East (green waste windrow) and Rose Hill Farm, Dymock (IVC – green and kitchen waste & permission for AD but not currently implemented).

Transfer / Bulking

3.5.6 There are currently 8 Transfer / Bulking sites which are currently handling Gloucestershire's MSW: Swindon Road (in its capacity as a depot for Cheltenham and Tewkesbury), Hempsted (for green waste bulking in Gloucester), Eastern Avenue (depot for Gloucester), Love Lane (a Cirencester transfer station, Sita WTS at Lydney Industrial Estate, Morton Valence (a large transfer station in Stroud District), Northway lane (a transfer station in Tewkesbury Borough), Printwaste (a transfer station and recycling facility in Tewkesbury Borough).

Collection Arrangements

3.5.7 Table 3h. below details the existing MSW collection arrangements in the County. This information, is the latest update, supplied by the WDA.

Table 3h. *Existing MSW Collection Arrangements (Source: Waste Disposal Authority: As of June 2010).*

District	Residual	Food	Kerbside recyclables	Garden	Bulky items
Cheltenham (In- house)	Wheeled bin, weekly	Not collected	Fortnightly (paper, glass, cans, cardboard)	Fortnightly (optional approx 85%	Charged collection

[20] 4 sites if the New Earth Solutions IVC Facility at Sharpness is included. This facility is not currently being used, but it has potential for MSW use (under contract).

				take up)	
Gloucester (Enterprise)	Wheeled bins fortnightly	Weekly	Weekly (paper, glass, cans, plastic milk bottles, batteries)	Fortnightly, wheeled bin (no charge most households approx 90% take up)	Free collection
Stroud (Veolia)	Sacks, weekly	Not collected	Fortnightly (paper, glass, cans, foil, batteries and plastic bottles)	Opt in bags for garden waste (60p per bag) – not composted	Free collection
Tewkesbury (In-house)	Wheeled bin, weekly	Not collected	Fortnightly (paper, glass, cans) Also Yoghurt pots, & other plastics , Tetra-Pak style food and drinks cartons, greetings cards and wrapping paper etc	Fortnightly charged collection, wheeled bin. Opt-in approx 30% using this scheme	Charged collection
Forest (Biffa)	Sacks, weekly	Not collected	Fortnightly (paper, glass, cans)	Fortnightly (approx 66% take up)	Charged collection
Cotswold (SITA)	Wheeled bins fortnightly	Weekly	Fortnightly (paper, glass, aerosols, cans; sack - cardboard)	Weekly charged collection (approx 60% take up)	Charged collection

Disposal Arrangements

3.5.8 Table 3i. below details the existing MSW disposal arrangements in the County. This information, is the latest update, supplied by the WDA.

Table 3i. *Existing Disposal Arrangements (Source: Waste Disposal Authority: June 2010).*

	Residual waste collected goes to…	**Food waste collected goes to…**	**Kerbside recyclables collected go to…**	**Garden waste collected goes to…**	**Bulky items collected go to…**
Cheltenham (in house)	Wingmoor Farm West	N/a	Printwaste, the Park	Wingmoor Farm West (Windrow Composting)	Wingmoor Farm either landfill or some recycling e.g. fridges
Gloucester (Enterprise)	Hempsted	Rose Hill Farm	Eastern Avenue	Hempsted for bulking then to Wingmoor Farm West for processing	Hempsted for landfill if recyclable then to Eastern Av
Stroud (Veolia)	Hempsted	N/a	Smiths	Landfill at Hempsted	Hempsted for landfill if recyclable then to Wingmoor
Tewkesbury (in house)	Wingmoor Farm West	Rose Hill Farm	Printwaste, the Park	Wingmoor Farm West	Wingmoor Farm either landfill or

				(Windrow Composting)	some recycling e.g. fridges
Forest (Biffa)	Bulked up at Lydney (Sita – Lydney) and taken to Hempsted	N/a	Eastern Avenue	Bulked up at Sita - Lydney then to Rose Hill Farm	Hempsted for landfill if recyclable then to Wingmoor
Cotswold (SITA)	Bulked up at Cirencester and taken to Wingmoor Farm West	Bulked up at Cirencester and taken to Rose Hill Farm	SITA depot (Out of County at Cricklade) (Info from WDA (11/08/2011)	Bulked up at Cirencester and taken to Rose Hill Farm	Bulked at Cirencester taken to Wingmoor Farm West. Recyclables go direct to Wingmoor Farm West

Current Facility Capacity

3.5.9 In order to calculate (or at least accurately estimate) the current capacity of MSW facilities, a combination of factors have to be considered. These include: a) the number of operational facilities, b) the annual (in some cases maximum) tonnage allowed under the EA license and c) the annual (in some cases maximum) tonnage allowed under the planning permission. In some cases the current waste throughputs (either provided by the WDA, the EA or the operator) can assist in the estimation process. This section just contains the headline figures, for more information, and to see the specific estimate tables see Appendix A: Municipal Solid Waste Data Tables.

Table 3j. *Current Indicative Capacity for MSW.*

Composting	Gloucestershire's current capacity for both MSW green waste and food waste composting is around 79,000 tpa.
HRC	Gloucestershire's current HRC handling capacity is currently around 66,000 tpa.
Waste Transfer Stations (WTS)	The capacity of Gloucestershire Waste Transfer Stations used for MSW transfer is currently around: 122,000 tpa for General Transfer/Bulking for disposal. 35,000 tpa for Transfer/Bulking of Recyclables.
Treatment	There are presently no permitted biodegradable waste 'treatment' facilities for MSW in the County.
Landfill	The County Council, under its municipal waste contract with Cory Environmental Ltd, use two landfill sites: Hempsted (Gloucester) and Wingmoor Farm West (Tewkesbury Borough). Currently these sites have a combined remaining voidspace of around 3,205,000 m^3 (at 1/4/2009).

3.6 MSW Growth Rate

3.6.1 Table 3b, Figure 3b and 3c above (under paragraph 3.3), show that from 2001/02 to 2006/07, Gloucestershire's MSW arisings grew slowly but steadily year on year. WCS-A (2007) reported an average 3% growth each year in the 5 years to 2006/07. However, in 2007/08 tonnages

arising dropped. This trend has continued and the 2009/10 figure was down by about 13,000 t from 2008/09.

3.6.2 These are actual figures. But what about future forecasts for MSW? Table 3k and Figure 3e. below detail the likely future MSW growth from 2010/11 to 2027/28. These projections are supplied by the WDA.

Table 3k. *Gloucestershire's Predicted Future MSW Growth (Figures in tonnes)*

Financial Year	Predicted Tonnage
2010/11	292,816
2011/12	297,116
2012/13	301,914
2013/14	306,793
2014/15	311,753
2015/16	316,794
2016/17	321,918
2017/18	327,127
2018/19	332,422
2019/20	337,805
2020/21	340,533
2021/22	343,258
2022/23	345,984
2023/24	348,709
2024/25	351,435
2025/26	354,161
2026/27	356,886
2027/28	359,612

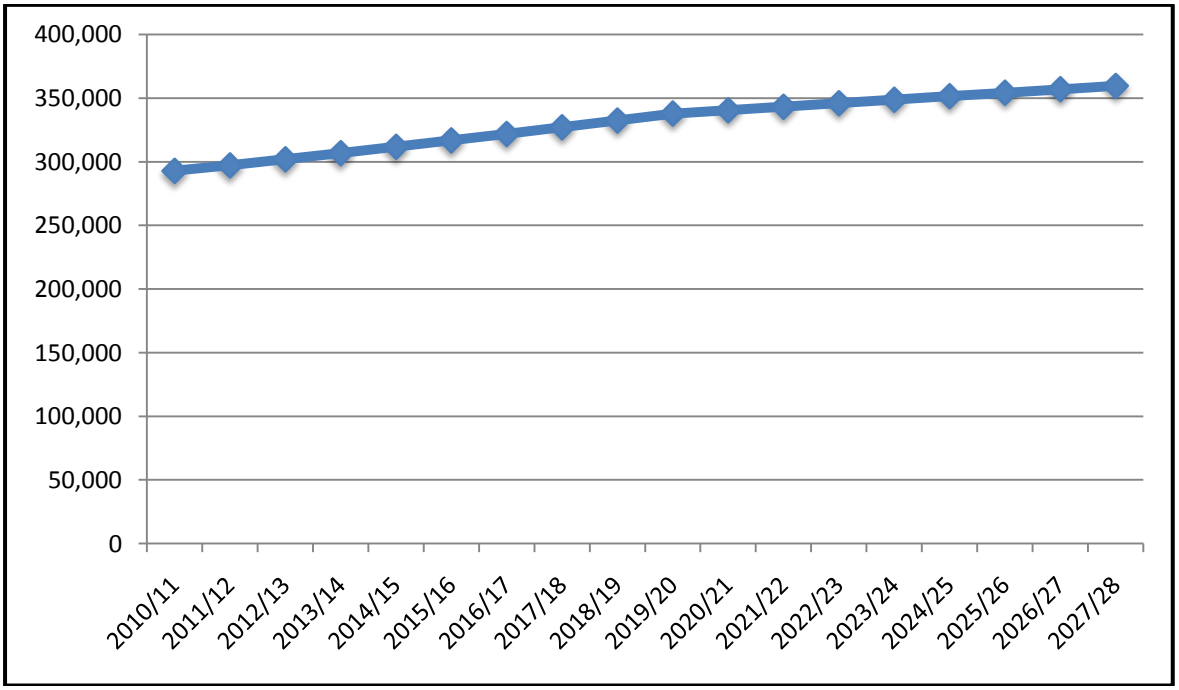


Figure 3e. *Gloucestershire's Predicted Future MSW Growth (Figures in tonnes).*

3.7 MSW Future Requirements

3.7.1 Table 3l. below sets out the projected indicative tonnages of MSW that are likely to be required to be managed up to the financial year 2027/28. The figures in blue represent the final LATS target year 2020. This data has been provided by the WDA on behalf of the Gloucestershire Waste Partnership.*(GWP)*[21] Table 3l. provides the GWP's most up-to-date consideration in terms of the facilities needed to deliver the JMWMS. Further information on the strategy fro managing municipal waste can be found by visiting: www.recycleforgloucestershire.com

♦ The **Years** are financial years (April – March).

♦ The **Arising Estimate** column is based on a baseline tonnage for 2006/07. It then applies the WDA projected yearly increase, as set out in the **Average Annual Growth Rate** column.

♦ The **Composting / AD** column relates to green (garden) waste and kitchen waste.

♦ The **Recycling** column relates to source separated and diversion through HRCs and District schemes.

♦ The **Residual Treatment** column relates the amount of 'black bag' waste that will require treating through some form of waste treatment facility. The figure range represents the success or failure of recycling/composting take-up.

♦ The **Transfer** column shows the amount of municipal waste which will require bulking for transfer to another facility for final treatment.

♦ The **Landfill (residual after treatment)** is the amount that results following treatment. This amount is already included within the landfill capacity column as part of the LATS allowance.

♦ The **Landfill (possible capacity needed)** column shows the tonnage of biodegradable municipal waste allowed to landfill under LATS plus an inert element (comprising 32% of the arising). Note: The Government has nationally set the biodegradable content of MSW at 68%.

Table 3l. *Yearly MSW Facility Requirements (Figures provided by Gloucestershire County Council's Waste Management Team with the exception of the column marked Landfill Possible Capacity needed).*

Year	Arising Estimate	Average Annual Growth rate	Composting/AD	Recycling	Residual Treatment	Transfer	Landfill		
		%	All		Assuming 60% recycling and composting (by 2020)		Residual after treatment	LATS targets	Possible Capacity needed
2000/01	268,504	12.17%	6,123	30,106	-	50,438	232,275	-	-
2001/02	268,320	-0.07%	7,312	31,100	-	50,404	229,907	-	-
2002/03	283,493	5.66%	12,395	35,296	-	53,254	235,802	-	-

[21] On 10/08/2010.

2003/04	291,978	2.99%	17,456	46,007	-	55,201	228,515	-	-
2004/05	309,486	6.00%	22,774	58,300	-	58,295	228,413	-	-
2005/06	312,118	0.85%	32,276	66,590	-	48,154	213,252	/	/
2006/07	324,143	3.85%	41,602	67,572	-	47,057	214,969	158,634	262,360
2007/08	322,796	-0.42%	43,683	77,116	-	46,000	201,997	150,100	256,340
2008/09	307,269	-4.81%	50,703	80,139	-	49,040	176,429	138,721	246,661
2009/10	**293,815**	**-4.38%**	**49,244**	**75,548**	**-**	**62,943**	**169,023**	**124,497**	**218,518**
Orange is latest current year, yellow are actual from previous years, below are predicted									
2010/11	292,816	-0.34%	55,329	75,323	-	64,879	162,164	107,428	201,129
2011/12	297,116	1.47%	63,147	80,225	-	65,355	153,744	95,471	190,548
2012/13	301,914	1.61%	65,137	83,089	-	65,844	153,688	83,513	180,125
2013/14	306,793	1.62%	66,793	85,625	-	66,348	154,375	71,555	169,728
2014/15	311,753	1.62%	68,546	88,166	148,000	77,521	7,041	68,486	168,247
2015/16	316,794	1.62%	75,030	95,597	139,000	73,084	7,167	65,416	166,790
2016/17	321,918	1.62%	76,590	98,581	139,000	73,374	7,747	62,347	165,361
2017/18	327,127	1.62%	78,883	101,536	139,000	73,354	7,708	59,277	163,958
2018/19	332,422	1.62%	80,659	106,089	138,000	72,837	7,674	56,208	162,583
2019/20	337,805	1.62%	82,728	112,302	135,000	71,388	7,775	53,139	161,237
2020/21	**340,533**	**0.81%**	**83,409**	**113,277**	**136,000**	**71,924**	**7,847**	**50,069**	**159,040**
2021/22	343,258	0.80%	84,089	114,252	137,000	72,459	7,917	-	109,843
2022/23	345,984	0.79%	84,769	115,228	138,000	72,994	7,987	-	110,715
2023/24	348,709	0.79%	85,449	116,205	139,000	73,528	8,055	-	111,587
2024/25	351,435	0.78%	86,129	117,182	140,000	74,062	8,124	-	112,459
2025/26	354,161	0.78%	86,809	118,159	141,000	74,597	8,193	-	113,332
2026/27	356,886	0.77%	87,489	119,138	142,000	75,130	8,259	-	114,203
2027/28	**359,612**	**0.76%**	**88,169**	**120,117**	**143,000**	**75,663**	**8,326**	**-**	**115,076**

3.8 The Capacity Gap for MSW

3.8.1 With regard to the RSS capacity figures for provision by 2020, the following Table 3m. indicates whether or not there is a capacity gap. Column 4 provides an assessment of the potential provision needed.

Table 3m. *RSS Capacity for MSW Source Separated.*

RSS CAPACITY FOR MSW S0URCE SEPARATED			
RSS minimum capacity requirements by 2020	**Current Capacity**	**Capacity Gap**	**Provision Needed**
170,000 tpa of source separated material	79,000 t of – Composting Capacity (Windrow & IVC)	No gap	According to the latest WDA figures it appears that there are currently sufficient composting

	66,000 t through HRCs 35,000 t transfer of recyclables 47,000 t / Kerbside collected capacity (included Swindon Rd CA Site and Bringbanks / Charity) TOTAL = 227,000 t		and recycling as well as transfer stations and landfill capacity to meet the RSS 'Source Separated' requirements up to 2020/21. However this should not mean that Gloucestershire does not need to do more in terms of its recycling/composting capacity. The RSS figure should be seen as a minimum not a maximum
Capacity for the treatment of a minimum of 200,000 tpa	No current capacity but the WDA (through the Residual Waste Project) anticipate the building of a residual waste treatment facility by 2014	200,000 t gap. The previous data paper indicated a range of 150,000 t to 270,000 t	The latest WDA estimate is that, as a minimum, a facility or facilities with a capacity of 150,000 tpa will be required by 2014/15
By 2020, there should be capacity to accommodate a maximum of 60,000 t allowed to landfill	As of 1/4/2009, the 2 landfills that currently dispose of Gloucestershire's residual MSW had a combined void capacity of 3,205,000 m^3	No capacity gap. Combined, the two current MSW landfills have over 20 years life remaining (at 2009 levels of tipping and including C&I and C&D inputs).	No additional landfill capacity required during the period 2012 to 2027 (The Plan Period of the WCS)

3.8.2 Notwithstanding the assumed figures presented in the RSS, the latest WDA requirement figures in column 3 of Table 3n[22] below, compared to column 2 (the existing capacity) indicate that by 2020/21 there is a need for additional capacity to manage Gloucestershire's MSW arisings. This need is detailed in column 4.

Table 3n. *WDA requirements to meet the final LATS target year.*

WDA REQUIREMENTS TO MEET THE FINAL LATS TARGET YEAR - 2020			
Process	**Current Capacity**	**Minimum capacity requirements by 2020**	**What is needed to manage arisings**
Composting	79,000 t	83,000 t	A small amount of capacity may be needed but this could be achieved through e.g. potential either further expansion (e.g. at Rose Hill Farm) or the reutilisation of facilities that used to manage contract green waste (e.g. the facility at Welsh Way, Sunhill, Cotswold)
Recycling	110,000 t	113,000 t	A small amount of capacity is needed (This is based on hitting a County 60% recycling/composting target by 2020). But it should be stressed that in order to

[22] The column 2 figures in this table are based on the figures/projections in Table 3l.

			get recycling/reuse rates as high as possible figures should be seen as a minimum rather than a maximum requirement
Residual Treatment	No operational capacity – all residual currently goes to 2 Cory operated landfills	136,000 t (Approximately 150,000 t as advised by the WDA)	136,000 t (Approximately 150,000 t as advised by the WDA. This is based on the latest available waste flow forecast produced by the Waste Disposal Authority and is based on achieving a 60% recycling rate by 2020. This will be resolved through the GCC Residual Waste Management Contract)
Transfer	122, 000 t for general/residual to landfill disposal 35,000 t for recyclables	72,000 t	The figures indicate that there appears to be adequate MSW transfer provision
Landfill Capacity	3,205,000 m^3 (at 1/4/2009) (Note this is just for Hempsted & Wingmoor West under Cory Contract, there is potentially additional capacity at Wingmoor Farm East – subject to planning and future contract decisions)	2,107,264 m^3 landfill capacity over the period 2009/10 to 2020/21	No additional capacity needed up to 2020/21, but needs to be kept under review

3.8.3 Table 3o below highlights the potential capacity gap over the WCS plan period. It shows that there is a need for additional capacity to manage Gloucestershire's MSW arisings. This need is detailed in column 4. Table 3p translates this need into hectare requirements.

Table 3o. *MSW requirements over the waste core strategy plan period.*

MSW REQUIREMENTS OVER THE WASTE CORE STRATEGY PLAN PERIOD (TO 2027/28)			
Process	**Current Capacity**	**Minimum capacity requirements by 2027/28**	**What is needed to manage arisings**
Composting	79,000 t	88,000 t	A small amount of capacity may be needed but this could be achieved through e.g. potential either further expansion (e.g. at Rose Hill Farm) or the reutilisation of facilities that used to manage contract green waste (e.g. the facility at Welsh Way, Sunhill, Cotswold)
Recycling	110,000 t	120,000 t	A small amount of capacity is needed (This is based on hitting a County 60% recycling/composting target by 2020). But it should be stressed that in order to get recycling/reuse rates as high as possible figures should be seen as a minimum rather than a maximum

			requirement
Residual Treatment	0 t	143,000 t (Approximately 150,000 t as advised by the WDA)	143,000 t (Approximately 150,000 t as advised by the WDA. This is based on the latest available waste flow forecast produced by the Waste Disposal Authority and is based on achieving a 60% recycling rate by 2020. This will be resolved through the GCC Residual Waste Management Contract)
Transfer	122,000 t for general/residual to landfill disposal 35,000 t for recyclables	76,000 t	The figures indicate that there appears to be adequate MSW transfer provision
Landfill Capacity	3,205,000 m^3 (at 1/4/2009) (Note this is just for Hempsted & Wingmoor West under Cory Contract, there is potentially additional capacity at Wingmoor Farm East – subject to planning and future contract decisions)	2,894,479 m^3 landfill capacity over the period 2009/10 to 2027/28	No additional capacity needed up to 2027/28

Table 3p. *Potential MSW Hectare Requirements for Strategic facilities (by 2020)*

Facilities for:	**Capacity needed by 2020**	**Sites /hectares needed**
MSW Residual Treatment	136,000 t (Approximately 150,000 t as advised by the WDA. This is based on the latest available waste flow forecast produced by the Waste Disposal Authority and is based on achieving a 60% recycling rate by 2020. This will be resolved through the GCC Residual Waste Management Contract).	This tonnage is likely to require either 1 large strategic site of about 5 ha or 2 to 3 smaller strategic sites of about 2 ha each.

*The hectare requirement figures are based on SW RWMS Appendix D, Page 83, Key Planning Criteria Matrix. A 'Strategic' site is capable of handling 50,000 tpa of waste or more.

Section 4: Commercial & Industrial Waste

4.1 Introduction

4.1.1 Commercial and Industrial (C&I) waste is made up of waste that is generated by businesses, shops, offices, factories, manufacturers etc. It is predominantly biodegradable material or various metal wastes. The information presented in this section is based on:

4.1.2 a) WPA analysis of the license returns which have been compiled in the EA's WDI 2008, for the calendar year 2008. At the time of writing, (August/September 2010), this C&I input data is the best and most up-to-date available, in the estimation of both the WPA and the EA. WDI 2008 classifies waste throughputs (including for C&I waste) under the following categories:

1. Landfill
2. Land disposal
3. Transfer
4. Treatment
5. Metals Recycling/Recovery Facilities

4.1.3 In terms of an analysis of the Gloucestershire managed data, this data paper broadly adheres to these categories.

4.1.4 b) The *Waste Facilities in Gloucestershire Survey* (January / February 2010) which asked local operators for data on Gloucestershire sites for the financial year 1st April 2008 to 31st March 2009. This survey produced some very useful information on throughputs, but it was most useful in terms of providing an update on site numbers in the County and understanding current capacities.

C&I and MSW Distinctions

4.1.5 The EA's WDI 2008 data does not distinguish between landfilled C&I and landfilled MSW, and their composition is very similar. Therefore, to determine the C&I landfilled fraction from the WDI 2008 landfill inputs, it was necessary to subtract the MSW landfilled figures. Table 4a. below details the WDI 2008 Substance Oriented Categories (SOC) that have been subtracted from the Hhold/Ind/Com tables to get the stand alone C&I Landfill, Transfer and Treatment figures in this section of the report.

Table 4a. *The categories of Household/MSW that have been subtracted from the Hhold/Ind/Com WDI tables to get the stand alone C&I Landfill, Transfer and Treatment figures.*

[SOC 10] Mixed ordinary wastes			
	Household and similar		
		Household wastes	
		EWC 20 01 99 Other fractions not otherwise specified	Street cleaning wastes
		EWC 20 03 01 Mixed municipal	EWC 20 03 02 Waste from markets

		waste	
		EWC 20 03 07 Bulky waste	EWC 11 11 03 Street cleaning residues
		EWC 20 03 99 Municipal wastes not otherwise specified	EWC 22 09 05 General and biodegradable – Street sweepings and litter
		UKWC 220900 General and biodegradable – HOUSEHOLD / COMMERCE / INDUSTRY WASTE	
		UKWC 220901 General and biodegradable - Household	
		UKWC 220906 General and biodegradable – Any mixture of materials in 20.09	

4.2 C&I Waste Management in Gloucestershire

4.2.1 Table 4b. below provides the tonnages of C&I (not including metals) managed in Gloucestershire in 2008, according to the EA's WDI 2008.

Table 4b. *C&I Waste Management in Gloucestershire 2008.*

Method	**Tonnage**
Landfill	314,000 t
Transfer	183,000 t
Treatment	15,000 t
Total Managed	375,000 t*
*Only 25% of the transferred figure has been added to the total managed figure as it is calculated that 75% of C&I waste is double counted. (As per Section 7 of WCS-A (2007).	

4.3 C&I Growth & Trends in Gloucestershire

4.3.1 The total Gloucestershire managed biodegradable (non-metal) C&I figure for 2005 was 348,000 t. The 2008 figure was up on this to 375,000 t. WCS-A (2007) presented a C&I 'managed in Gloucestershire' range of figures from 1998/99 to 2005.[23] Finding a trend was difficult, as was determining an appropriate growth rate. A 0% growth rate was decided on (as per the South West Regional Waste Management Strategy and Gloucestershire's adopted Waste Local Plan (2004). Tables 1e and 1f and Figures 1b and 1c in Section 1 of this report represent the best available trend data from the EA in terms of Gloucestershire's waste inputs. This data is not just for C&I waste, but it does reflect a broad picture across the waste streams. As mentioned in Section 1, the WDA has not changed its position on the C&I growth rate, but it does note the current downward trends (see Figures 1b. and 1c) and does not underestimate the continued impact of the escalating Landfill tax.

4.4 C&I Facilities in Gloucestershire

Landfill

4.4.1 In 2008 there were 4 principal sites that were landfilling C&I waste. These were:

[23] Page 20, Table 8.

1. Hempsted (Gloucester).
2. Wingmoor Farm West (Tewkesbury).
3. Wingmoor Farm East – non hazardous site (Tewkesbury).
4. Frampton landfill (Stroud).

4.4.2 Please refer to Table Ap.B.1 in Appendix B for the input tonnage details for the above sites. It should be noted that Hempsted (Gloucester) and Wingmoor Farm West (Tewkesbury), which are both operated by Cory Environmental Ltd, are contract sites for MSW, and yet they do take smaller volumes of C&I (and C&D) inputs. Frampton Landfill site is now closed.

Land disposal

4.4.3 The EA's WDI 2008 sub-classifies 'land disposal' as 'Deep injection' and 'Lagoon'. There are currently no such disposal methods employed in Gloucestershire.

Transfer

4.4.4 According to the EA's WDI, in 2008 there were 36 licensed waste transfer sites handling C&I waste as a part of their overall waste throughputs. These sites are widely spread throughout the County. For the detailed C&I tonnages see Appendix B, Table Ap.B.2. Clearly, many of these sites are multi-purpose and are transferring MSW, C&D waste, metals and hazardous wastes as well.

Treatment

4.4.5 According to EA WDI data, in 2008 there were 9 sites undertaking various types of waste treatment in the County. (See Table Ap.B.3 in Appendix B).

Metals Recycling/Recovery Facilities

4.4.6 There are numerous waste metal facilities in the County, but this data paper, (following WCS-A (2007)) regards metal waste as a stand-alone waste stream, and making such a distinction is supported by the EA. See Section 5 for a detailed analysis of metal wastes.

4.5 C&I Landfill Inputs

4.5.1 In 2008, a total of around 314,000 tonnes of non-hazardous C&I was landfilled in licensed sites in Gloucestershire. For the detailed figures, and the calculation that subtracts out the MSW fraction, please see Appendix B, Table Ap.B.1.

4.6 C&I Landfill Capacity

4.6.1 C&I landfill capacity is dealt with in Section 10. For the purposes of making provision for landfill voidspace it is considered prudent to combine the non-hazardous biodegradable MSW and C&I requirements. This is because the two waste types have a comparable composition, similar site requirements and are currently taken to the same sites in the County.

4.7 C&I Transfer Inputs

4.7.1 In 2008, C&I waste being transferred totalled around 183,000 tonnes. This figure was arrived at by subtracting out metals, hazardous waste, waste through HRCs, and the MSW element (as per Table 4a. above). For the detailed figures please see Appendix B, Table Ap.B.2.

4.8 C&I Transfer Capacity

4.8.1 The current capacity for C&I Transfer in Gloucestershire is estimated to be around 176,000 tonnes per annum. See Table 4d below for the details. The fact that this figure is slightly lower than the managed figure for 2008 is due to the fact that the WDI 2008 Transfer figure includes activities that could also be regarded as Recycling/Reuse (in RSS target terms). WDI 2008 does not have a Recycling/Reuse category. If the calculated capacity figures for Recycling/Reuse and Transfer are combined this would equate to about 315,000 tpa capacity.

4.8.2 The above explanation emphasises the fact that in this data paper, as with the previous one, a number of practical difficulties were encountered when trying to differentiate between a Transfer facility or site and a facility for Recycling / re-use. At waste sites 'on the ground' there are often numerous crossover activities. Thus, some problems encountered are given below:

4.8.3 ▪ Many operations classified as recycling facilities may bulk-up, or chip/pelletise the material for a further facility to process/ manufacture it into a marketable product. This is both early stage recycling, or a part of the broad recycling process and it is also transfer.

4.8.4 ▪ Descriptions of activities vary between EA waste management license records and the planning application / permission information. In terms of data it is the EA who is providing the classification of how waste is managed.

4.8.5 ▪ Different operators have different interpretations as to what they actually do on site – this then filters into their returns to the EA, which is then catalogued and passed on again to the WPA.

4.9 C&I Treatment

4.9.1 In 2008, C&I waste being treated in Gloucestershire totalled around 15,000 tonnes. This appears to be a very low tonnage, but bear in mind that this figure is based on the strict EA WDI 2008 classification of Treatment and this does not include the large metals tonnage. In reality there will be crossovers between treatment, transfer, recycling/reuse. For example all the activities at the Smiths of Gloucester site at Morton Valence, Stroud are classified in WDI 2008 as Transfer and none as Treatment or Recycling/reuse and yet there is a small MRF operating on this site and there is certainly a high degree of 'processing' of C&I waste taking place – moving C&I, C&D and some MSW away from landfill.

4.10 C&I Treatment Capacity

4.10.1 The current capacity for C&I Treatment in Gloucestershire is estimated to be around 37,000 tonnes per annum. This paper considers that C&I 'Treatment' is in the same category as 'Recovery' as per the C&I targets in the RWMS. See Table 4d below for the details.

4.11 C&I Totals Summary

4.11.1 The following Table 4c provides a summary of the managed figures for the County. Note: landfill capacity is dealt with in Section 10 of this report. The categories under the 'Method' column are those used that are used in WDI 2008 (and presumably future EA WDI datasets).

Table 4c. *2008 C&I Waste Total Managed Tonnages.*	
Method	**From WDI 2008**
Landfill	314,000 t
Transfer	183,000 t
Treatment	15,000 t
Total Managed	375,000 t*
*Only 25% of the transferred figure has been added to the total managed figure as it is calculated that 75% of C&I waste is double counted - as per Section 7 of WCS-A (2007).	

4.11.2 In WCS-A (2007), the C&I analysis[24] outlined various potential approaches in order to assess the potential capacity gap against RSS indicative targets. Two options were presented as follows:

1. To retain the separation between 'recycling/reuse' and 'recovery' as per the RSS.
2. To combine the two categories of 'recycling/reuse' and 'recovery' into a single target.

4.11.3 WCS-A (2007) recommended the first option, and this paper continues to present the C&I figures on this basis. However, there is a recognition that, in terms of looking at the overall aim of moving C&I waste away from landfill, a combined target is an acceptable and useful approach.

4.11.4 The reasons for this are as follows:

4.11.5 (i) As has been mentioned, there are many crossovers between the various C&I categories, and a number of important sites and facilities in the County might best be described as 'multi-purpose', in that they do not fit neatly into any one category. Since the publication of WCS-A (2007) the EA have attempted to standardise waste data analysis through rolling out the WDI data series. Essentially WDI now only used 5 categories for a particular waste stream: landfill, land disposal, transfer, treatment and metals recycling/recovery facilities. A particular issue with WDI 2008 is the Transfer category and how this relates to the RSS Recycling/Reuse category. Transfer in WDI 2008 is very broad and it is likely that it will include a significant amount of recycling, reuse and processing activities within it. The WDI 2008 Treatment category does broadly correspond with the RSS Recovery category.

4.11.6 (ii) Because of the complexities of calculating the C&I capacity gap, four different approaches to capacity and provision were proposed in WCS-A (2007). For the details, see pages 23 to 26 of that report. Approach 4, which was based on meeting a National (not Regional) target for reducing C&I waste to landfill, was favoured. This was because it clearly promoted the overarching aim of the WCS to reduce waste to landfill and provided incentives over and above regional capacity targets which had, in some cases, been met particularly if metals were included. However, it may no longer be appropriate to use this approach given that the 35% target referred to in Approach 4 was never actually included in the finalised Waste Strategy 2007. The only C&I target mentioned is not so much a target, but more of an expectation of reductions (presumably through the escalating Landfill tax). On page 103 of the strategy it states that the government is "Expecting the reduction of C&I going to landfill by at least 20% by 2010 compared to 2004." DEFRA are currently conducting a review of waste policy, but it is not clear at this stage if this will contain concrete National targets for reductions of C&I waste to landfill.

4.11.7 In light of the above considerations, Table 4d presents the current Gloucestershire C&I Capacity per District under the RSS Recycling/Reuse and Recovery (including Transfer) target categories.

[24] Pages 23 to 26.

Table 4d. *C&I Capacity Summary.*

RSS Category 'Recycling / Reuse'		RSS Category 'Recovery' (including Transfer)	
Composting (All composting including windrow and IVC)	Recycling / Reuse	Recovery (e.g. C&I input to Major STW, AD, MBT, Energy from Waste)	Transfer (Included in this Recovery section as per the RWMS, but clearly there are major crossovers between Recycling & Reuse and Recovery)
Cheltenham			
0 tpa	5,000 tpa	6,000 tpa	0 tpa
Cotswold			
10,000 tpa	0 tpa	0 tpa	17,000 tpa
Forest of Dean			
0 tpa	3,000 tpa	0 tpa	25,350 tpa
Gloucester			
0 tpa	0 tpa	2,629 tpa	42,070 tpa
Stroud			
25,100 tpa	73,500 tpa	28,080 tpa	74,500 tpa
Tewkesbury			
30,000 tpa	57,000 tpa	0 tpa	17,000 tpa
County Totals (Rounded)			
65,000 tpa	**139,000 tpa**	**37,000 tpa**	**176,000 tpa**
Combined = 204,000 tpa		**Combined = 213,000 tpa**	

4.12 The Capacity Gap

4.12.1 The following Table 4e (also Table 2b in Section 2) outlines the RSS Allocations (i.e. the indicative targets to be met) for C&I waste for the target years: 2010, 2013 and 2020. These figures are taken directly from the South West Regional Waste Management Strategy *From Rubbish to Resource* (2004).

Table 4e. *Commercial and Industrial Waste – Gloucestershire Annual Waste Management Capacities for Target Years.*

By year	Recycling / Re-use in tonnes per annum	Recovery in tonnes per annum	Landfilled in tonnes per annum
2010	260,000 – 280,000	150,000 – 180,000	285,000 – 315,000
2013	270,000 – 300,000	170,000 – 190,000	240,000 – 260,000
2020	300,000 – 320,000	260,000 – 290,000	110,000 – 120,000

4.12.2 In terms of the requirements for C&I waste management in Gloucestershire, the following Tables 4f & 4g indicate whether or not there is a capacity gap for Recycling/Reuse and Recovery (including Transfer).

Table 4f. *RSS Indicative Capacity Requirements for C&I* ***Recycling/Reuse*** *and Provision needed in the WCS Plan Period.*

RSS minimum capacity requirements by year:	**Current Capacity**	**Capacity Gap**
2010 260,000 to 280,000 tpa	204,000 tpa	Gap of between 56,000 and 76,000 tpa
2013 270,000 to 300,000 tpa	204,000 tpa	Gap of between 66,000 and 96,000 tpa
2020 300,000 to 320,000 tpa	204,000 tpa	Gap of between 96,000 and 116,000 tpa
2027 (No RSS figures)	204,000 tpa	Potential for additional provision but this will be identified in a review relatively soon after WCS adoption

Table 4g. *RSS Indicative Capacity Requirements for C&I* ***Recovery (including Transfer)*** *and Provision needed in the WCS Plan Period.*

RSS minimum capacity requirements by year:	**Current Capacity**	**Capacity Gap**
2010 150,000 to 180,000 tpa	213,000 tpa*	Potential over provision of 63,000 – 33,000 tpa♦
2013 170,000 to 190,000 tpa	213,000 tpa	Potential over provision 43,000 – 23,000 tpa♦
2020 260,000 to 290,000 tpa	213,000 tpa	Gap of 47,000 – 77,000 tpa
2027 (No RSS figures)	213,000 tpa	Potential for additional provision but this will be identified in a review relatively soon after WCS adoption

*176,000 tpa of this is Transfer, 37,000 tpa is Recovery.

♦ This potential overprovision has to be understood in the context of the large Gloucestershire Transfer capacity. If Recovery capacity is considered on its own, it could be argued that there is current under provision due to the fact that the County only has 37,000 tpa permitted, and the majority of this is not implemented as yet.

Table 4h. *RSS Indicative Figures for Maximum C&I Waste allowed to Landfill.*

RSS Maximum C&I to Landfill by year:	**Current C&I to Landfill**	**Required Reduction**

2010 285,000 – 385,000 tpa	314,000 tpa	29,000 t to meet lower range figure
2013 240,000 – 260,000 tpa	314,000 tpa	74,000 t to meet lower range figure
2020 110,000 – 120,000 tpa	314,000 tpa	204,000 t to meet lower range figure
2027 (No RSS figures)	314,000 tpa	This will be identified in a review relatively soon after WCS adoption

4.12.3 Tables 4i. below translates the combined RSS Recycling/Reuse & Recovery Transfer capacity gaps for Target years into potential hectares required for WCS allocation. Table 4j focuses on the year 2020 and provides some additional information in terms of the relation between hectares required and sites to be allocated.

Table 4i. *Combined RSS Recycling/Reuse & Recovery Transfer Indicative Capacity Gaps and Provision Needed in terms of Sites & Hectares Required.*

Years	Capacity Gap	Potential Hectares Required
2010	7,000 tpa potential over provision to 43,000 tpa gap	2 ha
2013	23,000 tpa to 73,000 tpa gap	2 to 4 ha
2020	143,000 to 193,000 tpa gap	8 ha (See Table 4f below for further details)
2027	Potential for additional provision but this will be identified in a review relatively soon after WCS adoption	To be identified in a review relatively soon after WCS adoption
*The hectare requirement figures are based on SW RWMS Appendix D, Page 83, Key Planning Criteria Matrix. A 'Strategic' site is capable of handling 50,000 tpa of waste or more. A smaller site may be capable of handling 25,000 tpa throughput.		

Table 4j. *Detail of Potential C&I Site & Hectare Requirements for Strategic facilities (by 2020)*

Facilities for:	Capacity needed by 2020	Sites /hectares needed
Recycling/Reuse	96,000 – 116,000 tpa	2 Strategic sites (4 ha in total) or 4 smaller sites that could be assessed through a criteria based policy
Recovery (Including Transfer)	47,000 – 77,000 tpa	1 to 2 Strategic sites (4 ha in total) or 3 to 4 smaller sites that could be assessed against a criteria based policy
Combined	143,000 – 193,000 tpa	3 to 4 Strategic sites (8 ha in total) or 7 to 8 smaller sites that could be assessed against a criteria based policy
*The hectare requirement figures are based on SW RWMS Appendix D, Page 83, Key Planning Criteria Matrix. A 'Strategic' site is capable of handling 50,000 tpa of waste or more. A smaller site may be capable of handling 25,000 tpa throughput.		

Section 5: Metal Waste

5.1 Introduction

5.1.1 The majority of metals managed in Gloucestershire are from the C&I waste stream. WCS-A (2007)[25] indicated that in 2005 metals made up a quarter of C&I waste. The approach, both in WCS-A (2007) as well as the adopted Waste Local Plan[26] has been to consider metal waste separately from the rest of the C&I waste stream in order to present a clearer picture of C&I waste. This is because metal waste is a largely self-contained waste stream.

5.1.2 According to the EA's WDI the total tonnage of metals managed in Gloucestershire in 2008 was 143,605 t. This has been adjusted to 130,844 t to take transfer double counting into consideration. [27]This is up from the 2005 figure of 114,000 t.[28] The 2008 total has been calculated on the basis of an inclusion of both C&I and C&D metals under the SOC 06 Category (Metallic wastes) as well as discarded vehicles from the SOC 08 Category (Discarded equipment). This figure includes metals deposited and transferred through HRCs. To ensure that there is no double counting, the HRC total managed figure for 2008 does not include metals.

5.2 Facilities in Gloucestershire

5.2.1 If sites for transfer and sites for treatment are included together, there are 34 End of Life Vehicle / Scrap Yards / Metal Recycling sites in Gloucestershire (See Map 5a below for indicative locations).

Map 5a. *All Gloucestershire metal recycling/ transfer sites.*

[25] Page 21, Paragraph 77.
[26] Adopted October 2004.
[27] See Section 5.6 for details on double counting adjustments.
[28] This was metal that 'went to metal recycling sites', so it is assumed this is a managed figure (both treatment and transfer).

5.2.2 Metals sites (of various types) are by far the most numerous type of waste facility in the County.

5.3 Metals Transfer

5.3.1 According to the EA's WDI, in 2008, a total of around 17,000 t[29] of metal waste was transferred through sites in Gloucestershire. This includes both C&I and C&D metals and also the MSW element i.e. metals taken to HRCs. See Appendix C, Table Ap.C.1. for details.

5.4 Metals Treatment

5.4.1 In 2008, a total of around 127,000 t[30] of metal waste was treated at sites in Gloucestershire. This includes both C&I and C&D metals. See Appendix C, Table Ap.C.2. for details. Also see Table 5a. below for a managed total (combined transfer and treatment). It should be noted that most of this 'treatment' will be taking place at e.g. garages and End of Life Vehicle facilities and that eventually this metal tonnage is likely to be transferred out of the County to recycling/reprocessing facilities.

5.5 Metals Capacity

5.5.1 There is currently around 433,000 t of permitted capacity for *both* the transfer and treatment of metal waste in Gloucestershire. This is clearly a large capacity figure, but it accords with the high 2007 figure of 386,000 t as detailed in the previous WCS data paper. As with other capacity calculations, the figure has been arrived at on the basis of the EA Waste Management License capacity, and the capacity permitted through the planning permission. However, where these are not available[31] an estimate has been taken based on the 2008 throughputs at the sites (from the WDI) or the April 2008 – March 2009 throughputs (from the GCC Capacity Survey). For full details see Appendix Ap.C.3. A summary table with District breakdowns is available below under heading 5.7 in Table 5b.

5.6 Metals Totals Summary

5.6.1 The following Table 5a provides a summary of the total managed metal waste figures for the County.

Table 5a. *Gloucestershire Metals Managed Totals 2008.*

Method	**WDI 2008**
Transfer	17,014 t (*25% of this is 4,253 t)
Treatment	126,591 t
Total Managed	**130,844 t**
Note: Only 25% of the transferred figure has been added to the total managed figure as it is calculated that for C&I waste, 75% of the transferred waste is double counted. Refer to Waste Core Strategy Technical Paper WCS-A Waste Data (September 2007), Section 7, Page 41, Paragraph 198.	

[29] These tonnages are classified as 'Transfer' on WDI 2008.
[30] These tonnages are classified as 'Treatment' on WDI 2008.
[31] A number of garages and metal recycling sites have District Council rather than County Council permissions as when planning consent was granted they were not considered to be primarily waste development. Some metals sites may also have EA exemptions.

5.7 Metals Capacity Totals Summary

5.7.1 It is clear from the total capacity figures in Table 5b. (below) that Gloucestershire is very well served in terms of the provision of metal transfer / treatment sites and facilities. However, it should be noted that there is the potential for some capacity over-estimation, given that, as with general C&I waste (and particularly 'transfer'), it is not always easy from EA licenses and County Planning Permissions to 'split out' the specific metal capacity of sites such as End of Life garages etc.

Table 5b. *Gloucestershire Metals (Transfer / Treatment) Total Capacity.*

Sites in:	Transfer / Treatment Capacity
Cheltenham	42,868 t
Cotswold	15,766 t
Forest of Dean	103,016 t
Gloucester	181,668 t
Stroud	79, 018 t
Tewkesbury	10,789 t
County Total	**433,125 t**

Section 6: Construction & Demolition Waste

6.1 Introduction

6.1.1 Construction and Demolition (C&D)[32] waste comprises mainly inert materials e.g. bricks, concrete, sub-soils etc. Whilst some biodegradable elements e.g. timber, metal and plastic, will also be present these are in comparatively small quantities. This counter-balances the approach taken with C&I waste, which is largely biodegradable but with small amounts of inert material. Figure 6a. below shows the split of waste elements within the broad C&D stream using the total figures from the EA's WDI 2008.

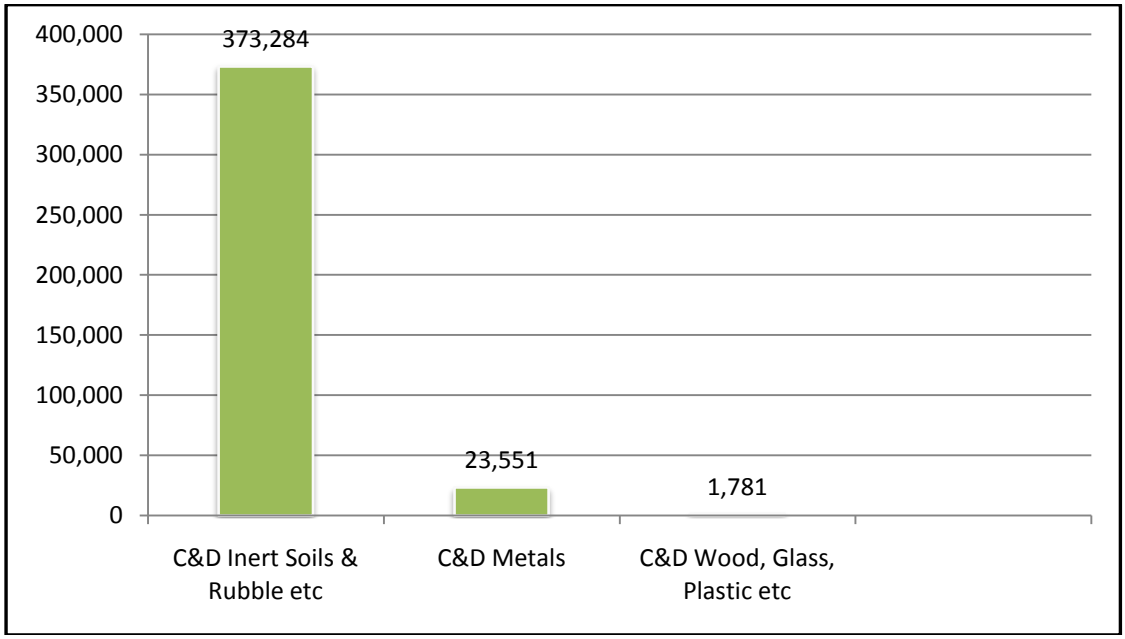


Figure 6a. *Waste elements within the C&D stream.*

6.1.2 The EA's WDI 2008 puts all C&D and excavation waste in one 'Inert'/C&D category. The waste inputs are subdivided into Landfill, Transfer and Treatment and Metal Recycling Sites (MRS). The MRS figures have not been included in the C&D managed totals as all managed metals have been included in Metal Waste section (Section 5) of this report.

6.2 Site & Facilities in Gloucestershire

6.2.1 Licensed sites in the County which manage C&D (either through transfer, treatment, crushing & screening and storage) include the following in Table 6a below.

Table 6a. *Gloucestershire Licensed C&D Management Sites.*
Cheltenham
Han Villa

[32] This paper used the term C&D but it does include excavation wastes.

Swindon Road HRC
Cotswold
Babdown Airfield
Love Lane
Foss Cross HRC
Pyke Quarry HRC
Unit K2
Forest of Dean
Bell Waste
Oak Quarry HRC
Newent Skips
Sita WTS – Lydney Industrial Estate
Woodgate Farm
Adsett Trading
Lydney Sand & Gravel
Gloucester
Allstone Sand & Gravel
Eastern Avenue Depot
Rutherfords Skip Hire
Hempsted HRC
The Brickhouse
Stroud
Smiths (Moreton Valence)
Netherhills Transport Depot
Tewkesbury
Royles & D R Skips
Smiths (Northway Lane)
Wingmoor Farm HRC
H T Waste Recycling
Ellerslie Skip Hire
Grundon Waste Management (Wingmoor Farm East)
Overton Farm
Elliott & Sons Ltd

6.2.2 Table 6b below details the sites in Gloucestershire for landfill disposal. These sites, like those in Table 6a are also licensed facilities but may also be operating, in whole or in part, under various EA exemptions.

Table 6b. *Gloucestershire Licensed Sites for Inert Landfill/Disposal Recycling.*
Cheltenham
/
Cotswold
Kempsford Quarry (Stubbs Farm)
Huntsmans Quarry
Cotswold Hill Quarry
Stanley's Quarry
Claydon Pike Gravel Pit
Brockhill Quarry
Land East of Spratsgate Lane
Farmington Quarry
Forest of Dean

Bromesberrow Heath Quarry
Federal Mogul
Bury Court
Stowfield Quarry
Clearwell Quarry
Gloucester
Hempsted Landfill
Stroud
/
Tewkesbury
Drymeadow Farm
Wingmoor Farm West
Wingmoor Farm East
Abbots Court Farm
Walton Hill Farm

6.3 C&D Growth & Trends

6.3.1 The previous waste data paper (2007) noted that, in Gloucestershire C&D waste arisings fluctuated considerably between 1999 and 2005.[33] By 2005 the trend was downward (See Figure 6b. below).

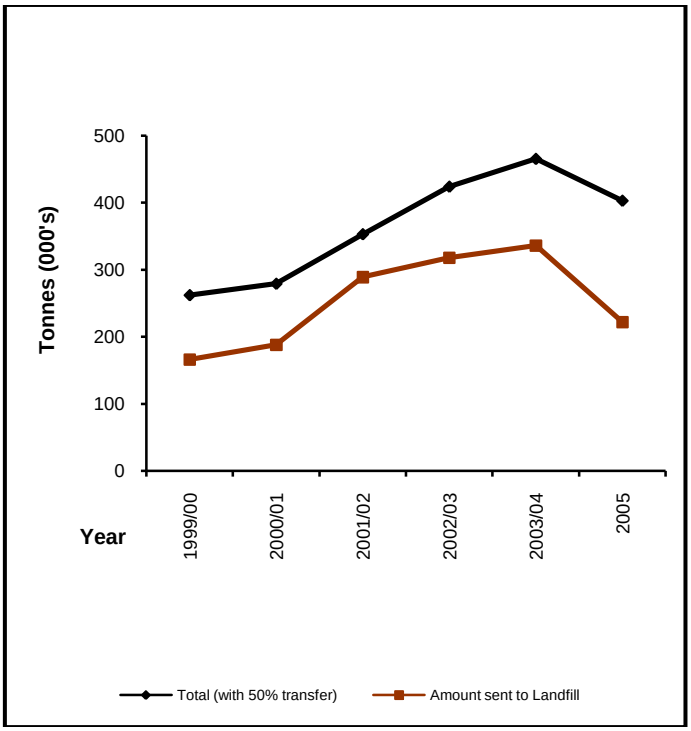


Figure 6b. *C&D Waste Trend in Gloucestershire 1999 – 2005.*

6.3.2 The Regional Waste Management Strategy (RWMS) and the adopted Gloucestershire Waste Local Plan (WLP) both assumed future C&D waste growth to be zero. On this basis, in terms of estimating growth/reduction rates for C&D, it is difficult to determine an appropriate way forward. It would seem likely that C&D waste arisings will have declined as a result of the current recession, but

[33] Page 30.

there is no data as yet from the EA to back this up. Arisings may just as easily increase again with improved economic growth in the near future. The most prudent approach is to assume a zero growth rate for C&D and plan on this basis.

6.4 C&D / Inert Exemptions

6.4.1 In addition to C&D waste that passes through licensed facilities, inert material is also managed on sites that have an EA waste management license exemption. In June 2010 the EA's Tewkesbury office provided a list of the latest EA data on exempt sites and facilities in Gloucestershire that allow for the storage, treatment or recovery of inert or C&D waste. This list comes with a number of significant caveats. The full details are included in Section 11 of this report.

6.5 C&D Landfill Disposal / Treatment / Other: Managed

6.5.1 In 2008, around 211,000 t of C&D waste[34] was landfilled or treated in the County (this is not including exemptions). Most of this tonnage went to landfill; the 'treatment' tonnage is very small in comparison. See Table Ap.D.1 in Appendix D for more details and also Table 6c below for the County managed summary.

6.6 C&D Transfer: Managed

6.6.1 In 2008, around 164,000 t of C&D waste was transferred in the County. See Table Ap.D.2 in Appendix D and also Table 6c below for the County managed summary.

Table 6c. *C&D Waste Managed in 2008 (Not including Metals and Hazardous waste categories).*

Method	**Tonnage from WDI 2008**
Landfill-Landraise Disposal / Treatment / Other	207,321 t (Landfill) 210,593 t (All)
Transfer	164,462 t (50% of this is 82,231 t)*
Total Managed	**292,824 t**
Note: Only 50% of the transferred figure has been added to the total managed figure as it is calculated that for C&D waste, 50% of the transferred waste is double counted. Refer to Waste Core Strategy Technical Paper WCS-A Waste Data (September 2007), Section 7, Page 41, Paragraph 198.	

6.7 C&D Disposal Capacity

6.7.1 Although WDI 2008 (and past EA returns) split C&D waste management into disposal/treatment and transferred categories, in practice it is not possible to provide a realistic split between transfer and treatment.[35] For the purposes of this paper and for the WCS, the two categories treatment and transfer have been combined under a single 'management' category. Therefore licensed capacity for C&D waste will be considered in terms of 'Disposal' and 'Management'.

[34] All SOC 1 (12) Mineral. SOC 2 (i. Construction and demolition wastes and ii. Naturally occurring minerals).

[35] This point is made in Paragraphs 139 and 140 of WCS-A (2007).

6.7.2 The current capacity for C&D disposal (through licensed sites) in Gloucestershire is currently estimated at around 1,446,000 t. As with other capacity calculations, the figure has been arrived at on the basis of the EA Waste Management License capacity, and the capacity permitted through the planning permission. However, where these are not available an estimate has been taken based on the 2008 throughputs at the sites (from the WDI) or the April 2008 – March 2009 throughputs (from the GCC Capacity Survey). A summary with District breakdowns is given below in Table 6d.

Table 6d. *C&D Waste Disposal Capacity (Based on Sites in WDI 2008 and the Up-to-Date 2010 position).*	
Sites in:	**Tonnes**
Cheltenham	0
Cotswold	893,055
Forest of Dean	360,000
Gloucester	77,284
Stroud	0
Tewkesbury	115,337
County Total	**1,446,000** (Rounded)

6.8 C&D Management Capacity

6.8.1 The current capacity for C&D management in Gloucestershire is estimated to around 504,000 tpa. See Table 6e below details.

Table 6e. *C&D Waste Management Capacity: (Based on Sites in WDI 2008 and the Up-to-Date 2010 position).*	
Sites in:	**Tonnes Per Annum**
Cheltenham	23,829
Cotswold	36,452
Forest of Dean	96,789
Gloucester	83,776
Stroud	130,000
Tewkesbury	133,369
County Total	**504,000** (Rounded)

6.9 Future Capacity Requirements

6.9.1 The South West policy for managing C&D waste is contained in the Regional Waste Management Strategy (October 2004), the C&D capacities do not formally appear in the RSS. The RWMS sets indicative C&D facility capacities that the WCS is required to demonstrate can be provided in Gloucestershire up to 2020. These are as follows:

Table 6f. *RSS Indicative C&D Waste Management Capacities for Target Years.*

Target year	Treatment	Transfer	Landfill
2010	70,000 t	110,000 t	210,000 t
2013	70,000 t	110,000 t	210,000 t
2020	70,000 t	110,000 t	210,000 t

6.9.2 If Treatment & Transfer are considered together as 'management' [36] then clearly, from the figures in Tables 6d and 6e, there is an over capacity of C&D waste facilities.

[36] See WCS-A (2007) Paragraphs 136, 139 & 140.

6.9.3 This was also the position in 2007, but the previous data paper outlined a number of reasons why in reality there is no such over-provision. These reasons are still valid and are repeated here:

6.9.4 1. Over the past few years there have been significant changes in C&D management in the County. For example, operators in Gloucester City have needed to re-locate their operations due to urban regeneration proposals. So while there is provision it may not be in locations close to arisings.

6.9.5 2. The Regional figures are based on the RWMS, whose policy approach is to maximise the re-use and recycling of C&D waste. More could be done to divert C&D waste from landfill, for example as restoration material at quarry sites. However, around 10% of landfill voidspace will need to be inert material to engineer and cover/cap the site.

6.9.6 3. There is a limit to the amount of soils that can be re-used on construction sites rather than taken to other sites for land restoration or landfill. Consequently there is a need for voidspace to dispose of inert materials (for example soils). 'Exempt' sites that are used to dispose of inert material through restoration, land improvement schemes etc. are often short-term and the closure of particular key sites can have a significant impact on capacity. But equally these sites are by their nature windfall opportunities – the minerals are not dug to create holes in the ground into which C&D waste can be tipped. This issue is consequently linked to mineral activities, a matter discussed in detail in the Technical Evidence Paper MCS-F 'After Minerals – Restoration, Aftercare and After-use in Gloucestershire'.

6.9.7 Fourthly there is an issue as to the amount of on-site demolition that occurs in a given year and subsequently the quality of that material for re-use.

6.9.8 The previous waste data paper (2007) outlined 2 potential approaches to providing an appropriate level of provision for future C&D waste management facilities in Gloucestershire:

6.9.9 **1.** Assume that the Regional apportionment is the best way forward, and that the County already has enough C&D provision. Consequently there would be no identified capacity gap for C&D waste facilities. Under this approach no additional capacity would need to be identified and any future development proposals would be considered on the basis of driving waste management up the hierarchy. This could be considered to be a reactive approach.

6.9.10 **2.** Proactively seek to move C&D waste management up the waste hierarchy in accordance with the proposed target in Waste Strategy 2007 - this being to halve the amount of C&D waste going to landfill by 2012.[37]

6.9.11 The dataset for WCS-A (2007) indicated that, for Gloucestershire (to 2020) this would mean: Reducing the 222,000 t sent to landfill in 2005 by 50% to 111,000 t by 2012 and assuming 111,000 t of fill every year up to 2020. Using this scenario, with the updated C&D landfill figures in this report, this would mean:

6.9.12 ▪ Based on the EA's WDI 2008 Data: A calculation based on 147,000 t input for 2 years and then 73,500 t for 9 years – to 2020.

6.9.13 ▪ Based on Landfill Operator Data (2008/09): A calculation based on 170,000 t for 2 years and then 85,000 t for 9 years – to 2020. (See Section 11 of this report for more details on the C&D landfill calculations).

[37] Proposed Target 1, Box C3.2 in Waste Strategy 2007 - Annex C Construction, demolition and excavation waste.

Year	Tonnage to licensed landfill
2010	170,000 t
2011	170,000 t
2012 (National target date)	85,000 t
2013	85,000 t
2014	85,000 t
2015	85,000 t
2016	85,000 t
2017	85,000 t
2018	85,000 t
2019	85,000 t
2020	85,000 t

6.9.14 WCS-A (2007) strongly advocated the second approach (above) for the following reasons:

6.9.15 It accordance with the National Waste Strategy 2007, in terms of pushing C&D waste management up the waste hierarch by diverting it from landfill. It provides additional incentives to move waste management up the waste hierarchy. It addresses the practical issue, raised by the waste industry, of insufficient opportunities for C&D waste facilities to operate in the County. It assists in the appropriate restoration of mineral extraction sites. It is proactive rather than reactive. It takes into account emerging national targets.

Section 7: Hazardous Waste

7.1 Introduction

7.1.1 Waste that is described as 'hazardous' is comprised of some 20 difference categories of material. Each has potentially different handling and management requirements. Hazardous waste includes, for example, fridges and TVs from households, asbestos and contaminated soils from the C&D waste stream, and processing residues such as sludges and oils from C&I wastes. Hazardous wastes therefore not only include substances that are usually recognised as being dangerous or harmful, but can also include waste from everyday activities such as engine oils, paints, solvents, batteries. These are materials which are commonly used and found in peoples houses, but which, if not managed correctly might constitute a health hazard.

National Policy

7.1.2 The Government has recently published a policy document 'A Strategy for Hazardous Waste Management in England (DEFRA, March 2010). This updates hazardous waste policy advice in Waste Strategy 2007. Principal 1 of the strategy is that Hazardous waste should be manager by waste producers and waste managers in accordance with the EU waste hierarchy. The hierarchy: (a. prevention, b. Preparing for re-use, c. Recycling, d. other recovery, e.g. energy recovery, e. Disposal) shall apply as a priority order in line with the Waste Framework Directive (2008/98/EC). The adherence to this hierarchy appears to be a significant shift as previously in Waste Strategy 2007, hazardous waste appeared to be a 'special case' falling outside the general accepted hierarchy. In 2011 the Government plans to designate a National Policy Statement for Hazardous Waste after following a consultation draft in 2010.

7.1.3 There are currently no specific national or regional targets for hazardous waste, but targets may be introduced or at least consulted on in the draft National Policy Statement.

National Arisings Trends

7.1.4 Over 6.6 million tonnes of hazardous waste were sent for disposal and recovery in England and Wales in 2008. This showed an increase of 3% from 2007. There are 24 hazardous waste only landfills in England and Wales; 17 merchant and 7 restricted user. However there are also around 50 non-hazardous landfills that have a mono cell for the disposal of stable non-reactive hazardous waste such as asbestos.

7.1.5 Although recycling and reuse of hazardous waste appeared to have decreased by 6% in 2008, the movement through transfer stations for recovery purposes increased by 40%. Waste from waste water treatment plants, construction waste with asbestos and oil / oil and water mixtures were the three waste streams with the largest tonnage increases in 2008 (26%, 22% and 21% respectively). London and the South East were the largest exporters of hazardous wastes in 2008 with the East Midlands and the North East importing the largest quantities.[38]

7.2 WDI 2008 – Arisings Data

7.2.1 The data in this section is from the EA's Hazardous WDI 2008. It is the latest data available at the time of writing and provides arisings and well as managed data on hazardous waste in Gloucestershire.

[38] A Strategy for Hazardous Waste Management in England (DEFRA, March 2010).

7.3 Facilities in Gloucestershire

7.3.1 There is currently 1 hazardous landfill site in Gloucestershire; the Grundon Waste Management site at Wingmoor Farm East, Bishops Cleeve, Tewkesbury Borough. This accepts a variety of hazardous waste from Gloucestershire and also from other parts of the UK. This facility was time limited to mid 2009, and the planning application to extend its life is currently being considered by the County Council. If this application is refused by the County Council, and if it is appealed and again refused at appeal, clearly Wingmoor Farm East will not be as hazardous landfill capacity.

7.3.2 Gloucestershire currently has 2 clinical waste transfer facilities and 1 clinical waste treatment facility. Additionally a number of the County's waste transfer stations, HRCs and End of Life Vehicle Dismantlers handle small tonnages of hazardous wastes such as oils, lubricants and asbestos.

7.4 Trends – Gloucestershire Arisings / Management

7.4.1 The following Table 7a and Figure 7a show trends in Hazardous waste arisings and management in Gloucestershire from 2002 to the latest 2008 dataset. The figures are taken from the EA's Hazardous WDI 2008 and from published data for 2006 on the EA's website.

Table 7a. *Gloucestershire Hazardous Waste Trend Data (rounded figures are the nearest 1000).*

	2002	2004	2006†	**2008**
Hazardous waste produced (arising) in Gloucestershire*	25,000 t	39,000 t	64,000 t	**38,000 t***
Hazardous waste produced (arising) in Gloucestershire but then exported	22,000 t	38,000 t	19,000 t	**27,000 t****
Hazardous waste imported into Gloucestershire	39,000 t	71,000 t	66,000 t	**79,000 t*****
Total Managed in Gloucestershire	42,000 t	72,000 t	111,000 t	**90,000 t********

* Total arising in Gloucestershire = 71, 953 t but – 34,325 t of APC and similar, which is an import) = 37,628 t (rounded to 38,000 t).

** Total arising in Gloucestershire = 37,628 t – 10, 427 t (which is the Gloucestershire arising deposited in Gloucestershire, this includes 7,243 of landfill leachate) = 27,201 t (rounded to 27,000).

*** The total import figure into Gloucestershire 88,957 t. Take away the Gloucestershire figure of 44,752 t (not technically an import) and you have 44,205 t. But 34,325 of this (which is down as a Gloucestershire import/arising is actually APC residue and similar waste import from e.g. South East, North West. This is mixed at the silo plant with 7,243 of (Gloucestershire in situ) landfill leachate and the mix equating to 41,568 t is then landfilled at Grundon Wingmoor East. So the 79,000 calculation is based on 88,957 t – 44,205 t + 34,325 t = 79,077 t (rounded to 79,000 t).

**** 38,000 t – 27,000 t + 79,000 t = 90,000 t.

† The data for 2006 comes from the EA hazardous waste web data for 2006. This year may not be strictly comparable e.g. with 2008 because the high Gloucestershire waste arising figure may include a large tonnage of APC residue and similar combustion wastes that are in fact produced elsewhere e.g. in the South East and imported.

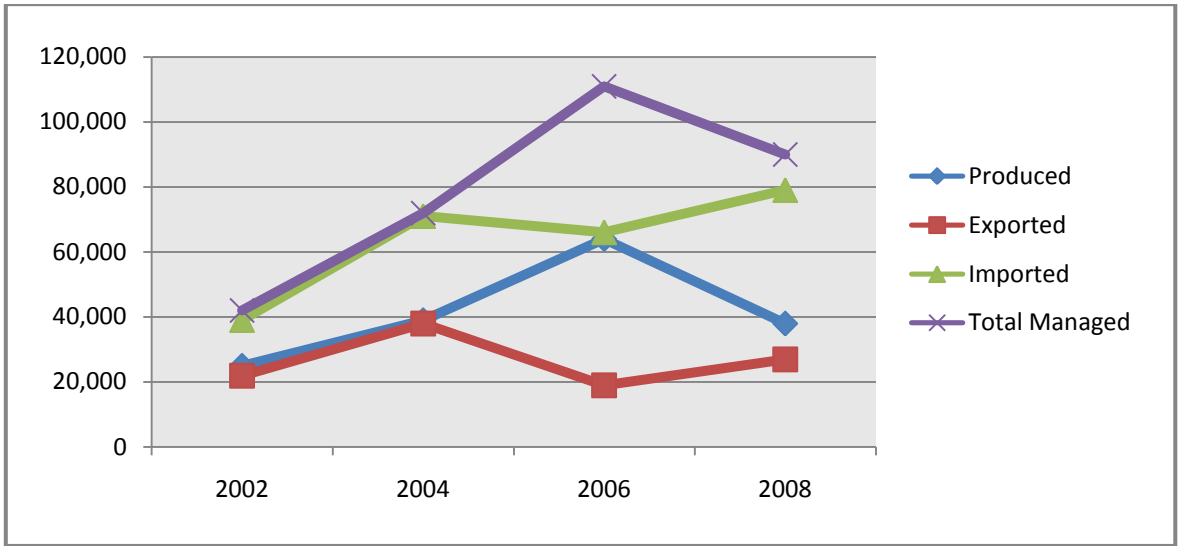


Figure 7a. *Gloucestershire Hazardous Waste Trend Data.*

7.4.2 Figure 7a. (above) shows that arisings (waste produced in Gloucestershire) have fallen since 2006, but imports have increased. Exports out of the County have remained reasonably stable with the 2008 figure not that much greater than that for 2002. The total managed figure reached a high in 2006, but has dropped since then reflecting the drop Gloucestershire based arisings.

7.5 Hazardous Waste Management Methods – 2002 to 2008

7.5.1 Table 7b (below) shows that there are variations year to year in the amounts of hazardous waste being managed in Gloucestershire and also that the method of management similarly varies.

Table 7b. *Hazardous Waste Management Methods in Gloucestershire – 2002 to 2008.*

Method/Year	2002	2004	2006*	2008
Landfilled	38,940 t	31,090 t	84,101 t	51,043 t + 34,042 t (the Transferred for Disposal figure)# 85,085 t
Treated	20 t	38,180 t	2,247 t	1,879 t
Transferred (D) for Disposal	3,160 t	2,850 t	22,959 t	See Landfilled figure above
Transferred (R) for Recovery			35 t	300 t
Recycled / Reuse	13 t	60 t	3,068 t	1,691 t

Note these years are not easily comparable due to changes in the way the EA categorise waste e.g. 2004.

* From EA Hazardous Web Data for 2006.

As stated in the previous Waste Data paper, EA figures do not show that Transferred (D) for Disposal waste

landfilled. About 75% of the Transferred (D) for Disposal figure is imported Air Pollution Control (APC) residue waste from Scotland, the North West and the South East. APC residue inputs at Wingmoor Farm East are mixed with leachate that can be generated from within the plant or imported liquid waste. The resultant material is then landfilled.

So by adding Landfilled and Transferred (D) you get 85,000 t landfilled out of 90,000 managed in Gloucestershire. This equates to 94% of the hazardous material that is managed in Gloucestershire ultimately being landfilled – (at Wingmoor Farm East).

7.6 Hazardous Waste Imports by Region – 2008

7.6.1 Tables 7c & 7d and Figures 7b & 7c show the latest (2008) Hazardous waste import and export figures for Gloucestershire.

Table 7c. *Hazardous Waste Imports into Gloucestershire by Region 2008.*

Origin Region	Tonnage	% of total hazardous waste imported
Unknown	569	0.72 %
Other	34,325*	43.4 %
East Midlands	295	0.37 %
East of England	99	0.12 %
London	170	0.21 %
North East	24	0.03 %
North West	3,190	4.0 %
Scotland	4,544	5.7 %
South East	22,357	28.3 %
South West (not including Gloucestershire)	5,960	7.5 %
Wales	2,348	2.9 %
West Midlands	4,082	5.1 %
Yorkshire	562	0.71 %
Total Imported	**79,000**	**100 %**

* This tonnage is an import but the EA have recorded it as a Gloucestershire arising because it is APC residue / combustion wastes mixed which are treated at the silo plant with 7,243 of (Gloucestershire in situ) landfill leachate and the mix equating to 41,568 t is then landfilled at Grundon Wingmoor East.

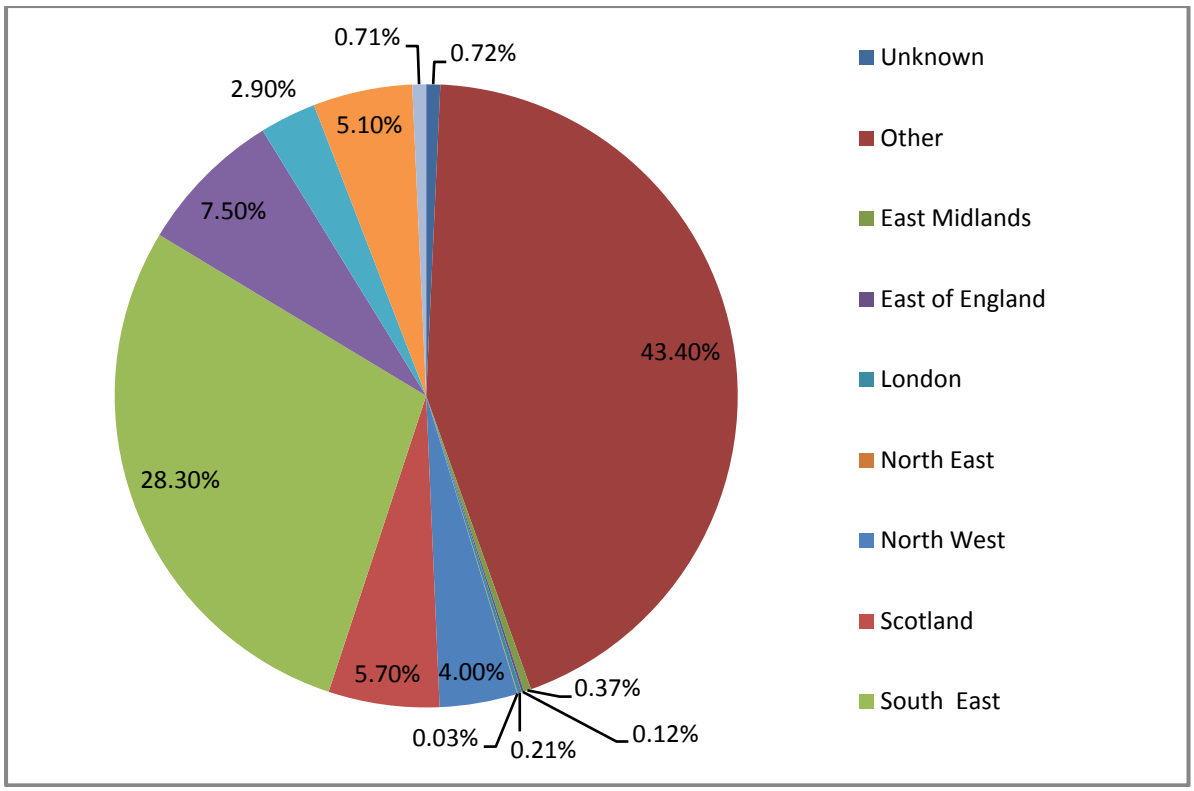


Figure 7b. *Hazardous Waste Imports into Gloucestershire by Region 2008.*

7.7 Hazardous Waste Exports by Region – 2008

Table 7d. *Hazardous Waste Exports out of Gloucestershire by Region 2008.*

Receiving Region	tonnage	% of total hazardous waste exported
East Midlands	1,512	5.6 %
East of England	278	1.0 %
London	452	1.6 %
North East	878	3.2 %
North West	2,237	8.2 %
South East	516	1.9 %
South West (not including Gloucestershire)	7,951	29.4 %
Wales	4,036	14.9 %
West Midlands	9,164	33.9 %
Yorkshire and the Humber	173	0.6 %
Total Exported	**27,000**	**100 %**

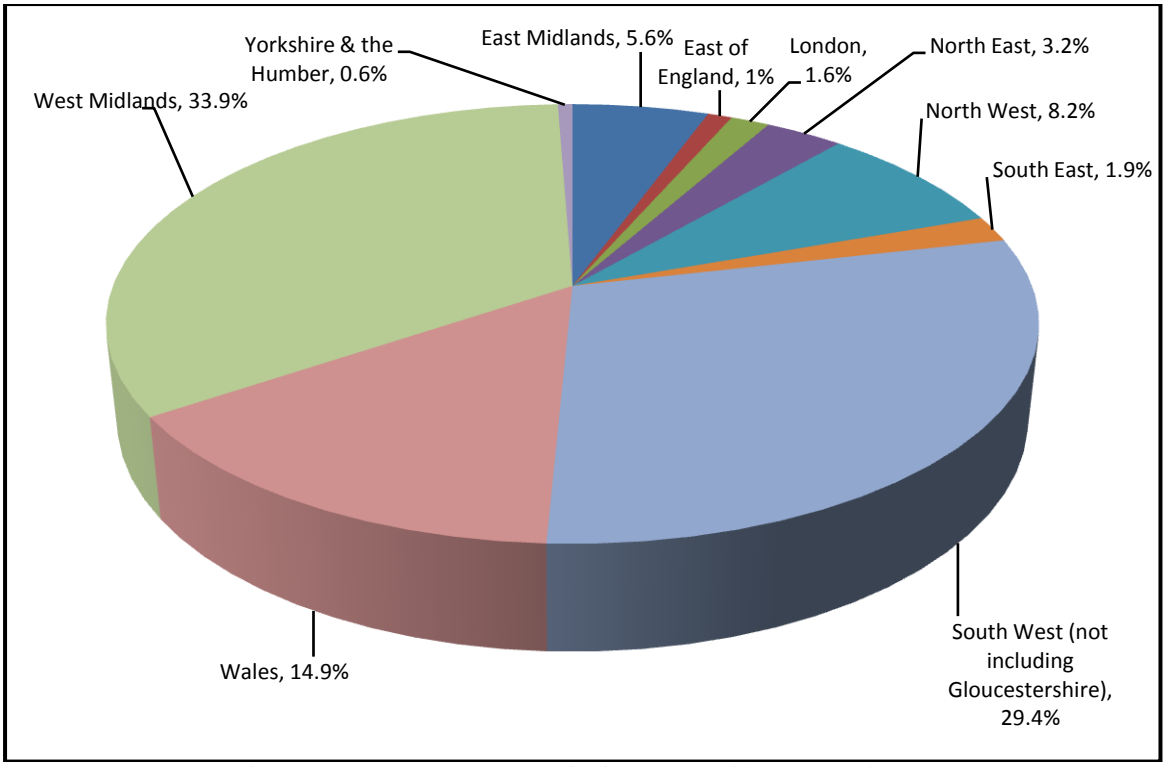


Figure 7c. *Hazardous Waste Exports out of Gloucestershire to Region 2008.*

7.8 Hazardous Waste Capacity

7.8.1 As mentioned under Heading 7.1, there are currently no specific national or regional targets for hazardous waste, but it may be that the government will introduce requirements through the proposed National Policy Statement on Hazardous waste.

7.8.2 Clearly the most significant site in the County in terms of hazardous capacity is the Wingmoor Farm East hazardous landfill. It is arguably a site of regional if not national importance in terms of hazardous landfill capacity. For an indication of the latest inputs, see Appendix E. WCS-A (2007) reported that, as of February 2007, the hazardous waste landfill voidspace in Gloucestershire was between 2.8 and 3.6 million m^3. This was all at Wingmoor Farm East. The latest capacity figure given by Grundon Waste Management for this site as of 31/03/2009 was 1,206,200 m^3. This is a significant reduction even from the lower figure in the previous range.

7.8.3 The future operational life of the Wingmoor Farm East site is currently being considered by the County Council, and what is clear is that decisions currently being made will have a significant bearing on hazardous capacity in Gloucestershire one way or the other.

Section 8: Radioactive Waste

8.1 Introduction

8.1.1 Radioactive waste is waste that has become contaminated with radioactive material or has become radioactive through exposure to neutron radiation. This waste can arise from both nuclear and non-nuclear industries. Waste Core Strategies are required to address this waste stream even though it is likely to form only a minor element of the overall waste generated and will probably be dealt with at specially licensed sites within or outside the plan area. For Gloucestershire the main site/facility to be considered is the Low-Level Storage Facility at the now decommissioned Berkeley Power Station.

Clinical waste

8.1.2 Some clinical waste can be low-level radioactive. Gloucestershire currently has 2 clinical waste transfer facilities and 1 small clinical waste treatment facility. It is considered that given the very small amounts of clinical waste being managed in the County, that there is sufficient capacity existing to manage this specialist waste steam.

8.2 Berkeley Intermediate Level Waste Storage Facility

8.2.1 There is currently only one nuclear site in the County; the decommissioned Berkeley nuclear power station, near to the village of Berkeley in Stroud District. The Berkeley nuclear licensed site occupies an area of approximately 10 hectares. Buildings and facilities on the licensed site today include the two reactor buildings; the laid-down boilers that were used to generate steam during electricity generation; and various radioactive waste management / storage facilities. Adjacent and to the south-west of the licensed site is the Berkeley Centre site. This site has its origins as a nuclear-power related research laboratory in the 1960s, but now provides the location for offices for the southern region of Magnox Electric power station sites.

8.2.2 In August 2007, GCC as WPA permitted the following planning application for development at the Berkeley nuclear licensed site, Berkeley, Stroud.

Ref: (S.07/0927/CM)
Intermediate Level Waste (ILW) Storage Building

The proposal is for the construction of a storage building to house intermediate level waste (ILW) and the building has a design life of 150 years. The Committee on Radioactive Waste Management (CoRWM), that is a government advisory body, has recommended that a disposal facility would not be available until at least 2040. The proposed ILW store will be approximately 83 metres long, 24.5 metres wide and with a height of 18 metres to the apex of the roof. It will be constructed of concrete with cladding providing an external weatherproof layer.

8.2.3 The permission only allows for waste generated from within the site to be stored i.e. no importation and the permission is for an initial period of 3 years.
The coalition government, following the proposals of the previous government, seems committed to a programme to build or reactivate at least 10 new nuclear powers stations in the UK over the next decade. This is seen as vital in order to meet the county's future energy demands. A number of these are likely to be built on the site of decommissioned power stations. Whilst it is highly unlikely that a new power station will be built at Berkeley, Oldbury Power Station in South Gloucestershire is likely to be utilised.

8.2.4 This may have some future implications for the WPA and for waste management in Gloucestershire, but at this stage it is sufficient to be aware of the issue and for the WCS to continue to plan for other more conventional waste streams.

Section 9: Agricultural Waste

9.1 Introduction

9.1.1 Gloucestershire is a very rural County, and agriculture is an important part of the local economy. Agricultural waste is derived from premises used for the following:

- horticulture
- fruit growing
- seed growing
- dairy farming
- livestock breeding and keeping
- grazing land
- meadow land
- osier land
- market gardens
- nursery grounds
- woodlands, if they are secondary to the use of the land for other agricultural purposes.

9.1.2 Agricultural waste is any substance or object from premises used for agriculture or horticulture, which the holder discards, intends to discard or is required to discard. It is waste specifically generated by agricultural activities.

9.1.3 For example, waste which came from a farm shop or a vegetable packing plant would not be agricultural waste. Some examples of agricultural waste are:

- empty pesticide containers
- old silage wrap
- out of date medicines and wormers
- used tyres
- surplus milk

9.1.4 Since 2006, agricultural waste has been subject to the same controls that have applied to other sectors for many years. On 15 May 2006, uncontrolled burning or tipping of waste on farms became illegal under the terms of the Environmental Protection Act 1990.

9.2 Agricultural Waste in Gloucestershire

9.2.1 Agricultural waste data is not readily available, however the EA has produced some Regional data for 2003 (see Table 9a below).

Table 9a. *Agricultural Waste Data for the South West 2003.*	
Waste / By-Product	**Tonnes in South West England in 2003**
Compostable & Digestible	
Farm yard manure	6,734,361
Slurry	5,400,651
Vegetable	50,908
Sub total	**12,185,920**
Combustible	
Straw (unbaled)	208,233
Silage wrap (plastic)	6,557
Bale twine and net (plastic)	2,007
Fertiliser & seed bags (plastic)	2,292
Animal feed bags (plastic)	3,003
Animal feed bags (paper & card)	1,839
Horticulture (plastic)	300
Tree guards (plastic)	1,932
Paper seed bags (paper & card)	222
Oil	3,900
Sub total	**230,284**
Difficult & Chemical	
Silage effluent	318,031
Agrochemical (plastic)	297
Agrochemical (paper and card)	198
Animal health (plastics)	168
Animal health (paper and card)	56
Animal health glass	168
Animal health rubber/metal	2
Pesticide washings	13,800
Sheep dip - organic phosphates	7,183
Sheep dip - synthetic pyrethroids	2,897
Sub total	**342,801**
Other	
Milk	4,867
Sub total	**4,867**
Total	**12,763,872**

9.2.2 The latest Gloucestershire specific data is from the Strategic Waste Management Assessment 2000 – South West (see Table 9b below).

Table 9b. *Agricultural Waste in Gloucestershire.*		
Material	Tonnage in 1998	Tonnage up to 2018
Compostable and Digestible	1,059,843	10,598,430
Combustible	41,709	417,090
Difficult & Chemical	13,484	134,842
Other (scrap machinery / milk)	766	7,660

9.2.3 Advice from the EA is that, following a recent judgement from the European Court of Justice, manures and slurries arising from agricultural activities and spread to land for agricultural benefit do not fall within the terms of the Waste Framework Directive and are therefore not to be considered

as waste. The tonnages / measures of actual wastes, essentially those non-natural materials arising through farming activities, will be 'waste' and thus will require appropriate management and disposal.

9.2.4 The EA do not believe that the amounts of such wastes arising at a regional and sub-regional (county) level to be significant, representing less than 1% of existing waste management tonnages, and thus could be managed through existing waste facilities. Consequently, this data paper takes the same position as in Technical Paper WCS A (September 2007) in not proposing to make specific provision for this waste stream. However this may need to be reviewed during the first WCS review prior to adoption.

Section 10: Neighbouring Authorities / Cross Boundary Movements

10.1 Introduction

10.1.1 PPS10 (and Companion Guide) both stress that, in the preparation of waste DPDs, it is important to consider the implications of neighbouring Authorities waste capacities and their emerging plans.

10.1.2 In view of this, on the 12th July 2010 a questionnaire was sent by email to all Gloucestershire's neighbouring Authorities, namely: Oxfordshire, Worcestershire, Warwickshire, Herefordshire, Monmouthshire, South Gloucestershire, Wiltshire, Swindon. The following Authorities replied to the survey: Oxfordshire, Monmouthshire, Wiltshire & Swindon, Warwickshire and Worcestershire.

10.1.3 The following Table 10a is a summary of questions asked and responses given:

Table 10a. *Summary of Neighbouring Authority Waste Survey / Cross Boundary Movements Survey.*

Oxfordshire
Current status of waste DPDs
M&W Core Strategy Preferred Option Consultation February 2007. Mineral Sites Proposals and Policies Issues and Options Consultation April 2007. Waste Sites Proposals and Policies Issues and Options Consultation February 2007. Current work concentrating on M&W Core Strategy. Further consultation on a Preferred Minerals strategy planned for November/December 2010. Further consultation on a preferred waste strategy to await outcome of Ardley EfW appeal.
Existing waste facilities
GIS Map provided of about 139 waste sites.
Significant movements of waste into Gloucestershire
Potentially from Oxfordshire to Huntsmans Quarry in Cotswold District and transfer sites in or close to Cirencester (Cotswold District). No specific information given; this was originally information given by Gloucestershire to Oxfordshire CC.
Expected future movements / intended provision
Oxfordshire County Council is unaware of the existing and potential future movements of its waste to the above Gloucestershire facilities. It believes that any movements of waste from Oxfordshire to the sites in Gloucestershire recognised above are small, given the rural nature of West Oxfordshire. Provision for local facilities will be considered during the generation and appraisal of strategic options in the next stage of Plan preparation.
Significant movements of waste from Gloucestershire
To West Oxfordshire: 4000 tonnes – inert / 1,300 tonnes – biodegradable / (unspecified tonnage) – Hazardous waste. This information was originally provided by Gloucestershire County Council. Oxfordshire County Council does not have any information on movements of waste from the Gloucestershire authority area into Oxfordshire. It believes that any movements of waste from sites in Gloucestershire into Oxfordshire are small, given the rural nature of East Gloucestershire and the availability and capacity of waste facilities in West Oxfordshire.
Current landfill capacity
Hazardous Landfills There is currently no hazardous voidspace within the authority area. Non-Hazardous Landfills There are currently 5 major operational non-hazardous landfills within the authority area, with 2 other non-

operational facilities (including an ash disposal facility for Didcot Power Station). There was approx 13,364,000 m^3 of non-hazardous landfill voidspace as at June 2010. (See Oxfordshire Interim Waste Need Assessment).

Inert Landfills

There are currently 11 operational Inert landfills within the authority area; and 8 other non-operational facilities. There is currently believed to be 3,771,700 m^3 of inert landfill voidspace.

Plans for future landfill provision

Oxfordshire's landfill requirement has been set out in a recent interim statement of MSW and C&I waste needs. This statement (section 8) also confirms Oxfordshire's current landfill void (13,364,000 m^3). Based on current rates of fill (the landfills taking waste from London and other Counties) there may be a need for further landfill but only towards the end of the Plan period (2026). If Oxfordshire develops a facility to treat residual waste, as presently planned, the predicted rate of fill with of course be much reduced and the need for further non-hazardous landfill avoided. The fill rate would be reduced still further if other Counties develop residual waste treatment facilities.

Provision through Waste DPDs for waste facilities that could influence cross boundary movements

The following provides an initial indication of the additional capacity that might be required over the Plan period and how this might have a bearing on cross boundary movements. Our initial conclusion is that additional capacity (in tonnes/m3) for the following types of facilities would be required to 2026:

Construction, Demolition & Excavation Waste (CDE) recycling –211,000 tpa*
MSW and C&I recycling and composting – 388,900 tpa
MSW and C&I residual treatment – 366,070 tpa
Non-Hazardous Landfill – 6,900,260 m^3
* Figure based on a capacity that would be required in absence of any temporary permissions.

However, it cannot be determined at this stage where new facilities will be located and whether or not this will have a bearing on cross-boundary movements.

Oxfordshire will make provision to support the self-sufficiency principle to reduce the need for exporting waste out of the county. The County Council supports the principle of sub-regional self-sufficiency but recognises that some cross-boundary movements of waste are to be expected and should be accommodated where a facility is close to the source of arising. For a County like Oxfordshire, self-sufficiency is more likely to be achieved by locating facilities closer to the centre of the County, where the main centres of population and areas of future development are located. EA data indicates that about 9% of Oxfordshire's waste is managed in facilities outside of the County. But Oxfordshire is unlikely to provide the final destination for much of the waste that is recycled and, depending on how waste data is presented in future, it may be that the County appears to be exporting more of its waste elsewhere than is presently the case.

Recovery / treatment / processing facilities that could serve an area wider than the sub-region

The following existing and committed facilities were classified as 'Regionally Significant' by the former South East England Partnership Board (in 2010):

Facility No	Facility Name	District	Facility Type
011(i)	Finmere Quarry Landfill	Cherwell	Non Haz Landfill
009(i)	Worton Rectory Farm Transfer Station (C&I)	West Oxfordshire	MSW/ C&I Recycling or Transfer
115(a)	Radley Pfa Lagoons	Vale of White Horse	Non Haz Landfill
023(i)	Alkerton Phase 3	Cherwell	Non Haz Landfill
010(i)	Appleford Sidings Landfill	Vale of White Horse	Non Haz Landfill
022(i)	Ardley Quarry (southern Extension)	Cherwell	Non Haz Landfill
141	Aasvogel Recycling	Vale of White Horse	MSW/ C&I Recycling or Transfer
010(iii)	Sutton Courtenay Recycling (WRG)	Vale of White Horse	MSW/ C&I

			Recycling or Transfer MSW/ C&I
013(ii)	Ewelme Materials Recovery Facility	South Oxfordshire	Recycling or Transfer
004(i)	Slape Hill Landfill Site	West Oxfordshire	Non Haz Landfill
003(i)	Dix Pit Landfill	West Oxfordshire	Non Haz Landfill
115(b)	Radley Ash Disposal	Vale of White Horse	Non Haz landfill
			MSW/ C&I Recycling or
011(ii)	Finmere Quarry MRF	Cherwell	Transfer
243	Companions Rest	West Oxfordshire	Incineration
153	Merton Street Depot	Cherwell	Hazardous/ Radioactive
152(i)	Ewelme Transfer Station	South Oxfordshire	Hazardous/ Radioactive
152(ii)	Ewelme Transfer Station	South Oxfordshire	Hazardous/ Radioactive
157	Amity Insulation Services	West Oxfordshire	Hazardous/ Radioactive
156	City Insulation Contractors Ltd	Oxford	Hazardous/ Radioactive
151	Drayton Depot Transfer Station	Vale of White Horse	Hazardous/ Radioactive
			MSW/ C&I Recycling or
150	Horspath Road Depot	Oxford	Transfer
003(iii)	Dix Pit Waste Storage Compound for refrigerators	West Oxfordshire	Hazardous/ Radioactive
242	J30, JET	South Oxfordshire	Hazardous/ Radioactive
			MSW/ C&I Recycling or
012	Gosford Grain Silos	Cherwell	Transfer
215	Culham Laboratories	South Oxfordshire	Hazardous/ Radioactive
053(ii)	Harwell Wss - Processing	Vale of White Horse	Hazardous/ Radioactive
009(ii)	Worton Rectory Farm Composting	West Oxfordshire	Composting
252	Upper Farm, Warborough	South Oxfordshire	Composting

Banbury Transfer Station should also be included in this list. This facility has an available capacity of 60,000 tonnes per year, which meets the criteria set out by the SEEPB which considers Transfer facilities; "All regardless of capacity". However, it must be added that OCC have yet to take a view on what we may consider to be a 'regionally significant facility'. In view of this, OCC believe that some of these facilities are unlikely to be of more than local significance.

Wiltshire & Swindon
Current status of waste DPDs
Waste Core Strategy – adopted July 2009. Waste Development Control Policies – adopted September 2009. Waste Site Allocations – Pre-Submission (Reg. 27) consultation Autumn / Winter 2010.
Existing waste facilities
GIS map given.
Significant movements of waste into Gloucestershire
Not aware of significant movements.
Expected future movements / intended provision

N/A

Significant movements of waste from Gloucestershire

Not aware of significant movements.

Current landfill capacity

Wiltshire Council currently has sufficient capacity permitted for its municipal waste management needs until 2026. Landfill of municipal waste within Swindon Borough will cease in 2016, there is currently no other operational or permitted landfill provision within the administrative area of Swindon Borough. No provision for landfill is proposed to be made within the administrative area of Swindon Borough through the emerging Wiltshire and Swindon Waste Site Borough Allocations DPD.

Waste Management Technique	Total Capacity Required in Plan Period (Worst Case Scenario)	Existing Capacity of Operational sites	Shortfall Capacity to be Provided in Site Allocations DPD	Estimated Number of Additional Sites Required
I&C Landfill	6,318,700	5,402,830	915,870	2
CD&E Landfill	4,150,000	3,200,000	950,000	

Plans for future landfill provision

See above.

Provision through Waste DPDs for waste facilities that could influence cross boundary movements

The Waste Core Strategy sets out the need for waste management facilities, this is enshrined in the strategic objectives (Objective 2) which seeks to ensure there is a sufficient and flexible network of safeguarded waste management facilities; and in policy (WCS1) which states that a framework of sites will manage the forecast increase in waste arisings associated with the planned growth in the SSCTs of Swindon, Chippenham, Trowbridge and Salisbury. Need will be met locally whilst balancing the importation and exportation of waste within the principles of sustainable development and in accordance with the principles of sustainable transport.; and policy WCS2 which states that strategic waste site allocations will be located as close as practicable (within 16km).of the SSCTs of Swindon, Chippenham, Trowbridge and Salisbury. Further the policy states that priority will be given to proposals for new waste management development that demonstrate a commitment to utilising the most appropriate haulage routes within and around the Plan area and implement sustainable modes and methods for transporting waste materials.

Recovery / treatment / processing facilities that could serve an area wider than the sub-region

None within Wiltshire or Swindon.

Worcestershire

Current status of waste DPDs

Waste Core Strategy First Submission Draft to be published in September 2010. Submission early 2012.

Existing waste facilities

Map attached.

Significant movements of waste into Gloucestershire

Only information available is on EA waste Data Interrogator.

Expected future movements / intended provision

Worcestershire's strategy is based on achieving equivalent local self sufficiency. We recognise that waste is traded like any other commodity and that economies of scale of treatment facilities make movement inevitable. We intend however to enable sufficient facilities to be provided to manage the equivalent of our own arisings.

Significant movements of waste from Gloucestershire

No information.

Current landfill capacity

According to EA data 2008 = 9,356,000 m^3. The EA`s figures show that the volume of waste actually landfilled in Worcestershire in 2007 was some 24,141m^3 lower than the High Prediction (which was therefore 4% too high) and some 43,989m^3 higher than the Middle prediction (which was therefore 7.5% too low). If landfilling was to continue at the 2007 rate, the current capacity would be exhausted during 2023.The figures

for 2008 were however markedly different, 71,651 m^3 less than the Middle Prediction and 221,296m^3 less than the High prediction. If landfilling was to continue at the 2008 rate, the current capacity would be exhausted during 2029.

Plans for future landfill provision

Our OFFICER DRAFT conclusion is that we do not need to identify future capacity at this stage.

Provision through Waste DPDs for waste facilities that could influence cross boundary movements

Our general approach is to accept that cross boundary movements are inevitable and to aim for an overall equivalent self sufficiency. The one exception being that the JMWMS is based on the Integrated Waste Management Contract between us which includes provision of a thermal facility (or facilities) to manage both Worcestershire and Herefordshire`s waste.

Recovery / treatment / processing facilities that could serve an area wider than the sub-region

An application for a 200,000 tpa thermal facility has been made, at Hartlebury, between Droitwich and Kidderminster.

Warwickshire

Current status of waste DPDs

Warwickshire County Council were due to consult on Revised Spatial Options in June 2008, this is now on hold. It is hoped that a revised local development scheme will be updated and ready for approval at Cabinet in the Autumn with a view to going out to consultation in February 2011.

Existing waste facilities

68 sites, GIS maps provided.

Significant movements of waste into Gloucestershire

No.

Expected future movements / intended provision

N/A.

Significant movements of waste from Gloucestershire

5,291 tonnes of Mixed waste from Gloucestershire to Shipston Household Recycling Centre, Stratford on Avon District.

Current landfill capacity

Indicative Minimum Cumulative Annual Landfill Capacity required to dispose of municipal waste 2001 – 2021 ('000 tonnes)

Capacity 2005	Capacity 2010	Capacity 2015	Capacity 2021
1,112	2,017	2,679	3,210

Indicative Minimum Cumulative Landfill Capacity required to dispose of industrial and commercial waste 2001 – 2021 ('000 tonnes)

Capacity 2001 – 2005	Capacity 2001 -2010	Capacity 2001 – 2015	Capacity 2001 - 2021
2,102	3,969	5,759	7,506

Indicative Non-Hazardous Landfill Capacity required to dispose of C&D Waste 2001 – 2021 ('000 tonnes)

Cumulative Void Capacity required by 2005	Cumulative Void Capacity required by 2010	Cumulative Void Capacity required by 2015	Cumulative Void Capacity required by 2020
303	588	844	1,099

Indicative Cumulative Landfill Capacity required to dispose of hazardous waste 2001 – 2021 ('000 tonnes)

Cumulative Capacity required by 2005	Cumulative Capacity required by 2010	Cumulative Capacity required by 2015	Cumulative Capacity required by 2020
430	871	1,294	1,717

Plans for future landfill provision

See above.
Provision through Waste DPDs for waste facilities that could influence cross boundary movements
The Lower House Farm Household Waste Recycling Centre and Waste Transfer Station allows cross boundary movements of waste with Staffordshire.
Recovery / treatment / processing facilities that could serve an area wider than the sub-region
Pure Recycling MRF located in Ettington.
Monmouthshire
Current status of waste DPDs
No waste DPD.
Existing waste facilities
Four sites operated by Viridor Ltd under contract 1. Waste Transfer Station and CA Site at Five Lanes, near Caerwent. 2. Waste Transfer Station and CA Site at Llanfoist, Abergavenny. 3. CA site at Usk. 4. CA site at Monmouth. 5. Wormtech Ltd – IVC at Caerwent. Not aware of any Gloucestershire material going to the IVC facility.
Significant movements of waste into Gloucestershire
No.
Expected future movements / intended provision
None.
Significant movements of waste from Gloucestershire
Some waste to CA Site at Five Lanes, near Caerwent and CA site at Monmouth. Maybe 500 to 750 tpa.
Current landfill capacity
No landfill capacity. All landfill currently goes to Calne in Wiltshire (Viridor).
Plans for future landfill provision
/
Provision through Waste DPDs for waste facilities that could influence cross boundary movements
/
Recovery / treatment / processing facilities that could serve an area wider than the sub-region
Wormtech IVC facility at Caerwent. Also two on-farm composting sites one north of Abergavenny and one near Monmouth.

10.1.4 Further to the detailed information in Table 10a (above), the EA have published cross boundary movement information on its website at:

http://www.environment-agency.gov.uk/research/library/data/111312.aspx

South West Landfill Data

10.1.5 The following Tables 10b and 10c provide the latest information from the Waste Data section of the EA's website on the South West's landfill capacity and inputs. The data was obtained by the EA from environmental monitoring reports required by permits or directly from operators. It should be noted that the EA figure for Gloucestershire (Total: 13,916,000 m^3) is far higher than GCC's most recent calculation for 2008/09 (Total: 7,235,700 m^3) which is based on information directly from operators. The EA have acknowledged that their figure for Gloucestershire is in need of review.

Table 10b. *South West Waste Planning Authority Landfill Capacity 2008.*

South West Authorities [All figures are in Cubic Metres]	Hazardous Merchant	Hazardous Restricted	Non-Hazardous with SNRHW* cell	Non-Hazardous	Non-Hazardous Restricted	Inert	Total
West of England Unitaries	/	/	905,000	1,743,000	4,700,000	200,000	**7,548,000**
Cornwall	/	/	134,000	5,435,000	44,000	/	**5,614,000**
Devon	/	/	878,000	3,858,000	/	2,761,000	**7,496,000**
Dorset	/	/	/	3,915,000	/	408,000	**4,323,000**

Gloucestershire	3,225,000	/	/	10,691,000	/	0	**13,916,000**
Somerset	224,000	/	2,230,000	2,454,000	/	813,000	**5,721,000**
Wiltshire	720,000	/	2,980,000	6,086,000	90,000	1,236,000	**11,112,000**
Total	**4,169,000**	**/**	**7,127,000**	**34,182,000**	**4,834,000**	**5,418,000**	**55,730,000**

*Some non-hazardous sites can accept some Stable Non Reactive Hazardous Wastes (SNRHW) into a dedicated cell, but this is usually a small part of the overall capacity of the site.

Table 10c. *South West Waste Planning Authority Landfill Inputs 2008.*

South West Authorities [All figures are tonnes]	Hazardous Merchant	Hazardous Restricted	Non-Hazardous with SNRHW* cell	Non-Hazardous	Non-Hazardous Restricted	Inert	Total
West of England Unitaries	/	/	175,000	88,000	/	/	**263,000**
Cornwall	/	/	4,000	483,000	/	2,000	**490,000**
Devon	/	/	79,000	864,000	/	276,000	**1,219,000**
Dorset	/	/	/	421,000	/	158,000	**580,000**
Gloucestershire	12,000	/	140,000	636,000	/	27,000	**815,000**
Somerset	2,000	/	143,000	76,000	/	63,000	**284,000**
Wiltshire	65,000	/	379,000	361,000	/	24,000	**829,000**
Total	**79,000**	**/**	**921,000**	**2,930,000**	**/**	**550,000**	**4,480,000**

*Some non-hazardous sites can accept some Stable Non Reactive Hazardous Wastes (SNRHW) into a dedicated cell, but this is usually a small part of the overall capacity of the site.

Neighbouring Authority Landfill Data

10.1.6 The following Tables 10d and 10e provide the latest information from the Waste Data section of the EA's website on Neighbouring Authority landfill capacity and inputs.

Table 10d. *Neighbouring Authority Waste Planning Authority Landfill Capacity 2008.*

Neighbouring Gloucestershire [All figures are in Cubic Metres]	Hazardous Merchant	Hazardous Restricted	Non-Hazardous with SNRHW* cell	Non-Hazardous	Non-Hazardous Restricted	Inert	Total
West of England Unitaries	/	/	905,000	1,743,000	4,700,000	200,000	**7,548,000**
Wiltshire	720,000	/	2,980,000	6,086,000	90,000	1,236,000	**11,112,000**
Oxfordshire	/	/	3,284,000	10,227,000	/	2,095,000	**15,606,000**
Warwickshire	/	/	8,282,000	14,996,000	240,000	1,280,000	**24,797,000**
Worcestershire	/	/	850,000	6,971,000	/	1,535,000	**9,356,000**
Herefordshire	/	/	/	/	/	/	**/**
Monmouthshire (South East Wales)	/	/	3,700,000	10,454,000	4,628,000	1,683,000	**17,135,000**

*Some non-hazardous sites can accept some Stable Non Reactive Hazardous Wastes (SNRHW) into a dedicated cell, but this is usually a small part of the overall capacity of the site.

Table 10e. *Neighbouring Authority Waste Planning Authority Landfill Inputs 2008.*

Neighbouring	Hazardous	Hazardous	Non-	Non-	Non-	Inert	Total

Gloucestershire [All figures are tonnes]	Merchant	Restricted	Hazardous with SNRHW* cell	Hazardous	Hazardous Restricted		
West of England Unitaries	/	/	175,000	88,000	/	/	**263,000**
Wiltshire	65,000	/	379,000	361,000	/	24,000	**829,000**
Oxfordshire	/	/	246,000	896,000	/	284,000	**1,426,000**
Warwickshire	/	/	1,269,000	146,000	/	98,000	**1,513,000**
Worcestershire	/	/	/	404,000	/	35,000	**439,000**
Herefordshire	/	/	/	0	/	/	**0**
Monmouthshire (South East Wales)	/	/	66,000	1,011,000	269,000	216,000	**1,562,000**
*Some non-hazardous sites can accept some Stable Non Reactive Hazardous Wastes (SNRHW) into a dedicated cell, but this is usually a small part of the overall capacity of the site.							

10.1.7 The following Table 10f is an attempt to highlight the levels of permitted or pipeline treatment capacity in Gloucestershire's neighbouring authorities.

Table 10f. *Neighbouring Authority Permitted or Pipeline Waste Treatment Capacity.*

S.GLOUCESTERSHIRE [UNITARY] AND WEST OF ENGLAND – (AVONMOUTH AREA)		
Facility	**Status**	**Capacity**
Sita EfW Plant	Pending	400,000 for C&I and potentially for MSW
Helios Biomass Plant	Granted	Generating 100 MW from mainly wood chippings / waste wood
E.ON Renewable Energy Plant	Pending	Generating 150 MW = 1,200,000 tonnes/year of fuel burnt - mostly woodchip
West of England PFI Site	Pending	
Avonmouth Resource Park	Operating	Generating 12.5 MWe
Viridor /Severn Road Resource Recovery Centre	Pending - planning application being considered	EfW = 350, 000 / MRF = 150,000
WILTSHIRE [UNITARY]		
Facility	**Status**	**Capacity**
Sends 50,000 tpa of residual MSW to Colnbrook EFW		
SWINDON [UNITARY]		
Facility	**Status**	**Capacity**
OXFORDSHIRE		
Facility	**Status**	**Capacity**
EfW facility at Ardley, near Bicester	Refused and gone to appeal	300,000 tpa residual MSW
EfW facility at Sutton Courtenay	Withdrawn by WRG	/

WARWICKSHIRE		
Facility	**Status**	**Capacity**
Plans for EfW facility – but currently on hold		
WORCESTERSHIRE		
Facility	**Status**	**Capacity**
Joint with Herefordshire, EFW facility at Hartlebury	With Planning Department – but not determined	200,000 tpa residual MSW
HEREFORDSHIRE		
Facility	**Status**	**Capacity**
See Worcestershire above		
MONMOUTHSHIRE (South East Wales)		
Likely to send waste to Cardiff EfW facility	Awaiting EA final approval	350,000 tpa

Section 11: Gloucestershire Landfill Capacity

11.1 Introduction

11.1.1 Every year in Gloucestershire around half a million tonnes of non-hazardous biodegradable waste is landfilled at licensed sites. This figure is reducing year on year, primarily as a result of the impact of the escalating Landfill Tax and the Landfill Allowance Trading Scheme (LATS) for MSW.

Landfill Sites in Gloucestershire

11.1.2 The County is relatively well served in terms of landfill capacity as there are four major (non-inert) landfills in Gloucestershire. Since the publication of WCS-A (2007), a fifth site - Frampton Landfill in Stroud District has closed. When it was open, this site was mainly taking commercial waste from the locality and some from the Bristol area.

11.1.3 Figure 11a below shows the indicative locations of these sites and the details of the four operational landfills are given in the schedules below:

Figure 11a. *Indicative locations of Gloucestershire's (non-inert) landfill sites.*

Name	**Hempsted, Gloucester**
Location & Eastings / Northings	Hempsted Lane, Hempsted, Gloucester, GL2 5FR / (E) 381461 (N) 218089
Operator	Cory Environmental Ltd
Types of waste taken	Household waste from Gloucester, Stroud and nearby, HRC non-recyclable waste
Landfill rate / year (1/04/2008 to 31/03/2009)	**232,927 tonnes (212,900 m^3)** Landfilled MSW in tonnes = 146,522 t Landfilled MSW in cubic metres = 146,522 m^3 *[Tonnes to m^3 Conversion Ratio = 1 t per* m^3] Landfilled C&I in tonnes = 26,325 t Landfilled C&I in cubic metres = 26,325 t *[Tonnes to m^3 Conversion Ratio = 1 t per* m^3] Landfilled C&D in tonnes = 60, 080 t Landfilled C&D in cubic metres = 40,053 m^3 *[Tonnes to m^3 Conversion Ratio = 1.5 t per m^3]*
Current landfill capacity in m^3	990,000 m^3
Current landfill capacity in tonnes	1,140,000 t
Landfill life based on <u>current fill rates</u> in years	990,000 m^3 / 212,900 m^3 = 4.6 years [But taking into account the (1/04/2009 to 31/03/2010) tipping this can be further reduced to **3.6 years**] <u>Factoring future husbanding / reduced inputs</u> It should be noted that due to increased levels of re-use and recycling anticipated from all waste streams allied with the very significant impacts of the Landfill Tax Escalator and the Landfill Allowance Trading Scheme, it is estimated that additional years could be added to the landfill life. On 13/07/2010 Cory Environmental contacted the WPA stating that they considered that the Hempsted site probably had a life of some 5-6 years to c.2015/16. They considered that this was a more

	realistic end date when factoring in future reductions in infill rates (due in part to increased re-use and recycling activities).

Name	**Wingmoor Farm West, Tewkesbury Borough**
Location & Eastings / Northings	Stoke Orchard Road, Bishop's Cleeve, GL52 4RF / (E) 393289 (N) 226964
Operator	Cory Environmental Ltd
Types of waste taken	Household waste from Cheltenham, Tewkesbury and nearby, HRC non-recyclable waste
Landfill rate / year (1/04/2008 to 31/03/2009)	**158,932 tonnes (131,289 m^3)** Landfilled MSW in tonnes = 59,041 t Landfilled MSW in cubic metres = 59,041 m^3 *[Tonnes to m^3 Conversion Ratio = 1t per m^3]* Landfilled C&I in tonnes = 16,962 t Landfilled C&I in cubic metres = 16,962 t *[Tonnes to m^3 Conversion Ratio = 1t per m^3]* Landfilled C&D in tonnes = 82,929 t Landfilled C&D in cubic metres = 55,286 m^3 *[Tonnes to m^3 Conversion Ratio = 1.5 t per m^3]*
Current landfill capacity in m^3	2,215,000 m^3
Current landfill capacity in tonnes	2,400,000 t
Landfill life based on <u>current fill rates</u> in years	2,215,000 m^3 / 131,289 m^3 = 16.8 years [But taking into account the (1/04/2009 to 31/03/2010) tipping this can be further reduced to **15.8 years**] <u>Factoring future husbanding / reduced inputs</u> It should be noted that due to increased levels of re-use and recycling anticipated from all waste streams allied with the very significant impacts of the Landfill Tax Escalator and the Landfill Allowance Trading Scheme, it is estimated that additional years could be added to the landfill life.

Name	**Wingmoor Farm East (Non-Hazardous), Tewkesbury Borough**
Location & Eastings / Northings	Stoke Orchard Road, Bishops Cleeve, Cheltenham, GL52 7DG / (E) 394150 (N) 227321
Operator	Grundon Waste Management Ltd
Types of waste taken	Household waste from Cheltenham, Tewkesbury and nearby, HRC non-recyclable waste
Landfill rate / year (1/04/2008 to 31/03/2009)	**102,000 tonnes (92,933 m^3)** Landfilled MSW in tonnes = 0 t Landfilled MSW in cubic metres = 0 m^3 *[Tonnes to m^3 Conversion Ratio = 1 t per m^3]* Landfilled C&I in tonnes = 74,800 t Landfilled C&I in cubic metres = 74,800 m^3 *[Tonnes to m^3 Conversion Ratio = 1 t per m^3]* Landfilled C&D in tonnes = 27,200 t Landfilled C&D in cubic metres = 18,133 m^3 *[Tonnes to m^3 Conversion Ratio = 1.5 t per m^3]* <u>Note:</u> In an email dated (17/08/2010) Grundon Estates Department stated that: *The range of MSW and C&I is 0.7 to 0.9 tonnes per m^3. For C&D it is 1.2 to 1.7 tonnes per m^3.* The email suggested that due to the landfill accepting a mix of wastes there was a difficulty in breaking out individual conversion rates. Grundon calculated that the combined conversion rate for the landfill for 2007 was 0.95 tonnes per m^3 and for 2009 it was 0.87. The reason for the reduction was a decline in C&D inputs (2007 being a busy year for C&D). Grundon consider that 'around 0.9 tonnes per m^3,' would be an appropriate rate to calculate site life. Therefore on the basis of the input figure for 1/04/2008 to 31/03/2009 – supplied by Grundon, the cubic metres figure for this financial year is 102,000 / 0.9 = **113,333 m^3** Grundon make clear that 2008/09 was a recession year and that consequently tonnages were down from previous years, and that a caveat is needed to reflect this. They also stress the future site life will also be influenced by future diversion rates and what happens

	at other sites. The County Council have provided appropriate caveats and also considered future diversion rates in this data paper.
Current landfill capacity in m^3	2,824,500 m^3 (This is the same as the tonnage, but this is based on Grundon returned Capacity Survey Form)
Current landfill capacity in tonnes	2,824,500 t
Landfill life based on <u>current fill rates</u> in years	2,824,500 m^3 / 92,933 m^3 = 30.3 years [But taking into account the (1/04/2009 to 31/03/2010) tipping this can be further reduced to 29.3 years] <u>Using Grundon combined conversion ratio of 0.9 for this site:</u> 2,824,500 m^3 / 113,333 m^3 = 24.9 years [But taking into account the (1/04/2009 to 31/03/2010) tipping this can be further reduced to **23.9 years**] Planning Application No: 09/0028/TWMAJW states that the end date for the Non-Hazardous landfill is likely to be at the end of 2029. <u>Factoring future husbanding / reduced inputs</u> It should be noted that due to increased levels of re-use and recycling anticipated from all waste streams allied with the very significant impacts of the Landfill Tax Escalator and the Landfill Allowance Trading Scheme, it is estimated that additional years could be added to the landfill life.

Name	**Wingmoor Farm East (Hazardous), Tewkesbury Borough**
Location & Eastings / Northings	Stoke Orchard Road, Bishops Cleeve, Cheltenham, GL52 7DG / (E) 393817 (N) 227542
Operator	Grundon Waste Management Ltd
Types of waste taken	Various hazardous wastes, including Air Pollution Control (APC residues)
Landfill rate / year (1/04/2008 to 31/03/2009)	**45,930 tonnes (50,472 m^3)** Landfilled Hazardous Waste in tonnes = 45,930 t Landfilled Hazardous Waste in cubic metres = 50,472 m^3

	*[Tonnes to m^3 Conversion Ratio = 0.91 t per m^3]** *This ratio has been confirmed as acceptable (email from Grundon Waste Management Estates Department (17/08/2010]
Current landfill capacity in m³	1,206,200 m³
Current landfill capacity in tonnes	1,097,600 t
Landfill life based on <u>current fill rates</u> in years	1,206,200 m³ / 50,472 m³ = 23.8 years [But taking into account the (1/04/2009 to 31/03/2010) tipping this can be further reduced to **22.8 years**] Planning Application No: 09/0028/TWMAJW states that the end date for the Non-Hazardous landfill is likely to be in 2027. <u>Factoring future husbanding / reduced inputs</u> It should be noted that the life of the hazardous landfill could potentially be longer, if in future years, inputs are reduced. This may be likely given national level initiatives to reduce hazardous waste production.

11.1.4 Wingmoor Farm East comprises two adjacent sites, (one for non-hazardous waste and the other for hazardous waste) operating under single ownership. It is important to note that the 1995 planning permission for this entire site expired on 12th May 2009 and at the time of writing the operators, Grundon Waste Management Ltd have submitted the following application (Ref: 09/0028/TWMAJW) to the County Council for consideration in its role as Waste Planning Authority:

Continuation of mineral extraction and restoration through the importation of wastes at Wingmoor Farm Integrated Waste Management Facility (East), Stoke Orchard Road, Bishops Cleeve. Extraction of sand, gravel and clay; restoration of land to the profile approved in 1996 (planning permission reference: 95/8446/1099), through the importation of non-hazardous and hazardous wastes; operation of the waste treatment plant; operation of a Materials Recovery Facility; parking of collection vehicles; use of the landfill gas control system and associated landfill gas engines; use of ancillary infrastructure, such as leachate treatment plant, weighbridges, sand and gravel processing plant, vehicle servicing facilities, offices and mess facilities required for the operation and restoration of the site.

11.1.5 If this application is refused by the County Council, and if it is appealed and again refused at appeal, clearly Wingmoor Farm East will not be able to available as either non-hazardous or hazardous landfill capacity. At this point in time the planning application is being considered by GCC planning department, and the site(s) are still operational. It is on this basis that it is included in this data review as available capacity for Gloucestershire.

11.2 Inert Waste Landfill

11.2.1 Inert material is used for capping, covering and engineering all types of landfill sites in the County. It is also being used for restoration purposes at mineral sites, engineering/landscaping schemes and for agricultural improvements on farmland. These latter activities will often have EA waste management license exemptions.

11.2.2 Exempt sites comprise an important part of the provision of capacity for managing inert materials. These exempt sites generally comprise land restoration activities such as restoring mineral voids; as such they should not technically be seen as a disposal 'landfilling' activity as they are a re-use of the material. The alternative would be to use primary aggregate for restoration, which would to an extent negate the purpose of winning it in the first place.

11.2.3 However, for the reasons given in Section 12, it is not possible to provide a precise figure for the total capacity of exempt sites (including available voidspace). However, work undertaken by the WPA for WCS-A (2007) estimated that there is possibly around 1.25 million m³ of capacity in the County. The EA has provided more recent information on exempt sites (again see Section 12) but it is difficult to gauge an estimate from these that would be any more accurate than the WCS-A (2007) estimated figure.

11.3 Hazardous Waste Landfill

11.3.1 WCS-A (2007) reported that, as of February 2007, the hazardous waste landfill voidspace in Gloucestershire was between 2.8 and 3.6 million m³. This was all contained at the Wingmoor Farm East site. The latest capacity figure given by Grundon Waste Management Ltd for this site as of 31/03/2009 was 1,206,200 m³. This is a significant reduction even from the lower figure in the previous range. The EA's 2008 estimate for Gloucestershire's Hazardous Merchant landfill capacity was 3,225,000 m³, but the WPA have had recent correspondence from the EA which suggests they are revising this estimate (downwards).

11.4 Future Landfill Requirements

11.4.1 As has been mentioned in Section 2, it is the government's intention to abolish RSS. Importantly however, the evidence that informed the preparation of the RSS may still be considered a material consideration. Furthermore, despite the impending abolition of the RSS, local authorities are expected to continue to progress their own development plan documents including waste plans, with enough land being provided for waste management facilities to support the sustainable management of waste.

11.4.2 The RSS (based on the Regional Waste Management Strategy data) required waste planning authorities to make provision for an indicative amount of waste facilities in their areas. This includes provision for landfilling.

The maximum amounts of **MSW** that can be landfilled in Gloucestershire are:

- 160,000 tonnes (by 2010)
- 130,000 tonnes (by 2013)
- 60,000 tonnes (by 2020)

The corresponding LATS target years are:

- 107,000 tonnes (by 2010)
- 72,000 tonnes (by 2013)
- 50,000 tonnes (by 2020)

11.4.3 Whilst the RSS figures appear to allow more MSW to landfill the RSS (Policy W1) however is clear that its allocations are only "*indicative*". Additionally, the LATS figures relate only to the

biodegradable fraction of MSW, whereas the RSS tonnages are for biodegradable and inert. The Government has nationally set the biodegradable content of MSW at 68%. Consequently, if 32% inert is added to the LATS tonnages, the disparity between the two sets of target figures is lessened.

11.4.4 For **C&I** waste the RSS provides a range of capacities for landfilling:

- 285,000 t – 315,000 tonnes (by 2010)

- 240,000 – 260,000 tonnes (by 2013)

- 110,000 – 120,000 tonnes (by 2020)

11.4.5 This capacity includes a proportion of inert, biodegradable, and metal wastes. For the purposes of making provision for landfill voidspace it is considered prudent to combine the non-hazardous biodegradable and inert MSW and C&I requirements. This is because the two types of waste have a comparable composition, similar site requirements and therefore, unsurprisingly, are currently taken to the same sites in the County.

11.4.6 For the purposes of estimating the required voidspace needed for the period from next financial year up to 2020 (The final LATS year & the RSS target year) and also the Plan Period (from 2012 up to 2027) two sets of data are used relating to the combined inputs to the 3 major non-hazardous landfills in the County. This is done in order to arrive at a usable and appropriate range.[39]

■ **Dataset 1: (Source: WDA/EA Data)**

11.4.7 This uses the following:

11.4.8 MSW: The latest WDA figures for 2009/10 and their future projections. In Section 3, Table 3l, the figures in the Possible Capacity Needed column are added e.g. up to 2020/21 (for RSS Targets) and to 2027/28 (in order to estimate Plan Period requirements).The Capacity Needed figures factor in Average Annual Growth Rates, an assumed Countywide recycling and composting rate of 60% by 2020, and a meeting of LATS targets.

11.4.9 C&I: The C&I landfill input figures (Hempsted, Wingmoor East & Wingmoor West) from the EA's WDI 2008.

11.4.10 C&D: The C&D landfill input figures (Hempsted, Wingmoor East & Wingmoor West) from the EA's WDI 2008.

■ **Dataset 2: (Source: Landfill Operator Data)**

11.4.11 This uses the following:

11.4.12 Landfill inputs (MSW, C&I & C&D) data from Operators (Grundon Waste Management Ltd and Cory Environmental Ltd) for the financial year 2008/09.

[39] WCS-A (2007) included a voidspace range based on two alternatives. 1. An assumption that the tonnages of non-hazardous waste being inputted into licensed sites are a continuation of the latest figures. 2. An assumption that LATS targets for MSW and national targets for reducing C&I and C&D to landfill will be met. This report does not provide a range, due to the fact that the C&I and C&D targets in Waste Strategy for England 2007 are likely to change due to the Coalition government's impending review of waste policy. Instead, detailed caveats are provided, explaining exactly what needs to be considered in terms of the accuracy of the voidspace figure.

11.4.13 The estimate calculations for both datasets are provided in Tables 11a and 11b below.

Table 11a. *Regional Indicative Targets (2010/11 (i.e. starting from next financial year) to 2020/21).*

Waste	WDA/EA Data Latest WDA figures for 2009/10 and Estimated Capacity Needed from Table 3l, plus Landfill input figures from the EA's WDI 2008	Landfill Operator Data Landfill input figures from Operators for 2008/09
MSW	1,889,000 t *(1,889,000 m^3)* Starting from and including 2010/11 up to and including 2020/21. From column 'Possible Capacity Needed' in Table 3l	2,266,000 t *(2,266,000 m^3)* (based on 206,000*t x 11 years starting from and including 2010/11 up to and including 2020/21) *146,522 t at Hempsted, 59,041 t at Wingmoor West, 0 t at Wingmoor East (C&I not MSW)
C&I	3,146,000 t *(3,146,000 m^3)* (based on 286,000* t x 11 years - starting from and including 2010/11 up to and including 2020/21) *83,180 t at Hempsted, 82,659 t at Wingmoor West, 119,394 at Wingmoor East	1,298,000 t (1,298,000 m^3) (based on 118,000*t x 11 years - starting from and including 2010/11 up to and including 2020/21) *26,325 t at Hempsted, 16,962 t at Wingmoor Farm West, 74,800 at Wingmoor East (Down as MSW but is C&I because not Gloucestershire Contract)
C&D	1,617,000 t *(1,078,000 m^3)* (based on 147,000*t x 11 years - starting from and including 2010/11 up to and including 2020/21) *77,284 t at Hempsted, 36,801 at Wingmoor West, 32,801 at Wingmoor East	1,870,000 t (1,247,000 m^3) (based on 170,000*t x 11 years - starting from and including 2010/11 up to and including 2020/21) *60,080 t at Hempsted, 82,929 t at Wingmoor Farm West, 27,200 t at Wingmoor East
Total	**6,652,000 t *(6,113,000 m^3)***	**5,434,000 t (4,811,000 m^3)**

Table 11b. *Plan Period Estimates (2010/11 (i.e. starting from next financial year) to 2027/28).*

Waste	WDA/EA Data Latest WDA figures for 2009/10 and Estimated Capacity Needed from Table 3l, plus Landfill input figures from the EA's WDI 2008	Landfill Operator Data Landfill input figures from Operators for 2008/09
MSW:	2,676,000 t *(2,676,000 m^3)* (based on inclusion of years 2010/11 to	3,708,000 t *(3,708,000 m^3)* (based on 206,000*t x 18 years starting from

	2027/28) Column 'Possible Capacity Needed' in Table 3l.	and including 2010/11 up to and including 2027/28) *146,522 t at Hempsted, 59,041 t at Wingmoor West, 0 t at Wingmoor East (C&I not MSW)
C&I:	5,148,000 t *(5,148,000 t m^3)* (based on 286,000* t x 18 years - starting from and including 2010/11 up to and including 2027/28) *83,180 t at Hempsted, 82,659 t at Wingmoor West, 119,394 at Wingmoor East	2,124,000 t *(2,124,000 m^3)* (based on 118,000*t x 18 years - starting from and including 2010/11 up to and including 2027/28) *26,325 t at Hempsted, 16,962 t at Wingmoor Farm West, 74,800 at Wingmoor East (Down as MSW but is C&I because not Gloucestershire Contract)
C&D:	2,646,000 t *(1,764,000 m^3)* (based on 147,000*t x 18 years - starting from and including 2010/11 up to and including 2027/28) *77,284 t at Hempsted, 36,801 at Wingmoor West, 32,801 at Wingmoor East	3,060,000 t *(2,040,000 m^3)* (based on 170,000*t x 18 years - starting from and including 2010/11 up to and including 2027/28) *60,080 t at Hempsted, 82,929 t at Wingmoor Farm West, 27,200 t at Wingmoor East
Total	**10,470,000 t *(9,588,000 m^3)***	**8,892,000 t *(7,872,000 m^3)***

Table 11c. *Predicted non-hazardous inputs to landfill 2010/11 up to and including 2020/21).*

Dataset 1: WDA/EA Data	**6,652,000 t**	***(6,113,000 m^3)***
Dataset 2: Landfill Operator Data	**5,434,000 t**	**(4,811,000 *m^3*)**

Table 11d. *Predicted non-hazardous inputs to landfill* 2010/11 up to and including 2027/28).

Dataset 1: WDA/EA Data	**10,470,000 t**	***(9,588,000 m^3)***
Dataset 2: Landfill Operator Data	**8,892,000 t**	***(7,872,000 m^3)***

11.4.14 According to the latest operator figures (2008/09), the current non-hazardous void space in the county is: **6,029,500 m^3.**

11.4.15 On the basis of Dataset 1: There is enough landfill capacity in Gloucestershire to last a further 11.3 years [40] (Factor in the current year 2009/10 (for C&I & C&D) and this leaves 10.3) round this figure down and the estimate is: **10 years non-hazardous licensed landfill life remaining**. So at a conservative estimate there is capacity until the year **2019/20**.

11.4.16 On the basis of Dataset 2: There is enough landfill capacity in Gloucestershire to last a further 13.7 years. (Factor in the current year 2009/10 and this leaves 12.7) round this figure up and the estimate is: **13 years non-hazardous licensed landfill life** remaining. So, there is estimate to be capacity until the year **2022/23**. However it should be stressed that this is a conservative estimate and the likelihood is that, due to future reductions to landfill as a result of mechanisms such as the Landfill Tax, landfill void could last for significantly longer.

11.4.17 According to the EA figures (2008) on their website, Gloucestershire has 10,691,000 m^3 of Non-hazardous void remaining (and 3,225,000 m^3 of Hazardous void). However a recent communication with the EA has revealed that this estimate is being reviewed (downwards).

Future Scenarios for Landfilling Non-Hazardous Biodegradable Waste

11.4.18 The key issues and assumptions upon which landfill provision in the County is based include: waste growth rates for each stream, meeting various targets, contractual issues, using all permitted capacity and the availability of material etc.

11.4.19 If any of these assumptions were to change, then the amount of voidspace in Gloucestershire would either be shortened or extended. These assumptions are expanded upon in more detail below, under the general headings: 'Inputs' and 'Site issues'. Additionally, WCS-A (2007)[41] looks at these issues in a slightly different way by examining a number of potential scenarios.

▶Inputs

11.4.20 C&I Inputs: The effect of the Landfill Tax should not be underestimated. The County landfill voidspace could last significantly longer if C&I fill rates decline in line with escalating landfill tax and even as a result of proposed 'landfill bans' on certain wastes. Thus it is stressed that the calculations in Tables 11a and 11b (above) are conservative ones.

11.4.21 MSW Inputs: The strategy of the WPA and WDA is to meet LATS targets, and to make every effort to reduce current fill rates and husband the existing County landfill voidspace as much as possible. Success in terms of meeting (or bettering) LATS requirements, through providing MSW treatment capacity, hitting (or bettering) reduction, reuse and recycling/composting targets will clearly have a significant positive impact on future levels of MSW being landfilled in the County. However, if projects are delayed, or if targets are not met, then current fill rates will not be reduced.

11.4.22 C&D Inputs: The situation for landfilling inert C&D wastes is also linked to the restoration of mineral sites and the granting of Environment Agency 'exemptions'. More information on the use of inert material for mineral site restoration is set out in the Minerals Core Strategy Technical Evidence Paper MCS-F 'After Minerals – Restoration, Aftercare and After-use in Gloucestershire'.

[40] The calculation is the Average of the Possible Capacity Needed Figures (in Table 3l) to 2027 = 2,676,000 / 18 = 149,000 for MSW (149,000 m^3). 286,000 for C&I (286,000 m^3). 147,000 for C&D (98,000 m^3). Add the m^3 figures = 533,000 m^3 landfill inputs per annum. 6,029,500 m^3 / 533,000 m^3 = 11.3.

[41] Pages 47 to 50.

11.4.23 The RSS does not set out indicative landfill capacities for C&D waste, although the RWMS (October 2004) gives a figure of 210,000 t for each of the three target years to 2020. However, if a more ambitious scenario is adopted, as recommended in WCS-A (2007)[42] which would aim to meet a national target to reduce C&D levels of landfill by 50% by 2020, the C&D tonnages in Tables 11a and 11b (above) would be reduced. See Tables 11e to 11h below for this calculation. This would mean that landfill life could be further extended, but to a limited degree.

Table 11e. *Dataset 1. C&D – Meeting National target of halving current levels of C&D to landfill by 2012 – then a continuation of this tonnage each to 2020.*
956,000 t (*637,000 m^3*) (Based on 147,000 t for 2 years and then 73,500 t for 9 years)

Table 11f. *Dataset 2. C&D – Meeting National target of halving current levels of C&D to landfill by 2012 – then a continuation of this tonnage each year to 2020.*
1,105,000 t (*737,000 m^3*) (Based on 170,000 t for 2 years and then 85,000 t for 9 years)

Table 11g. *Dataset 1. C&D – Meeting National target of halving current levels of C&D to landfill by 2012 – then a continuation of this tonnage each to year to 2027.*
1,470,000 t (*980,000 m^3*) (Based on 147,000 t for 2 years and then 73,500 t for 16 years)

Table 11h. *Dataset 2. C&D – Meeting National target of halving current levels of C&D to landfill by 2012 – then a continuation of this tonnage each year to 2027.*
1,700,000 *t* (*1,133,000 m^3*) (Based on 170,000 t for 2 years and then 85,000 t for 16 years)

▶Site Issues

New voidspace

11.4.24 ▪ It is possible that the available voidspace at existing sites could increase by, for example, re-profiling restoration contours or by removing additional clays for flood defense. This however would require further planning permissions.

11.4.25 ▪ Frampton landfill could potentially reopen and extend to geologically suitable adjacent areas.

Capacity at Wingmoor Farm East

11.4.26 ▪ Wingmoor Farm East landfill site could fail to receive planning permission for extension of life, with the loss of its non-hazardous voidspace (2,824,500 m^3) and hazardous voidspace (1,206,200

[42] Paragraph 152, Page 34.

m^3). Clearly this would have very significant implications for Gloucestershire's remaining void and would prompt a rapid review of the WCS or potentially the initiation of a Landfill DPD.

11.4.27 ▪ Wingmoor Farm East landfill site could fail to receive planning permission for hazardous landfilling. This void (1,206,200 m^3) could provide additional capacity for non-hazardous waste.

11.4.28 ▪ In the event of the closure of Wingmoor Farm, waste which used to go to Wingmoor East could go to Wingmoor Farm West. However, gaining planning permission for such development could take a number of years.

Section 12: C&D / Inert Exemptions

12.1 The Situation in 2007

12.1.1 Exempt sites comprise an important part of the provision of capacity for managing inert materials. Work undertaken by the WPA for WCS-A (2007) estimated that there is possibly around 1.25 million m³ of capacity in the County. The EA has provided more recent information on exempt sites, as detailed in the section and in Appendix F, but because of incomplete datasets it is difficult to gauge an estimate from these that would be any more accurate than the WCS-A (2007) figure. This being the case the 1.25 million m³ estimate is retained as the WDA's most accurate figure.

12.1.2 WCS-A (2007) provided some useful information on registered exempt sites for managing construction and demolition waste and this information has been included here as it is part based on EA 2007 data and part based on a WPA operator survey (September 2007).

12.1.3 In 2007 there were 2,139 Gloucestershire 'exemptions' listed by the EA. The exemption category paragraph references are given below:

12.1.4 A 'simple exemption' is one that the EA considers is a relatively low risk waste handling activity. Examples include: burning waste oil as a fuel in an engine (Para 6); treatment of waste at place of production (Para 27); and deposit of mineral exploration waste (Para 35).

12.1.5 'Complex exemptions', whilst being exempt from licensing, still need to be checked to ensure that they will not harm the environment. The information required as part of this assessment must demonstrate that the proposals will meet the objectives of the exemption and will not cause pollution. The type and quality of information may well require advice from a technical specialist.

12.1.6 Although small tonnages of waste from other waste streams (biodegradable waste) may be managed at locations with an exemption the largest tonnage of exempt activities is likely to involve C&D material (hence its inclusion in this section of the evidence paper). The two most important exemptions in this respect are 9A and 19A.

12.1.7 Paragraph 9A 'Reclamation or Improvement of Land' allows wastes to be used to reclaim or improve land and is typically used by farmers or construction companies returning land to reuse. The exemption limits the land type to which this can be applied, to that requiring improvement, restoration or reclamation as a result of previous development or industrial use, with the intention of achieving agricultural or ecological improvement. The volume of waste is restricted to 20,000 cubic metres per hectare and the depth of spread must be no more than 2 metres.

12.1.8 Paragraph 19A 'Storage and Use of Building Waste' allows waste to be used for construction purposes and is typically used by farmers for laying tracks or by construction companies installing vehicle parking areas. This allows 50,000 t to be stored in a 6 month period.

12.1.9 The sites within the County with Paragraph 9A and 19A exemptions for 'disposal activities' in 2007 are listed in Table x. below:

12.1.10 The baseline information in this section was provided by the Environment Agency in August 2007. The 'Total Tonnage' column relates to the total amount of material that can be deposited at that site. Where a site has no tonnage shown this signifies that it can accept material up to the standard limit of the particular exemption it holds – the standard amount is included at the beginning of each section (**in bold**).

12.1.11 Figures in black are those provided by the Environment Agency. Figures in **green** are those provided by the operator and represent a TOTAL capacity for the site (i.e. they not an annual input figure). Those sites that appear to have been completed from the information provided are shown in **grey** type in the table below. Where no return has been received in response to the WPA survey for 'disposal capacity' an estimated tonnage (either 1,000 t if it comprises a small localised activity or 10kt if it is a slightly larger operation, or 50,000 t if it comprises a large mineral site restoration) has been used for that site based on the WPA knowledge of site activities. These are shown in **brown**.

Table 12a. *License Exemption Sites for Inert C&D Material.*

Background data provided by the Environment Agency, August 2007
Operator data collated by WPA, September 2007

Site	District	Completion date (if stated by operator)	Total Tonnage
Spreading of waste for land reclamation/improvement			**20,000 m³ / hectare**
Land At Perry Way, Frampton On Severn	Stroud	ceased	ceased
Former Transport Depot, St John's Avenue, Churchdown	Tewkesbury	Sep 07	400
Southfields, Abbots Court Farm, Church End, Twyning	Tewkesbury	Dec 07	20,000
Manor Farm Quarry, Washpool Lane, Kempsford	Cotswold	mid 2012	150,000
The Grandage, Hatherop	Cotswold		50
Spratsgate Lane, Somerford Keynes	Cotswold	31 Dec 08	50,000
Shorncote Quarry (Cotswold Community Land), Shorncote	Cotswold		50,000
Kineton Thorns Restoration, Buckle Street, Naunton	Cotswold	2013	180,000
		TOTAL	**450,450**
Use of demolition/storage/excavation waste			**50,000 t/6mths**
Vallets Wood, Off Ne Road, Coleford, Gloucestershire	Forest of Dean	ceased	ceased
Mount Lane, Haresfield, Gloucestershire	Stroud	ceased	ceased
Seven Bends Road, Gloucestershire	Tewkesbury	ceased	ceased
Forest Vale Road, Cinderford	Forest of Dean		10000
Phase 1, Area E, Benhall, Cheltenham	Cheltenham		1000
Phase 1, Priors Road, Oakley, Cheltenham	Cheltenham		1000
Baird Road Waterwells Business Park, Gloucester	Gloucester	2007	1667
British Waterways	Gloucester	ceased	ceased
British Waterways	Stroud	ceased	ceased
Gloscat Phase 2 - Site, Llanthony Road	Gloucester	ceased	ceased
Former Ambulance Station, Eastern Avenue, Gloucester	Gloucester	ceased	ceased
Off Bourton On The Hill Road, Blockley, Moreton In Marsh	Cotswold		20000
Hartpury House, Gloucester, Glos	Gloucester		1000
Jackson Civil Engineering	Cheltenham		1000
Clingre Farm, Clingre Lane, Stinchcombe, Dursley	Stroud		1000
Coopers Edge, Brockworth Airfield, Glos	Gloucester		1000
Canal Works, Harbour Road, Lydney, Glos	Forest of Dean		10000
Manor Farm, Longney, Gloucester, GL2 3SL,	Gloucester	Dec 07	1200
Sharpness Shipyard, Dock Road, Sharpness	Stroud		1000
Station Street, Cinderford, Gloucestershire	Forest of		1000

	Dean		
The Old Airfield, Moreton Valence, Glos	Stroud	ceased	ceased
Former Lister-petter Site, Long Street, Dursley	Stroud	ceased	ceased
Murrells End House Farm, Hartpury, Glos, GL19 3DF,	Forest of Dean		1000
Bradley Green, Wotton Under Edge	Stroud		2499
Lake 10, Cotswold Water Park, South Cerney	Cotswold		20000
South Cerney Remote Depot, Ewen Road, South Cerney	Cotswold		10000
Andoversford Remote Depot, Station Road, Andoversford	Cotswold		10000
Claydon Pike Gravel Pit, Lechlade, Gloucestershire	Cotswold	Oct 2008	50000
Sandpool Farm Golf Course, Somerford Keynes	Cotswold		10000
Lake 11, Station Road, South Cerney, Cirencester	Cotswold		500000
Lake 16, Station Road, South Cerney, Cirencester	Cotswold		150000
		TOTAL	**804,366**

12.1.12 However, factors such as site size, longevity and operational restrictions mean that from the information supplied by the EA it is not possible to put a precise figure on the capacity in the County for 'disposing' of C&D waste through exempt sites.

12.1.13 Notwithstanding this the WPA has made an attempt to provide an estimate as to the inert exempt voidspace available in the County by contacting each of the exempt sites in a list provided by the EA. Those that are still operational, or who did not respond, are listed in Table x below:

Table 12b. *Exempt Inert Waste Activities in Gloucestershire (2007) (under EA license exemptions paragraph 9A & 19 A).*
Baird Road Waterwells Business Park, Gloucester
Bradley Green, Wotton Under Edge
Canal Works, Harbour Road, Lydney, Glos
Claydon Pike Gravel Pit, Lechlade, Gloucestershire
Clingre Farm, Clingre Lane, Stinchcombe, Dursley
Coopers Edge, Brockworth Airfield, Glos,
Forest Vale Road, Cinderford, Glos
Former Transport Depot, St John's Avenue, Churchdown
Hartpury House, Gloucester, Glos
Jackson Civil Engineering
Kineton Thorns Restoration, Buckle Street, Naunton
Lake 10, 11 & 16 Cotswold Water Park, South Cerney
Manor Farm Quarry, Washpool Lane, Kempsford
Manor Farm, Longney, Gloucester, GL2 3SL,
Murrells End House Farm, Hartpury, Glos, GL19 3DF,
Off Bourton On The Hill Road, Blockley, Moreton In Marsh
Phase 1, Area E, Benhall, Cheltenham, Glos,
Phase 1, Priors Road, Oakley, Cheltenham, Glos,
Sandpool Farm Golf Course, Somerford Keynes,
Sharpness Shipyard, Dock Road, Sharpness
Shorncote Quarry (Cotswold Community Land), Shorncote
Southfields, Abbots Court Farm, Church End, Twyning
Spratsgate Lane, Somerford Keynes
Station Street, Cinderford, Gloucestershire
The Grandage, Hatherop, Glos

12.1.14 A letter, with pre-paid envelope was sent to all of the site owners/operators on the EA exemptions list. Around half responded providing data in respect of site capacity for disposal. Where a response was not received for a particular site an estimate was used.

12.1.15 On this basis it appears that there is currently around 1.25 million m³ exempt disposal capacity in Gloucestershire. Much of this though, by its nature, is short term and related to either mineral restoration or construction activity. As such it cannot therefore be reliably planned for as a stand-alone activity. Consequently the issue of inert disposal is considered in more detail in the Technical Evidence Paper MCS-F 'After Minerals – Restoration, Aftercare and After-use in Gloucestershire'.

12.1.16 In respect of mobile crushing operations, work undertaken for the Government by Capita Symonds (February 2007) indicates that in Gloucestershire there is estimated to be around 500kt processed by mobile crushing equipment each year. In 2005 this capacity was related to 11 operational permits, granted by local authorities through their environmental health function.

12.1.17 It is likely that most of this mobile crushing activity will have taken place on construction sites and in mineral quarries with the material being re-used / recycled on-site. More information on this is set out in Technical Evidence Paper MCS-D 'Secondary and Recycled Aggregates Report'.

12.1.18 As this material does not get managed at a licensed waste site it therefore technically does not enter the waste stream. Consequently it does not need to be 'planned' for as part of the WCS. The adopted Waste Minimisation SPD provides support for this type of operation.

12.2 Recent (2010) Data from the EA

12.2.1 In June 2010 the EA's Tewkesbury office was contacted with a request to provide a list of exemptions: A list was provided showing the current record of exempt facilities in Gloucestershire that allow for the storage, treatment or recovery of inert or C&D waste. The data came with quite a number of notes/caveats which are included below:

- A number of the exemptions were registered some years ago and some might not be continuing.

- The search only included Paragraph 9, 13, 19 or 24 exemption, as these are those, at least before the Regulations were superseded on the 6th April this year, which allowed for C & D and /or inert waste to be stored, treated or recovered.

- A Paragraph 9 exemption allows for the recovery of inert or C&D material as well as a number of other kinds of non-inert or C&D waste material. Therefore, just because a site has registered a paragraph 9 exemption, this does not necessarily mean that inert / C&D waste is being recovered there.

- Some of these exemptions, particularly the Paragraph 13 and 24 might apply to a single site. Therefore each exemption appearing on the list might not relate to a different site.

- Data on actual quantities of waste received at these sites does not exist, as exempt sites have no legal requirement to report quarterly waste returns to the Environment Agency. However, each exemption does stipulate a maximum allowed quantity of waste, as well as storage periods. Therefore it might be possible to at least have some idea of the 'capacity' of these exempt sites.

- Some of the sites have notified the EA in relation to roughly how much material they plan to use, but this information should be used as a guide only.

- These exemptions have now been superseded by a new suite of exemptions under the Environmental Permitting Regulations 2010, thus information on them is difficult to obtain. Schedule 3 Part 1 of the Environmental Permitting Regulations 2007 (S.I. 2007 3538) does show what these exemptions specifically allow.

Bearing in mind the above caveats, the tables in Appendix F detail the Gloucestershire exemptions that allow for the storage, treatment or recovery of inert or C&D waste. The second and third columns are the tonnages (Tonnes Per Annum (TPA) and Total Tonnes) expected to be managed on the site as provided by operators to the EA.

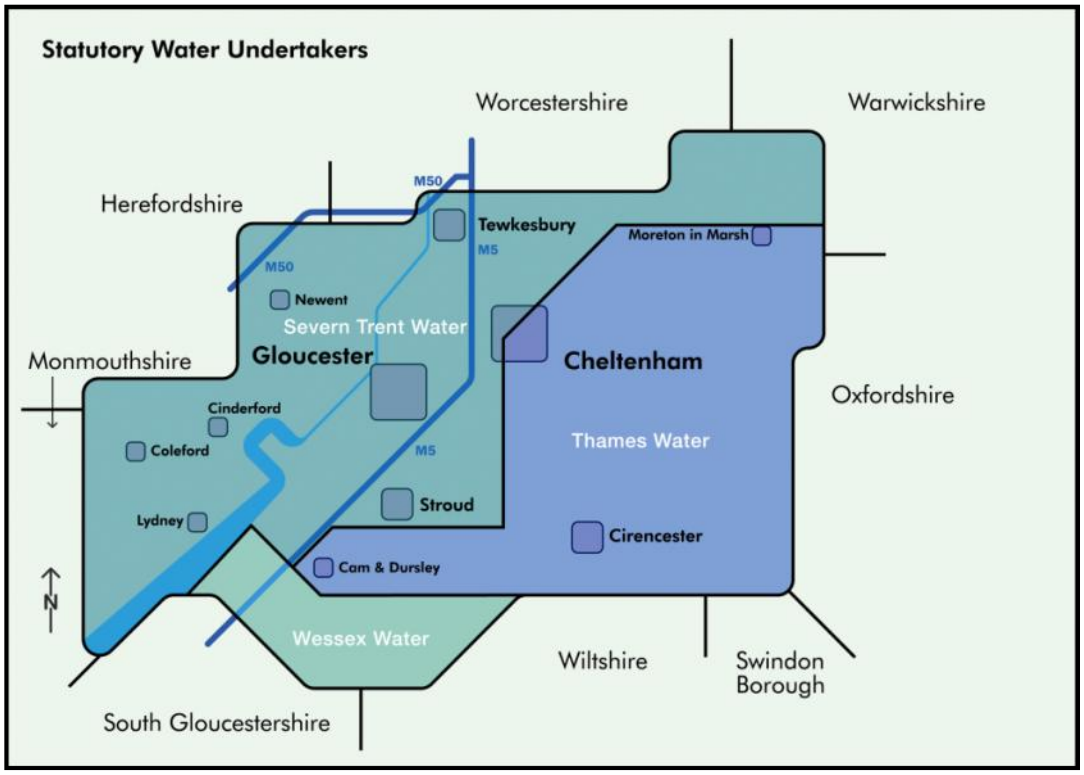
Section 13: Waste Water Treatment

13.1 Operational Waste Water Treatment Facilities

13.1.1 There are three statutory water utility companies who have responsibility for sewage in Gloucestershire.

- Severn Trent Water
- Thames Water
- Wessex Water

13.1.2 Map 13a below shows their indicative coverage areas:



Map 13a. *Gloucestershire Coverage of Statutory Waste Water Undertakers.*

13.1.3 There are currently 84 operational waste water treatment facilities in Gloucestershire.[43] The County has a mixture of urban development (residential / commercial predominantly in and around Gloucester and Cheltenham) and more isolated communities (residential / small industrial in rural locations). Water utility companies are required to provide recovery, treatment and appropriate disposal of waste water arising from all these types of communities.

13.1.4 The County's 2 major Sewage Treatment Works are Netheridge STW west of Gloucester city centre and Hayden STW, south west of Cheltenham.

[43] These are Waste Planning Authority records for facilities requiring planning consent and the number includes Sewage Treatment Works, Pumping Stations as well as very small facilities such as control kiosks, which may be associated with flood alleviation schemes.

13.1.5 It is clear from past discussion with Severn Trent Water[44] that Netheridge in particular is regarded as 'strategic'. This is due to its current Anaerobic Digestion (AD) capacity and potential for increased capacity in the future. Netheridge was one of thirteen sites consulted on in the recent WCS Site Options consultation. Severn Trent's latest position (as of September 2010) is that they are still interested in the site being allocated and thus the WPA intends to include the site in the WCS Publication document.

13.1.6 Table 13a below details some of the operational details and capacity information for Netheridge and Hayden:

Table 13a. *Details regarding Gloucestershire's 2 Major Sewage Treatment Works.*

Name & Location	Operator	Operations	Capacity
Netheridge STW, Hempstead Lane Hempstead Gloucester GL2 5LF	Severn Trent Water Ltd	Main STW serving Gloucester city. Takes both piped and tankered wastes. Approved wastes (as stated in license, non hazardous EWC codes only). 02 WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING 03 WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD 04 WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES 06 WASTES FROM INORGANIC CHEMICAL PROCESSES 07 WASTES FROM ORGANIC CHEMICAL PROCESSES 08 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS 09 WASTES FROM THE PHOTOGRAPHIC INDUSTRY 10 WASTES FROM THERMAL PROCESSES	400 t difficult waste (Mon-Fri). Consented dry weather flow of 42.8Ml/d. The STW has the capacity to deal with the waste of 375,000 people.

[44] As detailed on Page 13, Paragraph 38 of Technical Paper WCS-H Sewage Treatment Facilities.

		16 WASTES NOT OTHERWISE SPECIFIED IN THE LIST 19 WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE 20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS <u>CHP Capacity:</u> One engine is used to convert the biogas produced by the digesters into electricity and heat. The heat is used to maintain the digestion process. Netheridge can produce up to 1.5MWh/d. This is more than is needed to run the works and the excess is sold to the national grid.	
Hayden STW, Hayden Lane Nr Cheltenham	Severn Trent Water Ltd	Major STW serving Cheltenham. On average 38 Ml/d of sewage arrives at the inlet with a maximum flow of 75Ml/d. <u>CHP Capacity:</u> One engine is used to convert the biogas produced by the digesters into electricity and heat. The heat is used to maintain the digestion process. Hayden can produce up to 0.9MWh/d from this renewable resource. This is more than is needed to run the works and the excess is sold to the national grid.	Total Site Capacity = Dry Weather Flow = 1,820,000 m^3 per year. (From GCC Capacity Study 2010)

13.2 STW, Population and Housing Growth

13.2.1 As indicated in Section 1 of this report, it is estimated that the population of Gloucestershire will increase by an annual average of 3,100 people between 2008 and 2033. This is likely to lead to an increased demand for waste-water treatment. However, at this stage there is limited data available for forecasting where and how many facilities will be required. At the current time of writing, with the impeding abolition of Regional Strategies it is also uncertain when and where major new housing will be built and in what quantity.

13.2.2 Waste water infrastructure matters are being addressed through the Gloucestershire Infrastructure Development Plan (IDP), and District Core Strategies and the County Council will work closely with the relevant water companies in order that sufficient facilities are provided when they are required. It is likely that the WCS will look to include a criteria based policy for Sewage Treatments Works based on PPS10 requirements. More details are available in Technical Paper WCS-H Sewage Treatment Works.

Appendices

Appendix A:
Municipal Solid Waste
Summary Data Tables

Table Ap.A.1. *MSW Recycling Capacity Estimates*

Household Recycling Centre Capacity	
District / Site	**Estimated Capacity** (EA License or Planning Consent)
Cheltenham – Swindon Rd CA Site	10,500 tpa (Not included because this capacity is included in the kerbside collected figures by the WDA)
Cotswold – Foss Cross HRC	7,000 tpa
FoD – Oak Quarry HRC	7,300 tpa
Gloucester – Hempsted HRC	18,250 tpa
Cotswold – Pyke Quarry HRC (serving Stroud)	24,999 tpa
Tewkesbury – Wingmoor West HRC	8,750 tpa
TOTAL	**66,299 tpa**

Other Recycling

2009/10 WDA figures for kerbside collection = 32,837 t
2009/10 WDA figures for bring banks /Swindon Rd CA Site / Charity recycle/reuse = 13,813 t
TOTAL = 46,650 t

Table Ap.A.2. *MSW Landfill Capacity Estimates.*

Landfill Capacity		
Hempsted & Wingmoor Farm West Landfills	**Total MSW to both Cory landfills in 2009/10 =** 169,149 t	**Capacity =** Hempsted = 990,000 m^3 or 1,140,000 t as of 1/4/2009. This equates to about 4.6 years tipping. But Cory Environmental have indicated that this could be more like 5 to 6 years (to 2015/16) given likely future variations in fill rates and increased recycling rates. Hempsted also takes landfilled C&I and C&D (about 86,000 t in 2008/09) so in theory capacity for MSW could be increased is a

		decision was made to limit C&I and C&D inputs to husband the void for MSW. Wingmoor Farm West = 2,215,000 m^3 or 2,400,000 t as of 1/4/2009. This equates to about 16.8 years tipping. But this could potentially be extended given likely future variations in fill rates and increased recycling rates. Landfill void for MSW could also be husbanded (similar comments as for Hempsted above). **TOTAL at Hempsted and Wingmoor West Landfills = 3,205,000 m^3 (at 1/4/2009)** [For more details see the Landfill section of this report - Section 10]

Table Ap.A.3. *MSW Composting Capacity Estimates.*

Composting Capacity	
District / Site	**Estimated Capacity** (EA License or Planning Consent)
Gloucester (Hempsted)	10,000 tpa (Temporary permission)
Tewkesbury (Wingmoor Farm West - Central Bunded Area)	/ 5,000 for food waste 20,000 for green waste composting
Forest of Dean (Rose Hill Farm IVC)	30,000 tpa
Stroud (New Earth Solutions IVC)	48,000 tpa (Half for MSW = 24,000 tpa)
TOTAL	**79,000 tpa** (Including half New Earth Solutions capacity but not temporary (transfer) at Hempsted)

Notes:
*According to the WDA (11/08/2010) there is a contract with New Earth Solutions but this Sharpness facility is not currently being used for MSW. The facility *is* being used for C&I – but it is reasonable to estimate that about half the capacity may be available for potential MSW composting use.

Table Ap.A.4. *MSW Transfer / Bulking Capacity Estimates.*

Transfer / Bulking Capacity	
District / Site	**Estimated Capacity** (EA License or Planning Consent)

Gloucester (Eastern Avenue Depot - Recyclables, not Residual Bulking)	10,000 tpa recyclables
Forest of Dean (Sita at Lydney Industrial Estate - Residual Bulking)	54,750 tpa residual bulking
Out of County (Sita using Depot at Cricklade)	/
Cotswold (Cirencester Love Lane - Residual Bulking)	66,999 tpa residual bulking
Stroud (Smiths Moreton Valence)	10,000 tpa recyclables
Tewkesbury (Smiths Northway Lane)	5,000 tpa recyclates
Tewkesbury (Printwaste at the Park)	10,000 tpa recyclables
TOTAL	**General* MSW Transfer / Bulking Capacity is: 121,749 tpa** **Recyclables MSW Transfer / Bulking Capacity is: 35,000 tpa**
*Including MSW that is bulked and then transferred to be sent on to landfill at Hempsted & Wingmoor Farm West	

Table Ap.A.5. *MSW Treatment Capacity Estimates*

Treatment
Treatment is defined in the South West Regional Waste Management Strategy as being operations such as Mechanical Biological Treatment (MBT) or Thermal Processing. According to this definition there are currently no biodegradable MSW waste treatment facilities in the County. New facilities will be required in the plan period, both to meet regional targets as well as to avoid LATS penalties.

Appendix B:
Commercial & Industrial Waste
WDI 2008 Summary Data Tables

Table Ap.B.1. *C&I Landfilled from Waste Data Interrogator 2008. Not including 1. Hazardous 2. Metals [06 category and 08 – Discarded vehicles]*	
Site	**Tonnes**
Cory Hempsted, Gloucester	267,671 t – 183,491 t of Household waste = **84,180 t**
Cory Wingmoor Farm West, Tewkesbury (Non Hazardous)	193,382 t – 110,723 t of Household waste **= 82,659 t**
Grundon Wingmoor East (Non Hazardous)	**119,394 t** 40,465 t of this is classified as Household waste, but this is not Contract Gloucestershire MSW
Frampton, Stroud	**27,354 t** 3,798 t of this is classified as Household waste but this is not Contract Gloucestershire MSW
Drymeadow Farm	**217 t**
Federal Mogul	/
	Total (Non-Hazardous) Landfill = **608,018 t** Total C&I (minus MSW) = **313,804 t**

Table Ap.B.2. *C&I Transfer from Waste Data Interrogator 2008. Not including: 1. Hazardous 2. Metals [06 category and 08 – Discarded vehicles]*	
Site	**Tonnes**
Allstone Sand & Gravel	**7,033 t** 6,980 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Bendalls of Lydney	**2,823 t** 2,823 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Cheltenham Borough Swindon Road CA Site [Exclude because this is essentially for householders]	**7,723 t** (minus 4,204 t of [10]: SOC 3: Household wastes & Street cleaning wastes)
CIC 2222 – This Could be May Gurney - takeover [Exclude – not clear if this is Gloucestershire / or if operating]	**3,010 t**
Cory, Love Lane, Cirencester	**30,422 t** (minus 22,107 t of [10]: SOC 3: Household wastes & Street cleaning wastes)
Hempsted Landfill	**7,542 t** This is green waste. (minus < 1 t of [10]: SOC 3: Household wastes)
Piffs Elm	**36 t**

[Exclude – not operating]	
The Garden Yard – Foss Cross	**39 t** 39 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Gloucester City Eastern Avenue Depot	**15,453 t** (minus 4,322 t of [10]: SOC 3: Household wastes & Street cleaning wastes)
Gloucester Royal Hospital	**1,682 t** 1,616 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Rutherfords	**260 t**
Foss Cross HRC [Exclude because this is essentially for householders]	**4,313 t** (minus 1,792 t of [10]: SOC 3: Household wastes)
Oak Quarry HRC [Exclude because this is essentially for householders]	**6,377 t** (minus 2,978 t of [10]: SOC 3: Household wastes)
Hempsted HRC [Exclude because this is essentially for householders]	**10,717 t** (minus 5,093 t of [10]: SOC 3: Household wastes)
Pyke Quarry [Exclude because this is essentially for householders]	**13,446 t** (minus 5,440 t of [10]: SOC 3: Household wastes)
Wingmoor Farm HRC [Exclude because this is essentially for householders]	**8,666 t** (minus 3,195 t of [10]: SOC 3: Household wastes)
Newent Skips	**176 t** 176 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Roughly Reclamation [Exclude – not in Gloucestershire]	**72 t** 69 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Royles	**962 t** 962 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Netheridge STW	**46, 642 t** 1,480 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Sita Lydney	**38, 147 t** (minus 15,424 t) of [10]: SOC 3: Household wastes & Street cleaning wastes)
Smiths Moreton Valence	**82,278 t** (minus 47,332 t) of [10]: SOC 3: Household wastes & Street cleaning wastes)
Smiths (Northway Lane)	**26,434 t** 25,703 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Ham Villa	**9 t**
Valley Trading	**11,303 t**
Vetspeed	**393 t**

West Oils	**364 t**
	Total = 326, 322 t Minus MSW Element = 89,186 t Minus HRC = 51,242 t Minus Not Op / Not in Gloucestershire = 3,118 t **Total = 182,776 t**

Table Ap.B.3. *C&I Treatment from Waste Data Interrogator 2008. Not including: 1. Hazardous 2. Metals [06 category and 08 – Discarded vehicles]*

Site	**Tonnes**
Hayden Sewage Treatment Works	**3,363 t**
Showell Farm – Agrivert [Exclude – not in Gloucestershire]	**13,115 t**
Agricultural Supply Company – Sunhill	**1,462 t**
Lydney Sand & Gravel	**833 t** 833 t of this is classified as [10]: SOC 3: Household wastes) but this is not Contract Gloucestershire MSW
Rose Hill Farm – Dymock	**26,691 t** Not [10] but [09]: SOC 1: Animal and vegetal wastes – so is this MSW? So minus 26,691 t
PSW England Ltd	**2,185 t**
Dataserve Recycling	**2,011 t**
C K S Electronics Recycling	**924 t**
New Earth Solutions	**18,121 t** (minus 14,255 t of [10]: SOC 3: Household wastes and Other sorting residues)
Tree Management / Bradley Farm	**390 t**
	Total = 69,095 t but minus Showell Farm (Oxfordshire) = 55,980 t **MSW Element = 40,946 t** **Total C&I (minus MSW) = 15,034 t**

Appendix C:
Metal Waste
WDI 2008 Summary Data Tables

Table Ap.C.1. *Facilities Transferring Metal & 2008 Inputs*		
Site	WDI 2008 Transfer in SOC [1] 06 Category (Metallic wastes)	WDI 2008 Transfer in SOC [1] 08 Category (Discarded equipment] SOC [2] Discarded vehicles SOC [3] Other discarded vehicles
Cheltenham Swindon Road CA Site	350 t	/
Northway Lane (Smiths) WTS	73 t	/
Foss Cross HRC	550 t	/
Roughly Reclamation Ltd (Note: This is not in Gloucestershire – so should not be included as Capacity)	1 t	/
Bendalls of Lydney	11,604 t	/
CIC 2222 (Note: This is not in Gloucestershire / not operational – so should not be included as Capacity)	235 t	/
Oak Quarry HRC	511 t	/
Newent Skips	43 t	/
Sita WTS Lydney	22 t	/
Gloucester City Council Depot	573 t	/
Hempsted HRC	904 t	/
Morton Valence (Smiths)	381 t	/
Pyke Quarry HRC	1,049 t	/
Wingmoor Farm HRC	718 t	/
Total	**17,014 t**	

Table Ap.C.2. *Facilities Treating Metal & 2008 Inputs*		
Site	WDI 2008 in SOC [1] 06 Category (Metallic wastes)	WDI 2008 in SOC [1] 08 Category (Discarded equipment] SOC [2] Discarded vehicles SOC [3] Other discarded vehicles
Burke Bros	4,994 t	/
Oil Tank Supplies	169 t	/

Abbey Recycling	/	802 t
Burfords	8,110 t	/
Dursley Auto Dismantlers	/	789 t
SIMS	25,987 t	/
CMS Vehicle Solutions	/	294 t
Adsett Trading	119 t	151 t
Forest Auto Salvage	/	460 t
ERM Gloucester	20,481 t	1,189 t
J Woodward Autospares	/	32,729 t
E L G Haniel	10,660 t	/
Jessops	/	1,819 t
Mitchells	/	1,462 t
Phelps	10,312 t	4,694 t
Twigworth Breakers	/	500 t
Auto Salvage Direct	/	233 t
FAB Recycling	/	637 t
C K C Electronics Recycling (Note: This site is not operational – so should not be included as Capacity)	2 t	/
Dataserve recycling (Vantage Point)	59 t	/
Total	**80,832 t**	**45,759 t**

Appendix D:
Construction & Demolition Waste
WDI 2008 Summary Data Tables

Table Ap.D.1. *Managed Figures for C&D Landfill Disposal / Treatment / Other*		
Site	WDI 2008 Inert – (Rubble / Bricks / Soils etc Disposal / Treatment / Other (but not including Metals)	WDI 2008 – Other C&D e.g. Wood / Plastic etc Disposal / Treatment / Other (but not including Metals)
Kempsford Quarry (Stubbs Farm)	43,651	/
Hempsted Landfill	77,284	/
Frampton landfill [Closed - don't include in capacity]	6,371	28
Drymeadow Farm	10,645	/
Wingmoor Farm West	36,537	2
Wingmoor Farm East	32,801	/
Adsett Trading	210	/
Huntsman's Quarry	1,281	/
Lydney Sand & Gravel	1,783	/
Total	**210,563 t**	**30 t**

Table Ap.D.2. *Managed Figures for C&D Transfer. Not including: 1. Hazardous 2. Metals [06 category and 08 – Discarded vehicles]*		
Site	WDI 2008 Inert – (Rubble / Bricks / Soils etc Transfer (but not including Metals)	WDI 2008 – Other C&D e.g. Wood / Plastic Transfer (but not including Metals)
Ham Villa	6,095	
Valley Trading Babdown Airfield	13,544	
Love Lane	1	
Foss Cross HRC	776	
Roughly Reclamation Ltd [Not in GL so don't include in capacity]	59	
Bell Waste	7,740	1,745
Oak Quarry HRC	1,826	
Old Railway Yard (Newent Skips)	118	
Sita Lydney	357	
Allstone Sand & Gravel	55,601	
Eastern Avenue Depot	17	
Royles	1,400	
Rutherford Skip Hire	1,060	
Hempsted HRC	3,759	
Smiths Moreton Valence	50,161	1
Pyke Quarry HRC	2,925	
Northway Lane (Smiths)	13,333	4

Wingmoor Farm HRC	3,940	
Total	**162,712 t**	**1,750 t**

Appendix E:
Hazardous Waste
EA Data on Wingmoor Farm East Inputs

45,700 tonnes of hazardous waste was landfilled at Wingmoor Farm East in the period 01 April 2008 to 31 March 2009. The details are given in Table Ap.E.1 below.

Table Ap.E.1. *Hazardous Waste Deposited at Wingmoor Farm West (2008) Information supplied by the Environment Agency (Publicly Available).*

Hazardous Material Deposited	**Tonnes**
Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	7
Bituminous mixtures containing coal tar	108
Bottom ash and slag containing dangerous substances	225
Casting cores and moulds which have undergone pouring containing dangerous substances	1,860
Coal tar and tarred products	2,863
Construction materials containing asbestos	2,890
Discarded inorganic chemicals consisting of or containing dangerous substances	< 1
Fly ash containing dangerous substances	12
Glass, plastic and wood containing or contaminated with dangerous substances	2
Hazardous components removed from discarded equipment	25
Insulation materials containing asbestos	54
Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	< 1
Linings and refractories from non-metallurgical processes containing dangerous substances	28
Organic halogenated solvents, washing liquids and mother liquors	16
Other insulation materials consisting of or containing dangerous substances	109
Other linings and refractories from metallurgical processes containing dangerous substances	5
Other particulates containing dangerous substances	177
Other wastes containing dangerous substances	32,585
Phosphatising sludges	1
Primary production slags	291
Slags from primary and secondary production	424
Sludges and filter cakes containing dangerous substances	36
Sludges containing dangerous substances from other treatment of industrial waste water	93
Sludges from oil/water separators	331
Sludges from on-site effluent treatment containing dangerous substances	45
Sludges from physico/chemical treatment containing dangerous substances	247
Soil and stones containing dangerous substances	3,254
Solid wastes from gas treatment	851
Spent filter clays	46
Synthetic machining oils	17
Waste blasting material containing dangerous substances	232
Wastes from cooling-water treatment containing oil	6
Wastes from gas cleaning containing dangerous substances	2

TOTAL	**45,700**
Note: figures in the above list have been rounded and so adding them will not equal 45,700 tonnes exactly. As stated in the previous Waste Data paper, EA figures do not show that Transferred (D) for Disposal waste landfilled. About 75% of the Transferred (D) for Disposal figure is imported Air Pollution Control (APC) residue waste from Scotland, the North West and the South East. APC residue inputs at Wingmoor Farm East are mixed with leachate that can be generated from within the plant or imported liquid waste. The resultant material is then landfilled.	

Appendix F:
List of EA Inert Exemptions

The following data was provided by the EA in August 2010.

Spreading of waste for land reclamation/improvement

Site	TPA	Total (Tonnes)
Moreton C Cullimore (Gravels) Ltd, Land At Perry Way, Frampton On Severn, Stroud	/	/
Soilfix Ltd, Former Transport Depot, St Johns Avenue, Churchdown, Gloucester	/	/
S Williams & Sons, Abbots Court Farm, Twyning, Tewkesbury	/	/
Deconstruction Demolition Services, Sling, Coleford, Forest of Dean	1,200	1,200
Environment Agency, Field At High Cross Farm, Minsterworth, Forest of Dean	1,000	1,000
Hanson Quarry Products Europe Ltd, Coln Quarry, Claydon Pike, Cotswold	/	/
Hills Quarry Products Ltd, Shorncote Cotswold Community Quarry, Cotswold	/	/
Keyway (Gloucester) Ltd, Brock Hill Quarry, Forest of Dean		86,666
Stanleys Quarry, Northwick Estate, Moreton In Marsh, Cotswold	27,500	82,500
John Sutton, Quarry Hill Farm, Thrupp, Stroud	5,330	5,330
Aggregate Industries U K Ltd, Manor Farm Quarry, Cotswold	/	/
Aqua Tek, Hatherop, Cotswold	/	50
Grasshopper 2000 Ltd, Spratsgate Lane, Somerford Keynes, Cotswold	/	/
Hills Minerals & Waste Ltd, Shorncote Cotswold Community Quarry, Cotswold	/	/
Huntsmans Quarries Ltd, Kineton Thorns Restoration, Buckle Street, Naunton, Cotswold	10,000	10,000
Clearwell Quarries Ltd, Stowe Green, St Briavels, Lydney, Forest of Dean	/	/
Environment Agency, Minsterworth, Gloucester	1,000	/

New EPP Sub Para

Site	TPA	Total (Tonnes)
Hanson Quarry Products Europe Ltd, Coln Quarry, Claydon Pike, Cotswold	/	/
Keyway (Gloucester) Ltd, Brock Hill Quarry, Naunton, Cotswold	/	86,666

Storage of waste for land reclamation/improvement

Site	TPA	Total (Tonnes)
Moreton C Cullimore (Gravels) Ltd, Land At Perry Way, Frampton On Severn, Stroud	/	/
Soilfix Ltd, Former Transport Depot, St Johns Avenue, Gloucester	/	/
S Williams & Sons, Abbots Court Farm, Church End, Twyning, Tewkesbury	/	/
Environment Agency, Field At High Cross Farm, Minsterworth, Gloucester	1,000	1,000
Hanson Quarry Products Europe Ltd, Coln Quarry, Claydon Pike, Cotswold	/	/
Keyway (Gloucester) Ltd, Brock Hill Quarry, Naunton, Cotswold	/	86,666
Stanleys Quarry, Northwick Estate, Moreton In Marsh, Cotswold	27,500	82,500
Hills Minerals & Waste Ltd, Shorncote Quarry (Cotswold Community Land), Shorncote, Cotswold	/	/
Huntsmans Quarries Ltd, Kineton Thorns Restoration, Buckle Street, Naunton, Cotswold	10,000	10,000
Environment Agency, Minsterworth, Gloucester	1,000	/

Manufacture of products from waste

Site	TPA	Total (Tonnes)
Colethrop Court Farm, Haresfield, Stonehouse, Stroud	/	/
Dlm Landmaster, Gotherington Lane, Bishops Cleeve, Tewkesbury	/	/
Gloucestershire County Council, Moreton Valance Chipping Dump, Stroud	/	/
Gloucester County Council, Blockley Quarry, Moreton In Marsh, Cotswold	/	/
Gloucester County Council, Cannop Depot, Off New Road, Cannop, Coleford, Forest of Dean	/	/
Gloucestershire County Council, Seven Bends Road, Oxenton, Tewkesbury	/	/
Jackson Civil Engineering Ltd	/	/
Keyway (Gloucester) Ltd Hempsted Lane, Hempsted, Gloucester	/	/
Alfred McAlpine Capital Projects, Churchdown Railway Cutting, Gloucester	/	/
Redmills Downside Yard, Harbour Road, Lydney, Forest of Dean	/	/
Smiths (Gloucester) Ltd, Netheridge Section, Off Bristol Road, Gloucester	/	/
Complete Utilities Ltd, The Yard, Monk Meadow Dock, Hempstead Lane, Gloucester	/	/
Wye Waste Paper Ltd, Court-y-park, Pixley, Ledbury, Forest of Dean	/	/
A R C Southern Quarry Products Division, Drybrook Quarry, Drybrook, Forest of Dean	/	/
A R C Southern Quarry Products Division, Guiting Quarry, Winchcombe, Cotswold	/	/
Valley Trading Ltd, Babdown Industrial Estate, Babdown Airfield, Tetbury, Cotswold	/	/
Hanson Quarry Products Europe Ltd, Daglingworth Quarry, Cotswold	/	/
Country And Metropolitan Homes Plc, Rissington Business Park, Upper Rissington, Cheltenham	/	/
Fitzpatrick Contractors Ltd, Gloucestershire	/	/
Gloucestershire County Council, South Cerney Remote Depot, Ewen Road, Cotswold	/	/
Gloucestershire County Council, Andoversford Remote Depot, Station Road, Cotswold	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course Somerford Keynes, Cotswold	/	/
Hills Minerals & Waste Ltd, Somerford Keynes, Cotswold	/	/
Huntsmans Quarries Ltd, The Old School, Buckle Street, Naunton, Cotswold	/	/
Huntsmans Quarries Ltd, The Quarry, Buckle Street, Naunton, Cotswold	/	/
Multi-Agg Ltd, Stubbs Farm, Washpool Lane, Kempsford, Fairford, Cotswold	/	/
R A F – Fairford, Fairford, Cotswold	/	/
Clearwell Quarries Limited, Clearwell Quarries Ltd, Stowe Green, St Briavels, Forest of Dean	/	/

Manufacture of soil / soil substitutes

Site	TPA	Total (Tonnes)
Colethrop Court Farm, Haresfield, Stonehouse, Stroud	/	/
Dlm Landmaster, Gotherington Lane, Bishops Cleeve, Tewkesbury	/	/
Blockley Quarry, B4479, Blockley, Moreton In Marsh, Cotswold	/	/
Gloucester County Council, Cannop Depot, Off New Road, Cannop, Coleford, Forest of Dean	/	/
Gloucester County Council, Seven Bends Road, Oxenton, Tewkesbury	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Keyway (Gloucester) Ltd, Hempsted Lane, Hempsted, Gloucester	/	/
Alfred McAlpine Capital Projects, Churchdown Railway Cutting, Gloucester	/	/
Redmills Downside Yard, Harbour Road, Lydney, Forest of Dean	/	/
Smiths (Gloucester) Ltd, Netheridge Section, Off Bristol Road, Gloucester	/	/
Complete Utilities Ltd, The Yard, Monk Meadow Dock, Hempsted Lane, Gloucester	/	/
Country And Metropolitan Homes Plc, Rissington Business Park, Upper Rissington, Cheltenham	/	/
Fitzpatrick Contractors Ltd, Gloucestershire	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course, Somerford Keynes, Cotswold	/	/
Hills Minerals & Waste Ltd, Somerford Keynes, Cotswold	/	/

Buttington Farm, Sedbury Lane, Sedbury, Forest of Dean	/	/

Treatment of waste soil, rock for spreading on land

Site	TPA	Total (Tonnes)
Dlm Landmaster, Gotherington Lane, Bishops Cleeve, Tewkesbury	/	/
Gloucester County Council, Blockley Quarry, Blockley, Moreton In Marsh, Cotswold	/	/
Gloucester County Council, Cannop Depot, Off New Road, Coleford, Forest of Dean	/	/
Gloucester County Council, Seven Bends Road, Oxenton, Tewkesbury	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Keyway (Gloucester) Ltd, Hempsted Lane, Hempsted, Gloucester	/	/
Alfred McAlpine Capital Projects, Churchdown Railway Cutting, Gloucester	/	/
Redmills Downside Yard, Harbour Road, Lydney, Forest of Dean	/	/
Smiths (Gloucester) Ltd, Netheridge Section, Off Bristol Road, Gloucester	/	/
Country And Metropolitan Homes Plc, Upper Rissington, Cotswold	/	/
Fitzpatrick Contractors Ltd, Gloucestershire	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course Somerford Keynes, Cotswold	/	/
Multi-Agg Ltd, Kempsford Quarry, Washpool Lane, Kempsford, Cotswold	/	/

Storage of waste for manufacture of soil etc

Site	TPA	Total (Tonnes)
Colethrop Court Farm, Haresfield, Stonehouse, Stroud	/	/
Dlm Landmaster, Gotherington Lane, Bishops Cleeve, Tewkesbury	/	/
Gloucestershire County Council, Moreton Valance Chipping Dump, Haresfield, Stroud	/	/
Gloucester County Council, Blockley Quarry, Moreton In Marsh, Cotswold	/	/
Gloucester County Council, Cannop Depot, Off New Road, Coleford, Forest of Dean	/	/
Gloucester County Council, Seven Bends Road, Oxenton, Tewkesbury	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Keyway (Gloucester) Ltd, Hempsted Lane, Hempsted, Gloucester	/	/
Alfred McAlpine Capital Projects, Churchdown Railway Cutting, Gloucester	/	/
Redmills Downside Yard, Harbour Road, Lydney, Forest of Dean	/	/
Smiths (Gloucester) Ltd, Netheridge Section, Off Bristol Road, Gloucester	/	/
Complete Utilities Ltd, The Yard, Monk Meadow Dock, Hempsted Lane, Gloucester	/	/
Valley Trading Ltd, Babdown Industrial Estate, Babdown Airfield, Tetbury, Cotswold	/	/
Gloucestershire County Council, South Cerney Remote Depot, Ewen Road, Cotswold	/	/
Gloucestershire County Council, Andoversford Remote Depot, Station Road, Cotswold	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course, Somerford Keynes, Cotswold	/	/
Huntsmans Quarries Ltd, The Old School, Buckle Street, Naunton, Cotswold	/	/
Huntsmans Quarries Ltd, The Quarry, Buckle Street, Naunton, Cotswold	/	/
Multi-Agg Ltd, Stubbs Farm, Washpool Lane, Kempsford, Fairford, Cotswold	/	/

Storage of demolition/construction/excavation waste

Site	TPA	Total (Tonnes)
Claydon Farm Partnership, Claydon Farm & Starveall Farm, Claydon, Tewkesbury	5,000	5,000
Boseley Developments, Forest Vale Road, Cinderford, Forest of Dean	/	/
Brandwells Construction Co Ltd, Phase 1, Area E, Benhall, Cheltenham	/	/
Brandwells Construction Co Ltd, Phase 1, Priors Road, Oakley, Cheltenham	/	/
Bristol & Avon Transport & Skip Hire Ltd, Baird Road, Waterwells Business Park, Gloucester	/	/

British Waterways, Gloucester	/	/
Churngold Construction Ltd, Bovis Lend Lease, Gloscat Phase 2 - Site, Llanthony Road, Gloucester	/	/
Davis And Samson Contractors Ltd, Former Ambulance Station, Eastern Avenue, Gloucester	/	/
Gloucestershire County Council, Off Bourton On The Hill Road, Blockley, Cotswold	20,000	20,000
Hartpury College, Hartpury House, Gloucester	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Mr R Jones, Clingre Farm, Clingre Lane, Stinchcombe, Dursley, Stroud	/	/
Laser Civil Engineering Ltd, Coopers Edge, Brockworth Airfield, Brockworth, Gloucester	/	/
Lydney Land Resources Ltd, Canal Works, Harbour Road, Lydney, Forest of Dean	/	/
Mr R Chapman, Manor Farm, Longney, Stroud	/	/
Morrison Construction Services Ltd, C/o Sharpness Shipyard, Dock Road, Sharpness, Stroud	/	/
Hanley Phelps, Wintles Farm, Northwood Green, Westbury On Severn, Forest of Dean	/	/
Rothdean Ltd, Station Street, Cinderford, Forest of Dean	/	/
Sharemills Ltd, Whitworth Court, Baird Road, Waterwells, Quedgeley, Gloucester	/	/
St Modwen Developments, Former Lister-petter Site, Long Street, Dursley, Stroud	/	/
Paul Westcott Ltd, Murrells End House Farm, Hartpury, Forest of Dean	/	/
Brandwells Construction Co Ltd, Barrett Homes, Former RAF Quedgeley, Area A3, Gloucester	2,200	2,200
Bristol & Avon Transport & Recycling Ltd, Swinhay Lane, Wotton-under-edge, Stroud	/	37,000
The Carp Society Ltd, Horseshoe Lake, Burford Road, Lechlade, Cotswold	/	/
M J Church (Plant) Ltd, Lake 31, Cotswold Country Park, Somerford Keynes, Cotswold	3,500	3,500
Hartpury College, Hartpury House, Hartpury, Forest of Dean	2,000	2,000
R & J Ingles & Son, Frogmore And Southfield Farm, Moreton In Marsh, Cotswold	600	600
Kostas Karapetsas Mushroom Farm, The Leathern Bottle, Cam, Stroud	3,500	3,500
M J Church (Plant) Ltd, Lake 16, Station Road, South Cerney, Cirencester, Cotswold	/	86,000
M J Church (Plant) Ltd, Lake 11 (Summer Lake), South Cerney, Cirencester, Cotswold		
Smiths (Gloucester) Ltd, Land/premises At The Old Airfield, Moreton Valence, Stroud	54,000	54,000
Turnstone Farming Company Ltd, Stow Road, Lower Slaughter, Cotswold	1,200	1,200
Valley Trading Ltd, Babdown Industrial Estate, Tetbury, Cotswold	38,000	38,000
Vantage Development Ltd, Vantage Point Business Village, Mitcheldean, Forest of Dean	/	/
William Gilder Ltd, Toddington Saw Mills, Toddington, Tewkesbury	/	/
Earthline Ltd, Lake 10, Cotswold Water Park, South Cerney, Cotswold	/	/
Gloucestershire County Council, South Cerney Remote Depot, South Cerney, Cotswold	/	/
Gloucestershire County Council, Andoversford Remote Depot, Station Road, Cotswold	/	/
Hanson Aggregates, Claydon Pike Gravel Pit, Lechlade, Cotswold	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course, Somerford Keynes, Cotswold	10,000	10,000
Watermark (Windrush) Contractors Ltd, Lake 11, Station Road, South Cerney, Cotswold	/	500,000
Environment Agency, High Cross Farm, Minsterworth, Gloucester	/	1,700

Use of demolition/storage/excavation waste

Site	TPA	Total (Tonnes)
Claydon Farm Partnership, Claydon Farm & Starveall Farm, Claydon, Tewkesbury	5,000	5,000
Boseley Developments, Forest Vale Road, Cinderford, Forest of Dean	/	/
Brandwells Construction Co Ltd, Phase 1, Area E, Benhall, Cheltenham	/	/
Brandwells Construction Co Ltd, Phase 1, Priors Road, Oakley, Cheltenham	/	/
Bristol & Avon Transport & Skip Hire Ltd, Baird Road Waterwells Business Park, Gloucester	/	/
British Waterways, Gloucester	/	/
Churngold Construction Ltd, Bovis Lend Lease, Gloscat Phase 2 - Site, Llanthony Road, Gloucester	/	/
Davis And Samson Contractors Ltd, Former Ambulance Station, Eastern Avenue, Gloucester	/	/
Gloucestershire County Council, Off Bourton On The Hill Road, Moreton In Marsh, Forest of Dean	20,000	20,000

Hartpury College, Hartpury House, Forest of Dean	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Mr R Jones Clingre Farm, Clingre Lane, Stinchcombe, Dursley, Stroud	/	/
Laser Civil Engineering Ltd, Coopers Edge, Brockworth Airfield, Brockworth, Gloucester	/	/
Lydney Land Resources Ltd, Canal Works, Harbour Road, Lydney, Forest of Dean	/	/
Mr R Chapman, Manor Farm, Longney, Stroud	/	/
Morrison Construction Services Ltd, C/o Sharpness Shipyard, Dock Road, Sharpness, Stroud	/	/
Hanley Phelps, Wintles Farm, Northwood Green, Westbury On Severn, Forest of Dean	/	/
Rothdean Ltd, Station Street, Cinderford, Forest of Dean	/	/
Sharemills Ltd, Whitworth Court, Baird Road, Waterwells, Quedgeley, Gloucester	/	/
Smiths (Gloucester) Ltd, The Old Airfield, Moreton Valence, Stroud	/	/
St Modwen Developments, Former Lister-petter Site, Long Street, Dursley, Stroud	/	/
Paul Westcott Ltd, Murrells End House Farm, Hartpury, Forest of Dean	/	/
A J Newman & Sons, Bevington Farm, Bevington, Berkeley, Stroud	500	500
Bristol & Avon Transport & Recycling Ltd, Swinhay Lane, Wotton-under-edge, Stroud	/	37,000
Bristol & Avon Transport & Recycling Ltd, Lydney Golf Course, Land Adjacent To Naas Court Farm, Naas Lane, Lydney, Forest of Dean	/	120,000
The Carp Society Ltd, Horseshoe Lake, Burford Road, Lechlade, Cotswold	/	/
Cotswold Hills Golf Club Ltd, Ullenwood, Cheltenham	37,600	37,600
M J Church (Plant) Ltd, Lake 31, Somerford Keynes, Cirencester, Cotswold	3,500	3,500
Hartpury College, Hartpury House, Hartpury, Forest of Dean	2,000	2,000
R & J Ingles & Son, Frogmore And Southfield Farm, Moreton In Marsh, Cotswold	600	600
Kostas Karapetsas Mushroom Farm, The Leathern Bottle, Cam, Dursley, Stroud	3,500	3,500
Lydney Golf Club, Nass Farm, Nass Lane, Lydney, Forest of Dean	1,000	1,000
M J Church (Plant) Ltd, Lake 16, Station Road, South Cerney, Cirencester, Cotswold	/	86,000
M J Church (Plant) Ltd, Lake 11, Cotswold Water Park, South Cerney, Cirencester, Cotswold		
M J Church (Plant) Ltd, Lake 31, Keynes Country Park, Cirencester, Cotswold	3,500	3,500
Persimmon Homes (South Midlands) Ltd, St Oswald Park, St Oswalds Road, Gloucester	1,800	1,800
Rothdean Ltd, North Park, Forest Vale Industrial Estate, Cinderford, Forest of Dean	/	/
Mr Simon Hardacre, Walnut Tree Cottage, Woolaston, Lydney, Forest of Dean	100	100
Smiths (Gloucester) Ltd, Land/premises At The Old Airfield, Moreton Valence, Stroud	54,000	54,000
St Modwen Developments Ltd, Long Street, Dursley, Stroud	5,500	5,500
Tonic Construction Ltd, Charles Church Homes Ltd, Oakley Phase 2a, Cheltenham	6,000	6,000
Turnstone Farming Company Ltd, Stow Road, Lower Slaughter, Cotswolds	1,200	1,200
Valley Trading Ltd, Babdown Industrial Estate, Tetbury, Cotswolds	38,000	38,000
Vantage Development Ltd, Vantage Point Business Village, Mitcheldean, Forest of Dean	/	/
Earthline Ltd, Lake 10, Cotswold Water Park, South Cerney, Cotswold	/	/
Gloucestershire County Council, South Cerney Remote Depot, South Cerney, Cotswold	/	/
Gloucestershire County Council, Andoversford Remote Depot, Andoversford, Cotswold	/	/
Hanson Aggregates, Claydon Pike Gravel Pit, Lechlade, Cotswold	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course, Somerford Keynes, Cotswold	10,000	10,000
Watermark (Windrush) Contractors Ltd, Lake 11, Station Road, South Cerney, Cotswold	/	500,000
Watermark (Windrush) Construction Ltd, Lake 16, Station Road, South Cerney, Cotswold	150,000	150,000
Environment Agency, Church Lane, Minsterworth, Stroud	/	9,500
Environment Agency, Minsterworth Ham, Minsterworth, Tewkesbury	/	/
Environment Agency, Flood Embankment Adjacent To Westgate Bridges, Avery Island, Gloucester	/	/
Environment Agency, Minsterworth, Tewkesbury	/	40
Environment Agency, Minsterworth, Tewkesbury	/	2,500
Environment Agency, Flood Embankment Adjacent To Westgate Bridges, Alney Island, Gloucester	/	/

Storage of road planings

Site	TPA	Total (Tonnes)
Boseley Developments, Forest Vale Road, Cinderford, Forest of Dean	/	/
Brandwells Construction Co Ltd, Phase 1, Area E, Benhall, Cheltenham	/	/
Brandwells Construction Co Ltd, Phase 1, Priors Road, Oakley, Cheltenham	/	/
Bristol & Avon Transport & Skip Hire Ltd, Baird Road Waterwells Business Park, Gloucester	/	/
British Waterways, Gloucester	/	/
Churngold Construction Ltd, Bovis Lend Lease, Gloscat Phase 2 - Site, Llanthony Road, Gloucester	/	/
Davis And Samson Contractors Ltd, Former Ambulance Station, Eastern Avenue, Gloucester	/	/
Gloucester County Council, Vallets Wood, Coleford, Forest of Dean	/	/
Gloucestershire County Council, Mount Lane, Haresfield, Stroud	/	/
Gloucestershire County Council, Seven Bends Road	/	/
Gloucestershire County Council, Off Bourton On The Hill Road, Blockley, Moreton In Marsh, Forest of Dean	20,000	20,000
Hartpury College, Hartpury House, Forest of Dean	/	/
Jackson Civil Engineering Ltd, Gloucestershire	/	/
Mr R Jones, Clingre Farm, Clingre Lane, Stinchcombe, Dursley, Stroud	/	/
Laser Civil Engineering Ltd, Coopers Edge, Brockworth Airfield, Brockworth, Gloucester	/	/
Lydney Land Resources Ltd, Canal Works, Harbour Road, Lydney, Forest of Dean	/	/
Mr R Chapman, Manor Farm, Longney, Gloucester, Stroud	/	/
Morrison Construction Services Ltd, C/o Sharpness Shipyard, Dock Road, Sharpness, Stroud	/	/
Hanley Phelps, Wintles Farm, Northwood Green, Westbury On Severn, Forest of Dean	/	/
Rothdean Ltd, Station Street, Cinderford, Forest of Dean	/	/
Sharemills Ltd, Whitworth Court, Baird Road, Waterwells, Quedgeley, Gloucester	/	/
Smiths (Gloucester) Ltd, The Old Airfield, Moreton Valence, Stroud	/	/
St Modwen Developments, Former Lister-petter Site, Long Street, Dursley, Stroud	/	/
Paul Westcott Ltd, Murrells End House Farm, Hartpury, Forest of Dean	/	/
Bristol & Avon Transport & Recycling Ltd, Swinhay House, Swinhay Lane, Wotton-under-edge, Stroud	/	37,000
M J Church (Plant) Ltd, Lake 31, Cotswold Country Park, Somerford Keynes, Cirencester, Cotswold	3,500	3,500
Hartpury College, Hartpury House, Hartpury, Forest of Dean	2,000	2,000
Kostas Karapetsas Mushroom Farm, The Leathern Bottle, Cam, Dursley, Stroud	3,500	3,500
M J Church (Plant) Ltd, Lake 16, Station Road, South Cerney, Cotswold	/	86,000
M J Church (Plant) Ltd, Lake 11 (Summer Lake), Cotswold Water Park, South Cerney, Cotswold	/	/
Valley Trading Ltd, Babdown Industrial Estate, Tetbury, Cotswold	38,000	38,000
Earthline Ltd, Lake 10, Cotswold Water Park, South Cerney, Cotswold	/	/
Gloucestershire County Council, South Cerney Remote Depot, Ewen Road, South Cerney, Cotswold	/	/
Gloucestershire County Council, Andoversford Remote Depot, Station Road, Andoversford, Cotswold	/	/
Hills Minerals & Waste Ltd, Sandpool Farm Golf Course, Somerford Keynes, Cotswold	10,000	10,000
Watermark (Windrush) Contractors Ltd, Lake 11, Station Road, South Cerney, Cotswold	/	500,000

Crushing waste bricks etc not at place of production

Site	TPA	Total (Tonnes)
Clearwell Quarries Limited, Clearwell Quarries Ltd, Stowe Green, St Briavels, Lydney, Forest of Dean	/	/


recycle
for Gloucestershire