



**Waste topic paper 1:**

## **Waste Management Need to 2028**



**Somerset County Council**

## **Minerals and Waste Development Framework**

[WWW.SOMERSET.GOV.UK](http://WWW.SOMERSET.GOV.UK)



This document has been prepared by Somerset County Council.

© Somerset County Council

Cover photographs sourced from digital image libraries

Copies of this document are available from:

Somerset County Council  
Environment Directorate  
County Hall  
Taunton  
Somerset  
TA1 4DY  
Tel: 0845 345 9188  
Email: [mineralsandwaste@somerset.gov.uk](mailto:mineralsandwaste@somerset.gov.uk)

For further details of the Somerset Minerals and Waste Development Framework, and to view and download this and other documents, please visit our website.

[www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)

## Document control record

Name of document: Waste management need to 2028  
Author: Minerals and waste policy team, Somerset County Council  
Description of content: Projecting existing and future waste arisings and existing and future waste management capacity in Somerset

Approved by: Interim Minerals and Waste Policy Manager  
Date of approval: 23 February 2012

Assigned review period: Approximately 12 months  
Date of next review: 2013

Revision	Date	Comments
1	03 March 2011	Version 1 approved for limited consultation
2	29 July 2011	Version 2 approved for publication
3	23 February 2012	Version 3 approved for submission with the Waste Core Strategy

# Contents

1. Introduction .....	5
2. Municipal Solid Waste .....	7
2.1 Introduction, definitions and baseline .....	7
2.2 Projecting future arisings .....	11
2.3 Recycling, residual waste treatment and landfill projections .....	12
3. Commercial and Industrial Waste .....	21
3.1 Introduction, definitions and baseline .....	21
3.2 Projecting future arisings .....	25
3.2 Recycling, residual waste and landfill projections .....	26
4. Construction and Demolition Waste .....	30
4.1 Introduction, definitions and baseline data .....	30
4.2 Projecting future arisings .....	39
4.3 Reuse and other beneficial use, and landfill requirements .....	41
5. Waste Management Capacity in Somerset .....	44
5.1 Introduction, definitions and baseline data .....	44
5.2 Total operational capacity .....	46
5.3 Forthcoming and expiring capacity .....	47
6. Capacity Gap Analysis .....	49
6.1 MSW and C&I waste recycling .....	49
6.2 C&D waste re-use/other beneficial use .....	50
6.3 Residual Waste Treatment .....	51
6.4 Total Landfill Requirement .....	52
6.5 Transfer .....	55
7. Other waste streams .....	56
7.1 Hazardous waste .....	56
7.2 Sewage Waste .....	58
7.3 Agricultural Waste .....	59

8. Waste Imports and Exports .....	60
8.1 Introduction .....	60
8.2 Municipal and Commercial/Industrial waste .....	61
8.3 Construction and Demolition Waste .....	63
8.4 Hazardous waste imports/exports .....	65
9. Conclusions .....	67
Appendix 1: Operational waste sites .....	69
Appendix 2: Waste sites with planning permission, but yet to be constructed .....	74
Appendix 3: Waste sites to cease during the plan period .....	75
Appendix 4: Non-operational waste sites .....	76
Appendix 5: Excluded sites .....	77
Appendix 6: Development lead-in-times .....	81
Appendix 7: Operational recycling facilities .....	84
Appendix 8: Operational landfill sites .....	84
Appendix 9: Operational transfer facilities .....	86
Accessibility .....	88



# 1. Introduction

- 1.1 This document prepared by Somerset County Council provides a vital part of the evidence base for Somerset's emerging Waste Local Development Framework in relation to waste management need. A robust and credible evidence base is essential to the preparation of a sound Waste Core Strategy (WCS) Development Plan Document, as set out in Planning Policy Statement 12. An earlier version of this report accompanied the Waste Planning Issues and Options II consultation document published in early spring 2011. It has now been revised to reflect the comments submitted by consultees. In addition, this report now incorporates new evidence which emerged during and after the consultation. The evidence base will continue to be informed by emerging evidence.
- 1.2 No changes were made to the overall structure of the report in order to ensure that readers can easily compare it with the version published in March 2011.
- 1.3 With regard to contents, the following "headline" changes were made to the earlier version of the Waste Management Need to 2028 Report:
- Recycling rates for municipal solid waste (MSW) and commercial and industrial (C&I) waste: Total MSW projections (from 2009/10 onwards) now exclude hardcore delivered to Household Waste Recycling Centres following introduction of charges by the Somerset Waste Partnership (SWP). This resulted in a change in overall arisings and recycling rates. C&I recycling rates are still aligned with MSW recycling rates and have therefore changed also.
  - Overall, MSW, construction and demolition (C&D) and hazardous waste arisings over the plan period changed as data have been made available in relation to Hinkley Point C Nuclear Power Station construction and Hinkley Point A decommissioning.
  - New residual MSW arisings were calculated based on updated total MSW projections.
  - It was decided to separately present projections of MSW and C&I waste recovery need to make clear that C&I waste recovery is something which can be delivered through a competitive market whereas residual MSW recovery capacity is to be procured via the Somerset Waste Partnership's (SWP) strategic disposal partner.
  - Biodegradable C&I waste arisings could not be estimated due to the lack of robust data.
  - C&D waste arisings for 2009 have now been included following publication of new data (2009 EA Interrogator).

- Preferred growth profiles were identified for the main waste streams.
- Total landfill requirements changed due to changes made to the underlying waste growth assumptions and projections.
- Hazardous waste arisings were updated following publication of new data (2009 EA Interrogator).
- Waste imports and exports data were included for 2009 following publication of new data (2009 EA Interrogator).
- Data on permitted, operational and non-operational waste management capacity in Somerset changed due to additional information obtained from planning permissions and operators.

1.4 Consultation responses received in Spring 2011, which relate to the previous version of the Waste Management Need Report, have been summarised in a report which is available from the County Council on request.

## 2. Municipal Solid Waste

### 2.1 Introduction, definitions and baseline

- 2.1.1 Municipal Solid Waste (MSW) is defined as waste collected and disposed of by or on behalf of a local authority, consisting mainly of household and to a lesser extent commercial waste. In Somerset, collection and disposal of MSW is organised through the Somerset Waste Partnership (SWP). The SWP has been working since 1992; the partner authorities are Somerset County Council, Sedgemoor, South Somerset, Mendip and West Somerset District Councils, and Taunton Deane Borough Council. The SWP also owns the Municipal Waste Management Strategy which is currently under review.
- 2.1.2 Good quality data on MSW are available and being used by the SWP to model future waste arisings and to identify future capacity requirements. This work is being carried out to inform the review of the SWP's municipal waste management strategy.
- 2.1.3 SWP monitoring data showed that total municipal solid waste arisings in Somerset decreased between 2006/7 and 2009/10. This is illustrated in the top row of Table 1, below. Somerset already exceeds national targets for household recycling and composting (as per Waste Strategy for England 2007). However, there is very little residual MSW recovery taking place. Almost all residual MSW is currently going to landfill. The amount of biodegradable residual MSW landfilled has consistently been below Somerset's Landfill Allowance Trading Scheme (LATS)<sup>1</sup> allowance.

---

<sup>1</sup> LATS balances have been included for illustration only given the recent Government announcement that LATS is due to expire in 2013.

Table 1: Somerset's MSW management performance against national targets and LATs

	2006/7	2007/8	2008/9	2009/10		
<b>Total municipal waste arisings (in tonnes)</b>	302,560	297,900	284,691	279,117		
<b>MSW recycling rate</b>	41%	45%	45%	45%		
<b>Residual MSW recovery rate</b>	0%	0%	0%	0.7%*		
<b>MSW landfill rate (**)</b>	59%	55%	55%	54%		
<b>Total household waste arisings (in tonnes)</b>	272,712	270,127	260,110	256,063		
<b>Household waste recycling rate</b>	45%	50%	49%	49%		
<b>Waste Strategy for England 2007 household waste recycling and composting target</b>				40% 2010	45% 2015	50% 2020
<b>Biodegradable MSW sent to landfill (in tonnes)</b>	109,175	86,085	83,509	82,196		
<b>LATS allowance (in tonnes)</b>	161,322	149,750	135,286	117,929		
<b>Surplus/deficit (in tonnes)</b>	52,147	63,665	51,777	35,733		

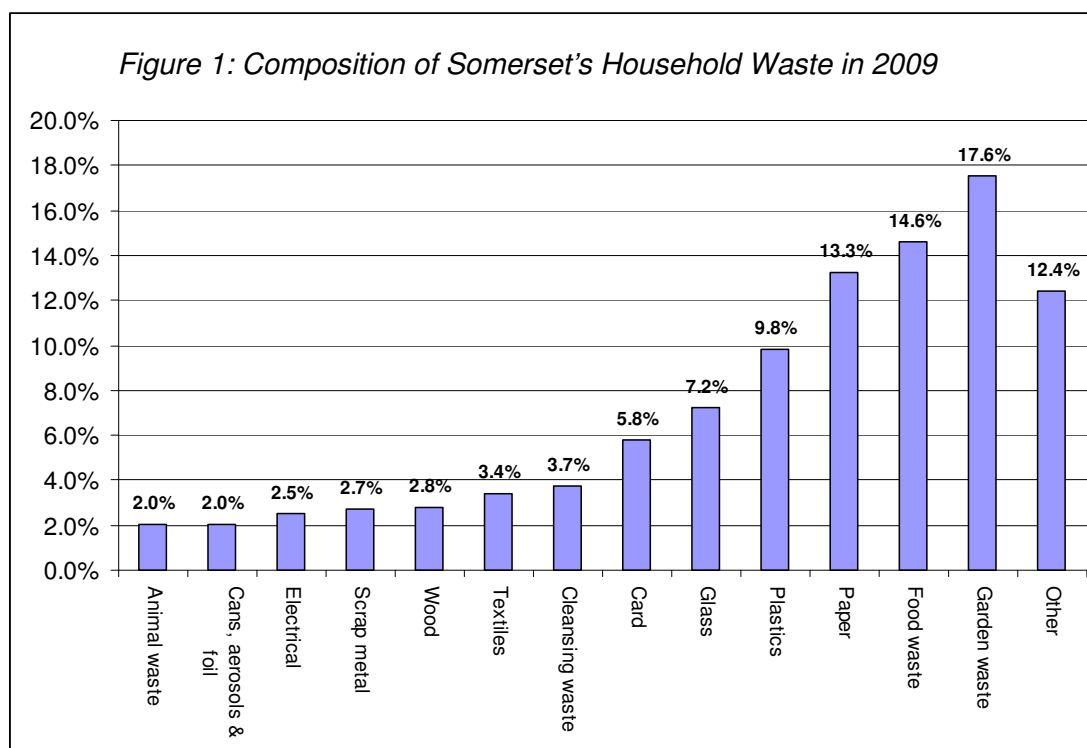
\*\* Based on total MSW including hardcore

\* This equates to 1,731 tonnes of wood waste managed at a recovery facility outside Somerset.

Source: SWP, 2010, amended



2.1.3 Figure 1 below displays the composition of Household Waste collected by the SWP in 2009/10 based on SWP data.



2.1.4 The SWP also publishes an annual end use register of what happens to materials collected for recycling and reuse from Somerset residents (including kerbside collections, waste delivered to HWRCs and bring banks, and third party waste collections). All materials are sent for recycling or reuse. According to the latest end use register 2009/10, 121,440 tonnes of collected MSW were recycled and 2,495 tonnes reused. Table 2 below shows the amount and type of waste recycled in 2009/10, and where it was reprocessed. It concentrates on the main MSW waste streams, and excludes contributions from third parties. Further details can be obtained directly from the end use register<sup>2</sup>.

*Table 2 (Page 10): MSW recycling/reuse per waste stream, in tonnes, and destination (2008/9)*

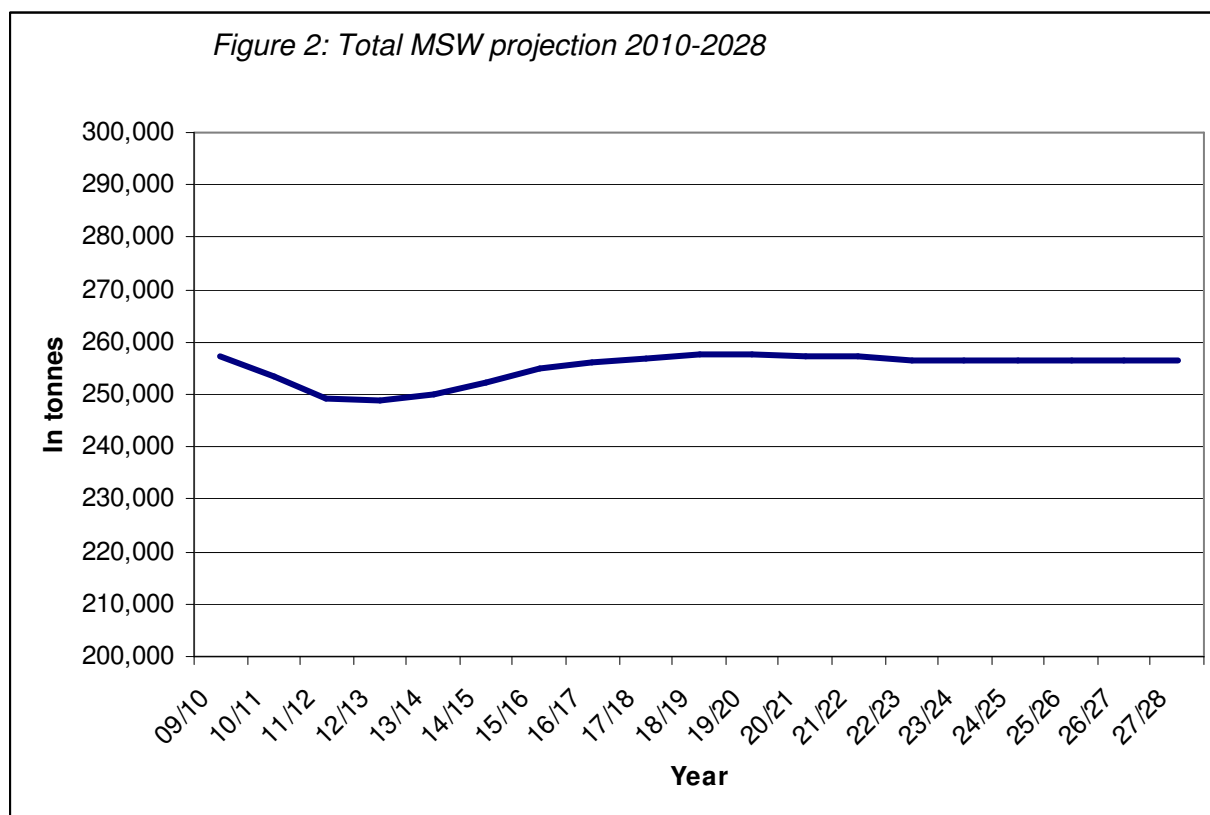
<sup>2</sup> <http://www.somersetwaste.gov.uk/pdf/SWP%20Recycling%20End-Uses%202008-2009%20v2.pdf>

Waste stream	In tonnes		Reprocessor
Kerbside collections	2008/9	2009/10	
Paper	18,281	16,803	Aylesford Newsprint, Kent
Cardboard	213	248	Paper and board mills in China
		44	Smurfitt Kappa, Kent
Mixed paper/cardboard	1,576	1,464	Sevenside Recycling (Watchet, Somerset)
Food waste	10,090	9,844	Viridor, In-Vessel Composter (Dimmer, Castle Cary, Somerset)
	1,026	755	Eco-Composting In-Vessel Composter (Dorset)
	1,629	1,019	Holsworthy Anaerobic Digestion (Devon)
	53	1,709	EcoSci In-Vessel Composter (Devon)
	1,428	87	Greenfinch Anaerobic Digestion, Shropshire
Garden waste	4,388	7,743	Windrow composting, Dimmer, Castle Cary, Somerset
	7,603	4,927	Windrow composting, Walpole, Somerset
Mixed glass	694	350	Recresco Ltd., Bristol
Brown, clear and green glass	11,349	11,392	O-I Manufacturing UK, Harlow, Essex
Cans, tinplate steel, and aluminium foil	2,209	2,111	AMG Ltd. (Llanelli, Wales), Alutrade (Birmingham), Sims Metals (South Wales)
Plastic bottles and bags	144		International Recycling, Lincolnshire, and AWS Eco-plastics, Leicester
		94	Viridor Granulation plant, Skelmersdale, J&A Young, Leicester
Bring Banks			
Paper	473	297	Aylesford Newsprint, Kent
Mixed paper/cardboard	1,911	1,477	Paper and board mills in China
	339	393	Sevenside Recycling (Watchet, Somerset)
Brown, clear and green glass	303	279	O-I Manufacturing UK, Harlow, Essex, and Recresco Ltd., Bristol
Mixed container glass	22	114	Recycled Glass, Highbridge, Somerset
	1,323	941	Berrymans, various locations in the UK
	330	273	O-I Manufacturing UK, Harlow, Essex
Plastic bottles	616	97	International Recycling, Lincolnshire
		494	Viridor Granulation plant, Skelmersdale
Household Waste Recycling Centres			
Paper	1,200	1,299	Aylesford Newsprint, Kent
	100		Watchet Paper Mill, Somerset
Cardboard	7,526	6,319	Paper and board mills in China
		1,115	Smurfitt Kappa, Kent
Garden waste	23,479	23,620	Windrow composting at Dimmer, Walpole and Priorswood (Somerset)
	7,682	6,635	Cricket St Thomas, Monksham Farm and Smokey Farm, (all Somerset)
Wood	3,544	169	Windrow composting sites in Somerset (as above)
		1,521	Kronospan (Wrexham)
		761	Norboard, South Molton
		1,386	Tanyard Nurseries, Axbridge
		42	Pyros, Southampton
		1,160	Boomeco Ltd, Avonmouth
		537	Lee Moor China Clay Quarry, Devon
Electrical	4,270	4,256	Sims Metals, South Wales
Scrap metal	6,385	6,335	Sims Metals, South Wales
			JC Thomas and Sons, Glastonbury, (Somerset)
			Hallett Metals Recycling, Crewkerne (Somerset)
Mixed container glass	1,534	1,435	Viridor Glass, St Helens (Lancashire)
Plastic bottles	854	821	International Recycling, Lincolnshire, and Viridor Granulation plant, Skelmersdale

- 2.1.5 Based on the information provided in the End Use Register it can be said that the bulk of food waste, garden waste and wood waste collected at HWRCs, kerbside and bring banks was managed at facilities or locations within Somerset. The majority of other materials such as glass, cardboard, paper and metals predominantly went to recycling facilities outside the county based on contracts let by the SWP. In addition to materials listed above, approximately 20,000 tonnes per year of hardcore and soil were also delivered to Household Waste Recycling Centres and taken up by the Partnership's disposal partner for engineering purposes at Walpole and Dimmer landfill sites.

## **2.2 Projecting future arisings**

- 2.2.1 PPS10 and its Companion Guide advocate strong alignment between the Waste Core Strategy and the Municipal Waste Management Strategy. Modelling undertaken by the SWP has therefore informed planning for future capacity requirements in the Waste Core Strategy.
- 2.2.2 The SWP has modelled future MSW arisings in detail, based on monitoring data and assumptions regarding waste generated through housing growth, economic growth, past trends, assumptions about the impacts of recycling schemes such as 'Sort it' and 'Sort it Plus', and reductions in trade abuse at Household Waste Recycling Centres. The SWP also considered the impacts of other waste minimisation incentives at county and national level, and estimates of impacts of construction workers moving to Somerset as a consequence of the Hinkley Point C developments. The outcome of this work was, in effect, one scenario of future growth informed by a large number of parameters. Figure 2 displays the SWP projection which has been adopted as the preferred projection following consultation on earlier version of this report, which presented alternative growth scenarios. The base year is 2009/10. Total MSW arisings over the plan period would be approximately 5.26 million tonnes.
- 2.2.3 It needs to be noted that the baseline for 2009/10 excludes ca. 20,000 tonnes of hardcore delivered to HWRCs as this material has traditionally been taken up by Viridor Waste Management for engineering at their landfill sites. The Environment Agency regards this process as disposal, and it is therefore assumed that this material is accounted for in the Environment Agency's Interrogator database as inert waste delivered to HWRCs. Interrogator data for 2009 have formed the baseline for projections for C&D waste (see chapter 4). In order to avoid double counting, it has therefore been decided that hardcore should be included under C&D arisings for 2009/10, and accounted for in the C&D waste projections.
- 2.2.4 The SWP has also recently introduced charges at HWRCs which is expected to result in a sharp decline in hardcore delivered to HWRCs.



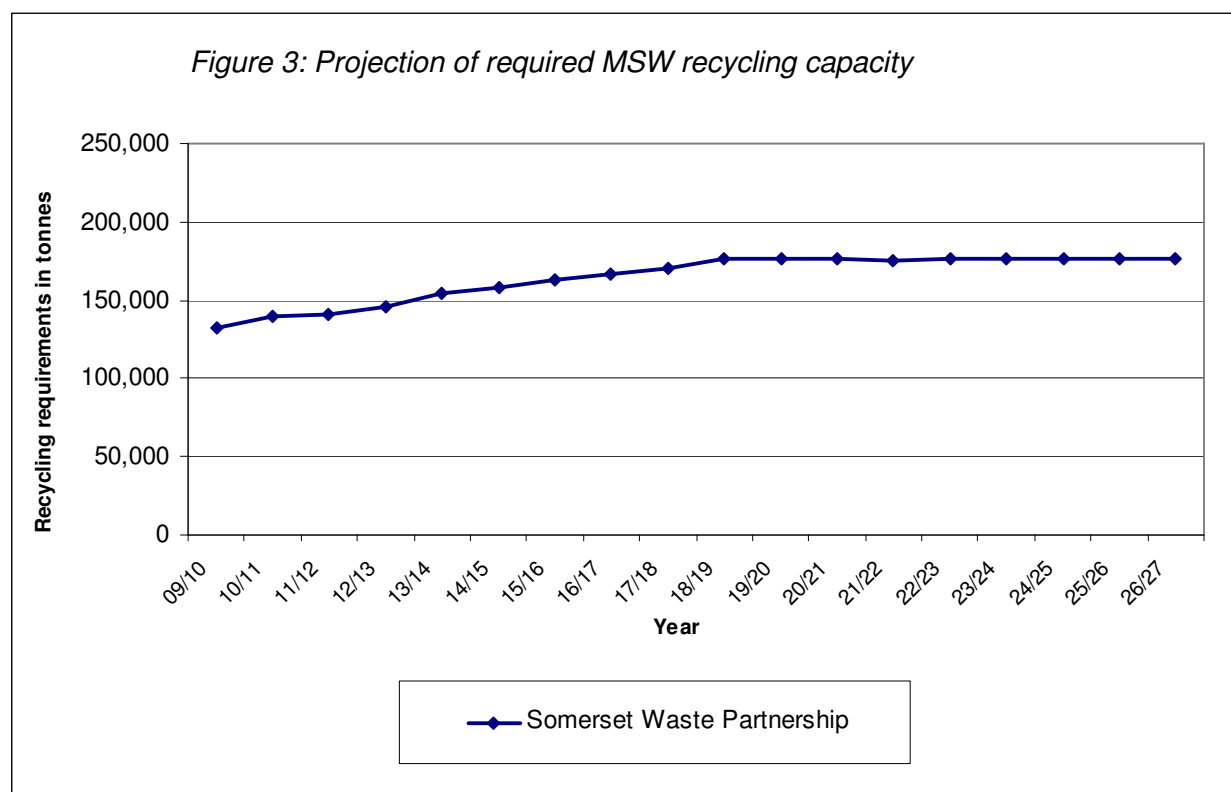
## 2.3 Recycling, residual waste recovery and landfill projections

- 2.3.1 Recycling of MSW commonly involves the reprocessing of dry recyclables, such as glass, paper, metal, card or plastic. Composting of biodegradable waste components has also been included under recycling, as it is recycling decomposed organic materials into a rich soil called compost. For the purpose of this exercise, reuse was included under the broad banner of recycling. In order to forecast future need for recycling capacity Somerset County Council decided to use the MSW recycling rates established by the SWP for 2010/11-2027/28, which are set out below (Table 3). They are based on the SWP's assumptions about MSW to be received by Household Waste Recycling Centres and collected at kerbside. They are also based on calculations of non-household municipal waste arisings.
- 2.3.2 It was decided to adopt these locally derived recycling rates because Somerset is already very close to meeting Waste Strategy for England 2007 recycling targets for 2020 (for household waste, see Table 1, page 8).

Table 3: Projected MSW recycling rates (source: Somerset Waste Partnership)

09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20 - 21/22	22/23 - 27/28
48 <sup>3</sup>	52	56	57	58	61	62	63	65	66	68	69

2.3.3 Figure 3 illustrates the projection of required MSW recycling capacity.



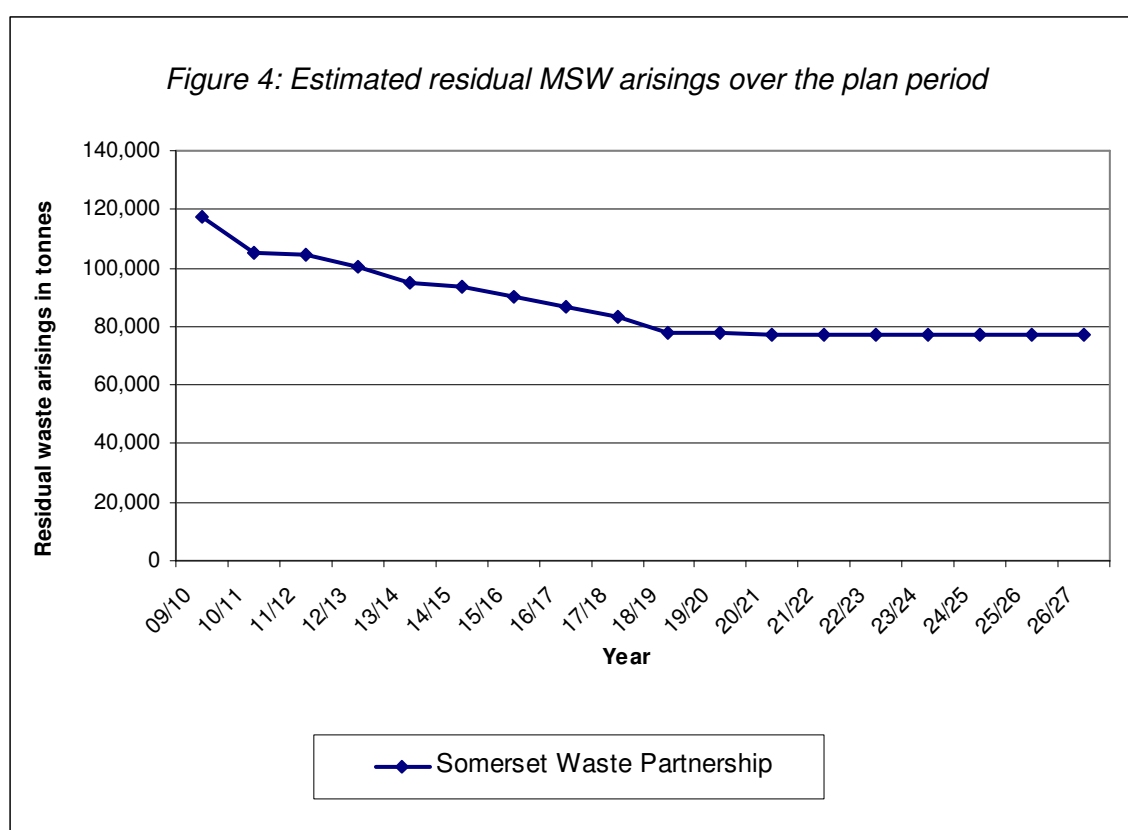
2.3.4. Projected requirements of MSW recycling capacity (in tonnes) are shown in Table 4 for 'spot' years during the plan period.

<sup>3</sup> Excluding hardcore arisings.

Table 4: Projected requirements of MSW recycling capacity (in tonnes) for 'spot' years

	2009/10 (current performance)	15/16	19/20	27/28
<b>SWP</b>	124,724	158,155	176,428	175,990

2.3.5. **Residual waste recovery** deals with the amount of waste left after reuse and recycling. Figure 4 below estimates the amount of residual MSW that will be generated.

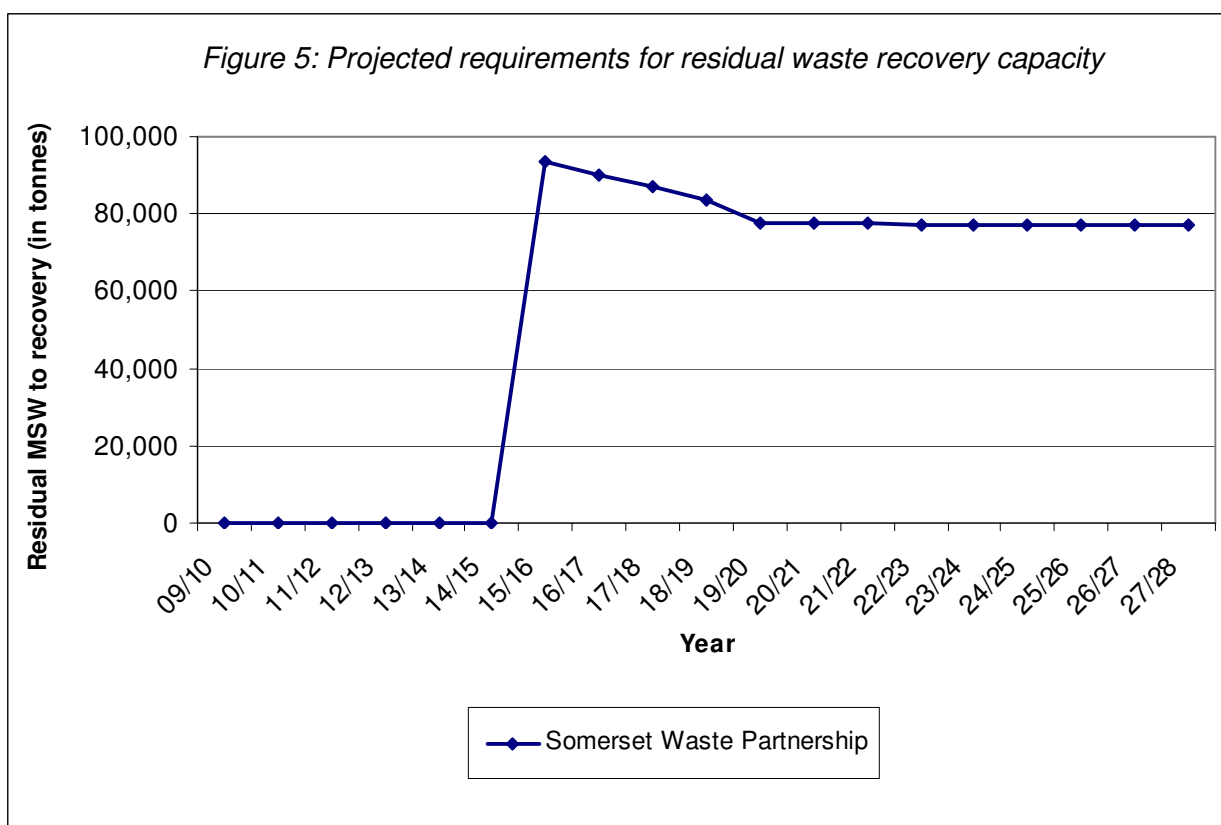


2.3.6 Currently very little residual MSW is sent to recovery. Almost all residual MSW is currently disposed of at Walpole and Dimmer landfill sites. It is planned however that all residual waste that can be recovered will be recovered from 2015/16 onwards. 2015/16 was put forward by the Partnership as a realistic date for the delivery of residual waste recovery capacity. Research on lead-in-times for recovery facilities would suggest that this is a reasonable assumption<sup>4</sup>.

<sup>4</sup> See Appendix 6 for further details.



2.3.7 Up until 2015/16 residual MSW would be going to landfill due to the lack of residual waste recovery facilities in Somerset. Figure 5 illustrates the projected requirements for residual waste recovery capacity under the preferred growth scenario, assuming that all residual waste is sent to recovery from 2015/16 onwards. As it can be seen in the residual waste projection in Figure 4 above, arisings are expected to fall until 2019/20 due to the continuing improvement in recycling performance. Residual waste recovery projections are expressed for spot years in Table 5 below. The total additional recovery requirement does not include projected recovery of 3,500 tonnes of wood waste which is currently delivered by facilities within and outside Somerset via SWP contracts.



*Table 5: Residual waste recovery projections for spot years*

	2009/10 (current performance)	15/16	19/20	27/28
<b>SWP</b>	0	93,380	77,701	77,186

2.3.8. The SWP has identified four options for treating residual MSW, presented below. These options yield different results concerning the amount of waste that would need to be landfilled following recovery, either as a stabilised reject or hazardous waste. The SWP is currently establishing which of these options it wishes to take forward.

2.3.9 In consultation the SWP has identified the following options for treatment of residual waste:

A) Export as much untreated residual waste as possible out of county to a merchant facility, which is likely, but not necessarily, to be at Avonmouth. This facility is likely to be either energy from waste (EfW) or mechanical biological treatment (MBT).

B) EfW in Somerset scaled to meet just Somerset's needs (including some commercial waste). In practice the amount of waste available at high recycling levels will be insufficient to justify the higher cost of a smaller scale facility.

C) MBT process in Somerset (scaled to meet Somerset's needs including some commercial waste). This process would have the following outputs:

- recycle;
- fines (organic particles, grit etc); and
- primarily, solid recovered fuel (SRF).

The SRF (which is storable) could go either:

- a) in bulk loads to a large central combustion facility e.g. coal fired power station or industrial process; or
- b) to local combined heat and power (CHP) type schemes (possibly involving pyrolysis or gasification) if these emerge as part of planned urban extensions or other developments in Somerset.

Over time the outlet could move from (a) to (b) if local users are developed.

D) Managed flexibility or lowest cost compliance option, involving export (as per option 1) or a low tonnage of waste if necessary to meet landfill allowance trading scheme (LATS) targets up to 2020 and continuing to use landfill for the larger proportion remaining until at least 2020.

2.3.10 Having calculated the increase in recycling and residual waste recovery, the County Council calculated the amount of MSW that would need to be landfilled.

2.3.11 Figure 6 shows more specifically the landfill projections under the four recovery options developed by the SWP. Table 6 presents the data in tonnages, including the total required over the plan period. Again, it needs to be noted that the total includes the amount of residual waste landfilled between 2009/10 and 2015/16.

Figure 6: Projected landfill requirements under four residual MSW treatment options

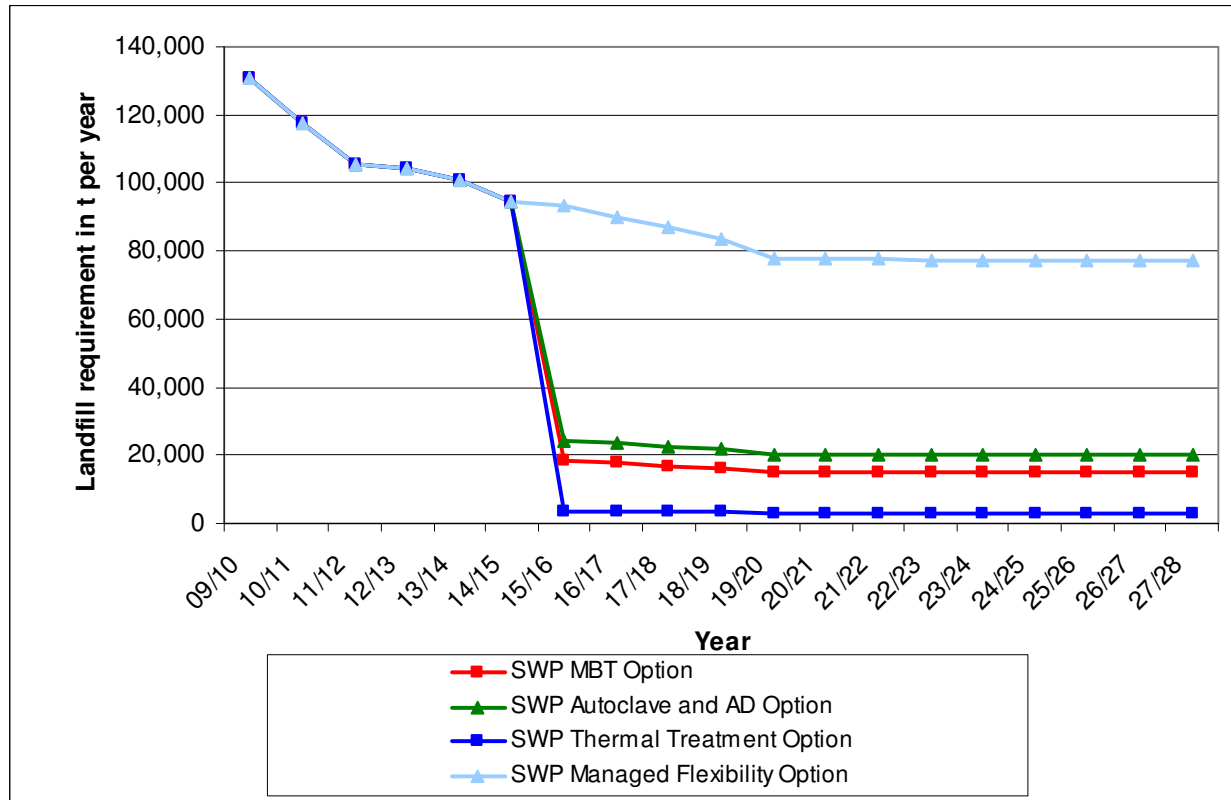


Table 6: Total landfill requirements for different MSW recovery options (tonnes)

SWP option	2009/10 (current landfill rate)	15/16	19/20	27/28	Total over plan period
Mechanical Biological Treatment	130,843	18,209	15,152	15,051	858,612
Autoclave and Anaerobic Digestion		24,279	20,202	20,068	926,890
Thermal Treatment		3,735	3,108	3,087	695,795
Managed Flexibility		93,380	77,701	77,186	1,704,211

2.3.12 Table 7 below shows in percentage terms the projected requirements for MSW landfilling under the four SWP residual waste recovery options for spot years.

*Table 7: Projected requirements for landfill for different residual MSW treatment options (%)*

	<b>2009/10 (current landfill rate)</b>	<b>15/16</b>	<b>19/20</b>	<b>27/28</b>
<b>Mechanical Biological Treatment</b>	51*	7	6	6
<b>Autoclave and Anaerobic Digestion</b>		10	8	8
<b>Thermal Treatment</b>		1	1	1
<b>Managed Flexibility</b>		37	30	30

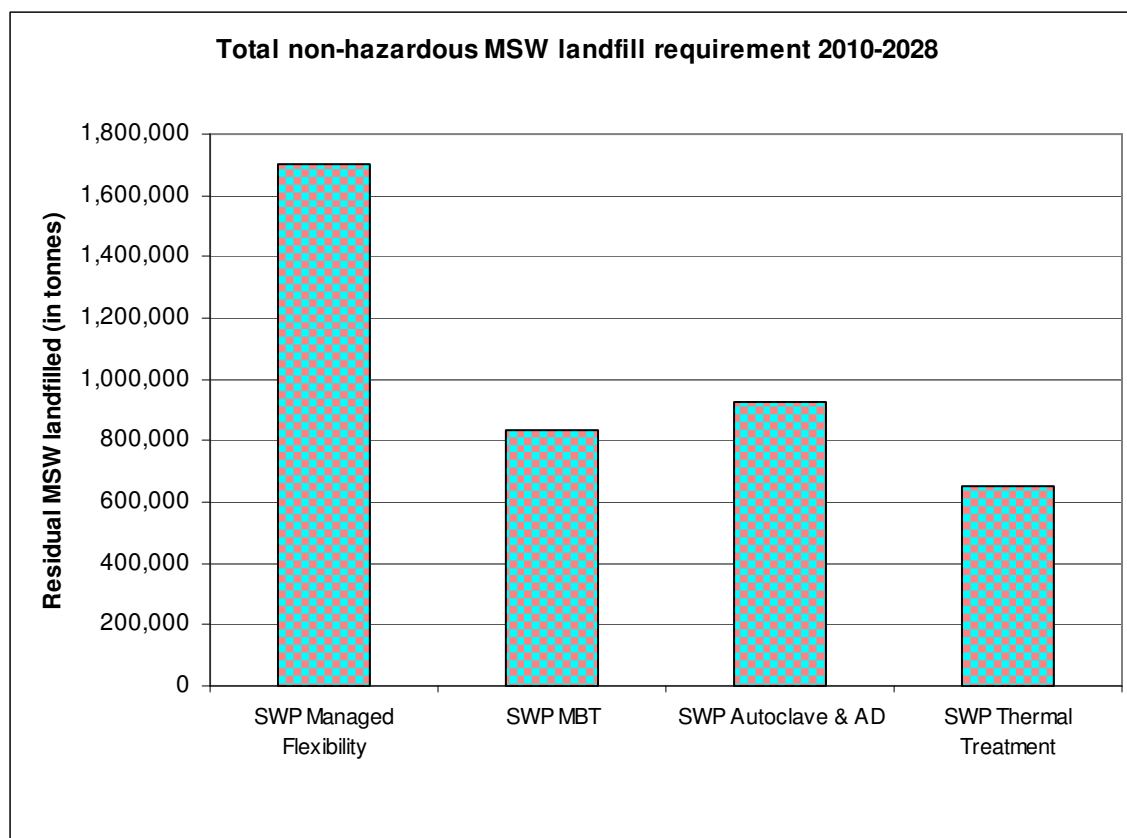
*\*Based on MSW to landfill compared with total MSW arisings bar hardcore*

2.3.13 Managed flexibility clearly has the highest landfilling rate. The next highest is the autoclave and AD route. Figure 7 shows the total landfill requirement over the whole plan period for all the different options. This requirement includes the materials that are unsuitable for the residual waste recovery process or are rejects / residual outputs from that recovery process. Table 8 contains the data on non-hazardous waste to be sent to landfill. Hazardous landfill requirements which would arise from treatment via MBT or thermal treatment are considered in more detail in Chapter 7.

Table 8: Total non-hazardous landfill requirements for different MSW recovery options (tonnes)

SWP option	2009/10 (current landfill rate)	15/16	19/20	27/28	Total over plan period
<b>Mechanical Biological Treatment</b>	130,843	16,342	13,598	13,508	837,603
<b>Autoclave and Anaerobic Digestion</b>		24,279	20,202	20,068	926,890
<b>Thermal Treatment</b>		0	0	0	653,778
<b>Managed Flexibility</b>		93,380	77,701	77,186	1,704,211

Figure 7: Total non-hazardous MSW landfill requirement 2010-2028







## 3. Commercial and Industrial Waste

### 3.1 Introduction, definitions and baseline

- 3.1.1 DEFRA data showed that in 2006, commercial and industrial waste accounted for 14.7 and 18.9 per cent respectively of total waste arisings in the UK<sup>5</sup>.

Commercial and industrial waste is waste produced by the following sectors:

*Table 9: Standard Industry Classification*

Sector	Description	
Food, drink and tobacco	Food, drink and tobacco manufacturers	Industrial
Textiles/wood/paper/publishing	Includes manufactures of textiles, wearing apparel, luggage, handbags and footwear; also wood and wood products, pulp, paper and paper products, publishing and printing.	Industrial
Power & Utilities	Production of gas, electricity, oil and water	Industrial
Chemical/ non-metallic minerals manufacturing	Manufacture of chemicals and chemical products, cleaning products, manmade fibres, rubber and plastic products, and non-metallic mineral products	Industrial
Metal manufacturing	Manufacture of basic metals and fabricated metal products	Industrial
Machinery & equipment (other manufacturing)	Manufacturing of machinery and equipment, of computers, electrical and communication equipment, including medical and optical instruments. Also manufacturers of motor vehicles, and of furniture and other manufacturing.	Industrial
Retail & wholesale	Retail and wholesale including of motor vehicles and fuel	Commercial
Other services	Defined as other services that are not otherwise categorised and would include hotels, catering, transport, storage, communications, travel agents, finance, estate agents, IT related activities, and other business.	Commercial
Public sector	Includes public administration, social work, and education.	Commercial

*Source: Urban Mines Ltd., for Environment Agency, 2008*

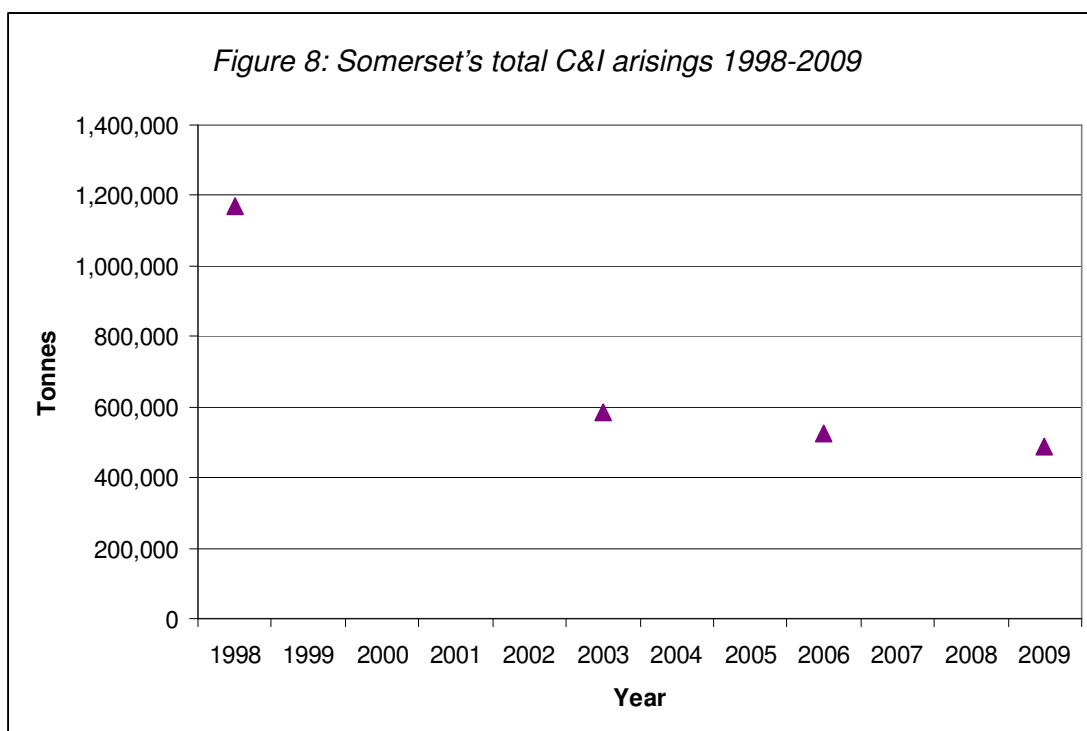
<sup>5</sup> <http://www.defra.gov.uk/environment/statistics/index.htm> , published 2006.

- 3.1.2 In relation to C&I waste composition, the Environment Agency in a 2002 National Production Survey separated C&I waste into the following broad categories: Chemicals (including solvents, oils, paint, varnish and industrial sludges), metallic waste, non-metallic waste including paper, discarded equipment, food, animal and plant waste, mixed waste (including paper, plastic, etc.), common sludges and mineral wastes.
- 3.1.3 To develop a better understanding of local business waste generation and management, Somerset County Council undertook a review of waste generated by commerce and industry in Somerset in 2006/7<sup>6</sup>. The data also highlights how much business waste was produced across the county that is similar in nature to household waste. Waste types common to both sources include food, metals, wood, plastic, glass, cardboard and paper.
- 3.1.4 The Environment Agency conducted a National Waste Production Survey (NWPS) for 1998/99 and 2002/3. Commercial and industrial waste producers (excluding the construction sector, and agricultural, mine and quarry wastes) were selected to develop a picture of the types and quantities of waste being generated. County data from the 2002/3 survey indicate that Somerset generated a total of 586,000 tonnes of C&I waste in 2002/3 – around half that produced in 1998/99.
- 3.1.5 Commercial and Industrial (C&I) waste data for Somerset were informed by the aforementioned survey undertaken in 2006/7. The survey concluded that there was a total of 525,000 tonnes of C&I waste generated in Somerset. Of this amount, 423,782 tonnes (approximately 80 per cent) accounted for household-equivalent waste.
- 3.1.7 A DEFRA-led survey<sup>7</sup> of commercial and industrial waste arisings in the Government Office regions of England (apart from the North West) was completed in December 2010. The survey also provides data for South West Waste Planning Authorities. For Somerset, the survey estimated total arisings of 488,000 tonnes for 2009.
- 3.1.8 Taking together the survey results from over the past 10 years or so, it becomes clear that there has been an overall decrease in total C&I waste arisings in Somerset.

---

<sup>6</sup> Somerset County Council 2007: Industrial and Commercial Waste Survey 2007. Final Version

<sup>7</sup> <http://www.defra.gov.uk/evidence/statistics/environment/waste/wrindustry.htm>



3.1.9 The DEFRA survey results for Somerset are presented in Table 10, below. They form the **baseline** for further analysis.

*Table 10: C&I Waste managed by management type (in tonnes), 2009, for Somerset*

Management Method	Somerset
Recycling	194,000
Composting	7,000
Reuse	12,000
Non-thermal treatment	21,000
Thermal treatment	11,000
Thermal treatment (energy recovery)	11,000
Transfer	20,000
Landfill	122,000
Land recovery	50,000
Unknown	40,000
<b>Total</b>	<b>488,000</b>

*Source: Jacobs UK Ltd., for DEFRA, 2010, amended.*

Table 11: C&I Waste managed by management type (in per cent), 2009

Management Method	England	South West	Somerset
Recycling	47.7	44.2	39.8
Composting	1.5	1.8	1.4
Reuse	2.8	3.9	2.5
Non-thermal treatment	4.8	6.3	4.3
Thermal treatment	3.6	4.9	2.3
Thermal treatment (energy recovery)	2.1	2.2	2.3
Transfer	1.8	1.9	4.1
Landfill	23.5	19.7	25.0
Land recovery	4.5	3.6	10.2
Unknown	7.8	11.7	8.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Jacobs UK Ltd., for DEFRA, 2010, amended.

- 3.1.10 It should be noted that Somerset does not have any facilities for thermally treating commercial and industrial waste. So, waste identified in the DEFRA survey that has been sent to thermal treatment is assumed to have been treated at facilities outside Somerset. This assumption is supported by the fact that broadly 65 per cent of C&I waste produced in the South West went to facilities outside the region, according to the DEFRA survey (page 137).
- 3.1.11 To make best use of the recent DEFRA survey, Somerset County Council simplified the presentation of data to support a similar approach to that taken when analysing MSW. Specific adjustments relate to 'land recovery' category and the figures for 'unknown' and 'transfer'.
- 3.1.12 Land recovery is defined in the DEFRA survey as reuse of inert or composting material<sup>8</sup>. The Environment Agency confirmed that land recovery is re-use. Land recovery was hence subsumed under recycling, reuse and composting. Unknown material is not further defined in the DEFRA report. With respect to transfer it needs to be noted that transfer is not the final fate of wastes. Transfer is a processing method and the waste is moved on to further treatment or disposal. Also, only a small proportion of C&I waste (4.1 per cent) was recorded under 'transfer'. As forecasting 'unknowns' or 'transfer' would not be useful for the purpose of forecasting waste management capacity requirements, the amount of waste which went to transfer and with an unknown fate was reallocated to the three main categories on an equal basis. Table 11 below shows the adjusted figures for C&I waste management.
- 3.1.13 Whilst no distinction was made between commercial and industrial waste in the DEFRA survey, the 29 per cent figure below would suggest that a reduction took

<sup>8</sup> Table 43, page 92.

place in relation to waste sent to landfill by businesses in Somerset between 2006 and 2009. Commercial and industrial waste sent to landfill in 2006 accounted for 55 per cent and 31 per cent of the total respectively. To what extent this reduction in arisings sent to landfill was due to the recession remains unclear. More information on the 2006/07 survey is included in a summary report available for download from the County Council's website.

*Table 12: C&I Waste managed by management type in 2009, for Somerset*

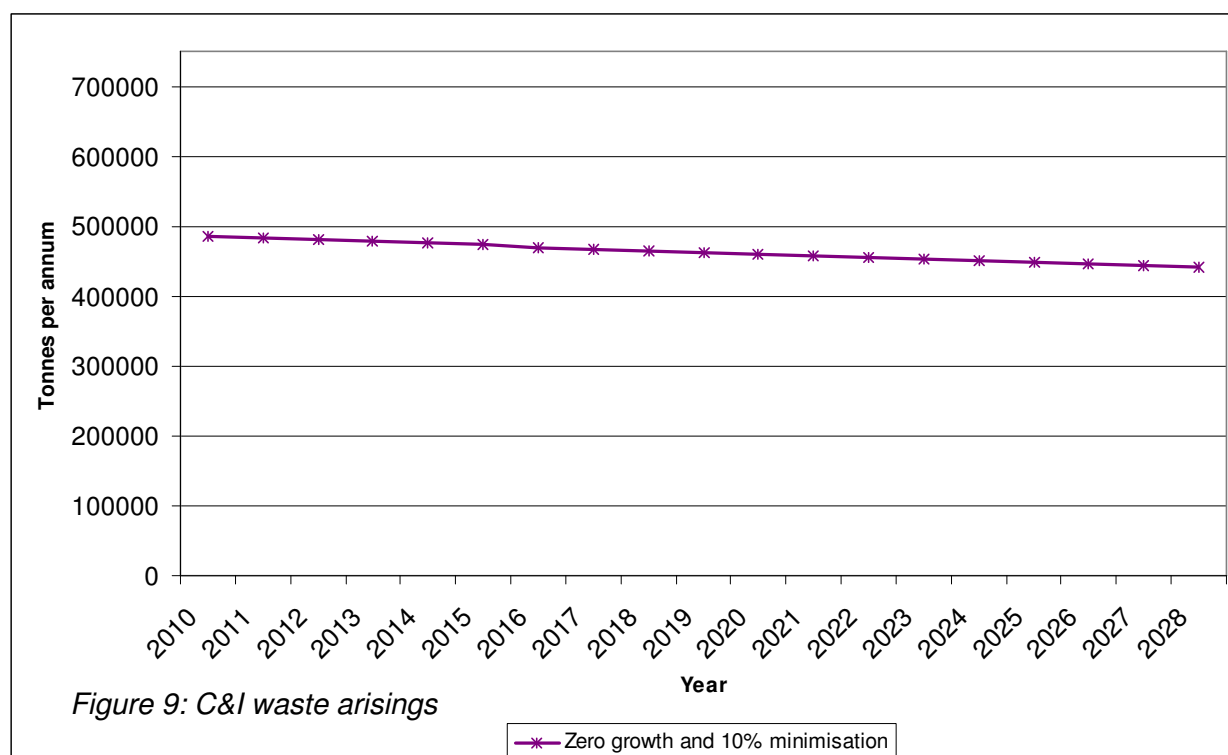
Management Method	In per cent	in tonnes
Recycling, composting, reuse and land recovery	58.0	283,040
Treatment	13.0	63,440
Landfill	29.0	141,520
<b>Total</b>	<b>100.0</b>	<b>488,000</b>

*Source: Jacobs UK Ltd., for DEFRA, 2010, amended.*

## 3.2 Projecting future arisings

3.2.1 Based on consultation responses and engagement with the waste industry the 'Zero growth plus 10 per cent minimisation' scenario formed the base for projecting future C&I waste management requirements. Industry broadly supported the view that the link between GDP and waste growth has been broken. This growth scenario would also continue the trend of overall decline in arisings as identified above.

3.2.6 Figure 9 below shows C&I waste growth under that scenario. Total C&I waste arisings over the plan period would be approximately 8.79 million tonnes.



### 3.3 Recycling, residual waste and landfill projections

- 3.3.1 Having established projected arisings, the next step is to consider how to manage those arisings. No target rates for commercial and industrial waste management are set in the Waste Strategy for England 2007 except for the amount of commercial and industrial waste landfilled which is expected to fall by 20 per cent by 2010 compared to 2004. Consequently Somerset County Council considered what other guidance or targets might be locally applicable.
- 3.3.2 Potentially the County Council could have modelled capacity requirements based on recycling, recovery and landfill rates embedded in the indicative C&I waste capacity apportionments in the Regional Waste Strategy 2004. However, the results from the aforementioned DEFRA-led survey of C&I waste show that businesses in Somerset already recycled 41.2 per cent of their waste in 2009 (this includes composting). This means that Somerset falls only 2.8 per cent short of the 2020 target in the RWS (44 per cent recycling in 2020, Policy 7.4). Going forward from 2010, this would no longer represent a sufficiently ambitious target.
- 3.3.3 It was decided to develop an approach to align C&I waste management rates with those adopted for MSW management.
- 3.3.4 As stated earlier, the data gathered by the County Council survey suggested that a large proportion of C&I waste in 2006/7 was similar in nature to the waste produced by households. The survey found that approximately 425,000 tonnes of household-equivalent C&I waste was produced in Somerset in 2006 (which is approximately 80 per cent of the total of 526,000 tonnes). 41 per cent of household-equivalent waste was produced by industry and 59 per cent by commerce. Table 13 below shows data extracted from the survey document highlighting the composition of C&I waste in Somerset at the time.

*Table 13: C&I waste composition in 2006/7, in per cent*

<b>Waste stream</b>	<b>Industry (in per cent)</b>	<b>Commerce (in per cent)</b>
<b>Mixed</b>	31	59
<b>Paper and Card</b>	23	31
<b>Plastics</b>	3	4
<b>Wood, glass and textiles</b>	4	2
<b>Animal and vegetal</b>	28	2
<b>Metal</b>	7	5

*Source: Somerset County Council*



- 3.3.5 The DEFRA survey results suggest that in 2009, mixed wastes, non-metallic wastes and animal and vegetable wastes accounted for 344,000 tonnes, which equates to 70 per cent of the total. These waste streams typically include recyclable/compostable materials such as food and vegetable wastes, paper, cardboard, glass, packaging, office bin wastes etc.<sup>9</sup>
- 3.3.6 It was therefore decided that MSW management recycling rates could be achieved for this waste stream.
- 3.3.7 Table 14 shows the projected recycling rates and Figure 10 shows what this means in terms of projected requirements for C&I waste recycling capacity under the preferred waste growth scenario.
- 3.3.8 Co-treatment of residual MSW and C&I waste was modelled in the earlier version of this report. However, following consultation with industry it became clear that this could place the municipal waste contractor in a strong position to manage residual C&I waste in Somerset, which could stifle competition in that sector. It was hence decided to independently model recovery rates and resulting capacity requirements.
- 3.3.9 This was undertaken based on the assumption that by 2028, recycling and landfill rates for MSW and C&I could be aligned, resulting in a 69 per cent recycling rate and an 8 per cent landfill rate<sup>10</sup>. For C&I waste recovery, no robust assurances were given by the industry in relation to delivery dates of recovery capacity, not least because of the significance of decisions yet to be taken on treatment of residual MSW. Hence, a steady increase in recovery capacity and a steady fall in landfill were modelled, beginning with the base rates established by DEFRA for 2009.
- 3.3.10 Taking all this together, the following waste management rates are to be applied for the identified spot years:

*Table 14: Projected recycling rates for C&I waste*

<b>Year</b>	<b>2009 (DEFRA)</b>	<b>2016</b>	<b>2020</b>	<b>2028</b>
<b>Recycling, re-use, composting</b>	58	62	68	69
<b>Recovery</b>	13	17	19	23
<b>Landfill</b>	29	21	12	8

<sup>9</sup> See DEFRA survey page 89, Table 42 for further details i.e. an indication of types of waste, materials, and likely sectors.

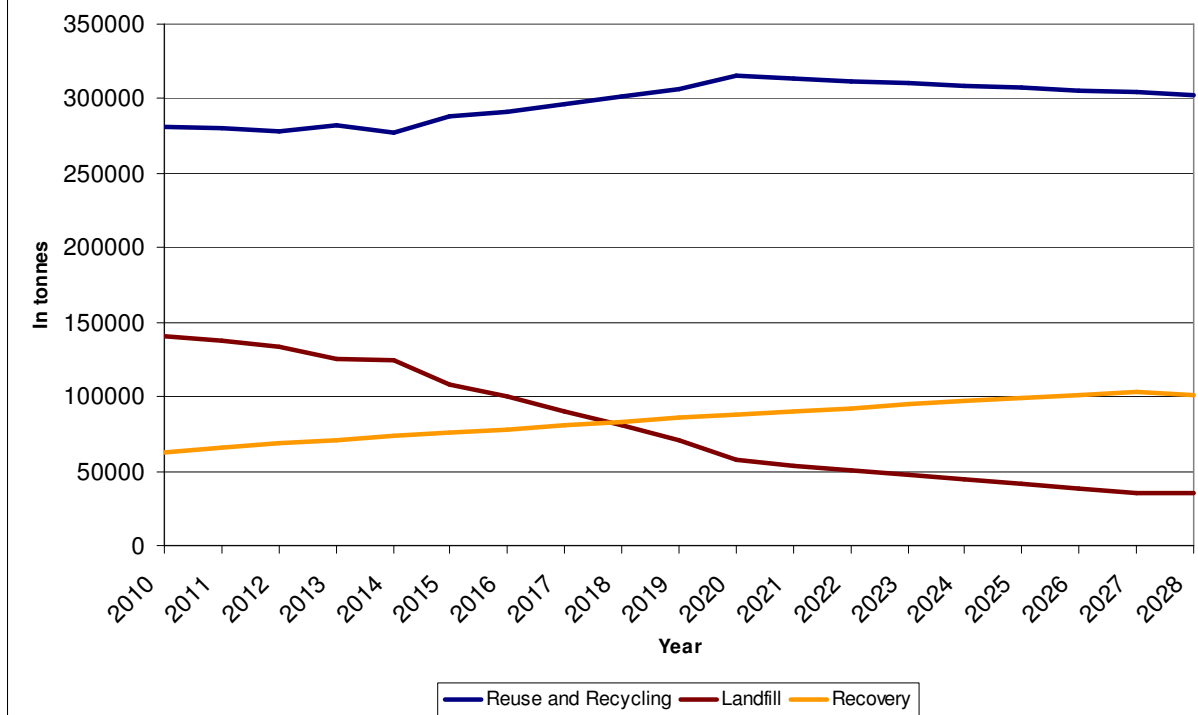
<sup>10</sup> This is based on the 'Autoclave/AD' Option which has been selected as the most conservative recovery option in terms of residues to landfill.

3.3.11 These rates translate into the following tonnage capacity requirements per waste management method, again for the identified spot years:

*Table 15: Projected capacity requirements for C&I waste (tonnes)*

	<b>2009</b> <b>(most recent data)</b>	<b>2016</b>	<b>2020</b>	<b>2028</b>
<b>Recycling, re-use and composting</b>	281,540	291,573	315,215	302,463
<b>Other recovery</b>	63,104	78,332	87,916	101,461
<b>Landfill</b>	141,520	100,275	57,161	35,291

*Figure 10: C&I waste management 2010-2028*



3.3.12 The total amount of waste landfilled between 2010 and 2028 under the preferred scenario is illustrated in Table 16, below.

*Table 16: Total residual C&I landfill requirement  
(in tonnes)*

<b>Zero growth plus 10 per cent minimisation</b>	1,517,120
--	-----------

*Sources: Somerset County Council, 2011*

## 4. Construction and Demolition Waste

### 4.1 Introduction, definitions and baseline data

- 4.1.1 The adopted Somerset Waste Local Plan defines construction and demolition waste as waste arising from the construction, repair, maintenance and demolition of buildings and structures. It mostly includes brick, concrete, hardcore, subsoil and topsoil. It can also contain quantities of timber, metal and plastics. In addition to this definition it can be said that some construction and demolition waste such as plasterboard can contain hazardous substances such as asbestos or PCB.
- 4.1.2 C&D waste is typically re-used on site or off site, used as quarry infill or spread on exempt sites, or is disposed of at inert or non-hazardous landfill sites<sup>11</sup>. Inert waste is also used for engineering at non-hazardous landfill sites. Other non-inert components such as wood, metal, plastics, gypsum-based materials or glass can be recycled at appropriate facilities. Hazardous components of C&D waste, i.e. asbestos, can be disposed of at designated landfill sites/cells or incinerated.
- 4.1.3 C&D waste makes up a large proportion of overall waste nationally. The Waste Strategy for England 2007 states that 32 per cent of total waste arisings was C&D waste (based on 2005 data).
- 4.1.4 In 2005 the Department for Communities and Local Government carried out a survey into the arisings and use of Construction and Demolition wastes in England. This followed three earlier surveys in 1999, 2001 and 2003. Total construction and demolition waste for England was estimated at 89.6 million tonnes in 2005. 46 million tonnes were recycled and a further 15 million tonnes were spread on exempt sites (usually land reclamation, agricultural improvement or infrastructure projects). The remaining 28 million tonnes were sent to landfill (including backfilling at quarries, and landfill engineering) as waste.

---

<sup>11</sup> A survey conducted by the Environment Agency for Wales includes a flow chart describing the C&D waste process (page 12). <http://www.environment-agency.gov.uk/research/library/publications/33979.aspx>

- 4.1.5 In order to identify capacity requirements over the plan period, a baseline had to be established based on the most robust and credible data available. PPS10 Companion Guide refers to the difficulties in making forecasts for this waste stream, due to poor data (Annex D, para. 28ff).
- 4.1.6 It was decided that the 2009 EA Waste Interrogator data represented the most up to date and robust data to arrive at a baseline of C&D waste arisings in the county. This data replaced the 2008 baseline used in the earlier version of this report. Data gathered as part of the landfill survey were used for comparison also.
- 4.1.7 For the purpose of establishing baseline data of total C&D waste arisings, the EWC data were divided into three broad categories:

*Table 17: Proposed C&D waste classification by EWC codes*

<b>Broad category</b>	<b>EWC codes</b>
<b>Inert C&amp;D waste</b>	17 01 (Concrete, bricks, tiles and ceramics) 17 05 – (Soil, stones and dredging spoil)
<b>Non-inert C&amp;D waste</b>	17 02 (Wood, glass and plastic) 17 03 (Bituminous mixtures, coal tar and tarred products) 17 04 (Metals (including their alloys) 17 06 (Insulation materials and asbestos-containing construction materials) 17 08 (Gypsum-based construction material)
<b>Other C&amp;D waste</b>	17 09 (Other construction and demolition wastes)

*Source: Environment Agency, 2010, amended*

- 4.1.8 As described above, C&D waste consists of inert and non-inert waste. 'Other' C&D waste complement this waste stream. The Interrogator tool yielded results for C&D waste received by Somerset's licensed facilities, based on the European Waste Catalogue coding described in Table 17 above. Results included data on C&D wastes imported from some other Waste Disposal Authorities. It can be said at this stage that most 'recorded' imports originated in the South West. However, the majority of C&D waste received by Somerset's licensed waste facilities was recorded at regional level or classified as not-codeable. This meant that this C&D waste had to be re-distributed to these authorities<sup>12</sup> based on the assumption

<sup>12</sup> This was undertaken based on each authority's per cent contribution to recorded waste.

that C&D waste does not travel very far for treatment/disposal. Following on from this, only waste data attributed to Somerset were included in the total. In a second step, C&D waste that was generated in Somerset but received at out-of-county licensed facilities was included also.

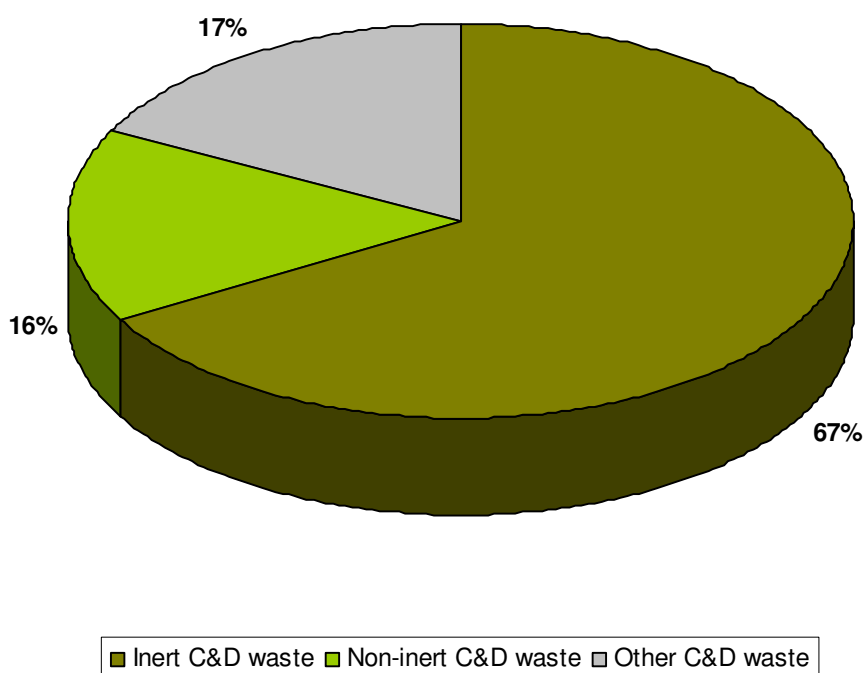
4.1.9 Table 18 and Figure 11 below describes total amount of C&D waste generated in Somerset.

*Table 18: C&D waste generated in Somerset and received by licensed facilities (in tonnes), in 2009*

<b>Inert C&amp;D waste</b>	149,379
<b>Non-inert C&amp;D waste</b>	35,852
<b>Other C&amp;D waste</b>	38,955
<b>Total</b>	<b>224,187</b>

*Sources: Environment Agency, 2010, amended*

*Figure 11: C&D waste received by licensed facilities, in per cent*





- 4.1.10 No data were available on the amount of C&D waste re-used. Reuse means that the waste remains 'in the system', and does not formally enter the waste stream. Nevertheless, C&D waste arises as part of construction and demolition operations and should be accounted for in order to present a reasonably complete picture of C&D waste arisings. Available 'hard' data relate only to inert, non-inert and other C&D waste received by licensed facilities. Therefore, assumptions were made about C&D waste re-used on- or off-site, in order to arrive at a broad figure of total arisings.
- 4.1.11 The Environment Agency Wales undertook a survey of construction and demolition companies in Wales in 2005/6<sup>13</sup>. The survey concluded that 74 per cent of inert C&D waste was re-used on or off-site<sup>14</sup>. The re-use rate for non-inert waste was very low. Most of non-inert waste was recycled, sent to transfer stations or landfilled. Thus only the 74 per cent inert re-use rate was taken forward. In turn, this means that inert waste received by licensed facilities was not re-used and represents 26 per cent of total inert waste arisings.
- 4.1.12 In regard to exempt sites, no data could be obtained on inputs. Data was only available in relation to the maximum capacity of exempt sites (see capacity chapter). For the purpose of arriving at annual input data no assumptions could thus be made. It was therefore decided that input into exempt sites would broadly fall under 're-use'. The decision was based on the Environment Agency's position in relation to the predominant nature of these operations.
- 4.1.13 The table below presents Somerset total arisings in 2009 based on the assumptions outlined above.

*Table 19: Estimated C&D waste arisings in Somerset (in tonnes), in 2009*

<b>Inert waste received by licensed facilities</b>	149,379
<b>Inert waste re-used</b>	425,156
<b>Total inert waste arisings</b>	574,535
<b>Total non-inert waste received by licensed facilities</b>	35,852
<b>Total other C&amp;D waste received by licensed facilities</b>	38,955
<b>Grand total</b>	<b><u>649,343</u></b>

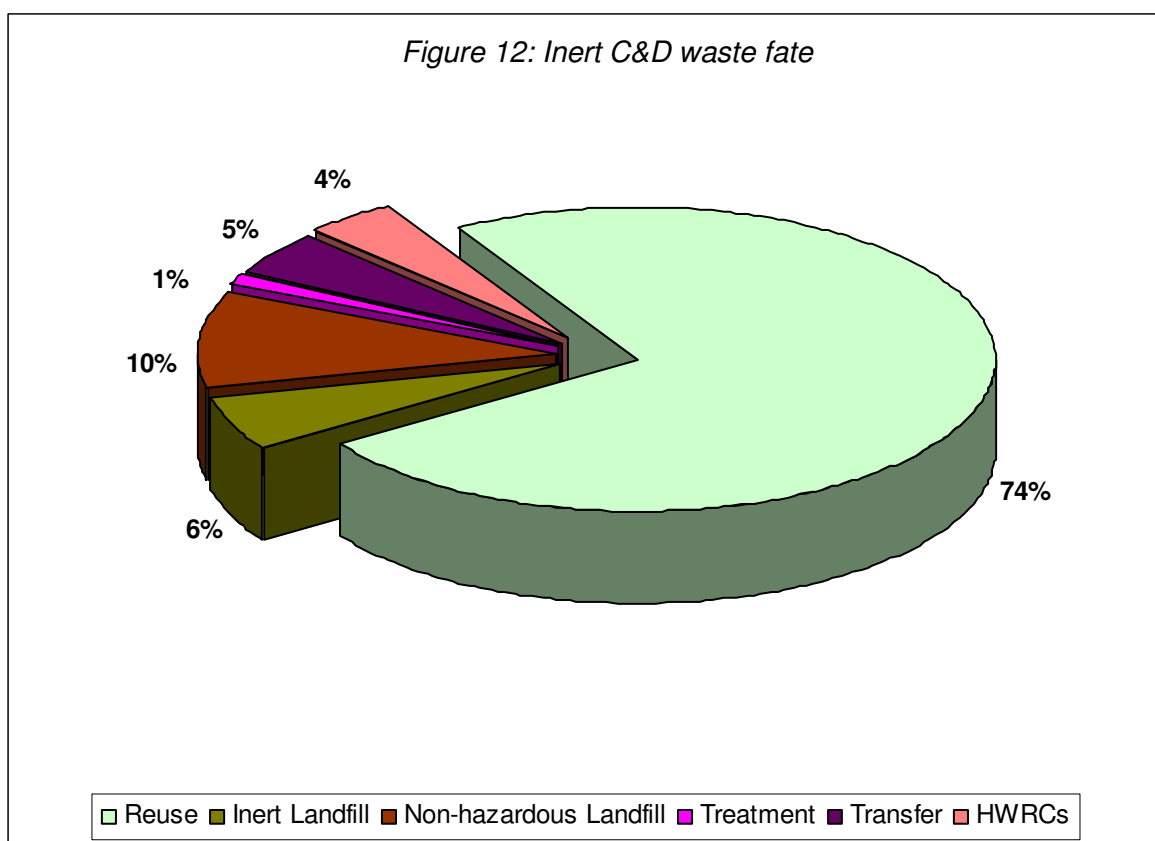
*Sources: Environment Agency 2010, amended*

<sup>13</sup> <http://www.environment-agency.gov.uk/research/library/publications/33979.aspx>

<sup>14</sup> This is based on the combined figure for re-used aggregates and soils (page 29). Re-use off-site included use at exempt sites.

4.1.14 Chapter 2 referred to the fact that approximately 20,000 tonnes of hardcore delivered to Household Waste Recycling Centres are used by the County's disposal partner for engineering at landfill sites. This has consistently been the case over past years according to SWP monitoring data. Table 20 shows that approximately 23,000 tonnes of inert waste were delivered to HWRCs in 2009. This figure broadly aligns with SWP monitoring data.

4.1.15 In relation to how inert and non-inert C&D waste was managed, Tables 20 and 21 and Figures 12 and 13 illustrate the results arrived at based on the data obtained from the Interrogator, and the assumptions about re-use of inert waste.



*Table 20: Inert C&D waste managed by management method (in tonnes), in 2009*

Reuse	425,156
Inert Landfill	32,433
Non-hazardous Landfill	59,538
Treatment	6,674
Transfer	27,568
HWRCs	23,166
<b>Total</b>	<b>574,535</b>

*Sources: Sources: Environment Agency, 2005/6 (for Wales), and 2010, amended*

- 4.1.16 There is a high probability that inert waste received by transfer stations was moved on to disposal at inert or non-hazardous landfill sites. The County Council has no data however which could verify this assumption.

Figure 13: Non-inert C&D waste fate

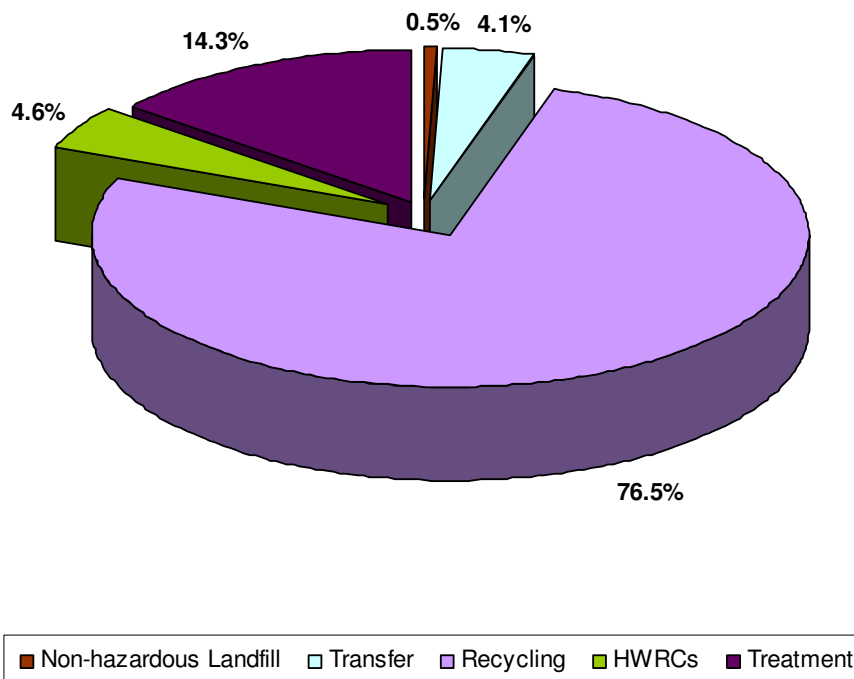


Table 21: Non-inert C&D waste by fate (in tonnes), in 2009

Non-hazardous Landfill	178
Transfer	1,468
Metal recycling	27,436
HWRCs	1,658
Treatment	5,113
<b>Total</b>	<b>35,852</b>

Sources: Environment Agency 2010, amended

4.1.17 Most of the non-inert waste was delivered to metal recycling facilities, transfer stations and Household Waste Recycling Centres. It needs to be noted that the SWP is actively seeking to eliminate HWRC trade abuse, which has also been factored into their MSW projection. It is likely that less non-inert construction and demolition waste will be received by HWRCs in the future.

4.1.18 Other C&D wastes account for 23 per cent of total C&D waste received by licensed facilities. Other C&D waste include some hazardous wastes involving PCB and mercury, but also wastes which are not further defined by the European Waste Catalogue. As this waste stream is difficult to define, it was taken into consideration as 'other waste' only.

4.1.19 The vast majority of other C&D waste was delivered to transfer stations. It is hence unclear if it was moved on to disposal, recycling or treatment.

*Table 22: Other C&D waste by fate (in tonnes), in 2009*

Non-hazardous Landfill	905
Transfer	36,595
Treatment	1,198
<b>Total</b>	<b>38,955</b>

*Sources: Sources: Environment Agency 2010, amended*

4.1.20 Based on the above analysis of baseline data, the overall situation for C&D waste management in Somerset in 2008 can be described as follows:

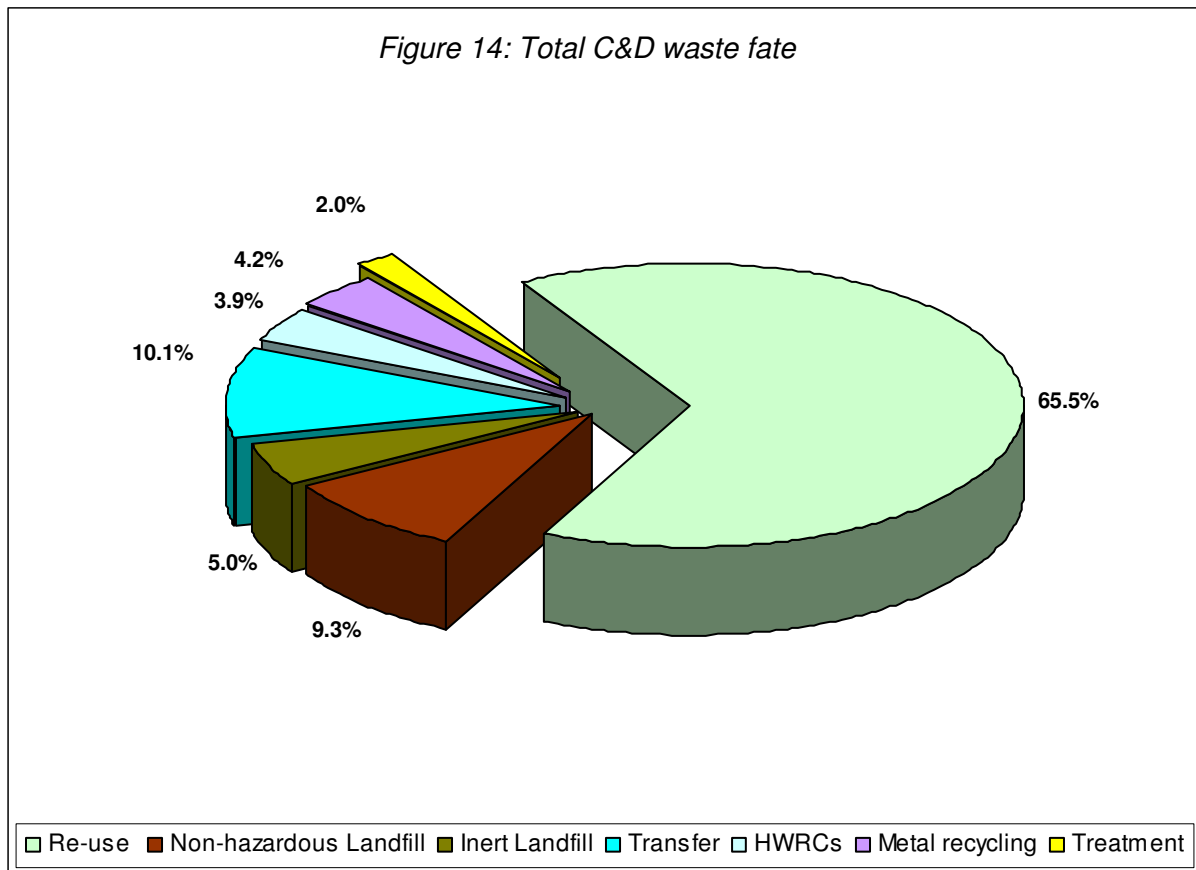
*Table 23: C&D waste by management method (in tonnes and per cent), in 2009*

Re-use	425,156	65.5
Non-hazardous Landfill	60,620	9.3
Inert Landfill	32,433	5.0
Transfer	65,630	10.1
Landfill total	(93,053)	(14.3)
HWRCs	25,081	3.9
Recycling	27,436	4.2
Treatment	12,986	2.0
<b>Total</b>	<b>649,343</b>	<b>100.0</b>

*Sources: Somerset County Council 2011, based on Environment Agency data, 2010*

4.1.21 For clarification, the 74 per cent re-use rate for inert C&D waste has found its way into the total C&D waste management overview as above. However, due to amalgamation with non-inert and other C&D related data, the overall re-use rate has dropped to 65.5 per cent. This is because re-use of non-inert and other C&D waste has been assumed to be very low. Concerning landfill, the vast majority of C&D waste landfilled was inert waste.

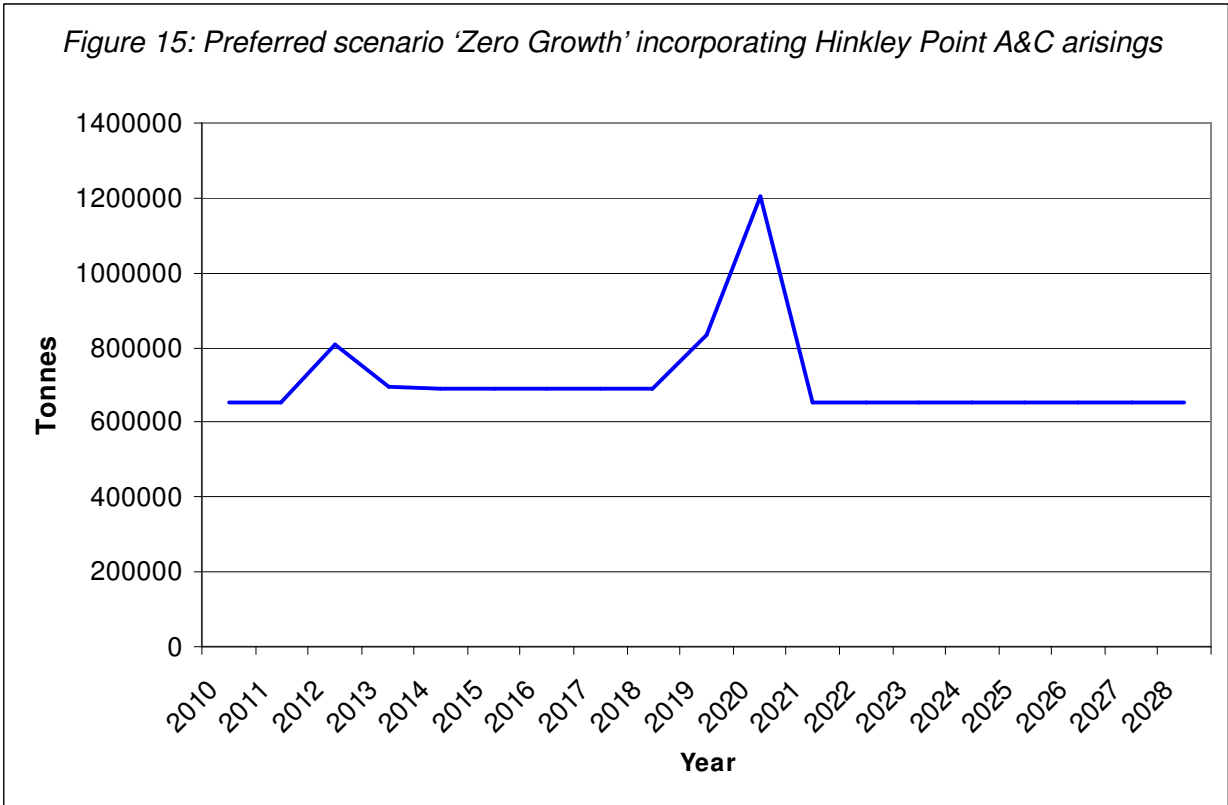
Figure 14: Total C&D waste fate



## 4.2 Projecting future arisings

- 4.2.1 Scenarios were developed in order to demonstrate the effects of different levels of C&D waste arisings to be managed during the plan period. The scenario results were then taken forward into the capacity gap analysis to identify capacity requirements for C&D waste management. In the previous version of this Need Report, capacity requirements under three scenarios were tested. As a result of the consultation, the 'Zero Growth' Scenario was adopted.
- 4.2.3 The 'Zero Growth Scenario' assumes that 2009 waste arisings remain constant during the plan period.
- 4.2.4 PPS10 Companion Guide advises that the effects of major construction projects on waste arisings should be taken into account. The biggest single construction project likely to occur during the plan period is the construction of a new nuclear power station at Hinkley Point (in West Somerset District) and associated developments (in West Somerset and Sedgemoor districts). The promoter, Energy de France (EDF), provided data for C&D waste arisings from construction of the actual plant and associated developments, and demolition of temporary structures.

- 4.2.5 Additional arisings are expected from decommissioning Hinkley Point A. The operator, Magnox South, has also provided arisings data which were used to inform the growth scenario below.
- 4.2.6 Total arisings data for Hinkley Point C and A (during the plan period) were annualised, taking into account anticipated peaks in waste arisings in 2012 and 2020. Peak arisings in 2020 are mainly due to the decommissioning of the laydown area at Combwich Wharf. For Hinkley Point C, annual arisings have been calculated based on the project plan for the construction of the main plant and associated infrastructure, such as worker campuses, road schemes and park and ride facilities.
- 4.2.7 Figure 15 below illustrates C&D waste arisings for Somerset, including Hinkley Point A and C arisings. Starting point for the projection is 2010 (at 652,627 tonnes). Total arisings over the plan period would be approximately 13.5 million tonnes.





### **4.3 Reuse and other beneficial use, and landfill requirements**

- 4.2.8 In order to identify the waste management requirements per scenario, rates for re-use, recycling and the disposal of C&D waste at licensed landfill sites were factored into the modelling. It was decided to concentrate on reducing the amount of C&D waste going to landfill.
- 4.2.9 The revised EU Waste Framework Directive requires Member States to take measures to achieve a target of preparing for re-use, recycling and recovering 70 per cent of non-hazardous construction and demolition waste by 2020.
- 4.2.10 No targets are set in national policy. The Waste Strategy for England 2007 includes a commitment to work on a target aiming to halve the amount of construction and demolition waste landfilled by 2012. It is understood that this target was never formally adopted. An increasing number of companies are however signing up to WRAP's incentive to halve the amount of C&D waste they are sending to landfill.
- 4.2.11 Given that the current estimated combined total amount of C&D waste disposed of at landfill sites in 2009 accounts for approximately 14.3 per cent (see Table 22 above), for modelling purposes it was decided to aim for a 50 per cent reduction in C&D waste landfilled during the plan period. Consequently, the amount of waste moved to re-use/recycling would increase and peak at the end of the plan period. To simplify matters, re-use, recycling and 'treatment' of C&D waste were grouped together as 're-use and other beneficial use'.
- 4.2.12 It is the SWP's ambition to eliminate trade abuse of HWRCs. This has been accounted for by 'shifting' C&D waste from HWRCs to 'transfer' by 2012, in the absence of other, robust information about the likely destination of HWRC waste.

4.2.13 Table 24 below provides a broad indication of rates per spot years.

*Table 24: C&D waste management rates 2010-2028, in per cent*

	<b>2009</b> <b>(most recent data)</b>	<b>2016</b>	<b>2020*</b>	<b>2028</b>
<b>Reuse and other beneficial use</b>	72.0	74.3	75.8	78.9
<b>Inert landfill</b>	4.9	4.1	3.5	2.5
<b>Non-hazardous landfill</b>	9.1	7.6	6.6	4.6
<b>Transfer</b>	10.1	14.0	14.0	14.0
<b>HWRCs</b>	3.9	0.0	0.0	0.0
<b>Total</b>	100	100	100	100

*Source: Somerset County Council, 2011*

*\*Included to ensure compliance with revised EU Waste Framework Directive*

4.2.14 Table 25 below show how much C&D waste would be reused or go to other beneficial use.

*Table 25: C&D waste for reuse or other beneficial use (tonnes)*

	<b>2009 (most recent data)</b>	<b>2016</b>	<b>2020</b>	<b>2028</b>
<b>Zero Growth</b>	465,579	511,105	914,244*	515,630

*\*Anticipated peak arisings from construction of Hinkley Point C and associated developments*

4.2.15 It must be noted that these data cannot be translated into 'capacity' required. Recycling and re-use of inert C&D wastes, for example, is delivered by through on-site crushing, infilling, bunding, landscaping etc which makes it impossible to estimate 'capacity'.

4.2.16 Tables 26-27 below show how much C&D waste would be landfilled at inert and non-hazardous landfill sites under each scenario, per spot years.

*Table 26: Projected C&D waste to inert landfill (tonnes) using the rates in Table 23*

<b>INERT</b>	<b>2009 (most recent data)</b>	<b>2016</b>	<b>2020</b>	<b>2028</b>
<b>Zero Growth</b>	32,433	27,994	42,709*	16,258

*\*Anticipated peak arisings from construction of Hinkley Point C and associated developments*

*Table 27: Projected C&D waste to non-hazardous landfill (tonnes) using the rates in Table 24*

<b>NON-HAZ</b>	<b>2009 (most recent data)</b>	<b>2016</b>	<b>2020</b>	<b>2028</b>
<b>Zero Growth</b>	60,620	52,309	79,787*	30,351

*\*Anticipated peak arisings from construction of Hinkley Point C and associated developments*

4.2.17 Table 28 describes the total inert and non-hazardous landfill requirements 2010-2028 for C&D waste.

*Table 28: Total landfill requirement for C&D waste (in tonnes, 2010-2028)*

	<b>Inert landfill</b>	<b>Non-hazardous landfill</b>	<b>Total</b>
<b>Zero Growth</b>	498,630	931,587	1,430,217

*Sources: Somerset County Council, 2010*

4.2.18 Noting the above, C&D waste management capacity requirements in Chapter 6.2 were tested against existing capacity for:

- Landfill
- Re-use and other beneficial use

# 5. Waste management capacity in Somerset

## 5.1 Introduction, definitions and baseline data

- 5.1.1 In order to arrive at a robust and up to date picture about operational sites in Somerset which contribute to managing the County's waste it was important, in a first step, to put together a list of operational waste management facilities based on the most recent information.
- 5.1.2 The Environment Agency provided a list of Somerset's licensed operational and non-operational waste management facilities in 2010. The capacity estimates were determined based on all of the relevant available data. This included the maximum throughput specified on the waste management licence (EA data). In addition, County Council site monitoring data and information from planning permissions were used to complement this list. The SWP's End Use Register<sup>15</sup> and information supplied by operators were also used to further complement the list of sites.
- 5.1.3 In October 2010 the County Council undertook an electronic survey of landfill sites in Somerset (including inert, non-hazardous and hazardous). The survey yielded results about remaining void and expiry dates of planning permissions.
- 5.1.4 The list of sites was corroborated following exclusion of the following types of sites:
- Facilities which had ceased due to changing licensing requirements (this particularly applied to inert landfill sites)
  - Facilities which appeared to have been double counted or had merged with another facility
  - Facilities which genuinely form part of on-site operations: i.e. small on-farm landfill sites and composting sites<sup>16</sup>, storage facilities<sup>17</sup>, etc.
  - Site offices and kiosks

---

<sup>15</sup> <http://www.recyclesomerset.info/pdf/SWP%20Recycling%20End-Uses%202008-2009.pdf?ID=209>

<sup>16</sup> Unless they are part of the SWP's initiative to compost biodegradable waste brought to Somerset's Household Waste Recycling Centres.

<sup>17</sup> This does not apply for the permitted storage facility at Hinkley Point A (West Somerset).

- Sewage pumping stations, lagoons, tanks and ponds
- Highway depots

- 5.1.5 Clinical waste facilities were excluded also as they do not take general waste. Tyre, vehicle and metal recycling facilities were categorised under 'C&I recycling' unless they also recycle MSW (as per SWP end use register). In which case, a split was assumed based on most recent input data, though it must be noted that this split could change greatly in any year. Waste transfer stations were not excluded, but no capacity gap analysis was undertaken for transfer.
- 5.1.6 Neighbouring Waste Planning Authorities, notably the West of England Partnership, have included a per cent contribution to recycling capacity from operational transfer stations in their plan area<sup>18</sup>. This was based on the fact that at most transfer stations, valuable materials such as metals are recovered from the waste before it gets bulked up and moved on to recycling or disposal. No such analysis was undertaken for Somerset due to lack of robust data. Thus, recycling capacity could potentially be greater, given the number of waste transfer stations in Somerset (see Appendix 2 for details).
- 5.1.7 Licensed sites classified by the EA as non-operational or 'not yet constructed' were classified as such. A reality check was undertaken based on anecdotal information, advice from the SWP and information supplied by operators in order to assess the likelihood of these facilities coming forward. In addition, as part of the consultation which took place in Spring 2011, specific questions were included to obtain additional information about non-operational and excluded sites. When calculating the need for additional capacity, capacities of permitted but non-operational sites were accounted for under a 'what if' scenario, or, in other words, treated as 'back-up'<sup>19</sup>.
- 5.1.8 After the sites list was consolidated, site capacities were totalled and re-grouped into three main categories: Recycling, residual recovery, and non hazardous / inert landfill capacity.
- 5.1.9 A separate paper on radioactive waste management was prepared providing further details on this waste stream.
- 5.1.10 According to information supplied by the EA and operators, one landfill site in the county (Walpole) currently takes hazardous waste (asbestos in SNRHW cells). No information is currently available about their remaining disposal capacity for hazardous waste. A second landfill site which has historically taken hazardous waste (Southwood) has been closed by the operator and is now undergoing remediation.
- 5.1.11 The consolidated list can be viewed in Appendix 1. Sites which were excluded can be viewed in Appendix 4. Maps can be viewed in Appendices 7-9 displaying operational recycling, landfill and transfer facilities.

<sup>18</sup> <http://www.westofengland.org/media/188908/10%20waste%20management%20capacity%20needs%20assessment.pdf> , page 15.

<sup>19</sup> It must be noted that this does not preclude other sites to be brought forward.

## 5.2 Total operational capacity

5.2.1 Table 29 below describes Somerset's total operational waste management capacity.

*Table 29: Waste management capacity in Somerset in 2010*

Management method	Operational capacity in tonnes
Total recycling capacity	1,213,603
Of which composting/AD is	174,000
Of which C&D waste recycling is	Approximately 75,000 tonnes licensed capacity
Residual waste recovery	-
Non-haz. Landfill	5,146,000 m <sup>3</sup>
Inert landfill	Approximately 900,000 m <sup>3</sup>

*Source: Somerset County Council, 2010*

- 5.2.2 Concerning 'capacities' at exempt sites, the Environment Agency confirmed that there were 65 U1 exemptions<sup>20</sup> in Somerset. Assuming they are using the average capacity of 5,000 tonnes this would give a maximum capacity of approximately 325,000 tonnes (over a three year period). The Environment Agency classifies operations at U1 sites as re-use of waste.
- 5.2.3 For paragraph 19a exemptions<sup>21</sup>, the Environment Agency confirmed that there are 63 sites still registered<sup>22</sup>. These will have to cease activity by October 2011 at the latest (if not before if their exemption expires). They have a maximum capacity of approximately 924,866 tonnes.
- 5.2.4 In reality the latter figure is made of a lot of small exemptions and some extremely large exemptions which soon will require a permit if they want to continue operating. It is therefore very difficult to estimate available 'capacity' during the plan period, and how many exempt sites will continue to take (inert) C&D waste.
- 5.2.5 The Environment Agency's website<sup>23</sup> states that the following exempt waste operations have been moved to environmental permits, in particular those involving higher quantities of waste:

<sup>20</sup> This exemption allows the use of suitable wastes for small scale construction instead of using virgin raw materials.

<sup>21</sup> Paragraph 19 of the Waste Management Licensing Regulations sets out the circumstances under which storage and use of waste for a building or a highway, railway, airport, dock or other transport facility, recreational facilities, or drainage will be permitted. Use of this waste is not permitted for work involving land reclamation.

<sup>22</sup> In December 2010.

<sup>23</sup> <http://www.environment-agency.gov.uk/business/topics/permitting/122729.aspx>

- Storage and spreading of sewage sludge (para. 6)
- Treatment of land for agricultural improvement or ecological benefit (para. 7)
- Reclamation, restoration or improvement of land (para. 9)
- Storage and composting of biodegradable waste (para. 12)
- Manufacture of soil, soil substitutes, road stone and aggregate (para. 13)
- Manufacture and treatment of construction materials and timber products (para. 13)
- Waste for construction (para. 19)
- Deposit of dredging from inland waterways (para. 25)
- Storage and recovery of scrap metal or dismantling of depolluted motor vehicles (para. 45)

5.2.6 In the future it will still be possible to obtain U1 exemptions, standard rules permits or bespoke exemptions. However, due to the tightening of regulations it would appear that the majority of formerly exempt operations will require a permit which may reduce the number of these operations. As a consequence, capacity at exempt sites might decline due to the changes in the licensing regulations and the requirement to draw up Site Waste Management Plans. In turn, it is assumed that exempt 'capacity' can gradually be replaced through increased *in situ* re-use.

5.2.7 As a consequence, the 'capacity' at existing exempt sites was excluded from the capacity gap analysis due to their uncertain status and short lifetime. However, exemptions will continue to play a role in, for instance, the re-use of inert materials.

### 5.3 Forthcoming and expiring capacity

5.3.1 Table 30 below highlights likely capacity gains/losses over the plan period based on information supplied by the SWP (in relation to MSW<sup>24</sup>), operators and the County Council's planning control team. The capacity gap analysis in Chapter 6 takes exact dates, where known, and forthcoming/expiring capacity into account (see Appendix 3 and 4 for list of sites).

*Table 30: Net balance of forthcoming and expiring non-landfill capacity in Somerset 2010-2028*

Management method	Capacity in tonnes
Recycling (including composting/AD)	-50,000
C&D waste recycling	none
Residual waste recovery	+45,000
<i>Source: Somerset County Council, 2011</i>	

<sup>24</sup> This excludes anticipated delivery of MSW recovery capacity in 2015/16 as no proposal has yet been submitted or granted planning permission.

- 5.3.1 C&D waste is currently landfilled at inert and non-hazardous landfill sites in Somerset. The County will have lost all its designated inert landfill void capacity by the end of 2015 the latest due to expiring planning permissions. Remaining non-hazardous landfill sites would be technically capable to take C&D waste as before.

<i>Table 31: Landfill sites and their planning permissions 2010-2028</i>	
<b>Non-hazardous landfill</b>	
Walpole	Operational, no expiry date but maximum input rates have been reduced over time
Dimmer	Operational, no expiry date
Whiscombe Hill	Operational (planning permission expires in 2017)
<b>Inert landfill</b>	
Lime Kiln Hill	Operational (planning permission expires in 2014)
Whiteball	Operational (planning permission expires in 2015)

*Source: Somerset County Council, 2011*

## 5.4 Data limitations

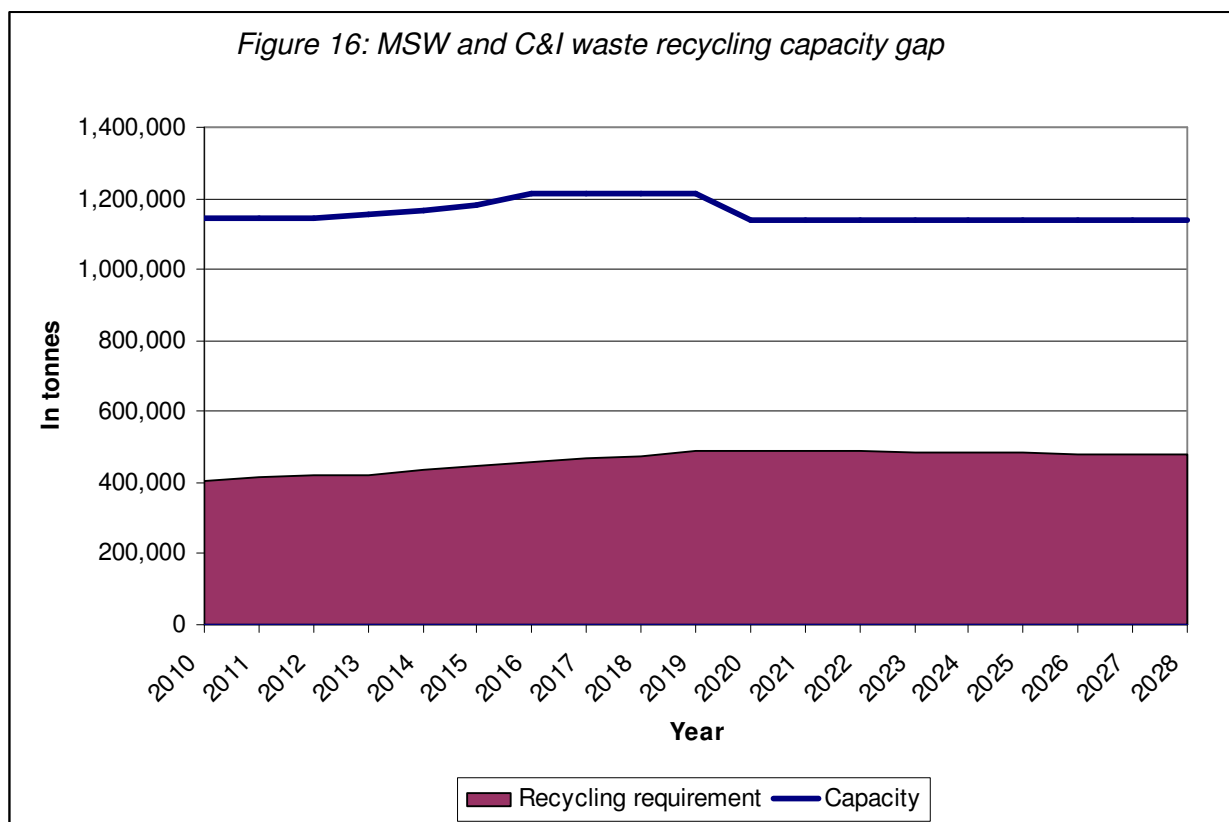
- 5.4.1 A few issues occurred during this exercise, especially in respect to identifying capacity for C&D waste management by method.
- 5.4.2 C&D recycling capacity data remains a problem. A possible reason for this could be the lack of input data for mobile crushers. These plants are hired for the purpose of on site crushing of inert C&D wastes and are not subject to monitoring so no data exist for Somerset about the amount of material crushed. Other C&D wastes such as glass or plastics were delivered to HWRCs in small amounts, and then mixed up with household waste recyclables. Eliminating trade abuse of HWRCs is a key issue for the SWP and was factored into their projection of future MSW arisings. The SWP has introduced charges for hardcore delivered to HWRCs which is assumed to result in a decline of inert C&D waste received.
- 5.4.3 Conclusively, it was not possible to accurately quantify capacity for construction and demolition waste management, in particular for recycling. Whilst some capacity data on recycling capacity were available, it must be noted that this may not be an accurate reflection of total recycling capacity. Landfill data were more robust however. When compared to present and future arisings, identified capacity gaps for C&D waste management (see Chapter 6) will therefore need to be treated with caution, especially concerning C&D waste re-use/other beneficial use.



## 6. Capacity Gap Analysis

### 6.1 MSW and C&I waste recycling

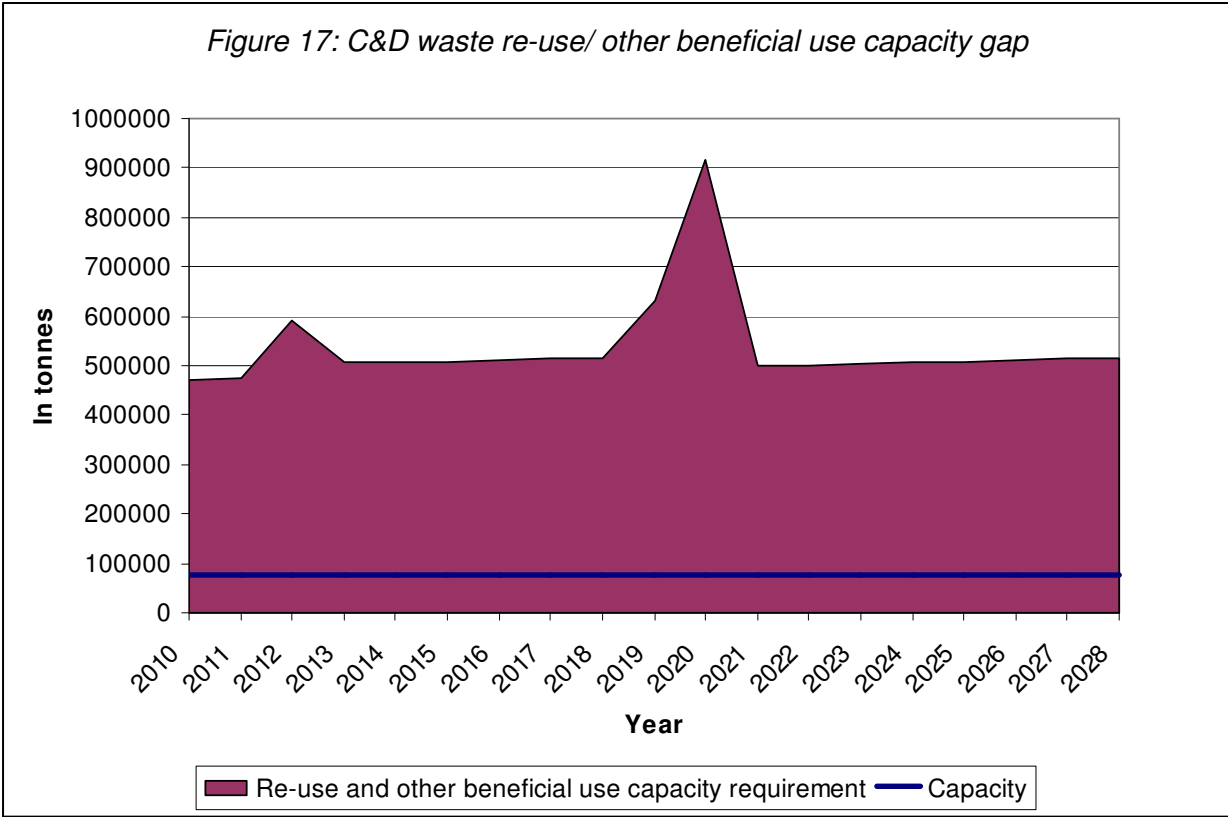
- 6.1.1 Chapters 2.3, 3.3, 4.3 and 5 informed the capacity gap analysis on recycling. Total recycling capacity for MSW and C&I waste is approximately 1,142,603 tonnes. A number of planning permissions will expire during the plan period whilst other facilities are permitted and/or expected to come on stream.
- 6.1.2 Figure 16 below shows the results of the capacity gap analysis for recycling, taking into account closure/commissioning of facilities, but excluding capacity at facilities reprocessing MSW recyclables outside Somerset.



6.1.3 It becomes clear that there would be sufficient recycling capacity to deal with MSW and C&I waste arisings during the plan period. However, it needs to be noted that recycling (in terms of reprocessing) of dry recyclables such as paper, cardboard, plastic, tin and glass takes place mainly at out of county facilities.

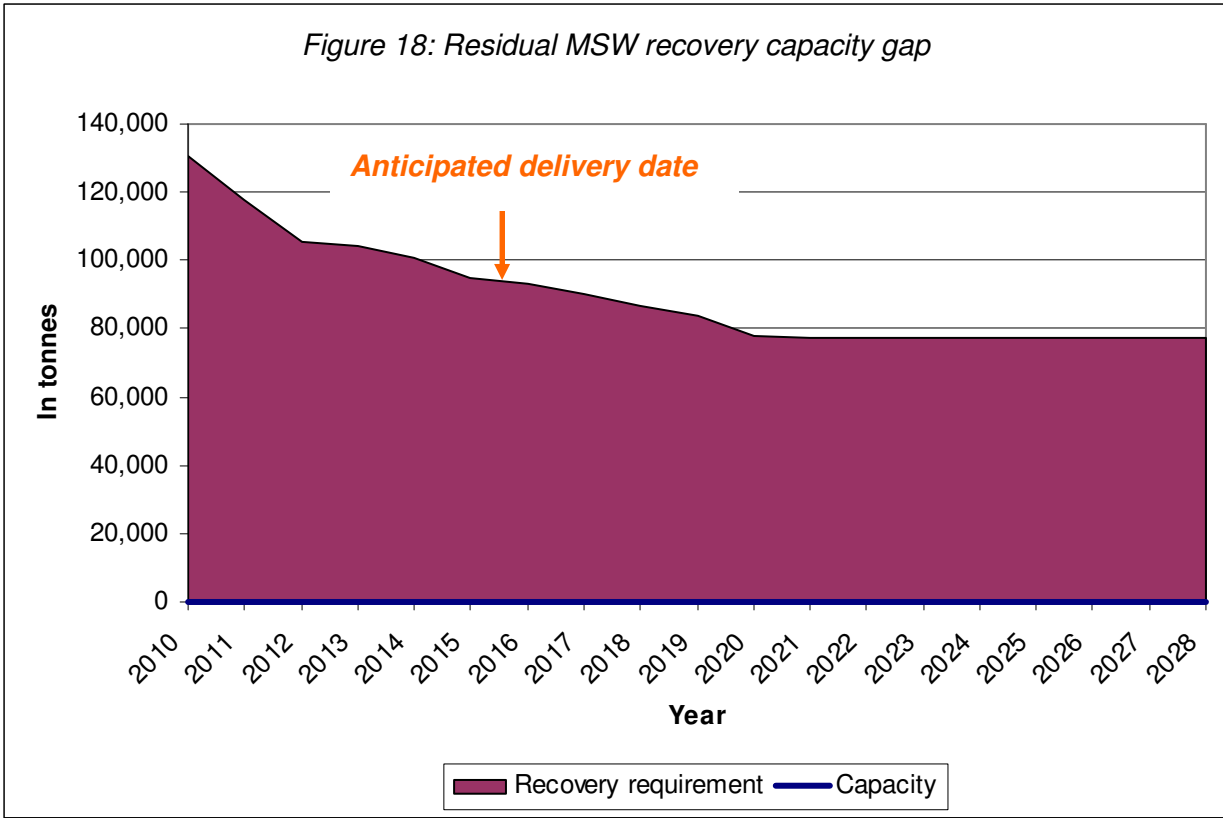
6.2 C&D waste re-use/other beneficial use

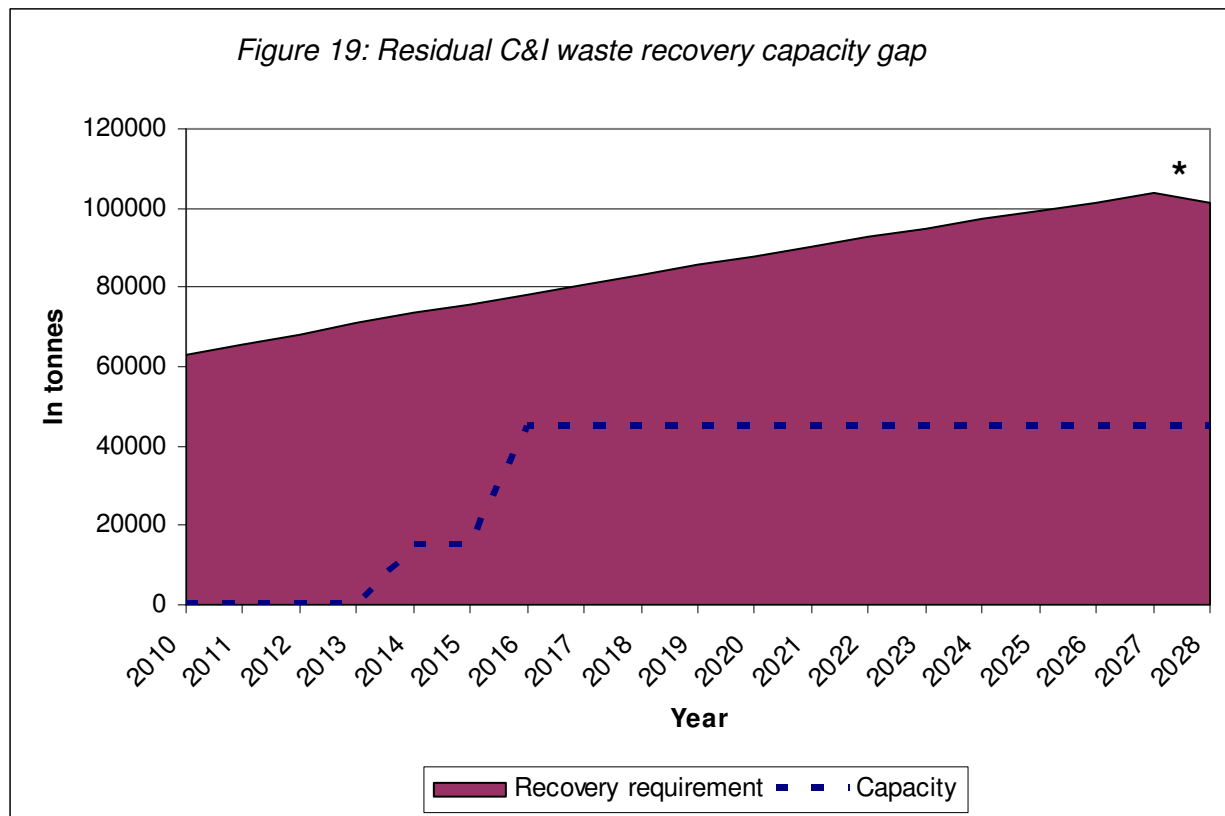
6.4.3 Chapter 4 concluded that a capacity gap analysis would be undertaken for landfill and re-use/other beneficial use of C&D waste. Figure 17 below shows that there is technically a maximum capacity gap for re-use/other beneficial use of approximately 839,000 tonnes (in 2020), due to projected arisings from the construction of Hinkley Point C and associated development. New capacity would instantly be required. This represents a falsely pessimistic view however. In relation to inert waste, previous chapters alluded to the fact that this type of waste is often re-used or recycled on site, used as quarry infill or spread on exempt sites. Non-inert waste, which was identified as a smaller proportion of total C&D waste arisings, is largely delivered to transfer stations where it is assumed to get mixed up with non-C&D waste and then moved on to recycling facilities or landfill sites. So whilst technically there would be a capacity gap it is assumed that the market would be capable to deliver increased recycling/reuse levels in particular through on-site management of inert waste.



6.3 Residual Waste Recovery

6.3.1 There is a clear need to deliver recovery capacity to deal with residual MSW and C&I waste given that there are currently no recovery facilities in Somerset. For MSW, the capacity gap is 93,380 tonnes in 2015/16 which is the SWP’s target year for the delivery of residual MSW recovery capacity. It is unclear at this stage what will be the total capacity to be delivered – however, the aim is that it should meet maximum requirements between 2016 and the end of the plan period. For C&I waste, the capacity gap would be approximately 58,500 tonnes in 2027. Figure 19 includes indicative target delivery dates for a permitted Pyrolysis plant at Haybridge near Wells, which would process C&I waste. Target years are 2014 for Phase 1 (15,000 tonnes) and 2016 for Phase 2 (an additional 30,000 tonnes). The maximum capacity gap for Somerset would be greater (approximately 103,500 tonnes in 2027) if the facility did not get built.





\* Decline due to stable recovery rate and overall decline in waste growth as modelled.

## 6.4 Total Landfill Requirement

- 6.4.1 In relation to non-hazardous landfill capacity, growth scenarios developed for the three key waste streams yielded results in relation to residual waste to be landfilled. Due to the lack of residual waste recovery capacity in Somerset and lead in times associated with delivery of new residual waste recovery facilities, it is expected that the bulk of residual MSW will continue to be landfilled between 2010 and 2015/16. Landfill for MSW is forecasted to decline sharply following anticipated commissioning of residual recovery capacity in 2015/16. C&I waste and C&D waste to landfill is forecasted to decline in line with the reduction rates applied in respective projections.
- 6.4.2 Table 32 compares landfill requirements with remaining void space at the County's operational landfill sites. To be more accurate in expressing landfill figures, established landfill requirements (in tonnes) were translated into requirements in cubic metres (m<sup>3</sup>). This was based on conversion factors provided by the Environment Agency, namely 1.0m<sup>3</sup> for every tonne of inert waste, and 1.2m<sup>3</sup> for every tonne of non-hazardous waste. The calculations consider expiry dates of planning permissions, i.e. for Whiscombe Hill (2017)<sup>25</sup>.

<sup>25</sup> Remaining void space at Whiscombe Hill which could be lost in 2017 was calculated on the basis of annual input and remaining void space in 2010. Data were supplied by the operator in 2010.

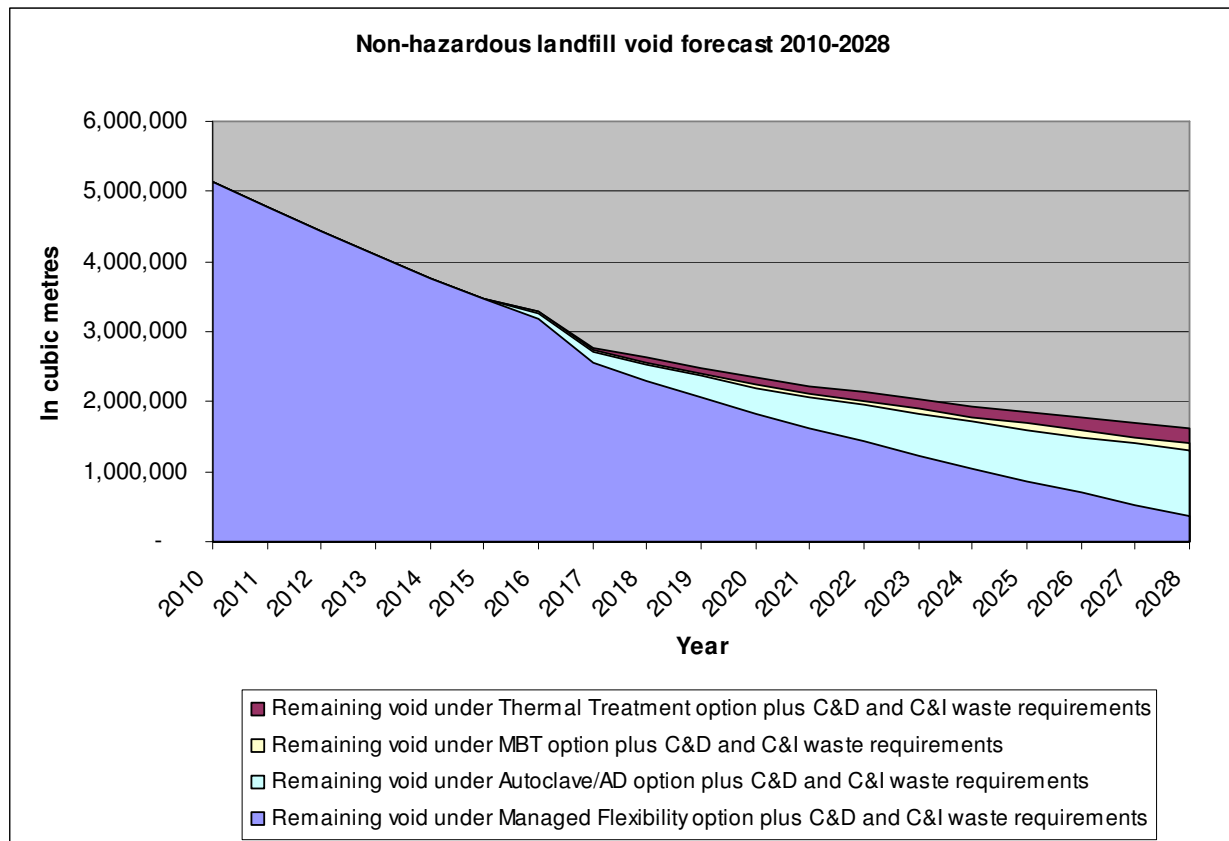
Table 32: Landfill requirements with remaining void space at operational landfill sites

Scenario	Total landfill requirement in m <sup>3</sup>	Remaining void in 2028 in m <sup>3</sup>
<i>Managed Flexibility (MSW), Zero Growth plus 10 per cent minimisation (C&amp;I waste), Zero Growth (C&amp;D waste)</i>	4,797,183	367,247
<i>Autoclave and Anaerobic Digestion (MSW), Zero Growth plus 10 per cent minimisation (C&amp;I waste), Zero Growth (C&amp;D waste)</i>	3,864,399	1,300,032
<i>MBT (MSW), Zero Growth plus 10 per cent minimisation (C&amp;I waste), Zero Growth (C&amp;D waste)</i>	3,757,255	1,407,176
<i>Thermal Treatment (MSW), Zero Growth plus 10 per cent minimisation (C&amp;I waste), Zero Growth (C&amp;D waste)</i>	3,536,664	1,627,767

6.4.3 In 2010, 5,146,000 m<sup>3</sup> of non-hazardous landfill void was available in Somerset. Based on the void data supplied by operators in 2010 it can be said that there will be sufficient non-hazardous landfill capacity in Somerset to accommodate requirements under all four scenarios until 2028. **This means that no new landfill capacity for non-hazardous waste will be needed during the plan period.** Figure 20 below illustrates landfill void uptake during the plan period under the growth scenarios adopted for the main waste streams.

6.4.4 The calculations above on landfill void capacity focus on waste arisings in Somerset. Chapter 8 deals with imports and exports of waste. Imports can vary greatly from year to year. It was considered impractical to project future landfill requirements linked with waste imports due to the level of uncertainty associated with such projections. However, even under "managed flexibility", it is noted that there is still remaining void space at the end of the Plan Period.

Figure 20: Non-hazardous landfill void forecast 2010-2028



- 6.4.5 The situation is different in respect to inert waste landfill capacity requirements. The County Council has modelled a reduction in total C&D waste landfilled by 50 per cent over the plan period. Hence a reduction in inert waste landfill was also modelled in Chapter 4. However, planning permission for two licensed inert landfill sites in Somerset is due to expire in 2014 and 2015 respectively.
- 6.4.6 Provided that inert landfill develops as forecasted under the preferred C&D waste growth scenario, the following capacity will be required by the end of 2015 the very latest to cater for inert landfill requirements up until 2028. Depending on growth scenario adopted for non-hazardous landfill, there may be sufficient void space at the county's non-hazardous landfill sites to accommodate inert landfill requirements.

*Table 33: Additional total inert landfill capacity required to provide for projected arisings until 2028*

Scenario	Total (in m <sup>3</sup> )
<b>Total requirement</b>	498,630
<b>Capacity needed post 2015</b>	<u>308,922</u>

*Source: Somerset County Council, 2011*

## 6.5 Transfer

- 6.5.1 This report has consistently excluded transfer from the analysis of future requirements due to the processing nature of transfer operations. Dependent on future growth in waste arisings, elimination of trade abuse at HWRCs, development of residual waste recovery facilities, and commercial decisions to open/close transfer stations there may be a need for additional transfer capacity to process waste. Where transfer stations are proposed by the market, applications will be considered and tested against Development Management policies, and any other legal requirements.

## 7. Other waste streams

### 7.1 Hazardous waste

- 7.1.1 Hazardous Waste is controlled waste that is special as defined in the European Waste Framework Directive and the Hazardous Waste Regulations. It refers to waste containing a hazardous substance in a quantity liable to cause harm to humans and the environment if improperly handled, treated or disposed of. A technical guidance published by the Environment Agency<sup>26</sup> provides further details on classification of hazardous waste, and the regulatory framework.
- 7.1.2 For the purpose of establishing a baseline, average arisings based on Environment Agency hazardous waste arisings data for 2007-2009 were used (33,865 tonnes).
- 7.1.3 Regarding future arisings, it can be assumed that due to legislative drivers baseline arisings are to remain stable or decline during the plan period. It is therefore assumed that approximately 33,865 tonnes of hazardous waste will be generated annually in Somerset. Additional data were gathered in relation to additional hazardous waste arisings following recovery of residual MSW waste, dependent on the preferred technology option.
- 7.1.4 Based on the MSW projections set out in previous chapters, the following hazardous waste arisings were forecasted for residual MSW recovery options 'MBT' and 'Thermal Treatment'. Waste recovery via MBT or thermal treatment typically generates a hazardous residue. Hazardous residues were calculated as two per cent of total residual waste treated under MBT, and four per cent for thermal treatment. These rates were provided by the SWP. No hazardous waste would be generated under the 'Autoclave/Anaerobic digestion' technology option, or 'Managed Flexibility'. Hazardous waste arisings from MBT or thermal treatment were included from 2016 onwards, based on the anticipated delivery data of residual MSW recovery capacity.
- 7.1.5 In addition, hazardous waste arisings from the construction of Hinkley Point C, the construction and demolition of its associated developments, and decommissioning of Hinkley Point A were included also, taking into account anticipated peak arisings.

---

<sup>26</sup> <http://publications.environment-agency.gov.uk/pdf/GEHO0603BIRB-e-e.pdf>



*Table 34: Total hazardous waste arisings 2016-2028 from residual MSW recovery, under MBT or Thermal Treatment options*

<b>Technology option</b>	<b>Total (in tonnes)</b>
<b>MBT</b>	21,009
<b>Thermal Treatment</b>	42,017

*Sources: Somerset County Council, 2011*

- 7.1.6 It needs to be noted that hazardous waste arisings from recovery processes could be higher as no information was available about delivery dates and preferred technology linked with residual C&I waste recovery capacity.
- 7.1.7 The overall combined annual total includes the 33,865 tonnes of hazardous waste assumed to arise annually over the plan period, the hazardous residues following recovery of residual MSW, and additional arisings from Hinkley A and C developments/decommissioning.

*Table 35: Total hazardous waste arisings for Somerset*

<b>Technology option (from 2015/16 onwards)</b>	<b>Total 2010-2028 (in tonnes)</b>
<b>MBT</b>	703,391
<b>Thermal Treatment</b>	724,400
<b>Autoclave/AD or Managed Flexibility</b>	682,383

*Sources: Somerset County Council, 2011*

- 7.1.8 It needs to be noted that hazardous waste data are useful to identify and describe total arisings, but not to estimate future recovery or disposal capacity requirements. As yet, the market has shown no interest in managing Somerset's current hazardous waste arisings at a designated facility, apart from asbestos which is disposed of in hazardous waste cells at the Walpole landfill site.
- 7.1.9 Hazardous waste can be very diverse in terms of substances which all need different special treatment. It would therefore be very difficult to establish if provision of additional hazardous waste management capacity in the county was needed. Moreover, it is widely acknowledged that hazardous waste is managed regionally and nationally, rather than locally.

## **7.2 Sewage Waste**

- 7.2.1 Sewage waste can broadly be described as waste matter from domestic or industrial establishments that is carried away in sewers or drains for disposal or conversion into a form that is not toxic. Sewage treatment is the process of removing the contaminants from sewage to produce liquid and solid (sludge) suitable for discharge to the environment or for reuse. In order to run a sewage treatment plant a permit to discharge under the Environmental Permitting Programme Second Phase is needed (from the Environment Agency).
- 7.2.2 Wessex Water is the main operator for waste water (sewage) treatment in Somerset. Some of the westernmost areas of the County are being supplied by South West Water.
- 7.2.3 Wessex Water operates a widespread network of treatment facilities. In 2008/09, five sewage treatment works produced more than 1,000 tonnes of dried sludge. Most sewage treatment facilities are therefore relatively small. Nonetheless they remain an important part of community infrastructure.
- 7.2.4 There is relatively limited data available for forecasting where and how many sewage treatment facilities will be required across the county. Clearly the demand for treatment is closely linked with the size of the local population. Wessex Water anticipates sludge production increasing by less than 1 per cent per year. With this in mind, it is reasonable to expect that additional facilities will be required (either new facilities or expanded existing facilities) during the Plan period to 2028.
- 7.2.5 A product of sewage treatment can be treated via anaerobic digestion and used to generate energy. Wessex Water owns and operates an anaerobic digestion facility at Creech St Michael on the eastern outskirts of Taunton. Wessex Water sends about 20 per cent of its dried sludge from Somerset to this anaerobic digestion facility. Currently the facility has an electricity generation capacity of 150 kW. It has been running at full capacity, which is a little over 3,000 tonnes of dried solids per year. In recent months Wessex Water announced plans to expand this facility.
- 7.2.6 The County Council believes that applying criteria set out in the Core Strategy's development management policies will be sufficient to deal with proposals for sewage waste management.

## 7.3 Agricultural Waste

- 7.3.1 Agricultural waste is considered to be controlled waste and the relevant overarching waste legislation applies. A guide published by DEFRA<sup>27</sup> on the regulatory framework concerning agricultural waste states that the legal definition of “agricultural waste” is “waste from premises used for agriculture within the meaning of the Agriculture Act 1947.” The Agriculture Act 1947 defines “agriculture” as including: “...horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of land for other agricultural purposes, and ‘agriculture’ shall be construed accordingly.”
- 7.3.2 The DEFRA guide further states that historically, the term “farm waste” has been used to describe livestock manure, slurry and effluent. With the introduction of the Waste Management (England and Wales) Regulations 2006, all substances or objects from premises used for agriculture, and which are discarded by the holder, are subject to control as waste. This also includes many non-natural types of waste, i.e. pesticide containers, silage wrap, tyres, batteries and oil. Manure and slurry is not classified as waste when used as a fertiliser.
- 7.3.3 There is a lack of robust data on purely agricultural waste arisings. The EA Interrogator provides data for Agricultural and Food waste; however this would include data on waste generated by the wider food industry too.
- 7.3.4 Most agricultural waste is biodegradable and can be managed on-farm in line with pollution control requirements. Dry recyclables and other non-natural types of waste are collected by licensed waste carriers and find their way into the municipal or commercial and industrial waste stream, or are delivered to specialised facilities (i.e. for hazardous agricultural wastes).
- 7.3.5 It is proposed that applying the criteria set out in the Core Strategy’s Development Management policies will be sufficient to deal with proposals coming forward linked with agricultural waste arisings.

---

<sup>27</sup> The Waste Management (England and Wales) Regulations 2006 (S.I. 2006 No. 937) “The Agricultural Waste Regulations” Frequently Asked Questions and Answers:  
<http://www.defra.gov.uk/environment/waste/topics/farm/documents/agwaste-faq.pdf>

## 8. Waste Imports and Exports

### 8.1 Introduction

8.1.1 Imports and exports of waste between Waste Planning Authorities take place across the UK. Market forces play a strong role in where waste is recycled, treated or landfilled. Commercial decisions are driven by cost-efficiency and profitability. This results in changing movements of wastes. Hence it is not easy to identify exactly where waste is managed in any one year.

8.1.2 Nevertheless, based on available data it was possible to present a snapshot of waste movements into and out of Somerset. Environment Agency 2008 Interrogator and SWP End Use Register data were used to identify the majority of cross-boundary movements of the following types of wastes:

- Municipal Solid Waste
- Commercial and Industrial Waste
- Construction and Demolition Waste
- Hazardous Waste

8.1.3. In relation to MSW and C&I waste imports/exports data it needs to be noted that the Interrogator database provides combined data for Household and Commercial/Industrial waste (HIC waste), since the Agency does not separately monitor these waste streams. In the case of exports it was decided to present HIC data only where it had been possible to classify this waste as commercial and industrial waste following comparison with SWP End Use Register data on MSW.

## 8.2 Municipal and Commercial/Industrial waste

- 8.2.1 Table 35 below shows the amount of HIC waste received at Somerset's licensed facilities in 2008 and 2009. As the vast majority of waste was recorded at regional level or classified as non-codeable, it makes it difficult to establish if that waste was from Somerset or imported from elsewhere. No re-distribution of non-codeable or regionally recorded waste was undertaken but it can be said the majority of that waste went to Walpole and Dimmer landfill sites in Somerset.

*Table 36: HIC waste received at Somerset's licensed facilities (tonnes)*

Origin	2008	2009
South West WPAs	9,682	11,066
Not codeable or recorded at regional level	195,440	378,045
<b>Total</b>	<b>205,126</b>	<b>389,603</b>

*Table 37: Management method for HIC waste received at Somerset's licensed facilities*

Management method	2008	2009
Landfill	134,610	257,908
Recycling (metal)	53,813	56,379
Transfer	13,951	23,736
Treatment (incl. sewage treatment, and pre-treatment)	2,653	51,578
<b>Total</b>	<b>205,028</b>	<b>389,603</b>

- 8.2.4 Table 37 below shows the total amount of waste **exported** from Somerset to facilities elsewhere. Regarding these exports, the SWP end use register clearly identifies where MSW goes for re-use and recycling. Residual MSW is landfilled at Walpole and Dimmer landfill sites in Somerset. These landfill sites are operated by the SWP's strategic disposal partner. Table 2 in Chapter 2 shows the destination of the main waste streams/materials collected in Somerset. Table 38 below summarises key locations where materials from Somerset were reprocessed, based on contracts let by the SWP.

*Table 38: HIC waste exported from Somerset (tonnes)*

<b>Destination</b>	<b>2008</b>	<b>2009</b>
South West (excl. Somerset)	109,652	146,369
South East	122,565	68,246
Other English Regions and Wales	2,430	7,802
<b>Total</b>	<b>234,647</b>	<b>222,418</b>

8.2.2 In a second step, Interrogator data were checked to identify wastes which were generated in Somerset but managed elsewhere, and were therefore likely to be C&I waste.

8.2.3 Nearly all exports went to facilities within the South West and the South East. Based on the SWP End Use Register information it can be said that the vast majority of this waste was not MSW and it is therefore assumed that it was C&I waste. The majority of this waste went to Buckinghamshire, the West of England, Devon and Wiltshire. The Interrogator names the sites which received significant amounts of likely C&I waste from Somerset in 2008. For 2008 and 2009, facilities which received most significant amounts of waste from Somerset (compared to total exports) are shown in Table 40 below.

*Table 39: Selected destinations for MSW per waste stream*

<b>MSW destination per waste stream</b>	<b>2008</b>	<b>2009</b>
Aylesford, Kent (paper)	18,281	18,399
Harlow, Essex (glass)	11,982	11,944
China (cardboard)	9,650	8,044
South Wales (electrical)	4,270	4,256

Table 40: Selected destinations for C&I waste (tonnes)

Destination	2008	2009
Calvert Landfill, Buckinghamshire	122,000	68,240
Sims Group Fragmentation Plant, Bristol	42,088	39,326
Broadpath Landfill, Devon	25,493	19,031
Wessex Water Avonmouth Licensed Treatment Centre, Bristol	11,013	37,092
Canford Recycling Centre, Poole		10,798
Shortwood Quarry Landfill Site, South Gloucestershire		12,955
Sands Farm Landfill, Wiltshire	5,063	
Chapel Farm Landfill, Phase 2, Wiltshire	4,352	

- 8.2.4 In summary, the data suggest that Somerset was a **net exporter** of HIC waste in 2008 and a **net importer** of waste the following year (see Table 36 and 38). Whilst good quality data were available on MSW and hence C&I waste exports also, it was rather difficult to identify the origin and type of waste imported into the county.

## 8.3 Construction and Demolition Waste

- 8.3.1 Somerset's licensed waste management facilities imported C&D waste. Somerset's C&D waste was also exported to facilities in other Waste Planning Authorities. Based on Environment Agency Interrogator data for 2008 and 2009, Tables 40 and 41 below show C&D waste imports and exports for Somerset, including management method. Again, a large proportion of waste was recorded at regional level or was non-codeable, which means that it could have originated in Somerset. Para. 4.1.8 in Chapter 4 explained that those arisings were re-distributed to authorities from which C&D waste was imported, in order to establish a baseline for total C&D waste arisings. The re-distribution was also undertaken under the assumption that C&D waste generally does not travel far between source and destination.

*Table 41: C&D waste imports into Somerset. Source: Environment Agency*

Origin	2008	2009
Devon	23,522	5,157
Dorset	2,564	2,732
Bath and North East Somerset	1,658	8,845
Wiltshire and Swindon	813	37,284
Bristol	415	239
North Somerset	47	-
Hampshire	-	85
Oxfordshire	2	-
<b>Total</b>	<b>29,021</b>	<b>54,341</b>

*Table 42: C&D waste exports from Somerset. Source: Environment Agency*

Destination	2008	2009
Wiltshire and Swindon	1,074 <sup>28</sup>	2,720
West of England Authorities	7,424	22,846
Devon	743	1,403
South Yorkshire	1,465	5,122
Other	311	478
<b>Total</b>	<b>11,017</b>	<b>32,569</b>

<sup>28</sup> In 2008, approximately 13,700 tonnes of hazardous C&D waste were landfilled at a Swindon facility (at Parkgate Farm), but have been recorded under hazardous waste (see Chapter 8.4).



## 8.4 Hazardous waste imports/exports

- 8.4.1 According to the Environment Agency's Hazardous Waste Interrogator the majority of the county's hazardous waste was exported.
- 8.4.2 Most of Somerset's hazardous waste was treated on a regional basis, sent to facilities in the South West for treatment and/or disposal. Table 43 illustrates cross-boundary movements of hazardous waste between Somerset and other South West Waste Planning/Disposal Authorities, for 2008 and 2009.

*Table 43: Exports of hazardous waste from Somerset (tonnes)*

Destination	2008	2009
Wiltshire and Swindon	19,575	1,291
West of England	9,208	7,934
Devon and Plymouth	1,796	1,731
Dorset, Bournemouth, Poole	1,664	909
Gloucestershire	270	163
Cornwall	177	203
Total	<b>32,690</b>	<b>12,332</b>

- 8.4.3 Wiltshire/Swindon and the West of England authorities received the majority of hazardous waste exported from Somerset in 2008 and 2009. In 2008, of a total of 19,500 tonnes of hazardous waste exported to Wiltshire and Swindon, approximately 13,000 tonnes were landfilled at Parkgate Farm (near Swindon) and consisted of hazardous construction and demolition waste. Of a total of 9,208 tonnes exported to the West of England in 2008, around 7,500 tonnes were made up of oil/oil-water mixtures and chemicals, and were processed or re-used/recycled. In 2009, most hazardous waste was exported to the West of England and consisted of oil/oil-water mixtures and chemicals, which were processed or re-used/recycled at facilities in Bristol.

### 8.4.5 In 2008 and 2009, Somerset imported less hazardous waste than it exported.

The total amount of waste imported in 2008 was 6,214 tonnes, of which 4,572 originated from within the South West. In 2009, 6,596 tonnes were imported, of which 5,717 tonnes originated from within the South West<sup>29</sup>. The predominant types of material imported were hazardous C&D waste and asbestos, which went to landfill. Table 44 below shows the amount of hazardous waste imported by Somerset.

<sup>29</sup> This excludes Somerset arisings for both years.

*Table 44: Imports of hazardous waste into Somerset (tonnes)*

<b>Origin</b>	<b>2008</b>	<b>2009</b>
West of England	1,547	2,434
Devon, Plymouth, Torbay	1,029	1,071
Dorset, Bournemouth, Poole	1,214	1,372
Cornwall	482	153
Wiltshire and Swindon	217	291
Gloucestershire	83	396
<b>Total</b>	<b>4,572</b>	<b>5,717</b>

## 9. Conclusions

- 9.1 The research and analysis carried out by Somerset County Council has revealed that additional capacity will be required to adequately deal with projected waste arisings. Accordingly, the County Council will need to plan appropriately for the provision of waste management capacity as set out in Table 45 below.

*Table 45: Summary of additional waste capacity requirements*

Management Method	Identified "Need"	"Need" date
MSW/C&I waste recycling	None	N/A
Residual MSW recovery	93,380 tonnes	2015/16
C&I waste recovery	103,500 tonnes	N/A
Inert landfill	Approximately 309,000m <sup>3</sup>	End of 2015

*Source: Somerset County Council, 2011*

- 9.2 Additional capacity requirements can be met through the permission and construction of appropriate waste management development in the right location. In this report the County Council has not attempted to translate capacity requirements into a number of facilities. As a general comment, the viability of waste management facilities is very much dependent on whether economies of scale can be established.
- 9.3 It was stressed earlier in this report that precise capacity requirements are impossible to establish for certain waste streams due to reasons such as lack of hard data, in particular in relation to C&D waste.
- 9.4 Table 45 presents the need data in raw, academic form. The Waste Core Strategy will need to be developed in a way that considers the most appropriate solution for addressing this "need",

- 9.5 The WCS will furthermore need to be sufficiently flexible so that the market can deliver capacity for waste management if this is shown to be needed in the future (where no precise capacity requirements could be identified at this time). This is the case for hazardous waste; agricultural waste; sewage waste; and the recycling of construction and demolition waste.
- 9.6 The above conclusions are based on a robust analysis of future waste management requirements for Somerset.. The evidence base presented in this report will be regularly updated as part of the annual monitoring process for the Waste Local Development Framework.

# Appendix 1: Operational waste sites

## *Operational recycling facilities in Somerset, in 2011*

No.	Facility Name	Holder Trading Name	Location	District
1	Southwood Waste Management	Commercial Recycling Ltd	Evercreech	Mendip
2	Evercreech Junction Recycling Depot	E C T Recycling Ltd	Evercreech	Mendip
3	Street Household Waste Recycling Centre	Somerset County Council operated by Viridor	Street	Mendip
4	Dulcote Household Waste Recycling Centre	Somerset County Council operated by Viridor	Wells	Mendip
5	Coleford Waste Recycling Centre	Somerset County Council operated by Viridor	Coleford	Mendip
6	Frome Waste Recycling Centre	Somerset County Council operated by Viridor	Manor Furlong, Frome	Mendip
7	Park Farm Scrap Yard	Colin White	Glastonbury	Mendip
8	Old Station Yard Scrap Metal Recycling	J C Thomas & Sons Ltd	Glastonbury	Mendip
9	Myrtle Garage Scrap Metal Yard	Pylle Motor Spares Ltd	Shepton Mallett	Mendip
10	Bunns Lane Scrap Metal Recycling Yard	Ransome J W & Son	Frome	Mendip
11	Green Ore Farm, Wells	Brackendown Ltd	Wells	Mendip
12	Monksham Farm	Brackendown Ltd	Marston Bigot, Frome	Mendip
13	May Gurney Depot	May Gurney Plc	Evercreech	Mendip
14	L.A. Moore Demolition Ltd.	L.A. Moore	Haybridge	Mendip
15	Bridgwater Depot (Perry's)	Perry's Recycling	Bridgwater	Sedgemoor
16	Bridgwater Household Waste Recycling Centre	Somerset County Council operated by Viridor	Bridgwater	Sedgemoor
17	Highbridge Household Waste Recycling Centre	Somerset County Council operated by Viridor	Highbridge	Sedgemoor
18	Middlezoy Household Waste Recycling Centre	Somerset County Council operated by Viridor	Bridgwater	Sedgemoor
19	Cheddar Household Waste Recycling Centre	Somerset County Council operated by Viridor	Cheddar	Sedgemoor
20	Walpole inert recycling and crushing site	Viridor Waste Management	Bridgwater	Sedgemoor

<b>21</b>	Johnson Metals Ltd	Johnson Metals Ltd	Bridgwater	Sedgemoor
<b>22</b>	Dans Dismantlers	David Bennett	Bridgwater	Sedgemoor
<b>23</b>	Hamp Yard Scrap Metal Recycling	John Metcalfe	Bridgwater	Sedgemoor
<b>24</b>	Walpole Composting & Wood Shredding Facility	Viridor Waste Management	Pawlett	Sedgemoor
<b>25</b>	Cannington Cold Stores	Cannington Cold Stores Ltd	Cannington	Sedgemoor
<b>26</b>	Black - Ram Recycling Ltd	Black - Ram Recycling Ltd	Highbridge	Sedgemoor
<b>27</b>	May Gurney Depot - Colley Lane	May Gurney Plc	Bridgwater	Sedgemoor
<b>28</b>	Plant hire, Cannington	Erwin Rhodes Contracting Ltd	Cannington	Sedgemoor
<b>29</b>	Audi 4U		Bridgwater	Sedgemoor
<b>30</b>	JD Pope Plant Hire	JD Pope Ltd	Highbridge	Sedgemoor
<b>31</b>	Mark Moor Metals		Highbridge	Sedgemoor
<b>32</b>	Scrap Metal Recycling Yard	Smith D V & R R	Somerton	South Somerset
<b>33</b>	Abbey Hill Trading Estate Scrap Metal Yard	L & W Metals (Yeovil) Ltd	Yeovil	South Somerset
<b>34</b>	Penmill Trading Estate Scrap Yard	Mountstar Metals Ltd	Yeovil	South Somerset
<b>35</b>	W S Scrap Metals	William Stoodley	Templecombe	South Somerset
<b>36</b>	Symonds Salvage - Henstridge	R Symonds	Templecombe	South Somerset
<b>37</b>	Chard Household Waste Recycling Centre	Somerset County Council operated by Viridor	Chard	South Somerset
<b>38</b>	Crewkerne Household Waste Recycling Site	Somerset County Council operated by Viridor	Crewkerne	South Somerset
<b>39</b>	Somerton Household Waste Recycling Centre	Somerset County Council operated by Viridor	Somerton	South Somerset
<b>40</b>	Dimmer Household Waste Recycling Centre	Viridor Waste Management	Castle Cary	South Somerset
<b>41</b>	Blacknell Lane Scrap Metal Recycling Yard	Hallett Recycling Ltd	Crewkerne	South Somerset
<b>42</b>	Cricket St Thomas, Crewkerne	Brackendown Ltd	Crewkerne	South Somerset
<b>43</b>	Dimmer In Vessel Composting	Viridor Waste Management	Castle Cary	South Somerset
<b>44</b>	Podimore Inert Waste Disposal	RW Prince Ltd	Podimore	South Somerset
<b>45</b>	Tyre Renewals Ltd	T R L Ltd	Castle Cary	South Somerset
<b>46</b>	Martock Waste Paper	Viridor Management	Somerton	South Somerset
<b>47</b>	Perry's Recycling	Perry's Recycling	Marston Magna	South Somerset
<b>48</b>	Poole Waste Recycling Centre	Viridor Waste Management	Nynehead	Taunton Deane
<b>49</b>	Priorswood Household Waste Recycling Centre	Viridor Waste Management	Taunton	Taunton Deane
<b>50</b>	Priory Depot Waste Transfer	Deane D L O	Taunton	Taunton

	Station			Deane
<b>51</b>	Dans Dismantlers	David Bennett	Taunton	Taunton Deane
<b>52</b>	The Old Brickworks	Alan John Garrett	Wellington	Taunton Deane
<b>53</b>	Priory Way Scrap Metal Recycling Yard	Sims Group UK Ltd	Taunton	Taunton Deane
<b>54</b>	Priorswood Waste Recycling Centre	Viridor Waste Management Ltd	Taunton	Taunton Deane
<b>55</b>	May Gurney, Walford Cross Depot	May Gurney Ltd	Taunton	Taunton Deane
<b>56</b>	Taunton ( Ham) Sewage Treatment Works	Wessex Water Services Ltd	Taunton	Taunton Deane
<b>57</b>	Smokey Farm, Staplegrove	Brackendown Ltd	Taunton	Taunton Deane
<b>58</b>	Severnside Recycling		Watchet	West Somerset
<b>59</b>	Dulverton Household Waste Recycling Centre	Somerset County Council operated by Viridor	Dulverton	West Somerset
<b>60</b>	Minehead Household Waste Recycling Centre	Somerset County Council operated by Viridor	Minehead	West Somerset
<b>61</b>	Williton Household Waste Recycling Centre	Somerset County Council operated by Viridor	Williton	West Somerset
<b>62</b>		E B Janes Ltd	Minehead	West Somerset
<b>63</b>	May Gurney Depot	May Gurney Plc	Williton	West Somerset
<b>Total capacity</b>	<b><u>1,213,603 tonnes</u></b>			

***Operational waste transfer stations in Somerset, in 2011***

<b>No.</b>	<b>Facility Name</b>	<b>Holder Trading Name</b>	<b>Location</b>	<b>District</b>
<b>64</b>	Lime Kiln Hill Transfer Station	Western Skip Hire Ltd	Mells, near Frome	Mendip
<b>65</b>	Burcott House Farm Transfer Station	B W & E F Lansdown,	Wells	Mendip
<b>66</b>	Silver Lining Westonzoyland Depot	Silver Lining Industries Ltd	Westonzoyland	Sedgemoor
<b>67</b>	Castlefields Transfer Station	S Roberts & Son Ltd	Bridgwater	Sedgemoor
<b>68</b>	Brue Avenue Transfer Station	Erwin Rhodes Contracting Ltd	Bridgwater	Sedgemoor
<b>69</b>	Axe Road Transfer Station	Erwin Rhodes Contracting Ltd	Bridgwater	Sedgemoor
<b>70</b>	Dunwear Depot	R K Bell Ltd	Bridgwater	Sedgemoor
<b>71</b>	Dunwear Transfer Station	Towens Waste Management Ltd	Bridgwater	Sedgemoor
<b>72</b>	The Old Oil Works Transfer Station	Terence E Rickard	Highbridge	Sedgemoor
<b>73</b>	Burnham Waste Ltd	Burnham Waste Ltd	Highbridge	Sedgemoor
<b>74</b>	Spaxton Road	Roberts and Sons	Cannington	Sedgemoor
<b>75</b>	Colham Lane Transfer Station	Colham Lane	Winsham	South Somerset
<b>76</b>	Dimmer Hazardous Waste Transfer Station	Viridor Waste Management	Castle Cary	South Somerset
<b>77</b>	Whiscombe Hill Transfer Station	Westcombe Waste Ltd	Somerton	South Somerset
<b>78</b>	J C Thomas & Sons	J C Thomas & Sons Limited	Yeovil	South Somerset
<b>79</b>	Old Railway Yard Scrap Metal Recycling Yard	Crosskeys Motor Services Ltd	Somerton	South Somerset
<b>80</b>	Henstridge Airfield	Kedgeworth 2000 Ltd	Templecombe	South Somerset
<b>81</b>	H & A Waste Services Ltd	H & A Waste Services Ltd	Templecombe	South Somerset
<b>82</b>	Greenham Quarry Transfer Station	Wasteology Ltd	Wellington	Taunton Deane
<b>83</b>	Wellington Waste Skips Transfer Station	Palfrey Mr A R & Palfrey Mrs B J	Wellington	Taunton Deane
<b>84</b>	Taunton Trading Estate Transfer Station	Mr H Riste	Taunton	Taunton Deane
<b>85</b>	South Street Waste Transfer Station	H & A Waste Services Ltd	Taunton	Taunton Deane
<b>86</b>	Mart Road Industrial Estate Transfer Station	West Somerset Council	Minehead	West Somerset



***Operational inert landfill sites in Somerset, in 2011***

<b>No.</b>	<b>Facility Name</b>	<b>Holder Trading Name</b>	<b>Location</b>	<b>District</b>
<b>87</b>	Whiteball Landfill Site		Whiteball Hill, near Wellington	Taunton Deane
<b>88</b>	Lime Kiln Hill Quarry Landfill Site	Western Skip Hire Ltd	Lime Kiln Hill, Mells	Mendip
<b>Total capacity</b>	<b><u>Approx. 900,000 m3</u></b>			

***Operational non-hazardous landfill sites in Somerset, in 2011***

<b>No.</b>	<b>Facility Name</b>	<b>Holder Trading Name</b>	<b>Location</b>	<b>District</b>
<b>89</b>	Walpole Landfill	Viridor Waste Management	Pawlett, Bridgwater	Sedgemoor
<b>90</b>	Dimmer Landfill	Viridor Waste Management	Dimmer, Castle Cary	South Somerset
<b>91</b>	Whiscombe Hill Landfill	Westcombe Waste Ltd	Westcombe, Somerton	South Somerset
<b>Total capacity</b>	<b><u>Approx. 5,146,000 m3</u></b>			

## Appendix 2: Waste sites with planning permission, but yet to be constructed

No.	Facility Name	Management method	Holder Trading Name	Location	District
<b>A1</b>	WP2 Pyrolysis Plant Phase 1 and 2	Residual waste recovery	WP2 Ltd.	Haybridge, Wells	Mendip
<b>A2</b>	Anaerobic Digestion Plant, Walpole	Recycling	Viridor Waste Management	Pawlett, Bridgwater	Sedgemoor
<b>A3</b>	'Hinkley Point A' storage facility	Intermediate radioactive waste storage	Magnox Electric	Stogursey	West Somerset
<b>A4</b>	Priorswood Material Recycling Facility (extension)	Recycling	Viridor Waste Management	Taunton	Taunton Deane

## Appendix 3: Waste sites to cease during the plan period

No.	Facility Name	Management method	Holder Trading Name	Location	District	End date
88	Lime Kiln Hill Quarry Landfill Site	Inert landfill	Western Skip Hire Ltd	Lime Kiln Hill, Mells	Mendip	2014 (planning permission)
87	Whiteball Landfill Site	Inert landfill		Whiteball Hill, near Wellington	Taunton Deane	2015 (planning permission)
1	Southwood Waste Management	Recycling	Commercial Recycling Ltd	Evercreech	South Somerset	2020-2024 (a number of planning permissions)
91	Whiscombe Hill	Non-haz. landfill	Westcombe Waste	Westcombe, Somerton	South Somerset	2017 (planning permission)
77	Whiscombe Hill	Transfer	Westcombe Waste	Westcombe, Somerton	South Somerset	2017 (planning permission)
43	Dimmer In-Vessel Composting	Recycling	Viridor Waste Management	Dimmer, Castle Cary	South Somerset	To be replaced by Walpole AD plant (see App.2) by 2013

# Appendix 4: Non-operational waste sites

## *Waste sites which were classified as non-operational (in 2010/11)*

No.	Facility Name	Holder Trading Name	Location	District	Reason
92	Glass cullet crushing facility at Torr Works	Aggregate Industries	East Cranmore	Mendip	Dormant - information supplied by operator.
93	Henstridge Transfer Station	Viridor Waste Management Ltd	Henstridge	South Somerset	Information supplied by Viridor
94	Dimmer Materials Recycling Facility (mrf)	Viridor Waste Management	Dimmer, Castle Cary	South Somerset	Information supplied by Viridor
95	Flushing Meadow Transfer Station	Viridor Waste Management Ltd	Yeovil	South Somerset	Information supplied by Viridor
96	Dimmer Rotary Composting	Viridor Waste Management	Dimmer, Castle Cary	South Somerset	A separate rotary composting site forms a compound with the In-vessel composting facility at Dimmer. Information supplied by Viridor.
97	Galmington Trading Estate Transfer Station	Viridor Waste Management Ltd	Taunton	Taunton Deane	Information supplied by Viridor
98	Poole Waste Transfer Station	Viridor Waste Management	Poole, Wellington	Taunton Deane	Information supplied by Viridor
99	Riste Jnr Mr H	The Concrete Works Waste Transfer Station	Taunton	Taunton Deane	
100	Sr & Rk Trott	S R K Skips Transfer Station	Taunton	Taunton Deane	
101	Williton Waste Transfer Station	Viridor Waste ( Somerset ) Ltd	Williton	West Somerset	Information supplied by Viridor

## Appendix 5: Excluded sites

No.	Operator	Facility name	Location	District	Reason for exclusion
102	Chapman D	Allotment Drove Landfill Site	Street	Mendip	Peat production - landfilling own waste
103	Wolff Construction (1981) Ltd	The Old Quarry Landfill Site	Evercreech	Mendip	Storage/landfilling own waste
104	Walters M.	Creech Hill Farm Sludge Storage Lagoon	Bruton	Mendip	
105	Somerset County Council	Frome Highways Depot	Manor Furlong, Frome	Mendip	Depot (not a waste site)
106	R M Penny ( Plant Hire ) Ltd	Page House Farm Landfill Site	Coleford	Mendip	Closed
107	Radstock Co-op Society	Pond Farm Landfill Site	Frome	Mendip	Closed
108	Somerset County Council	Vobster Cross Landfill Site	Radstock	Mendip	Closed
109	Wicks, C J	Glastonbury Heath Landfill Site	Glastonbury	Mendip	Closed
110	Foster Yeoman Ltd	Trinidad Works	Wanstrow, Shepton Mallett	Mendip	Closed
111	Inveresk Ltd	St Cuthberts Paper Mill	Haybridge, Wells	Mendip	On site operations only
112	Aggregate Industries Plc	Colemans Quarry Landfill Site	Holwell, Frome	Mendip	On site management of inert wastes
113	C & D Building Contractors ( Wells ) Ltd	Paradise Quarry Landfill	Croscombe, Wells	Mendip	Closed
114	Wessex Water Services Ltd	Land To Rear Of Glastonbury Sewage Treatment Works	Glastonbury	Mendip	
115	Commercial Recycling Ltd	Southwood Hazardous Landfill Site	Evercreech	Mendip	Site is no longer taking waste and is now undergoing remediation. Information supplied by operator.
116	Sanders Superfruit Ltd	Sanders Trading Estate	Lympsham	Sedgemoor	

<b>117</b>	Akzo Nobel Films ( Holdings) Ltd	Old Brick Works Landfill	Walpole	Sedgemoor	ceased
<b>118</b>	Somerset County Council	Edithmead M5 Motorway Depot	Edithmead	Sedgemoor	Highway Depot
<b>119</b>	Somerset County Council	Huntworth Highway Depot	Huntworth	Sedgemoor	Highway Depot
<b>120</b>	Somerset County Council	Harp Road Highway Transfer Station	Highbridge,	Sedgemoor	Highway Depot
<b>121</b>	Flymart Ltd	Station Road Landfill Site	Ashcott, Bridgwater	Sedgemoor	Closed
<b>122</b>	R K Bell Ltd	Dunwear Landfill Site	Dunwear, Bridgwater	Sedgemoor	Closed
<b>123</b>	S Roberts & Son ( Bridgwater) Ltd	Danesborough Reservoir Landfill Site	Bridgwater	Sedgemoor	Closed
<b>124</b>	Viridor Waste Management	Odcombe Waste Disposal Site	Odcombe, Yeovil	South Somerset	Finished
<b>125</b>	Westland Helicopters Limited	Westlands Helicopter Ltd & Westlands Transmissions Ltd	Yeovil	South Somerset	Storage only.
<b>126</b>	Viridor Waste Management	Chard Waste Recycling Centre ( Chaffcombe H W R C & T S )	Chard	South Somerset	Closed
<b>127</b>	Geometrotec Ltd	Geometrotec Ltd	Martock	South Somerset	Storage only.
<b>128</b>	Viridor Waste Management	Lufton Industrial Estate Waste Transfer Station	Yeovil	South Somerset	Forms part of existing operations (already recorded)
<b>129</b>	Viridor Waste Management	Castle Cary Waste Recycling Centre	Dimmer, Castle Cary	South Somerset	Forms part of existing operations (already recorded)
<b>130</b>	Viridor Waste Management	Crewkerne Waste Recycling Centre	Crewkerne	South Somerset	Forms part of existing operations (already recorded)
<b>131</b>	Y P H Waste Management Ltd	The Abbey Transfer Station	Yeovil	South Somerset	Appears to have ceased
<b>132</b>	Storehaven Ltd	Storehaven	Henstridge,	South Somerset	Site to be cleared.
<b>133</b>	Warren M H	Dimmer Metal Recycling Yard	Dimmer, Castle Cary,	South Somerset	Licence surrendered
<b>134</b>	Doble G A	Littleton Landfill Site	Littleton, Compton	South Somerset	Closed
<b>135</b>	Oswall Plant Services Ltd	Tengore Lane Landfill Site	Langport, Somerset	South Somerset	Closed
<b>136</b>	Oswall Plant Services Ltd	Long Sutton Waste Disposal Site	Long Sutton, Somerton	South Somerset	Closed

<b>137</b>	Young P G	Higher Preston Farm Transfer House		South Somerset	
<b>138</b>	May Gurney Plc		Yeovil	South Somerset	Car park
<b>139</b>	Davis Alec John	Landfill And Treatment Site On Land Adjacent To Woodhouse Farm, Montacute	Yeovil	South Somerset	Closed
<b>140</b>	Lock M	Bearly Farm Landfill Site	Tintinhull	South Somerset	Closed
<b>141</b>	Fry D	Southmead Farm Landfill Site	Keinton Mandeville	South Somerset	Closed
<b>142</b>	R M Penny ( Plant Hire) Ltd	Higher Hurcott Farm Landfill Site	Higher Hurcott, Somerton	South Somerset	Closed
<b>143</b>	Rodford G A	Witcombe Lane Landfill Site	Witcombe Lane, Ash	South Somerset	Closed
<b>144</b>	Somerset County Council	Chelston Highway Depot	Chelston, Wellington,	Taunton Deane	Highway Depot
<b>145</b>	Somerset County Council	Croford Landfill Site	Croford, Wiveliscombe,	Taunton Deane	Closed
<b>146</b>	Viridor Waste Management	Poole Brickworks Landfill	Poole, Wellington,	Taunton Deane	Closed
<b>147</b>	Woodlands, G & Sons Ltd	Crimson Hill Farm Landfill Site	Crimson Hill Farm, Hatch Beauchamp,	Taunton Deane	Closed
<b>148</b>	H & A Waste Services Ltd	South Street Waste Transfer Station	Taunton	Taunton Deane	
<b>149</b>	Hake R F	Allerford Railway Pit Landfill Site	Allerford, Oake	Taunton Deane	Closed
<b>150</b>	S Roberts & Son (Bridgwater) Ltd	Stoke Hill Landfill Site	Stoke St Mary	Taunton Deane	Closed
<b>151</b>	Viridor Waste Management	Williton Landfill	Williton	West Somerset	Restoration underway. Information supplied by operator and Planning Control team.
<b>152</b>	Vile N W	Au-to Bits Vehicle Salvage	Williton	West Somerset	Licence surrendered
<b>153</b>	Sherring S D & Sons	Cricket Club Landfill Site	Stogumber	West Somerset	Closed
<b>154</b>	Somerset County Council	Brompton Ralph Quarry	Brompton Ralph	West Somerset	Ceased

<b>155</b>	British Energy Generation Ltd	Hinkley Point B Landfill Site	Combswich	West Somerset	On-site landfill site
<b>156</b>	Somerset County Council	Mart Road Highways Depot	Minehead	West Somerset	Highways Depot
<b>157</b>		Roewood Cattle Incinerator	Frome	Mendip	Company went into administration
<b>158</b>	Goldenhay Lane Landfill		Chard	South Somerset	Finished



## Appendix 6: Development lead-in-times

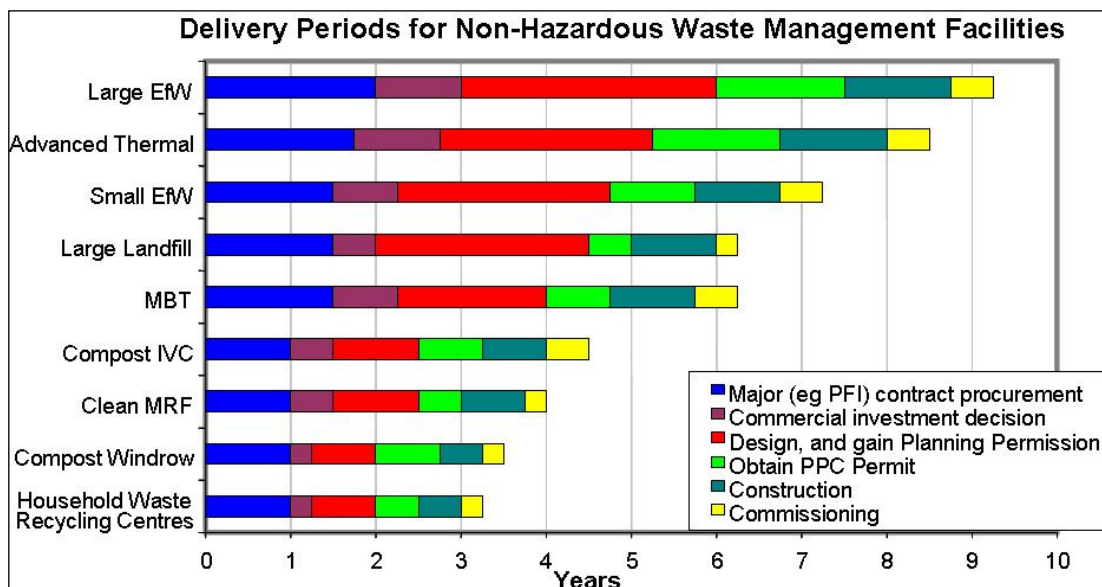
A6.1 With regard to the planning and delivery of new facilities, lead in times is an important factor to be borne in mind. Lead in time is the time assumed from contract close to facility availability. It includes time to achieve planning permission, to obtain the appropriate licences and/or permits and the construction of the facility, including commissioning testing and acceptability testing. Table 2 and Figure 5 below show the information obtained to arrive at a realistic assumption about the potential lead in time for residual waste recovery facilities.

*Table A6-1: Lead in times for Waste Management Facilities with a 100,000 tonnes per year throughput*

Facility type	Lead in time (years)
Energy from Waste	4
Biological Mechanical Treatment	3
Mechanical Biological Treatment	3
Autoclave	3
Anaerobic Digestion	3
Pyrolysis/Gasification	3
Materials Recycling Facility	2.5
In-Vessel Composting Facility	2.5

*Source: Jacobs UK Ltd. for West of England Partnership*

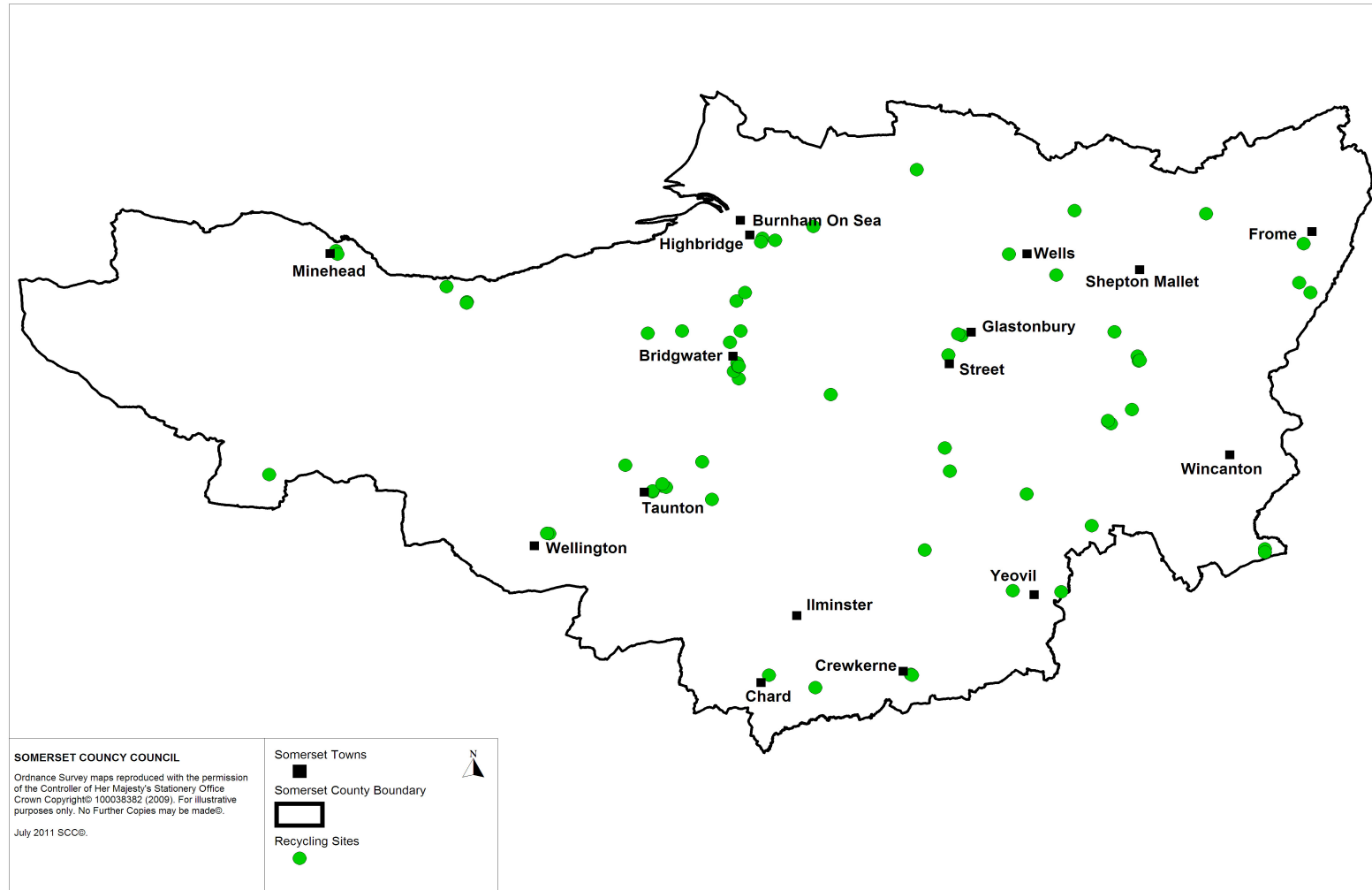
A6.2 Longer lead in times were derived from information in DEFRA's New Technologies Demonstrator Programme



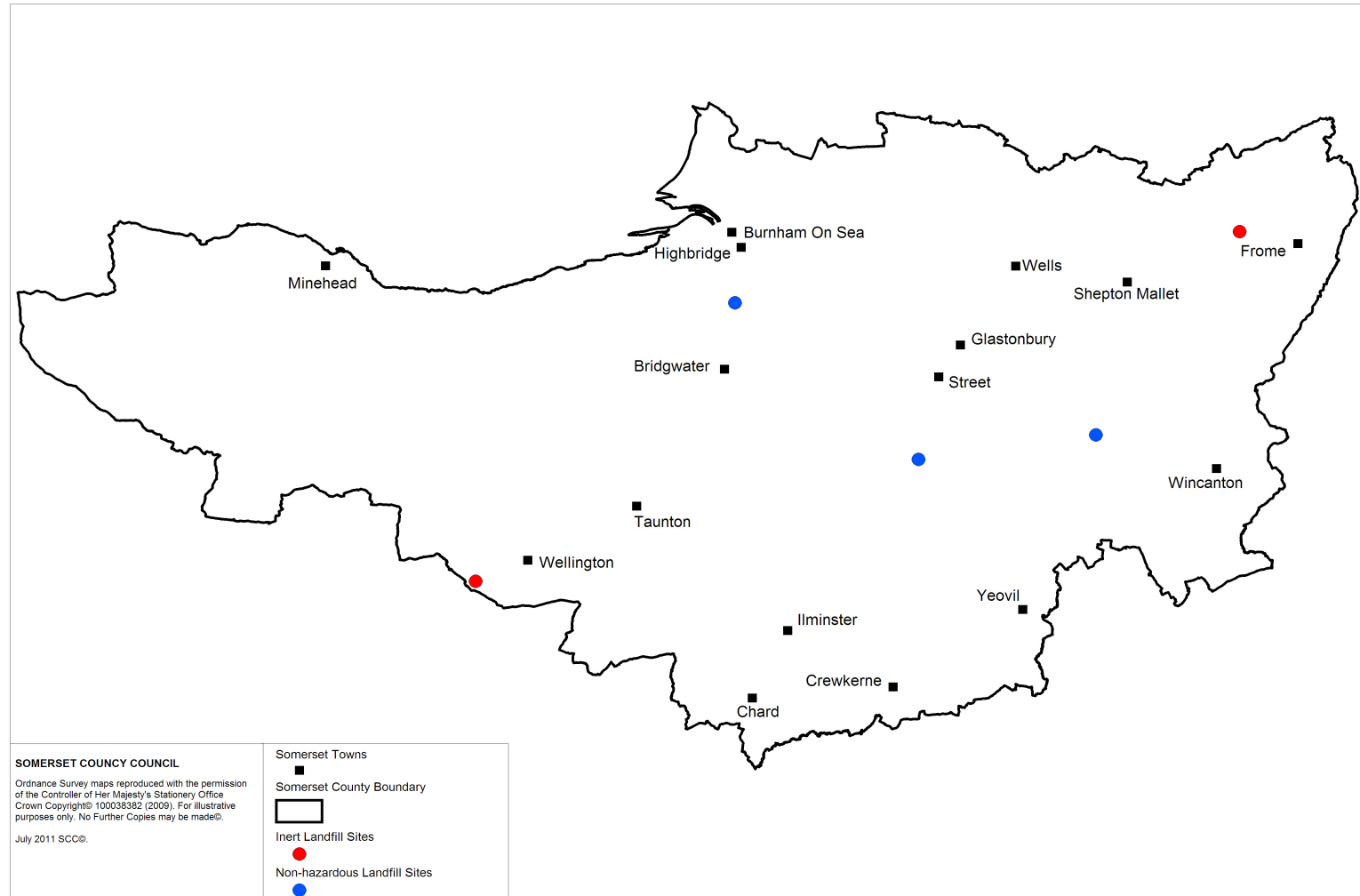
A6.3 Additional information was gathered from waste industry contacts and DEFRA regarding lead in times, informing the assumptions made in relevant chapters on meeting capacity requirements for each waste stream.



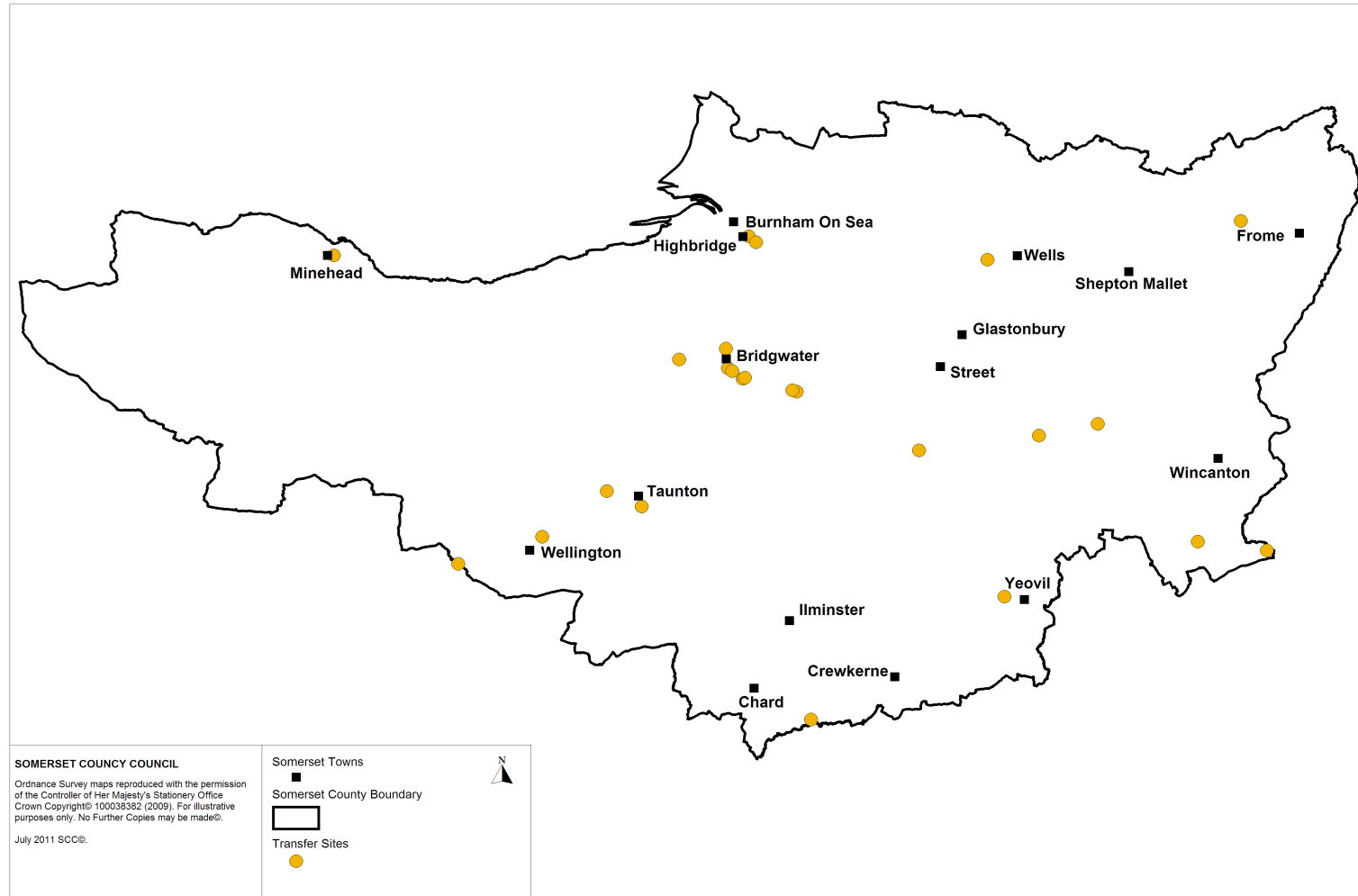
# Appendix 7: Operational recycling facilities



# Appendix 8: Operational landfill sites



# Appendix 9: Operational waste transfer facilities





# Accessibility

This document is also available in Braille, large print, on tape and on disc and we can translate it into different languages. We can provide a member of staff to discuss the details

## Arabic

يتوفر هذا المستند أيضاً بطريقة بريل، بالطباعة الكبيرة، على شرائط أو على أقراص كما يمكن ترجمته إلى اللغة العربية.

## Bengali

এই দলিলটি ব্রেইলে, মোটা হরফে, টেইপ-ক্যাসেটে এবং ডিস্কে পাওয়া যায় এবং **ensji** (Bengali) ভাষায়ও এটি অনুবাদ করে দেয়া যাবে।

## Cantonese

這份資料另有盲文版、大字體版、錄音磁帶或光碟，並且可以翻譯成繁體中文。

## Portuguese

Estes documentos também se encontram disponíveis em Braille, letras grandes, fita ou disco e podem ser traduzidos para Português.

## Polish

Ten dokument jest także dostępny w wersji Braille'a, pisany dużym drukiem, na kasecie lub dysku kompaktowym i może być przetłumaczony na język polski.

## Spanish

Estos documentos también se consiguen en braille, letra grande, cinta o disco, y se pueden traducir al español.

## Tagalog

Ang dokumentong ito ay may bersiyong naka-Braille, malalaki ang mga letra, naka tape o disk. Maaari kaming magbigay ng ibang pagsasalin kung kailangan.

## Turkish

Bu döküman körlerin alfabesinde, büyük yazılarla, teypte ve disklerde de mevcuttur. Ayrıca **Türkçe**'ye de tercüme edilebilir.



**RNID typetalk**

'Working together for equalities'



This document has been prepared by Somerset County Council.

© Somerset County Council

Copies of this document are available from:

Somerset County Council  
Environment Directorate  
County Hall  
Taunton  
Somerset  
TA1 4DY  
Tel: 0845 345 9188  
Email: [mineralsandwaste@somerset.gov.uk](mailto:mineralsandwaste@somerset.gov.uk)

Text is available in large format on request

For further details of the Somerset Minerals and Waste Development Framework, and to view and download this and other documents, please visit our website.

[www.somerset.gov.uk/mineralsandwaste](http://www.somerset.gov.uk/mineralsandwaste)

[WWW.SOMERSET.GOV.UK](http://WWW.SOMERSET.GOV.UK)

