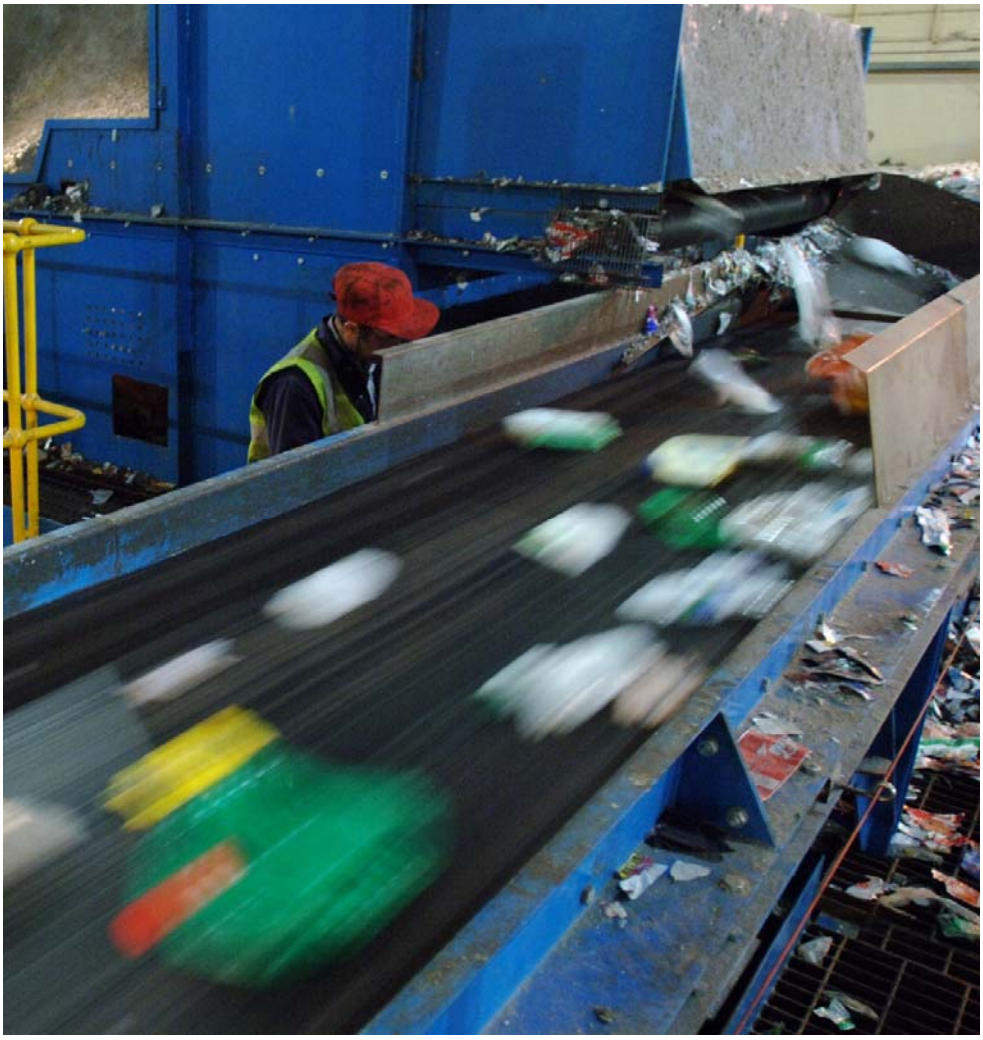
Black Country Waste Study

Review of the Evidence Base for
Waste to support Preparation
of the Black Country Plan

Revised Final Report



Wood Environment & Infrastructure Solutions UK Limited –March 2020

Report for

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c/o Sandwell Metropolitan Borough Council

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Document revisions

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1	Initial Report	February 2019
2	Draft Report	August 2019
3	Final Draft Report	October 2019
4	Final Draft	January 2020
5	Revised Final Draft	March 2020
6	Final Report	April 2020

Executive summary

Context and Scope of the Study

The Black Country local authorities of Dudley, Sandwell, Walsall and Wolverhampton perform the functions of Waste Collection Authority, Waste Disposal Authority, and Waste Planning Authority. They are collectively known as the Black Country Authorities (BCAs).

Until 2001, its population was in slow but steady decline however a policy towards "urban renaissance" has reversed this decline to a level not experienced since the 1970s. This has most recently been promoted under the 2011 joint Black Country Core Strategy (BCCS) for the period up to 2026. Taking this forward, the BCAs are preparing a new strategic plan to replace the BCCS covering the period up to 2038 which is expected to be adopted in 2023.

Implicit in this strategy is a need to manage, ongoing and competing development demands that represents a significant challenge to the new Plan, foremost of which is how far the BCAs can meet their needs for employment land and housing before extending the urban area into the Green Belt is required.

This evidence has prompted a number of scenarios to be tested through Plan preparation to determine the level of development that is appropriate. In doing this, the implications need to be understood from a range of environmental and infrastructure perspectives including the potential need for new waste management capacity but also the extent of threats to existing capacity from non-conforming uses is areas where waste has traditionally been managed.

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

- To provide a current robust baseline for the new Plan;
- To understand how demand for waste management would change in response to projected housing and employment growth;
- To understand how the urban renaissance has the potential to influence the current and ongoing supply of waste capacity; and
- To consider how the new BCCS could respond to these challenges to meet the waste capacity requirements to 2038.

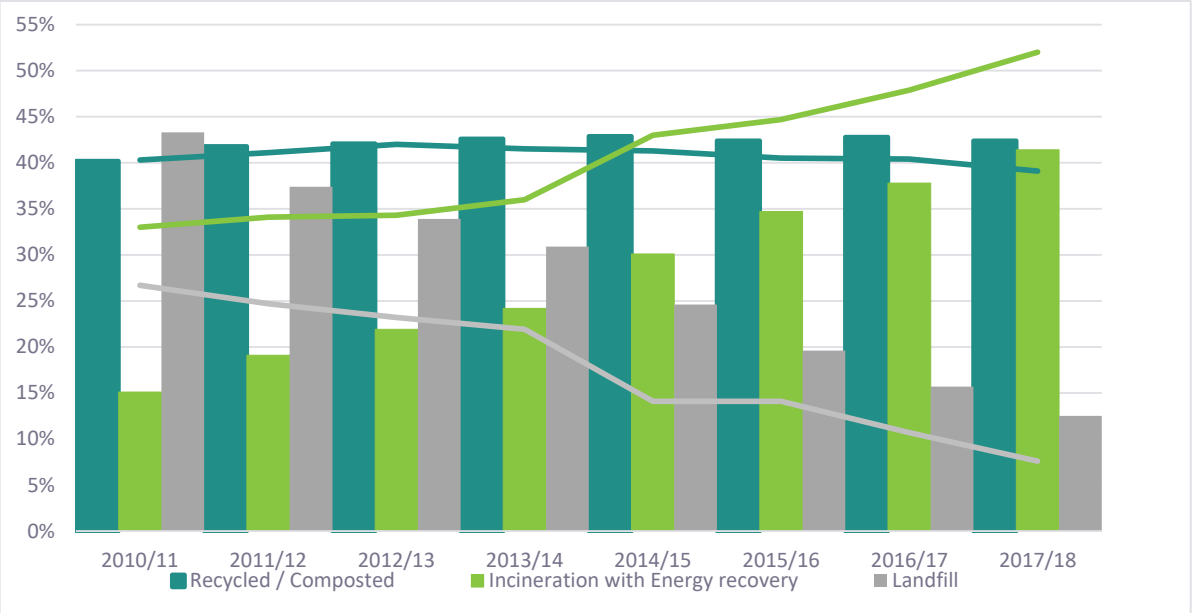
Trends in Waste Management

There have been significant policy changes in the management of waste over the past twenty years primarily due to the implementation of the waste hierarchy, i.e. the need to reuse and recycle waste before disposing of it. Household, commercial and industrial and construction and demolition waste streams have increased steadily since 2010 and its management to conform to the hierarchy is evidenced by the improved performance against recycling, recovery and landfill diversion targets.

Whilst targets for the landfilling of biodegradable municipal waste and the recycling rates of non-hazardous construction & demolition waste have been comfortably met, the recycling rate for household waste (including metals recovered from incinerator bottom ash) has plateaued since 2012 and the Department of Environment, Food and Rural Affairs (DEFRA) has reported that the 50% target by 2020 is unlikely to be met.

Performance in the West Midlands including the Black Country differs somewhat and is far less reliant on disposal to landfill with a corresponding higher proportion of waste managed by incineration or energy from waste.

Waste Management Trends in England (bars) compared to the West Midlands (lines) 2010/11 - 2017/18



The Main Themes and Requirements of National Waste Policy and Waste Planning Policy

Until recently there has been a continuum in the development of policy requirements and the direction of travel of government policy on waste. The Circular Economy has emerged as a guiding principle to recent waste strategy at European level and despite the uncertainty implied by Brexit is also a feature of national policy under *Our Waste, Our Resources* (2018) and the provisions for waste within the Environmental Bill (2020). However, there is uncertainty over whether the Circular Economy Package will be adopted in full following the UK's departure from the European Union and whether there will continue to be close alignment with European waste policy. The waste hierarchy continues to be a cornerstone of all European and national waste policy, underpinning sustainable waste and resource management and sustainable communities and human activity as a whole and at the time of writing there was no suggestion that this would change.

The following policy drivers are likely to be important for the Black Country going forward:

- The proposed introduction of a requirement to segregate certain municipal wastes for collection, which implies a need for review and revision to collection regimes for local authorities and businesses producing commercial waste;
- The re-use and recycling targets in *Our Waste, Our Resources* which would require significant investment in recycling infrastructure and a shift away from energy recovery, although as these targets are not in the Environment Bill it is uncertain when or whether the UK government will adopt them;
- Continued focus on measures to encourage waste prevention including the introduction of produce responsibility obligations for packaging wastes and reduction of single use plastics; and
- Continued focus on protection of the environment and human health and tackling waste crime.

The Value of the Waste Industry to the Economy

These responses to legislative change have produced two decades of sustained growth in the UK's resource management (waste) sector and makes a significant contribution to the national economy which was valued

in 2015 at approximately £7 billion rising to £41 billion when activities related to repair, reuse and leasing are included. Locally however, the sector is of particular importance to the Regional Economy (including the Black Country) where it accounts for 0.88% of jobs against 0.55% nationwide and local evidence suggests that its contribution to the Black Country's gross value added (GVA) is expected to grow by nearly 250% over the fifteen years to 2030.

The Revised Baseline

In 2017 the Black Country was estimated to generate approximately 2.01 million tonnes (mt) of waste. The largest waste stream was estimated to be construction, demolition and excavation (CD&E) waste at over 1 mt of which the majority was managed at exempt sites. Over 525,000 tonnes were collected by local authorities from household and non-household sources. Commercial and industrial (C&I) waste arisings were estimated to be almost 235,000 tonnes and hazardous waste arisings to be over 165,000 tonnes. Other waste stream arisings were under approximately 10,000 tonnes, composed primarily of agricultural waste.

With the exception of exempt sites, 429,000 tonnes (21%) was re-used, recycled or composted, 683,000 (34%) was subject to recovery or treatment, 717,000 tonnes (36%), mainly construction and demolition waste was disposed to landfill and 180,000 tonnes (9%) was transferred for management elsewhere.

The Black Country is a significant importer of waste with facilities within its boundaries (including permitted sites and incinerators) managing 4.9 mt in 2017. Of this total the biggest percentage (by tonnage) (27%) was received at Transfer sites, followed by Landfill sites (24%), MRS (23%) and Treatment sites (20%) with the remainder managed through incineration (5%) and On/In Land operations (1%).

Overall, the Black Country was estimated to import c.1.9 mt more waste than it exported in 2017 being a net importer of non-hazardous waste by approximately 1.9 mt and a net importer of hazardous waste by approximately 286,000 tonnes. The vast majority of these imports (83%) arose from within the West Midlands Region.

Despite being a net importer, exports from the Black Country amounted to 2.1 mt in 2017. Of the 2.1 mt of waste received at permitted sites in England and Wales and incinerators in England, outside the Black Country, in 2017, the biggest percentage (by tonnage) (26%) was received at Landfill sites, followed by Treatment sites (21%), Transfer sites (20%) MRS (16%), incinerators (15%) and On/In Land sites (3%).

Projected Future Waste Capacity Requirements

Three housing and employment growth scenarios have been modelled as part of the new Black Country Plan. The housing need figures used in the projections has been calculated according to the final standard method published by the Ministry for Housing whilst the employment land requirement is drawn from the Stage 1 Employment Development Need Assessment. These scenarios relate to the extent to which the Black Country plans to meet its need for housing and employment land, whether it accepts some of the residual housing requirement for Birmingham and the extent to which it relies upon Staffordshire to provide land for employment.

Under these projections, the quantity of waste the Black Country is projected to manage increases from 5.1 mt in 2018 to 6.3 mt in 2038 equating to an increase of 23% or 1.04% p.a. An ongoing emphasis on waste reduction has seen a 20% reduction in waste per household and in C&I since 2002/03 and this trend could have a significant influence on future waste growth. However, there are emerging changes in the need for different types of waste management capacity. Exports already reflect a shortage of landfill space, household waste Material Recycling Facilities (MRFs) and composting facilities and the way waste will be manged in future is expected to change significantly with transition towards a Circular Economy. In particular, the quantities of waste reused, recycled and composted are expected to increase substantially.

Waste Management Scenarios & Capacity Gaps

Three waste management scenarios are presented according to the extent to which the Circular Economy targets for re-use and recycling of C&I and municipal waste over the plan period 2016/17 – 2037/38 (i.e. 50% by 2020, 60% by 2025, 65% by 2030) are met. Assumptions for the CD&E stream are based on the targets set under the Waste Framework Directive.

Taking into account known future developments or closures, total waste management capacity projections are projected to decrease significantly from 14.0 mt in 2018 to 7.3 mt in 2038 which is driven by decreasing landfill space with recycling, recovery and transfer capacity not anticipated to change significantly.

Dependent upon the extent to which diversion from landfill can be achieved, there is need for additional disposal capacity and the contractual arrangements for these exports will be an important focus going forward. As a net importer in an area of significant growth, the Black Country may also experience greater pressure on its already saturated waste management capacity.

To achieve 'net self-sufficiency' the Black Country would be expected to provide for extra waste capacity. If self-sufficiency is to be maintained then an additional 1.5 mt to 1.9 mt of recycling and 1.0 mt to 1.3 mt of recovery capacity will be required to support planned housing and employment growth and compensate for the types of waste capacity it cannot accommodate because of being a largely built-up area (e.g. composting, AD, hazardous landfill) (Scenarios WMS2 and WMS3, see Tables 4.7 and 4.9). A need for replacement transfer and HWRC capacity in Dudley and Walsall has also been identified which has been factored into the projections. The capacity requirements for recycling and recovery are expressed as a range, because they depend on the extent to which the Circular Economy recycling targets will be met – the greater the recycling rates achieved, the more recycling capacity will be needed.

Options to meet capacity requirements to 2038

The Black Country retains large areas identified as existing employment uses in adopted plans. However, the regeneration agenda to diversify employment, reverse population decline and improve the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses.

All other things being equal, development for housing and high-quality employment will always yield greater revenues. Whilst viable development depends on the interplay of location, abnormal development costs, policy requirements and landowner expectations that can only be evaluated on a site by site basis, there are significant areas where land use has changed to housing development and there is ample evidence of an ongoing trend through planning applications and site promotion.

Consultation with developers broadly confirmed the available evidence. Economic conditions are now generally more favourable across the Black Country and especially in Sandwell and Dudley.

As abnormal developments can present challenges to viability, the delivery of housing can be a difficult and lengthy process. But although the development may not be immediate, it will likely preclude any further development for lower value end uses.

These views serve to confirm those expressed by a waste market consultee. At a national level, areas of land previously considered secure for potential waste use are being lost and existing waste capacity is being threatened. This could be seen as a particular issue in the Black Country where the waste sector is comparatively more important than in England as a whole.

As waste facilities are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for waste uses to help achieve the objectives of moving waste up the hierarchy and enabling communities to take responsibility for waste arising in their area. A policy response to safeguard capacity could consider:

- the definition of consultation zones drawn to a specified distance (say 150m) to the boundary of existing waste uses and endure should the existing use cease; and/or
- the definition of consultation zones around areas currently suitable for new waste uses into areas assessed as holding, as yet unrealised, potential; and
- require a waste use impact assessment to be submitted by the applicant for any housing and non-conforming use.

Whatever approach to their definition is adopted, the policy requirement would be that the Waste Planning Authority (WPA) is consulted on a specified range of proposed non-waste development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals.

Monitoring the effects of the policies of the BCCS will be important to ensure that the policies are having their intended effects and to identify whether any review is required.

Contents

1. Introduction

1.1 The Black Country

1.1.1 The Black Country comprises the four local authorities of Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Metropolitan Borough Council and Wolverhampton City Council, and forms a part of the West Midlands conurbation. Each of these authorities is a Unitary Authority (UA) and, as such, performs the functions of Waste Collection Authority (WCA), Waste Disposal Authority (WDA), and Waste Planning Authority (WPA). They are collectively known as the Black Country Authorities (BCAs).

1.1.2 With a resident population of approximately 1.1 million, it is a densely populated region covering a total of 138 square miles (222km^2). The Black Country together with Birmingham, Solihull and Coventry in the West Midlands collectively make up one of the most densely populated areas in the UK.

1.1.3 The Black Country forms a distinctive sub-region on the north and western side of the West Midlands conurbation. It has a unique economic history, settlement form and topography and is very much a product of its industrial past.

1.1.4 Until 2001, its population was in slow but steady decline however a policy towards "urban renaissance" has reversed this decline to a level not experienced since the 1970s. This trend is planned to continue.

1.2 The Black Country Core Strategy

1.2.1 Adopted in 2011, the BCAs prepared a joint Black Country Core Strategy (BCCS) that set out the vision, objectives and strategy for future development in the Black Country up to 2026 and beyond. The four local authorities have a shared set of social, economic and environmental challenges and have found it effective to tackle strategic issues on a cross-boundary basis.

1.2.2 A vision based on three major directions of change sought to address the distinct characteristics of an area reliant upon a traditional and declining economy:

- Sustainable Communities;
- Environmental Transformation; and
- Economic Prosperity.

1.2.3 The strategy to achieve this vision has sought to address an ongoing trend towards de-population through delivering housing growth as part of wide-ranging regeneration. This would be accompanied by diversification of the economic base by revitalising existing industrial areas and providing high quality employment land for modern development. An emphasis would also be placed on the health and resilience of local centres supported by strengthened public transport links. In addition, enhancement of the environment was sought as a means to improve the image of the Black Country and its attractiveness as a place to live and work.

1.2.4 In the context of this approach, and the need to manage major and ongoing development demands, the BCAs agreed to prepare a new strategic plan to replace the BCCS covering the period up to 2038. Consultation on the Issues and Options took place in 2017, and a Draft Plan is being prepared for consultation in October 2020. The pre-submission consultation is expected to take place in 2021, followed by submission to the Secretary of State and examination in November 2022.

1.2.5 There is evidence that there are significant challenges facing the new Plan. An Urban Capacity Review for the Black Country in May 2018 considered the extent to which additional development could be accommodated if current housing densities' assumptions were altered and how far this could meet the BCA's Objectively Assessed Need (OAN) before extending the urban area into the Green Belt was required. The Black Country's housing requirements over the revised plan period 2018 – 2038 were re-calculated in May 2019, using the government's final 'standard method' for assessing housing need[1]. The updated figures have been used as the basis for the household waste projections in this study.

1.2.6 In addition, and with the agreement by the Leaders of the four BCAs, the Greater Birmingham Housing Market Area Strategic Growth Study in February 2018 seeks options to respond to an identified shortfall in new land for new housing to meet the needs of Birmingham in addition to those of the Black Country. This requires the active co-operation between the BCAs and with, in particular, Birmingham City Council and other authorities in the West Midlands.

1.2.7 The Urban Capacity Review (May 2018) also identifies significant demand for additional employment land in the Black Country, based on the findings of the Stage 1 Economic Development Needs Assessment (EDNA) (May 2017). It is assumed in the Issues & Options Report (July 2017) that a proportion of the Black Country's employment land needs will be met in South Staffordshire. Since then the emerging Stage 2 EDNA has re-assessed the employment land demand over the revised plan period up to 2038, and the updated figure has been used as the basis for the commercial and industrial (C&I) waste projections in this study.

1.2.8 These studies and evidence of need for commensurate employment development have prompted a number of scenarios to be tested through Plan preparation to determine the level of development that is appropriate. In doing this, the implications need to be understood from a range of environmental and infrastructure perspectives including those for waste.

1.2.9 This growth has the potential to generate a need for new waste capacity and also to threaten existing capacity as the need for housing and other non-conforming uses effects changes of use into areas where these needs are, and have traditionally been met.

1.3 Study Objectives and Deliverables

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

- To understand the current baseline so that the new Plan is based upon a robust and credible evidence base;
- To understand how employment and housing projections alter needs for the amount and type of waste management capacity in the context of changed and expected changes to national waste and planning policy;
- To understand how the urban renaissance has the potential to influence the current and ongoing supply of waste capacity; and
- To consider how the current policy of the BCCS could respond to these challenges given the changed circumstances since its adoption in 2012.

1.3.2 Note that this report contains many technical terms and acronyms. These are explained when they first appear in the text and a glossary is provided at Appendix A.

[1] Incorporated into the National Planning Practice Guidance in February 2019.

2. The Economic Importance of Waste Management

2.1 The Purpose of this Chapter

2.1.1 All economies and their structures are in a state of flux and differ according to time and place. This is evident in an area such as the Black Country where the relatively high reliance upon industrial output and employment means that it has been very significantly affected by decline in this sector at a national level compared with the service sector.

2.1.2 However, the distinctive industrial economy of the Black Country also lends a measure of resilience that can assist in the growth of employment, such as in the waste sector, where its nature and impacts are not dissimilar to those of traditional industry.

2.1.3 The economic and population growth envisaged for the Black Country over the new plan period has significant implications for the growth and management requirements for the waste it will produce. This section briefly considers recent trends in the growth of the waste sector to evaluate its relative importance to the local economy when compared to that at wider and national geographies.

2.2 The National and Regional Context

National Trends and Performance

2.2.1 There have been significant changes in the management of waste over the past twenty years primarily due to the implementation of the waste hierarchy. These trends have plateaued somewhat more recently, although the national trends in arisings in Table 2.1 of the household, commercial and industrial and construction and demolition waste streams since 2010 all show steady production. This then translates to further economic activity associated with its collection, management and disposal.

Table 2.1 Waste Arisings for England, 2010 to 2016[2] (million tonnes)

Calendar Year	Household Waste	% of 2010	Commercial & Industrial Waste	% of 2010	Non-Hazardous Construction & Demolition Waste	% of 2010
2010	22.3	-	32.0	-	43.9	-
2011	22.2	99.4%	33.4	104.4%	44.1	100.5%
2012	22.0	98.4%	33.9	105.9%	45.3	103.2%
2013	21.6	96.6%	32.8	102.5%	46.3	105.5%
2014	22.4	100.2%	31.7	99.1%	49.1	111.9%
2015	22.3	99.8%	31.9	99.7%		
2016	22.8	102.1%	33.1	103.4%		

[2] Department for Environment, Food and Rural Affairs (DEFRA), UK Statistics on Waste, 9 October 2018

2.2.2 The ways in which this growth in arisings is managed is evidenced by the improved performance against recycling, recovery and landfill diversion targets in Table 2.2

2.2.3 Performance against targets has seen their achievement with the exception of household waste. The recycling rate for household waste (including metals recovered from incinerator bottom ash) rose from 41.2% to 44.9% up to 2016. However, this performance has plateaued since 2012 (44.1%) and the Department of Environment, Food and Rural Affairs (DEFRA) has reported that the rate of increase in the recycling rate seen in recent years is insufficient to meet the 50% target by 2020[3].

2.2.4 Biodegradable municipal waste (BMW) sent to landfill in 2016 was 6.0 million tonnes (mt), representing 21% of the 1995 baseline value. England and the wider UK comfortably met the interim targets for 2010 (75%) and 2013 (50%) and has already met that for 2030 (35%).

2.2.5 Although the data is dated, the recovery rate from non-hazardous construction & demolition waste remained was consistent between 2010 and 2014 and well above the minimum target for 2020 (70%).

Table 2.2 Waste Arising, Recycling and Landfill Reduction Rates for England by Waste Stream 2010 to 2017 (million tonnes) [4]

Calendar Year	**Household Waste**			**Commercial & Industrial Waste*** **			**Non-Hazardous Construction & Demolition Waste**	
	Total Arising (000 tonnes)	Recycling Rate (%)	MSW Landfill Reduction (%)*	Total Arising (000 tonnes)	Commercial Waste (%)	Industrial Waste (%)	Total Arising (000 tonnes)	Recovery Rate (%)
2010	22.3	41.2%	35.6%	53.6	92.2%	32.5%	53.6	92.2%
2011	22.2	43.3%	32.4%	54.9	92.5%	35.9%	54.9	92.5%
2012	22.0	44.1%	28.0%	50.5	92.0%	38.0%	50.5	92.0%
2013	21.6	44.2%	25.3%	51.7	92.0%	36.6%	51.7	92.0%
2014	22.4	44.8%	23.6%	55.9	92.4%	32.8%	55.9	92.4%
2015**	22.3	43.9% (44.3%)	20.6%	57.7	92.3%	29.5%	57.7	92.3%
2016**	22.8	44.2% (44.9%)	20.8%	59.6	92.1%	28.7%	59.6	92.1%
2017**	22.4	44.4% (45.2%)	19.6%	37.9	71.5%	28.5%	N/A	N/A

* This is the percentage of biodegradable municipal waste (BMW) sent to landfill in England per annum as a proportion of the BMW sent to landfill in England in 1995, rather than the actual landfill rate for 'waste from households.' It relates to the target set in the Landfill Directive (1999/31/EC) to reduce BMW sent to landfill to no more than 35% of the tonnage of BMW landfilled in 1995. Defra does not report actual landfill rates for 'waste collected from households' that can be directly compared with the recycling rates in this table. Actual recycling and landfill rates are available for Local Authority Collected Waste (LACW), around 90% of which is household waste - see Table 2.2a for details.

[3] DEFRA. National Statistics. 2013. Statistics on waste managed by local authorities in England in 2012/13
[4] DEFRA UK Statistics on Waste (14 February 2019), Tables 1, 2, 5 and 6.

** Household waste recycling rates prior to 2015 excluded incinerator bottom ash metal (IBAm). Recycling rates 2015 – 2017 therefore include two figures: one excluding IBAm for comparison with previous figures, and one including IBAm (in brackets).

*** Defra is not able to quantify recycling rates or landfill rates for commercial and industrial (C&I) waste in England at present.

2.2.6 In respect of other waste streams, revised figures estimate UK generation of commercial and industrial (C&I) waste at 40.0 mt in 2014, of which 31.7 mt (around 80%) was generated in England. The latest estimates for England only indicate that waste generation was around 31.9 mt in 2015, 33.1 mt in 2016 and 37.9 mt in 2017.

2.2.7 Provisional figures for 2017 suggest that 70.2% of UK packaging waste was either recycled or recovered compared to 64.7% in 2015. This exceeds the EU target to recycle or recover at least 60% of packaging waste. However, the National Audit Office (NAO) believe the reported recycling rate for plastic packaging could be overstated, although not by enough to undermine achievement of the overall target[5].

Regional Trends and Performance

2.2.8 Performance in the West Midlands differs somewhat from that at national level. In respect of Local Authority Collected Waste (LACW), Tables 2.3 and 2.4 detail the relative performance with a comparison depicted in Figure 2.1.

2.2.9 The proportion of LACW that is subject to recycling or composting is close to, although slightly below national levels and therefore also unlikely to meet the 50% target by 2020. The main variation is that the West Midlands is far less reliant on disposal to landfill with a corresponding higher proportion of waste managed by incineration or energy from waste.

[5] NAO (2019) The packaging recycling obligations

Table 2.3 Local Authority Collected Waste (LACW) Arisings and Management in England 2010/11 - 2017/18 (thousand tonnes)[6]

Year	Waste Arising			Recycled / Composted		Incineration with Energy recovery		Landfill	
	Total LACW	Household*	% LACW = Household	Tonnage	%	Tonnage	%	Tonnage	%
2010/11	26,200	23,666	90.3%	10,588	40.2%	3,975	15.1%	11,391	43.3%
2011/12	25,419	23,454	92.3%	10,712	41.8%	4,878	19.1%	9,568	37.4%
2012/13	24,955	22,899	91.8%	10,577	42.1%	5,500	21.9%	8,514	33.9%
2013/14	25,518	22,580	88.5%	10,931	42.6%	6,204	24.2%	7,933	30.9%
2014/15	25,737	22,957	89.2%	11,067	42.9%	7,773	30.1%	6,361	24.6%
2015/16	26,032	23,449	90.1%	11,065	42.4%	9,067	34.7%	5,133	19.6%
2016/17	26,210	23,653	90.2%	11,252	42.8%	9,946	37.8%	4,136	15.7%
2017/18	25,509	23,098	90.6%	10,860	42.4%	10,620	41.4%	3,213	12.5%

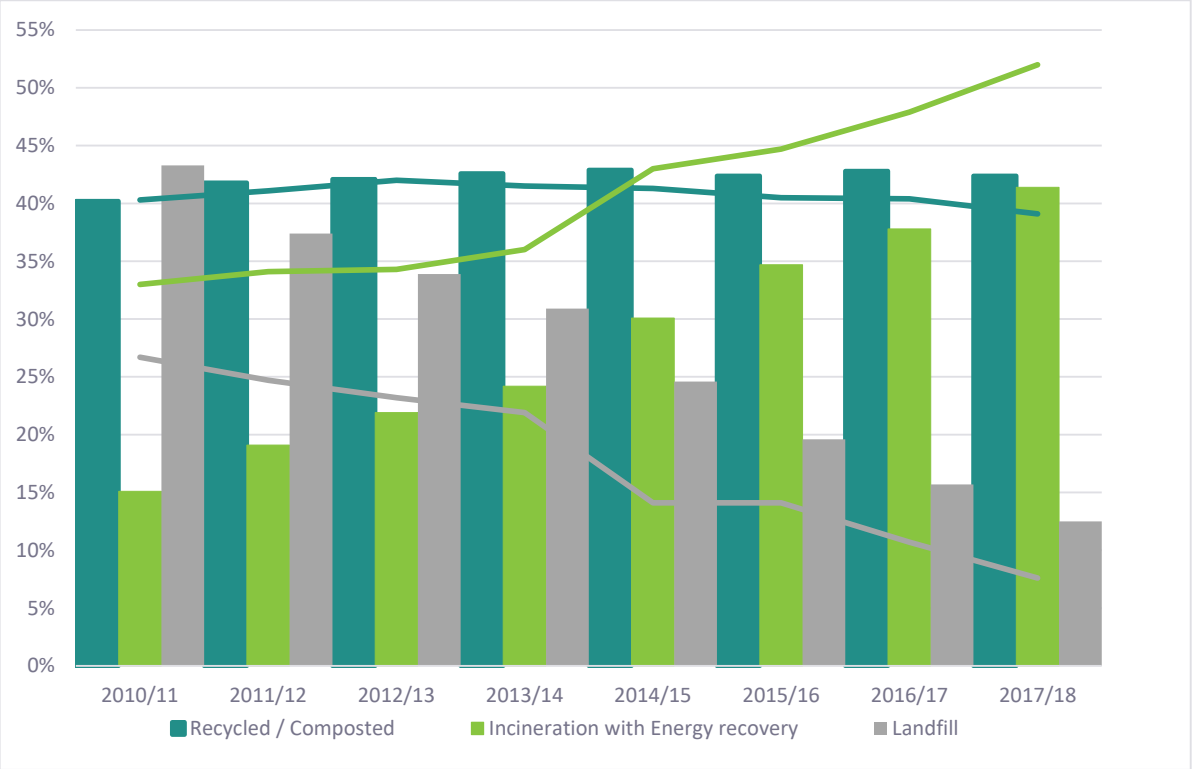
*As this household waste data relates to monitoring years (April – March) rather than calendar years (January – December) the figures differ from the 'waste from households' in England in Table 2.2.

Table 2.4 Local Authority Collected Waste (LACW) Arisings and Management in the West Midlands 2010/11 - 2017/18 (thousand tonnes)[7]

Year	Waste Arising			Recycled / Composted		Incineration with Energy recovery		Landfill	
	Total LACW	Household	% LACW = Household	Tonnage	%	Tonnage	%	Tonnage	%
2010/11	2,746	2,457	89.5%	1,113	40.3%	912	33.0%	738	26.7%
2011/12	2,667	2,380	89.2%	1,100	41.1%	914	34.1%	661	24.7%
2012/13	2,638	2,361	89.5%	1,121	42.0%	915	34.3%	620	23.2%
2013/14	2,711	2,426	89.5%	1,129	41.5%	979	36.0%	596	21.9%
2014/15	2,707	2,404	88.8%	1,125	41.3%	1,171	43.0%	384	14.1%
2015/16	2,765	2,471	89.4%	1,129	40.5%	1,247	44.7%	393	14.1%
2016/17	2,789	2,492	89.4%	1,138	40.4%	1,347	47.9%	300	10.7%
2017/18	2,710	2,430	89.7%	1,067	39.1%	1,422	52.0%	206	7.6%

[6] DEFRA Local Authority Collected Waste Statistics – Local Authority Data (11 December 2018), Tables 1a and 2a: England and Regions
[7] DEFRA Local Authority Collected Waste Statistics – Local Authority Data (11 December 2018), Tables 1a and 2a: England and Regions

Figure 2.1 Waste Management Trends in England (bars) compared to the West Midlands (lines) 2010/11 - 2017/18

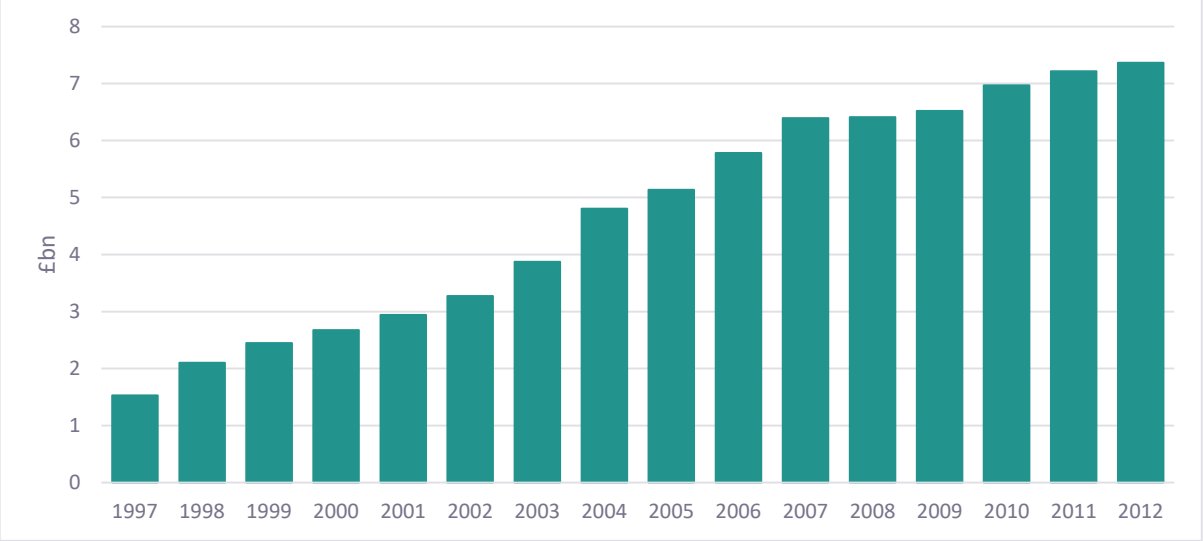


The Value of the Waste Industry to the National and Regional Economy

2.2.10 These responses to legislative change have produced two decades of sustained growth[8] in the UK's resource management (waste) sector which was valued in 2015 at approximately £7 billion[9] as shown in Figure 2.2. This increases to £41 billion when activities related to repair, reuse and leasing are included[10].

[8] Office for National Statistics. 2014. COE UK Water supply & waste Raw total £m
[9] Department for Environment, Food and Rural Affairs (DEFRA), 2015, 'Resource management: a catalyst for growth'
[10] Department for Environment, Food and Rural Affairs (DEFRA), 2014, 'Forecasting 2020 waste arisings and treatment capacity'

Figure 2.2 UK Water Supply & Waste Gross Added Value (£bn)



2.2.11 This value was matched by a commensurate growth in employment. Drawn from the National Online Manpower Information System (NOMIS), Table 2.3 demonstrates very significant growth in the sector for the West Midlands region as well as for England & Wales and the UK.

Table 2.5 The number of jobs in water supply; sewerage, waste management and remediation activities[11]

Coverage	West Midlands Region	Cumulative % Increase	England & Wales	Cumulative % Increase	United Kingdom	Cumulative % Increase
March 1996	14,027		122,441		138,860	
March 2001	16,175	15%	145,058	18%	169,067	22%
March 2006	14,464	3%	137,465	12%	158,705	14%
March 2011	16,978	21%	167,623	37%	189,791	37%
March 2016	16,156	15%	176,484	44%	201,454	45%
March 2018	19,351	38%	191,496	56%	211,318	52%
June 2018	19,137	36%	193,618	58%	215,673	55%

2.2.12 This ongoing trend bears out predictions made in research by SITA in 2013 which expected that between 19,000 and 36,000 new jobs would be created either directly in the sector by 2020. This research summarised in Table 2.4 also estimated the number of indirect and induced jobs using appropriate multipliers.

[11] NOMIS, workforce jobs by industry (SIC 2007) and sex - unadjusted

Table 2.6 Number of new jobs to be created in the waste management sector in the UK by 2020[12]

Coverage	Direct Jobs	Indirect Jobs
Energy-from-waste	4,800 – 5,500	6,500 – 7,500
Materials recycling facilities	7,000 – 12,000	9,000 – 16,000
Organic treatment	4,000 – 6,000	6,000 – 8,000
Specialist dismantling etc.	3,000 – 12,500	3,500 – 16,500
TOTAL	**19,000 – 36,000**	**25,000 – 48,000**

2.3 The Black Country Context

2.3.1 Data for the Black Country demonstrates the importance of the waste sector to its own economy. Table 2.5 shows that businesses and jobs in the waste sector account for a significantly higher proportion of the local economy than at the regional and national levels.

Table 2.7 Number of businesses and jobs and percentage of total in the waste management sector 2017[13]

Coverage	Black Country		West Midlands Region		Great Britain	
Businesses						
Water supply, sewerage, waste management and remediation	260	0.65%	1,085	0.43%	11,100	0.36%
Jobs						
Sewerage	350	0.07%	1,500	0.06%	20,000	0.07%
Waste collection, treatment and disposal, materials recovery	3,000	0.64%	11,000	0.41%	139,000	0.45%
Remediation activities / other waste management services	800	0.17%	4,500	0.17%	10,000	0.03%
TOTAL JOBS	**4,150**	**0.88%**	**17,000**	**0.64%**	**169,000**	**0.55%**

2.3.2 The sector contributes a Gross Value Added (GVA) to the Black Country's economy that is directly comparable to the jobs it provides (about 0.9%). As a consequence of the projected growth of the economy, Table 2.6 predicts that the sector is expected to markedly grow up to 2030 with GVA increasing by 242% well in excess of the total economy itself.

[12] SITA UK, 2013, Driving Green Growth The role of the waste management industry in the circular economy
[13] NOMIS, UK Business Counts - local units by industry and employment size band, 2018

Table 2.8 The estimated contribution of the waste sector to the Black Country economy[14]

Sector / Sub Sector	2015		2030		Projected Change	
	GVA (£B)	% Total	GVA (£B)	% Total	GVA (£)	% Change
Low Carbon and Environmental Technologies	1,185	5.9%	2,400	6.7%	1,215	103%
Energy	1,008	5.0%	1,796	5.0%	0.787	78%
Water and Waste Activities	0.177	0.9%	0.604	1.7%	0.427	242%
Total All Sectors	**20,110**		**35,970**		**15,860**	**78.9%**

The Economic Benefits of the Circular Economy

2.3.3 The Government Review of Waste Policy in England, published in June 2011, highlighted its focus on a green economy, which includes sustainable waste management, with a drive towards a circular economy which centres on keeping products and resources in use for as long as possible through recovery, reuse, repair, remanufacturing and recycling. This review culminated in the Government publishing the National Waste Management Plan for England in December 2013.

2.3.4 The review pointed to clear economic benefits of this approach. Using recycled materials can reduce the consumption of virgin material which helps to manage supply risks, minimise price volatility and improve sustainability. DEFRA reported that the value extracted rose from £32 to £43 GVA/tonne of waste managed in the UK between 2004 and 2012. In 2016, electricity generated from waste supplied approximately 3% of the electricity consumed in the UK. (over 11,000 gigawatt hours (GWh) of electricity worth almost £440m).

2.3.5 The requirements for anaerobic digestion to retain a buffer to housing suggests that there will be little opportunity available in the Black Country. Landfill gas holds more potential with six operational or closed landfills having consent for gas engines.

2.3.6 More recently a European Commission Communication entitled Closing the Loop set out an EU Action plan for the circular economy and in 2018, the government published a 25 year plan to improve the nation's environment and most recently in 'Our Waste, Our Resources: A Strategy for England' which takes a more proactive and directive approach that includes strategic ambitions to eliminate avoidable waste of all kinds and double resource productivity by 2050. The provisions of these documents are addressed below.

2.3.7 These ambitions are proposed by confirming existing targets and the introduction of more stringent targets for household, packaging and municipal solid wastes.

2.4 Summary

2.4.1 It is clear that the waste industry has grown quickly over the past twenty years and makes a significant contribution to the national economy. The past two decades has seen growth of around 55% in employment and incomes in the sector and it is predicted that between 44,000 and 84,000 jobs will be directly or indirectly dependent upon the sector by 2020.

2.4.2 Recent government policy has confirmed the ongoing importance of the waste sector in assisting industry to move towards the circular economy. The objectives and targets embodied within these

[14] Black Country Consortium – Productivity and Skills Unit

national commitments and the challenges they present imply significant growth and technological development in the sector well into the future.

2.4.3 This national picture does not however reflect the particular importance of the sector in the Black Country. This sector makes a far more significant contribution to the economy of the Black Country accounting for 0.88% of its jobs against 0.55% of those nationwide and 0.64% of this across the West Midlands. It is expected that its contribution to the Black Country's GVA will grow by nearly 250% over the fifteen years to 2030.

2.4.4 To deliver these environmental and economic benefits, the new Plan will have an important role in providing the land use policy in its support.

3. Updated Baseline Evidence for Waste

3.1 The Purpose of this Chapter

3.1.1 The preparation of the new Black Country Plan requires an updated evidence base. This will determine the extent to which policy in the new Plan needs to respond to changed circumstances through:

- A review of changes in policy context at a national and local level to evaluate the extent to which BCCS policy retains or requires amendment; and
- A baseline that updates current performance and provision in the BCAs against which future requirements can be assessed. This entails an update of arisings and management capacity, the extent to which the BCAs rely upon, or meet the needs of, other areas and shortfalls where further provision is necessary to meet its needs.

3.2 Changes in Policy Context

3.2.1 This section reviews the existing waste policies in the context of more recent drivers for change that influence the extent to which current policies fulfil their purpose and conform to the likely direction of travel in national waste policy. The existing policies are summarised below and reproduced in full at Appendix B.

Policy WM1 Sustainable Waste and Resource Management

3.2.2 This policy aims to achieve zero waste growth by 2026 and sets out a number of measures by which sustainable waste management will be delivered. This Policy is considered to provide generally the right kind of framework to address the waste management issues for the Black Country, in accordance with the National Planning Policy Framework (NPPF). The Policy then identifies landfill diversion targets for municipal solid waste (MSW) and C&I and the new waste capacity that will need to be provided to meet these targets and achieve "equivalent self-sufficiency" in waste terms by 2026. This Waste Study has been commissioned to update these figures in the light of planned housing and employment growth over the new plan period, taking into account changes to national waste policy since the Core Strategy was adopted (see Table 3.1) and recent national and regional waste trends.

Policy WM2 Protecting and Enhancing Existing Waste Management Capacity

3.2.3 This identifies existing strategic waste management sites and sets out conditions governing proposals to improve or redevelop such sites, including loss for housing or community uses in line with the wider Spatial Strategy. The Policy also controls proposals for housing and other potentially sensitive uses close to an existing waste management site, where there is potential for conflict between the uses.

Policy WM3 Strategic Waste Management Proposals

3.2.4 This identifies locations for proposed new strategic waste management infrastructure which are expected to make a significant contribution towards the new capacity requirements set out in Policy WM1. It is proposed to update this list by removing those projects which have been completed and adding proposals which have been permitted or allocated in other Local Plan documents. The Waste Study will provide information to update the list of strategic waste management proposals.

Policy WM4 Locational Considerations for New Waste Management Facilities

3.2.5 This sets out locational considerations, assessment criteria and information requirements for all types of waste management proposals, including landfill. This includes the requirement that waste arising in the Black Country should be managed within the Black Country where feasible and managed as close as possible to its source of origin. A key aim of the policy is to minimise adverse visual impacts, harmful effects on the environment and human health and localised impacts on neighbouring uses. The Policy identifies employment areas as the ideal location for most waste management facilities and identifies waste operations most suited to local quality employment land, including skip hire, scrap yards and open-air facilities. The Policy has been successful in raising the quality of new waste facilities across the Black Country, by ensuring these are contained within a building or physical enclosure and that quality boundary treatments and landscaping are provided. This has helped to minimise impacts on neighbouring uses and increase environmental quality.

Policy WM5 Resource Management and New Development

3.2.6 This sets out general principles on waste management and resource efficiency to be addressed by new developments, including requirements to manage large amounts of waste on-site or nearby, to recycle and re-use products as far as possible, and to design sites with resource and waste management in mind. The Policy also sets out specific information requirements for major developments.

Subsequent Policy

3.2.7 Since the publication of the pre-examination BCCS in November 2009 leading to adoption in February 2011, there have been a number of policy documents, good practice and guidance published at international, national, Black Country and authority levels where changed requirements and provisions need to be taken into account to inform its revision. These are set out in Table 3.1.

Table 3.1 Post BCCS Policy, Guidance and Practice

Coverage	Policy
International Drivers	Circular Economy Roadmap Brexit National Sword 2017
National Waste Policy	The Waste (England and Wales) Regulations 2011 The Waste (England and Wales) (Amendment) Regulations 2012 National Policy Statement for Waste Water 2012 National Waste Management Plan for England 2013 National Policy Statement for Hazardous Waste 2013 Waste Management Plan for England 2013 Hazardous Waste (England and Wales) Regulations 2016 National Infrastructure Assessment 2017 A Green Future: Our 25 Year Plan to Improve the Environment 2018 Our Waste, Our Resources: A Strategy for England 2018
National Planning Policy	National Planning Policy for Waste 2014 National Planning Practice Guidance (incl. waste) 'living' guidance National Planning Policy Framework 2019
Black Country Authorities	Black Country Air Quality SPD 2016
Dudley	Dudley Development Strategy 2017 Brierley Hill Area Action Plan (AAP) 2011 Dudley AAP 2017

Coverage	Policy
	Halesowen AAP 2013 Stourbridge AAP 2013
Sandwell	Site Allocations and Delivery DPD 2012 West Bromwich AAP 2012
Walsall	Walsall Site Allocation Document 2019 Walsall Town Centre AAP 2019
Wolverhampton	Bilston Corridor AAP incl. Neighbourhood Plan 2013–2026, 2014 Stafford Road Corridor AAP 2013–2026, 2014 Wolverhampton City Centre AAP 2015–2026, 2016 Neighbourhood Plan for the Tettenhall Wards 2014–2026, 2014 Heathfield Park Neighbourhood Plan 2014 incl. Heath Town Masterplan

International Drivers and Uncertainties

3.2.8 First and foremost, it is important to acknowledge that the plan needs to be flexible enough to respond to changed circumstances to be both 'justified' and 'effective' hence, uncertainties need to be identified and, where possible, anticipated[15].

Circular Economy

3.2.9 EU Circular Economy (CE) package became European Law on 4 July 2018. The package sets out new rules for waste management and establishes legally binding targets for recycling, with a focus on conserving resources.

3.2.10 There have been several amendments to the Waste Framework Directive (WFD), namely, Local Authorities will have to work towards meeting new recycling targets for municipal waste: the preparing for re-use and the recycling of municipal waste shall be increase to a minimum of 55% by weight by 2025; 60% by weight by 2030; and 65% by weight by 2035. The text also further defines municipal waste, by which waste from production, construction, and demolition is excluded. A number of other new definitions have been inserted to the directive.

3.2.11 As part of the new rules, member states will also have to establish by 2025, separate collections of textiles and hazardous waste from households. In addition, they will have to separately collect bio-waste, or recycle bio-waste at source, by 31 December 2023. Related to recycling targets, as from 1 January 2027, member states may only count municipal bio-waste entering aerobic or anaerobic treatment as recycled only if it has been separately collected or separated at source. Mechanical Biological Treatment (MBT) will also no longer count towards recycling targets.

3.2.12 The proposals also implicate producers of packaging to design products that can be more easily recycled or reused through revised legislative changes on the extended producer responsibility scheme. There will also be European Standards developed for material-efficient recycling of electronic waste, waste batteries and other relevant complex end-of-life products.

3.2.13 There is potential for a direct impact on: the volume/composition of Authority waste; a need for expansion of the types of wastes that need to be collected for recycling at the kerbside, promoting other recycling schemes and facilities to capture more waste packaging for recycling; the operation of waste management facilities; and the cost of transporting, treating and/or disposing of residual wastes and other outputs from such facilities.

[15] HM Government, National Planning Policy Framework, 2018, para 35

Brexit

3.2.14 The EU has been the driver for much of the UK's environmental policy which means that untangling UK legislation from EU legislation following the UK's departure from the EU at the end of January 2020 will be a long and complex process. To manage the transition, the European Communities Act 1972 has been repealed and replaced with the EU (Withdrawal) Act 2018. This has re-enacted the statutory instruments based on the former Act, which would otherwise have lost effect when it was repealed.

3.2.15 Although existing EU environmental targets have been retained for the time being, the Revised Political Declaration accompanying the EU UK Withdrawal Agreement (October 2019) does not include the 'level playing field' provisions for the environment included in the previous version negotiated by Prime Minister May in 2018. This means that there is scope for the UK to diverge from EU environmental targets, and indeed the government has stated that it intends to do so. As a result, the future direction of travel of UK policy on waste remains uncertain.

3.2.16 The Environmental Bill published in October 2019 (re-introduced to Parliament in January 2020) incorporates the commitments in 'A Greener Future' and 'Our Waste, Our Resources' towards incentivising reuse and recycling and tackling waste crime, littler and plastic waste, but does not include the municipal waste recycling targets in the EU 'Circular Economy Package'. It also proposes to prescribe a consistent set out materials that must be collected from all households and businesses (i.e. glass, metal, plastics, paper and card, and food waste) [16].

3.2.17 The certainty and long-term targets of EU policy have in the past promoted investment in waste management infrastructure which may now be potentially stifled. Although Brexit has created uncertainty, the following policies and initiatives are considered likely to continue in future for the short term at least:

- "Austerity" policies would appear likely to continue under the current government. The pace of public sector spending cuts may decrease but new sources of funding are likely to be scarce. Assuming the proposals in the Environment Bill to require separate collection of recyclable household waste streams are taken forward, meeting these requirements will be a challenge for many waste collection authorities unless they are fully funded, as the Local Government Association (LGA) has commented[17];
- The 2013 Waste Management Plan for England, *A Green Future: Our 25 Year Plan to Improve the Environment* (2018) and *Our Waste, Our Resources: A Strategy for England* (2018) remain the best indicators of UK waste policy;
- The future of recycling targets will remain unclear in the short term, but current legislation and targets – which only go up to 2020 – remain in place for the present;
- The Waste & Resources Action Programme (WRAP) is examining scenarios for how England could meet the 50% recycling and composting target and a stretch target of 65% to be achieved by 2030 for the municipal sector. This latter target forms part of the EU Circular Economy Package but is not included in the Environment Bill. If such a target is adopted by the UK government at some point in the future, it is likely to require Government intervention or

[16] Defra Environmental Bill Policy Statement 20 January 2020. Although the Bill failed to complete its passage through Parliament before it was dissolved prior to the December 2019 General Election, it was re-introduced to Parliament in January 2020.

[17] LGA Briefing: Environment Bill 2019 (17 October 2019). The LGA has supported the identification of a core set of consistent materials for recycling in principle and has cautiously welcomed the proposal to allow local flexibility where there are technical, economic and environmental reasons for collecting materials together.

new policy instruments to drive greater business recycling, acknowledging that household recycling rates may have plateaued; and

- Collection harmonisation (collection services, systems and containers) is also on the Government/WRAP's agenda. As a Government led initiative it is unlikely to alter due to Brexit.

3.2.18 'Our Waste, Our Resources' states that commitments from the Circular Economy Package in relation to waste and recycling will be part of UK legislation when the UK leaves the EU. It includes a commitment to "explore whether more stretching targets, over and above those proposed by the EU, can be developed that will deliver the most effective approach to recycling". With the Brexit process currently underway there remains uncertainty. In January 2020 the Chancellor of the Exchequer warned businesses that there will be no alignment with EU regulations once the UK leaves the EU, which suggests that the Circular Economy measures will not necessarily be adopted in full by the UK government..

UK Waste Exports

3.2.19 The Chinese Government has been progressively tightening restrictions on the import of recyclate, first with the "Green Fence" initiative in 2013 followed by the "National Sword" policy in 2018. The policy has led to steep falls in the prices of some commodities, although to date this has mainly impacted on low quality grades of material such as mixed papers and mixed plastic. Higher quality grade wastes such as clear PET plastic are holding their value at present.

3.2.20 Restrictions have also been applied to the importation of lower grade non-ferrous scrap metal. As metal recovery is an important part of the Black Country's waste sector and China is the largest importer of non-ferrous scrap metal, this may imply an impact upon the study area.

3.2.21 The longevity and direction of the National Sword policy cannot be known. However, if it continues in the longer term it implies a requirement for increased recycling capacity at national and local levels.

3.2.22 South-East Asian countries are also banning imports of waste for recycling after an increase in foreign waste following China's ban, overwhelmed their processing facilities[18].

3.2.23 The recent waste import bans and restrictions have led to greater scrutiny of how much waste we export to developing countries for recycling and what actually happens to it, with much of it ending up in landfills or furnaces. This again calls into question the Government's official recycling statistics, particularly for plastics. The Environment Agency (EA) is however working with businesses that export waste to countries such as Malaysia to ensure the waste sent for recycling is uncontaminated and only transferred to overseas facilities that are correctly licensed and able to recycle it correctly[19].

3.2.24 The continuation of refuse derived fuel (RDF) exports to Europe post-Brexit is also not known as exports may encounter significant price barriers[20].

National Waste Policy

3.2.25 The revised Waste Framework Directive 2008 (rWFD) has been key in recent years in providing an overarching legislative framework for the management of waste. Hence, since the preparation of the adopted BCCS a number of revisions to national waste and waste planning policy documents and good practice guidance have been produced. The Landfill Directive (1999/31/EC) and

[18] The Economist (2019) South-East Asian Countries are banning imports of waste for recycling

[19] GOV.UK (2019) UK position on shipments of plastic waste to Malaysia

[20] Resource (2018) UK and EU must act to ensure continued trade of RDF, says Industry Group

amendment directives (2018/850 and 2018/851) have also been adopted as part of the Circular Economy Package in relation to the amount of municipal waste landfilled and in which circumstances these can be accepted, i.e. when it delivers the best environmental outcome.

The Waste (England and Wales) Regulations 2011 and Amended Regulations 2012

3.2.26 The revised Waste Framework Directive 2008 was transposed at national level as the Waste (England and Wales) Regulations 2011 which amended several previous pieces of legislation including the Hazardous Waste (England and Wales) Regulation 2005, Environmental Permitting (England and Wales) Regulations 2010, Public General Acts and secondary legislation. The main duties of waste planning authorities under the regulations when preparing development plans for waste are:

- The implementation of the principles of 'proximity' and 'self-sufficiency' when planning for new installations for the disposal of waste or recovery of mixed 'municipal waste' collected from households and other sources;
- The application of the principles of protection of the environment and human health when considering new waste development projects; and
- The application of the 'waste hierarchy'.

National Policy Statements (NPSs)

3.2.27 These statements apply mainly to Nationally Significant Infrastructure Projects (NSIPs) falling within the thresholds in S29 of the Planning Act 2008 (as amended). Applications for such projects are determined through a separate planning consent regime. Development plan policy does not strictly apply to NSIPs although it may be a 'material consideration,' and the decision maker is the Planning Inspectorate (PINS) rather than the local planning authority. NPSs may also be a 'material consideration' when making decisions on planning applications for developments not falling within the NSIP thresholds (NPPF paragraph 5). The following NPS apply to large waste infrastructure projects falling within the NSIP thresholds.

3.2.28 The National Policy Statement for Waste Water 2012 applies to treatment projects that are designed to serve a population of 500,000 or more and for facilities to transfer or store waste water exceeding 350,000 cubic metres. There are no new wastewater treatment projects of this scale currently planned in the Black Country.

3.2.29 National Policy Statements for Energy (EN-1) and Renewable Energy Infrastructure (EN-3) 2011 apply to energy infrastructure designed to generate >50 megawatts (MW) of energy (i.e. electricity) from biomass and/ or waste. Very few existing energy from waste facilities in the UK are capable of generating this amount of energy. To achieve this, a facility is likely to require an annual throughput of > 0.5 million tonnes of waste/ other biomass per annum. There are no new biomass plants or energy from waste facilities of this scale currently planned in the Black Country.

3.2.30 National Policy Statement for Hazardous Waste 2012 This policy statement applies to new hazardous waste disposal or deep storage facilities with an annual throughput capacity of more than 100,000 tonnes per annum (TPA), and any other new hazardous waste facilities with an annual throughput capacity of more than 30,000 TPA. Hazardous waste arisings are expected to increase with economic growth and a national need for specialist facilities has been identified to manage waste electrical and electronic equipment, oils, oily wastes and oily sludges, air pollution control residues, contaminated soils diverted from landfill and landfill for hazardous waste residues from waste treatment. The Black Country is a significant net importer of hazardous waste from other areas and has two hazardous waste treatment facilities pre-dating the 2008 Act that exceed the

NSIP thresholds.[21] However, there are no new hazardous waste facilities of this scale currently planned in the Black Country.

National Policy on Radioactive Waste 2012

3.2.31 The UK Strategy for the management of solid Low Level Waste from the non-nuclear industry (part 1) was published in March 2012. The National Waste Programme[22] led to the production of separate policies for the 'low level' radioactive waste and 'higher activity' radioactive waste produced by the nuclear industry.[23] It places overriding emphasis on human health and applies the principles of the waste hierarchy and the proximity principle but recognises that every Waste Planning Authority cannot be self-sufficient in facilities.

National Waste Prevention Programme– Prevention is Better than Cure, 2013

3.2.32 This is the national waste prevention programme published in response to Article 29 of the Waste Framework Directive and in the context of the Waste Management Plan for England.

3.2.33 Waste Prevention Programmes are required to:

- Set out the waste prevention objectives with the aim of breaking the link between economic growth and waste generation;
- Describe existing waste prevention measures and evaluate their usefulness; and
- Determine specific qualitative or quantitative benchmarks for the waste prevention measures adopted for monitoring purposes.

National Waste Management Plan for England 2013

3.2.34 The Plan provides a 'high level' analysis of current Waste Management in England and evaluates how to best respond to the country's obligations in respect of Article 28 of the EU Waste Framework Directive. It applies at a national level but also apply at the local geography relevant to the new Black Country Plan to contribute to a national waste plan. The plan does not include specific targets but makes reference to actions to be taken in conjunction with others such as the reduction of food packaging.

3.2.35 The document recognises the importance of co-operation between waste planning authorities under the duty to co-operate in Section 110 of the Localism Act 2011. Its implications for the new Black Country Plan are summarised in Table 3.2.

[21] Wednesbury Treatment Centre in Sandwell (Biffa) and Empire Works in Walsall (Veolia) – see Appendix K.
[22] See National Waste Programme documents (September – October 2018): https://www.gov.uk/government/publications/national-waste-programme
[23] UK Strategy for the Management of Solid Low Level Waste from the Nuclear Industry (February 2016), Department for Energy & Climate Change, Scottish Government, Welsh Government and Department of Environment for Northern Ireland: https://www.gov.uk/government/publications/national-waste-programme/national-waste-programme
Implementing Geological Disposal – Working with Communities (December 2018), Department for Business, Energy & Industrial Strategy: https://www.gov.uk/government/publications/implementing-geological-disposal-working-with-communities-long-term-management-of-higher-activity-radioactive-waste

Table 3.2 Implications of the National Waste Management Plan for England 2013 for the new Black Country Plan

Reference	Requirements	Implications for the new Black Country Plan?
Page 29	The Waste Framework Directive establishes the principle of 'proximity' requiring Member States to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from households, including where such collection also covers such waste from other producers. This *"must enable waste to be disposed of, or be recovered, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health*". The Directive also requires that the network shall be designed in such a way as *"move towards the aim of self-sufficiency in waste disposal and the recovery of waste"*.	Yes. Provision of facilities to provide net self-sufficiency is addressed in WM1. Proximity principle is only referred to in the reasoned justification to WM1 whilst the policy itself seeks to 'minimise the export of wastes that can be managed locally' without explicitly mentioning the principle itself.
Page 30	Planning policy for waste should help achieve sustainable waste management by securing adequate provision of new waste management facilities of the right type, in the right place and at the right time. Under this approach, waste planning authorities should identify areas suitable for new or enhanced facilities for the waste management needs of their area. In decision making, planning authorities should assess suitability against criteria concerning physical and environmental constraints on development, existing and proposed neighbouring land uses, and any significant adverse impacts on the quality of the local environment.	No. Provision of facilities according to need is addressed in WM1 with strategic sites in WM3 and policy criteria to determine suitability of other sites in WM4.

3.2.36 This Plan is being reviewed in 2019 in parallel with the National Planning Policy for Waste to ensure that both align with the changes set out in 'Our Waste, Our Resources' which is addressed below.

Hazardous Waste (England and Wales) Regulations 2016

3.2.37 This Regulation controls the movement and subsequent management of hazardous waste. This includes the restrictions placed on the co-mingling of hazardous waste types and mixing hazardous with non-hazardous waste. A technical guidance publication follows review of the List of Waste (LOW) and the definition of the properties that render wastes hazardous due to changes in the chemicals' legislation.

National Infrastructure Assessment 2017

3.2.38 The study Waste Infrastructure Analysis for England[24] provides evidence for the National Infrastructure Assessment (NIA) due to be published in 2018. It provides objective background information to enable informed decisions about a preferred policy route, when considered alongside other related infrastructure assessment studies.

3.2.39 It models a series of potential material separation options over the period 2020 to 2050 and assesses the costs and benefits of directing separated waste streams down different treatment/disposal pathways. Its findings reveal that the most significant cost benefits (around £3-4 billion) are associated with ambitious segregation, recycling rates of 60% in 2030, 65% in 2035 applied to both municipal and commercial and industrial waste and, as a consequence, reducing the need for infrastructure to manage residual wastes.

[24] National Infrastructure Commission, National Infrastructure Assessment: Waste Infrastructure Analysis for England, May 2018

3.2.40 The assessment identifies relatively low cost, low carbon options for food waste and plastics stating that in these areas, England should seek to exceed the minimum standards set out in EU legislation.

A Green Future: Our 25 Year Plan to Improve the Environment 2018

3.2.41 Pre-empting a new National Waste Strategy, A Green Future[25] seeks to complement the 2017 White Paper 'Industrial Strategy'[26] by setting out the government's approach to safeguarding the environment and future-proof economic growth.

3.2.42 A Green Future includes a number of policies concerned with the protection of natural capital in terms of land, the recovery of nature and landscapes, connecting people with their environment, protecting the seas and the global environment and increasing resource efficiency including the reduction of pollution and waste.

3.2.43 A 25-year goal is to minimise waste, reuse materials as much as possible and manage materials at the end of their life to minimise the impact on the environment.

Our Waste, Our Resources: A Strategy for England 2018

3.2.44 Our Waste, Our Resources takes a more proactive and directive approach than previous guidance. It seeks a more circular economy that keeps resources in use as long as possible so maximum value is extracted from them. Materials should be recovered and regenerated whenever possible. This reflects the earlier European Commission Communication entitled "Closing the Loop - An EU Action plan for the circular economy".

3.2.45 The Strategy for England seeks to contribute to the delivery of five strategic ambitions:

1. To work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025;
2. To work towards eliminating food waste to landfill by 2030;
3. To eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan;
4. To double resource productivity by 2050; and
5. To eliminate avoidable waste of all kinds by 2050.

3.2.46 These ambitions are proposed to be met through a series of targets that are relevant to the new Black Country Plan set out in Table 3.3.

Table 3.3 Implications of Our Waste, Our Resources: A Strategy for England 2018

Reference	Requirements	Implications for the new Black Country Plan?
Page 29	A 50% recycling rate for household waste by 2020; A 75% recycling rate for packaging by 2030; (this target is subject to further consultation) A 65% recycling rate for municipal solid waste by 2035; and The proportion of municipal waste going to landfill to be 10% or less by 2035	Yes As, aside from the packaging target, these provisions are confirmed, the new Black Country Plan is required to provide the land use policy to enable its achievement. Provision of facilities according to need is addressed in WM1 with strategic sites in WM3 and policy criteria to determine suitability of other sites in WM4.

[25] HM Government, A Green Future: Our 25 Year Plan to Improve the Environment, 2018
[26] HM Government, Industrial Strategy: Building a Britain fit for the future, November 2017

National Planning Policy

National Planning Policy for Waste, 2014

3.2.47 Plans should be based on "robust analysis of best available data and information" and avoid "spurious precision". Collaborative working with other authorities on data collection should take place where waste arisings cross neighbouring areas and that forecasts should take account of the Government's most recent advice, including the amounts that can be recycled.

3.2.48 Local Plans should also drive waste management up the waste hierarchy, planning for a mix of types and scale of facilities (including adequate provision for waste disposal). In particular, forecast tonnages of municipal waste and commercial and industrial waste should be identified: also, the proportions requiring different forms of management. The need for capacity of more than local significance should be considered, including for the disposal of residues from treated wastes.

3.2.49 In preparing Local Plans, adequate consideration must be given to the extent to which the capacity of existing operational facilities would satisfy identified needs. Collaborative working with other waste planning authorities and local district councils should take place to provide a suitable network of facilities to deliver sustainable waste management.

3.2.50 The National Planning Policy (NPP) for Waste[27] should be read in conjunction with the NPPF, the Waste Management Plan for England, and National Policy Statements for Energy and Renewable Energy Infrastructure, Waste Water and Hazardous Waste (see above). All local planning authorities should have regard to its policies when discharging their responsibilities to the extent that they are appropriate to waste management. Positive planning plays a pivotal role in delivering this country's waste ambitions through the measures in Table 3.4.

Table 3.4 Implications of National Planning Policy for Waste 2014 for New Black Country Plan Policy

Reference	Requirements	Implications for New Plan Policy?
All para. 1	*delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy;*	Yes. Resource efficiency is addressed in Policy WM5. The waste hierarchy is addressed within existing Policy WM1 although there is no mention of climate change.
	ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport, recognising the positive contribution that waste management can make to the development of sustainable communities	Yes. The benefits of waste are not strongly emphasised with the focus of WM4 is upon mitigation rather than useful co-location.
	providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle	Yes. Well developed in Policies WM1 and WM5. The proximity principle is only referred to in the reasoned justification to WM1 whilst the policy itself seeks to 'minimise the export of wastes that can be managed locally' without explicitly mentioning the principle itself.

[27] Gov.uk. DEFRA. 2013. Waste Management Plan for England

Reference	Requirements	Implications for New Plan Policy?
	helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment	No. The waste hierarchy is already addressed within existing Policy WM1. Guidance on the location of waste management facilities is provided in WM4.
	ensuring the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste	Yes. Policy WM1 cites the need to produce waste to quality protocols and WM2 protects waste uses are considered and protected from encroaching non-conforming uses. However, the 'designing in' of waste to new development is not strongly reflected within WM5. This issue may most appropriately be provided in SPD guidance.

National Planning Practice Guidance (NPPG) on Waste 2016

3.2.51 The NPPG is online 'living' guidance published by the government to supplement the NPPF, providing best practice advice on a range of development topics including waste[28] which was last updated in 2016. The current guidance on waste places an emphasis upon conformity to the articles of the Waste Framework Directive (2008/98EC) set out in Table 3.5.

3.2.52 Waste Local Plans should make provision for municipal/household, commercial/industrial, construction/demolition, low level radioactive, agricultural, hazardous waste and waste water.

3.2.53 It identifies that waste is a strategic matter in respect of the Duty to Cooperate to include the collection and evaluation of data and dialogue and liaison on those waste streams few facilities are needed. There is no requirement to agree but every effort should be made to cooperate.

3.2.54 Assessment of waste management need is likely to involve understanding of arisings, imports and exports, capacity gaps, future waste arisings and assessment of the type of waste management capacity required at the end of a plan period and at interim dates.

3.2.55 When assessing facility capacity, the following information may be relevant: locational details, type of facility, licence/permit details (including restrictions on tonnage), capacity information, site lifetime or maximum capacity, origin of wastes managed by type and location, facility outputs, particularly amounts recovered, destination of residues, potential for increasing throughput/capacity or diversification.

3.2.56 The following considerations should apply when forecasting waste tonnages:

- for municipal waste a growth profile should be based on household/ population growth and waste arisings per household/per capita;
- for commercial and industrial waste certain levels of growth should be assumed unless there is clear evidence to demonstrate otherwise;
- for construction, demolition and excavation waste it should be assumed that net arisings will remain constant over time, but other factors may also be relevant including that a sizeable

[28] Gov.uk. Ministry of Housing, Communities & Local Government. 2015. Guidance: Waste

proportion of waste is managed on site or at exempt facilities. Significant planned regeneration or major infrastructure projects should also be taken into account; and

- for hazardous waste forecasts should be based on extrapolating time series data.

3.2.57 Annual Monitoring Reports should report on:

- any reason for allocated sites not being developed;
- potential additional capacity from permitted sites;
- any loss of capacity from closed sites or facilities with temporary permission; and
- adjustment to waste arisings resulting from more up to date data or information.

Table 3.5 Provisions of the National Planning Practice Guide

WFD Article	Requirements	Implications for new Black Country Plan?
Article 4: Waste Hierarchy	The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy: a. prevention; b. preparing for re-use; c. recycling; d. other recovery, e.g. energy recovery; and e. disposal Delivery mechanism / Action: Waste planning authorities need to consider the hierarchy of waste management options when drawing up Local Plans in line with National Planning Policy for Waste. The waste hierarchy is also capable of being a material consideration when determining individual proposals for waste management facilities. All local planning authorities can make a contribution to promoting the sound management of waste as part of any proposed development.	No. The waste hierarchy is already addressed within existing Policy WM1
Article 13: Protection of Human Health and the Environment	Member states shall take the necessary measures to ensure that waste management is carried out without endangering human health, without harming the environment and, in particular: a. without risk to water, air, soil, plants or animals; b. without causing a nuisance through noise or odours; and c. without adversely affecting the countryside or places of special interest. Delivery mechanism / Action: Planning Authorities must have regard to the provisions of Article 13 when exercising planning functions to the extent that those functions relate to waste management. This is to ensure that any waste is handled in a manner which guards against harm to human health and the environment when exercising their planning functions to the extent that those functions relate to waste management.	No. The avoidance of harm to the environment and population is already addressed within WM1 and addressed in more detail within the policy criteria to determine suitability of sites in WM4.

WFD Article	Requirements	Implications for new Black Country Plan?
Article 16: Principles of self-sufficiency and proximity	Member States shall establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households. The network shall enable waste to be disposed of or recovered in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public Delivery mechanism / Action: Planning Authorities must have regard to the provisions of Article 16 when exercising planning functions to the extent that those functions relate to waste management. Waste planning authorities should ensure that, as far as is practicable, sufficient waste disposal facilities and facilities for the recovery of mixed municipal waste collected from households exist within their Local Plan area. Waste planning authorities should ensure that waste disposal facilities and facilities for the recovery of mixed municipal waste collected from households are appropriately sited to ensure compliance with the proximity principle. This can include joint working with other planning authorities to develop an extensive network of sites to enable effective waste management.	Yes. Provision of facilities to provide net self-sufficiency is addressed in WM1 with WM2 safeguarding existing sites. Policy criteria to determine suitability of other sites in WM4. Proximity principle is only referred to in the reasoned justification to WM1 whilst the policy itself seeks to 'minimise the export of wastes that can be managed locally' without explicitly mentioning the principle itself.

National Planning Policy Framework 2019

3.2.58 The Government updated its NPPF in February 2019 and is the most recent statement of national policy to be translated into local plan policy in due course. The NPPF provides overarching policy and is intended to be read 'in the round' and although it does not contain specific policies for waste, it will require the new Black Country Plan to ensure that natural resources are used prudently and address the environmental and health issues such as noise, dust, odour and fire prevention. Its provisions therefore have implications for the study in terms of provision, location and site suitability.

Achieving Sustainable Development

3.2.59 Paragraph 8 outlines the three objectives to sustainable development stating that the planning system should pursue these in mutually supportive ways:

> *"a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;*
>
> *b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and*
>
> *c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy".*

3.2.60 Its provisions and relevance for the new Black Country Plan are summarised in Table 3.6.

Table 3.6 Implications of National Planning Policy Framework for New Black Country Plan Policy

Reference	Requirements	Implications for new Plan Policy?
Chapter 6	Building a strong, competitive economy	
Para. 80	The NPPF outlines the importance of supporting the nation's economic sustainability stating that *"Planning policies…should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future…"*	Yes. Policy WM1 addresses this broad objective whilst WM3 and WM4 provide a framework of sites and opportunities by which to support business. As business requirements change over time, there should be reviewed to ensure that provision is of the right type and located appropriately.
Para. 81	Planning policies should: *"a) set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration;* *b) set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;* *c) seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and* *d) be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices (such as live-work accommodation), and to enable a rapid response to changes in economic circumstances.*	Yes. Existing BCCS policies reflect these concerns. Business needs should be reviewed to ensure that policy supports these requirements. Yes. The remainder of the concerns in para. 81 should be met by a critical review of existing strategic sites, and the potential of others, to ensure that they are a flexible and can adapt as far as possible to changed requirements.
Para. 82	Policies should…*"recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations at a variety of scales and in suitably accessible locations".*	Yes. Subject to a review of emerging business requirements, the safeguarding approach to Policy WM2 and the locational criteria of WM4 are considered appropriate. Allocations could be considered where higher value employment uses are likely to prohibit the waste uses that they may need.
Chapter 15	Conserving and Enhancing the Natural Environment	
Para. 171	Plans should *"distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries".*	No. Policy WM3 and WM4 already acknowledge the constraints posed by environmental assets. The detail of the NPPF concern is addressed elsewhere in the BCCS and there is no need to amend its waste policies in this respect.
Para. 174	Plans should protect and enhance biodiversity and geodiversity and: *"a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and* *b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity".*	No. Policy WM3 and WM4 already acknowledge the constraints posed by environmental assets. The detail of the NPPF concern is addressed elsewhere in the BCCS and there is no need to amend its waste policies in this respect.

Reference	Requirements	Implications for new Plan Policy?
Para. 178	In respect of ground conditions and pollution policies should ensure that…*"a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability and contamination. This includes risks arising from natural hazards or former activities such as mining, and any proposals for mitigation including land remediation (as well as potential impacts on the natural environment arising from that remediation)".*	Yes. This is not strongly expressed in the BCCS policies although ground conditions are mentioned within Policy WM4 and the Reasoned Justification to WM3.
Para. 180	This chapter also references noise or air quality issues. Planning policies should ensure that *"new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:* *a) mitigate and reduce to a minimum potential adverse impacts resulting from noise…and avoid noise giving rise to significant adverse impacts on health and the quality of life".*	No. The need to minimise and mitigate noise pollution and impacts upon health is already addressed within Policy WM4 and, in general terms, within the Reasoned Justification to WM1.
Para. 181	Policies…*"should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas".*	No. The need to minimise impacts upon air quality and health is already addressed within Policy WM4 and, in general terms, within the Reasoned Justification to WM1.
Chapter 9	Promoting Sustainable Transport	
Para. 32	Planning policies should… *"a) support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities…* *…c) identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development…".*	No. The need to minimise the need to travel and the length of journeys is already addressed both within Policy WM1 and within the development criteria to WM4.
Chapter 11	Making effective use of land	
Para. 117	As a finite resource, the best use should be made of land and there should set out a clear strategy for accommodating development in a way that makes as much use as possible of previously-developed or 'brownfield' land.	Yes. The prioritisation of brownfield land is addressed within both WM1 and WM4. However, the plan seems to consider the issue in the context of protecting Green Belt boundaries which the new Black Country Plan is now likely to amend rather than other important urban land. Additionally, there is little expression of the costs, feasibility and viability of developing land with legacies of previous uses.
Para. 118	States that policies should: *…c) give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land".*	
Chapter 14	Meeting the challenge of climate change, flooding and coastal change	
Para. 149	In line with the provisions of the Climate Change Act 2008, this states that *"Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk…and the risk of overheating from rising temperatures".*	Yes. The BCCS waste policies seek 'sustainability' and whilst climate change is prominent elsewhere, it is not referred to at all in the Waste chapter.
Para. 150	New development should *"avoid increased vulnerability to the range of impacts arising from climate change".*	
Para. 151	To help increase the use and supply of renewable and low carbon energy and heat and that plans should:	Yes.

Reference	Requirements	Implications for new Plan Policy?
	"a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily… *…b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure…* *…c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers".*	Policy WM4 includes consideration of heat and power as having potential on employment land. As Combined Heat and Power (CHP) would be of great benefit in reducing the need for energy and is rarely achieved, it could benefit from having greater emphasis – perhaps as an objective to updated policy WM1.
Para. 155	In respect to flood risk development should "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."	No. Flood risk is addressed elsewhere in the BCCS and there is no need to amend its waste policies in this respect.

The Main Themes and Requirements of National Waste Policy and Waste Planning Policy

3.2.61 There is a continuum in the development of policy requirements and its direction of travel. Many of these requirements are interrelated but there is a consistent framework of main themes and issues that are relevant to the preparation of the new Black Country Plan.

The Circular Economy

3.2.62 The Circular Economy which has emerged as a guiding principle to recent waste strategy at European level and despite the uncertainty implied by Brexit is now also a feature of national policy under Our Waste, Our Resources.

The Waste Hierarchy

3.2.63 Integral to the Circular Economy is the waste hierarchy which continues to be a cornerstone of all European and national waste policy underpinning sustainable waste and resource management and sustainable communities and human activity as a whole.

Duties in Collection

3.2.64 The segregation of wastes for collection at source has been a feature of national policy since Waste (England and Wales) Regulations stemming from Article 10 of the WFD. This has implications on all collection of household wastes and from businesses producing commercial waste. The re-use and recycling targets in *Our Waste, Our Resources* demand an increased focus which implies review and revision to collection regimes. In 2018, there was an amendment directive (2018/851) amending Article 10; it set out exemptions for separation of waste collection whereby separate collections:

- Would not improve potential for preparing for re-use, recycling or other recovery;
- Would not deliver the best environmental outcome;
- Would not be technically feasible;
- Would entail disproportionate costs taking into account environmental costs / opportunity costs of mixed waste collection.

Waste Prevention Programmes Waste Management Plans and Recycling Targets

3.2.65 The current national waste prevention programme, Prevention is Better than Cure 2013 (see above), identified various actions by government, businesses and others to prevent unnecessary waste. The

waste prevention measures recommended for the 'Wider Public Sector' (including local authorities) are not land use planning related, although existing BCCS Policy WM5 addresses some of these issues. Consideration should therefore be given to including a similar requirement in the new plan.

3.2.66 The Waste Management Plan for England 2013 outlines how waste planning is expected to contribute towards the national strategy for waste, although the detail is delegated to the National Planning Policy for Waste 2014 (see above). The Black Country Authorities confirmed to MCLG in February 2011 that the existing BCCS waste policies address the essential requirements of a 'waste management plan' for the Black Country even though they pre-date the requirement in the Waste Framework Directive[29]. The waste policies in the new Black Country Plan will also need to comply with this requirement.

3.2.67 In combination with measures taken by industry to prioritise recycling, *Our Waste, Our Resources* stresses the continued role of waste prevention and recycling targets in driving waste up the waste hierarchy as well as making a strategic contribution to the circular economy. There are firm targets for household, municipal, food and packaging wastes covering much of the lifetime of the new Black Country Plan which will direct its policy response.

Installations for Disposal of Waste and Recovery of Mixed Municipal Waste - Principles of Proximity and Self Sufficiency

3.2.68 The National Waste Management Plan refers to the rWFD that establishes the principle of 'proximity' requiring Member States to establish an integrated and adequate network of waste disposal installations that *"must enable waste to be disposed of, or be recovered, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health*". The Directive also requires that the network shall be designed in such a way as *"move towards the aim of self-sufficiency in waste disposal and the recovery of waste"*.

3.2.69 The National Waste Management Plan states that policy for waste should help achieve sustainable waste management by securing adequate provision of new waste management facilities of the right type, in the right place and at the right time. Under this approach, waste planning authorities should identify areas suitable for new or enhanced facilities for the waste management needs of their area.

Protection of the Environment and Human Health

3.2.70 The National Waste Management Plan states that in decision making, planning authorities should assess suitability against criteria concerning physical and environmental constraints on development, existing and proposed neighbouring land uses, and any significant adverse impacts on the quality of the local environment.

3.2.71 A Green Future includes a number of policies concerned with the protection of natural capital in terms of land, the recovery of nature and landscapes, connecting people with their environment, protecting the seas and the global environment and increasing resource efficiency including the reduction of pollution and waste.

Waste Crime

3.2.72 A Green Future also seeks to minimise the effect on the environment of waste crime and to deliver a substantial reduction in litter and littering behaviour. This implies the need for good provision of

[29] The EU Waste Framework Directive - letter from the Black Country Authorities to MCLG dated 4 February 2011.

facilities that offers greater choice to residents and businesses over where and how their waste is managed.

Black Country Policy

Black Country Air Quality SPD 2016

3.2.73 All four authorities have declared the whole of their areas as Air Quality Management Areas (AQMAs) for the purpose of redressing levels of NO_2, primarily associated with vehicle emissions. Although balanced against other aims of the planning system, air quality, and specifically the AQMA designation, influences the study site criteria especially where these are located within road corridors.

3.2.74 The SPD is not time limited and, as such, the new Black Country Plan should not override its provisions. It does not however imply a need to change BCCS policy.

Authority Policy

Three of the BCAs have adopted district-wide policy and two have adopted Area Action Plans.

Dudley Borough Development Strategy 2017

3.2.75 This plan runs concurrently with the BCCS until 2026 and adds context to its implementation. It does not comment on waste as it views the policy framework of the adopted BCCS as sufficient to deal with waste issues arising from future development until the Black Country Core Strategy itself is reviewed. The development strategy does not imply a need to change BCCS policy in the short term.

Sandwell Site Allocations and Delivery DPD 2012

3.2.76 The Site Allocations and Delivery DPD guides development within the Borough until 2021 by providing allocations and local policies. It defers to the BCCS in supporting its proposals for waste sites and also includes a policy governing the design of new waste management facilities. It does not imply a need to change BCCS policy and does not exclude areas within the Borough as having potential for waste sites.

Walsall Site Allocation Document 2019

3.2.77 This Plan was adopted in January 2019 and articulates the BCCS policies at authority level until 2026. It includes policies on new development at existing waste management sites, and policies to guide the development of new waste management facilities.

3.2.78 Policy W1 summarises the contribution Walsall is expected to make towards the remaining BCCS requirements whilst Policy W2 identifies the Strategic Waste Sites in Walsall which will be safeguarded against needless loss or encroachment by other development.

3.2.79 Policies W3 and W4 supplements BCCS policies by providing further guidance on suitable sites and locations where new waste treatment and transfer infrastructure and new waste disposal infrastructure may be developed.

3.2.80 The Plan will influence the study only insofar as existing sites and recent development proposals will form part of the sites that are considered. It does not, in itself, imply a need to change BCCS policy.

Area Action Plans and Neighbourhood Plans

3.2.81 The Area Action Plans in Table 3.1 articulate specific policy to address or regenerate well-defined areas such as centres and road corridors. The plans in Table 3.7 influence the study to varying extents but notwithstanding this, but given the expiry dates on Plans in Table 3.1, all areas of the Black Country can be considered for potential waste development over the new plan period up to 2038.

3.2.82 Neighbourhood Plans are prepared under the provisions of the 2011 Localism Act. The only adopted plan relates to the Bilston Neighbourhood Plan that has been incorporated into the adopted Bilston Corridor AAP.

Table 3.7 Implications of Area Action Plan and Neighbourhood Plan Policy for New Black Country Plan Policy

Status and Coverage	Policy	Implications for New Plan Policy?
Area Action Plans		
Dudley AAP 2017	Policy 1 – Sustainable Development All proposals will include measures to help promote sustainable development by… …The re-use of or recycling of onsite materials and the use of locally sourced, environmentally sound materials… …Demonstrating how they have taken account of the following to create sustainable life-styles and places: energy and CO_2 emissions; materials, surface water run-off, waste, pollution…	No. This is already addressed by Policy WM1. These issues are already addressed within Policy WM1, WM4 and WM5. The AAP does not otherwise imply changes to BCCS policies.
Halesowen AAP 2013	Policy 30 Sustainable Urban Design Development should… …2. Use environmentally friendly materials, including the re-use of salvaged and renewable materials… …8. Incorporate appropriate provision for recycling, storage and collection of waste materials and composting;	No. These issues are already addressed within Policy WM5. The AAP does not otherwise imply changes to BCCS policies.
Stourbridge AAP 2013	The AAP is silent on waste and restricted to development in and around the town centre.	No.
Walsall Town Centre AAP	The AAP is silent on waste and restricted to development in and around the town centre.	No.
Stafford Road Corridor AAP 2013–2026 2014	The AAP states that Strategic Waste Management Facilities will be retained, and new development will not be permitted where it would limit the operation or future expansion of these sites. Proposals for new waste management facilities will be assessed against BCCS Policy WM4…. … Existing Strategic Waste Management facilities area also identified for protection in the area	Yes. The AAP is supportive of BCCS policies WM2, WM3 and WM4. As the AAP expires in 2026 the new Black Country Plan should include consideration of the corridor in the medium to longer term.
Wolverhampton City Centre AAP 2015 – 2026, 2016	The AAP is silent on waste and restricted to development in and around the city centre.	No.
Neighbourhood Plans		
Bilston Corridor AAP incl. Neighbourhood	The AAP states that Strategic Waste Management Facilities will be retained, and new development will not be permitted where it would limit the operation or future expansion of these sites. Proposals for	Yes. The Neighbourhood Plan is supportive of BCCS policies WM1, WM2, WM3 and WM4. As the AAP

Status and Coverage	Policy	Implications for New Plan Policy?
Plan 2013–2026 2014[30]	new waste management facilities will be assessed against BCCS Policy WM4.... There are seven Strategic Waste Management Facilities in the AAP area...and Policy WM2 seeks to protect these sites and ensure that uses which are unlikely to be compatible should avoid locating near them... The AAP will retain more waste capacity than planned for in the Core Strategy. However, there will still be a need to accommodate additional waste management facilities in the AAP up to 2026... Key opportunities within the Bilston Corridor AAP include: • Connection to a City Centre district heating network, if such a network is established, particularly for existing and proposed development to the north of the AAP area; • Making use of existing and underused employment land both for the supply of resources for energy generation (biomass and waste) and for on-site generation (e.g. solar PV and biomass/waste to energy plants); • Micro-generation on existing and new buildings in the area, particularly solar PV and solar thermal.	expires in 2026 the new Black Country Plan should include consideration of the corridor in the medium to longer term.
Neighbourhood Plan for the Tettenhall Wards 2014–2026, 2014	Policy TNP1 Diverse Local Economy states that... • Development proposals that support the local economy by way of investment in small and medium enterprises and start-up businesses, will be supported. • The loss of employment land will be resisted unless it can be demonstrated that it is no longer viable. Existing employment land should be retained wherever possible when it is in a sustainable location and does not impact negatively on neighbouring properties. • Large scale employment (within Class B Uses or equivalent), retail (within Class A Uses) and leisure & tourism (within Class D Uses) development would be out of keeping with the scale and role of the area and will not be supported.	Yes. The Neighbourhood Plan is supportive of the retention of existing employment uses. However, it is not encouraging of large B2 development nor of smaller development that may impact negatively on neighbouring properties.
Heathfield Park Neighbourhood Plan 2014[31]	Policy 8 is concerned to strengthen the local economy through... • The retention and expansion of viable employment activity and strengthen linkages to opportunities for local people to access local employment across the City. • This will be achieved by the development of small scale social enterprises and other businesses that meet the needs of the community, such as the creation of live work units.	Yes. The Neighbourhood Plan is supportive of the retention of existing employment. However, it is not encouraging of waste development being more focused upon small scale enterprises.

3.3 The Revised Baseline

3.3.1 This section reviews and sets out the latest evidence to form a baseline for the new Plan. As the need to produce data on waste arisings, flows and management have emerged at different times to respond to separate policy requirements, there are gaps and inconsistencies in published material that need to be acknowledged in the preparation of any plan.

[30] Bilston Corridor AAP incorporates the Bilston Neighbourhood Plan.

[31] Heathfield Park Neighbourhood Plan includes Heath Town Masterplan

Waste Data Sources and Limitations

3.3.2 The waste data sources and their limitations can be found in Appendix C.

3.3.3 The chosen 'baseline' for the new plan is 2018, we have therefore used the most recent data sets available at the time of writing, which includes using data sets for 2017/18 and 2017 to estimate waste arisings and methods of management.

3.3.4 The data sets used to calculate existing waste arisings and management methods are not all comparable with each other because they cover slightly different 12-month periods. Whereas the Defra LA Waste Statistics are for the 2017/18 monitoring year (April 2017 – March 2018), the 2017 Waste Data Interrogator (WDI) and Hazardous Waste Interrogator (HWI) data are for the 2017 calendar year (January – December)[32], and later data sets have been used to estimate Agricultural Waste, Batteries, Waste Electrical and Electronic Equipment (WEEE) and Low Level Radioactive Waste (LLRW). Although the data sets are not directly comparable with each other, they nevertheless provide the best available evidence for waste arisings and waste management.

3.3.5 The WDI database was used to estimate arisings for commercial and industrial (C&I) waste, construction, demolition and excavation (CD&E) waste, and agricultural waste based on the waste received at permitted sites by origin. Some entries in the WDI have been coded to the 'West Midlands' and not broken down to specific local authorities, e.g. Dudley, Birmingham, etc. These entries have been apportioned using NOMIS Business Counts Enterprises by Industry, see Appendix D for more information on this apportionment. All data summary tables in the report have been rounded to the nearest 1,000 tonnes to avoid spurious precision, the underlying detail is provided in Appendix E. The arisings estimates do not include data from the Welsh Waste Data Interrogator as the tonnages involved are low and make no material difference to the overall arisings estimates for 2017. There is no equivalent readily available data for Scotland or Northern Ireland.

3.3.6 The quantity of waste managed at exempt sites was estimated using information from the waste exemptions register. There is limited data available on the waste exemptions register to estimate waste arisings or site capacity. Arisings are estimated as a function of waste amounts permitted under exemption using a number of untested assumptions therefore the level of confidence associated with these estimates is very low. Waste managed at exempt site has been excluded from future waste and capacity projections due to the uncertainty associated with the estimates.

3.3.7 Waste management estimates for C&I, CD&E and agricultural waste are based on the category of the facility that received the waste arising in the Black Country and may not fully reflect the actual quantities of whether these streams were, for example, recycled or disposed of.

3.3.8 Taking into account the limitations and assumptions stated above, and the fact that the data sources have been combined within the calculations for the waste study, there may be inaccuracies within the data and the figures reported, and they should be interpreted accordingly. That said, what follows represents the most complete and robust publicly available data and is the appropriate basis for policy formulation.

Current Waste Arisings and Management

3.3.9 Current waste arisings have been estimated as shown in Figure 3.1, with waste and recycling arisings estimated according to their source (e.g. household) or type (e.g. hazardous), as

[32] The 2018 Waste Data Interrogator and Hazardous Waste Interrogator data were published in September 2019, subsequent to the study.

appropriate according to convention and statutory reporting requirements, and summed together to estimate total waste and recycling arisings in the Black Country.

Figure 3.1 Current waste arisings estimate

3.3.10 Table 3.8 presents the waste arisings estimates for the Black Country. This includes a proportion of 'West Midlands' waste, where specific regions or WPAs have not been assigned within the data; the quantity has then been apportioned between the constituent local authorities based on NOMIS Business Counts by Industry. In 2017 the Black Country was estimated to generate approximately 2.01 mt of waste excluding estimates for waste managed at exempt sites. Approximately, 890,000 tonnes of waste were estimated to be manged at exempt sites, but the level of confidence associated with these estimates is "very low" (please see Appendix C).

3.3.11 Excluding exempt sites, the largest waste stream was estimated to be the CD&E at over 1 mt. Over 525,000 tonnes were collected by local authorities from household and non-household sources. C&I waste arisings were estimated to be almost 235,000 tonnes and hazardous waste arisings to be over 165,000 tonnes.

3.3.12 Other waste stream arisings were under approximately 10,000 tonnes, composed of agricultural waste arisings of c.9,000 tonnes (excluding exempt sites) and c.400 tonnes of waste batteries and WEEE estimated to be collected via retailer take-back schemes and Producer Compliance Schemes. Unfortunately, there was no publicly available information on the quantity of Low Level Radioactive Waste (LLRW) generated in the Black Country. Appendix F provides a list of registered producers of LLRW (primarily hospital trusts and universities). More details on the data sources used to estimate the Black Country's waste arisings are also included in Appendix C.

3.4 Review of Existing BCCS Waste Policies

3.4.1 The intervening period has seen a number of changes to waste and planning policy that imply changes to the existing suite of policies.

3.4.2 Although the aim of achieving sustainable waste management includes and refers to all the required measures, the waste policies do not refer to the Circular Economy which has emerged as a guiding principle to more recent waste strategy. The waste policies should also make reference to climate change although this features prominently in other areas of the BCCS. In addition, the proximity principle is not referred to in the policies although they already deal with its implications thoroughly.

3.4.3 Our Waste, Our Resources directs a step change in the recycling targets. It is clear that the Plan should anticipate the need to move toward the achievement of zero avoidable waste by 2050 with an early emphasis upon plastics as a means to cut emissions from Energy from Waste (EfW) facilities. This requires that policies will need to:

- Include policies aimed at increasing the choice of recycling options for local residents and businesses, both in terms of increased provision of recycling facilities and improved access to such facilities;
- seek a greater emphasis upon the design of new development that facilitates the collection of waste and, where possible, retro-fit to existing homes/businesses. This is also a concern of the National Planning Policy for Waste and may be best achieved through a Design for Waste Guide or SPG referenced within the new Black Country Plan;
- be more responsive to the needs of businesses and trends in arisings. In terms of a plan that is prepared at a point in time, this is probably best achieved by encouraging waste projects that would meet expected changes in particular needs such as recycling facilities. Future proofing of the plan would be achieved by providing strategic sites with few constraints and with the potential to expand; and
- encourage potential adaption of collection regimes to, for instance, introduce greater consistency in the collected materials.

3.4.4 All the above will influence the type and capacity of waste management facilities required in the Black County to be facilitated by the new Black Country Plan. As implementation may proceed at differing rates across the study area, this implies a flexible approach to policy that, as far as possible, can cater for unknown needs and can accommodate changed circumstances. The approach of the current BCCS is to provide a balance of strategic allocations and a positive criteria based policy in other areas. With this borne in mind, the NPPF places a greater emphasis upon the effective use of land, the intensification of urban areas and the re-use of previously developed sites. The new Black Country Plan needs to positively respond to this to address how feasibility and viability will be assessed beyond the evidence required for plan making.

3.4.5 For thermal treatment[33] (including energy from waste), the National Infrastructure Plan and *Our Waste, Our Resources* seeks greater resource efficiency by providing heat as well as energy off-take (potentially for cooling / air conditioning with rising temperatures) which implies that opportunities are sought to locate any required facility close, and networked to, potential customers. This may also imply the proactive co-location of waste facilities as part of the re-use of sites with the infrastructure ready to serve the energy needs of new or re-locating businesses.

3.4.6 Currently the BCCS stresses the prioritisation of 'brownfield' development largely because no Green Belt release was necessary to meet the identified housing and employment growth requirements to 2026. Given the evidence of a need for significant housing and employment growth over the new plan period now implies altering Green Belt boundaries, this may offer the opportunity to provide waste facilities to meet new needs especially where there are currently relative gaps in provision. This may imply either a greenfield or brownfield strategy within the Green Belt.

3.4.7 Far more crucially however, is for policies to acknowledge this importance and suitability of the Black Country for the waste sector and that a priority should be placed upon the protection of existing capacity that often cannot easily be located elsewhere. A firm safeguarding policy is required.

3.4.8 Finally, consideration could be given to streamlining the current policies in some cases very detailed and whose provisions overlap to some degree. In particular policies environmental

[33] The term 'thermal treatment' covers a wide range of technologies as well as generation of energy from waste through incineration, which is still the standard technology used. Where they've been tried, 'advanced thermal technologies' (ATT) such as MBT/ MHT, CHP, pyrolysis and gasification haven't been a great success up to now. The Black Country currently has only one operational gasification plant (Innovative Environmental Solutions in Oldbury) and one operational pyrolysis plant (Robert Hopkins Environmental in West Bromwich). It is probably fair to say that both have had 'teething' problems (including a fatal accident at Innovative Environmental Solutions in 2017).

protection and sensitivities could be addressed within generic policies without repetition in the waste policies.

Table 3.8 Current Waste Arisings, 2017 (tonnes)[34]

Waste source		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Local Authority Collected Waste (LACW)[35]	Household	123,000	129,000	110,000	108,000	**470,000**
	Non-household	15,000	13,000	10,000	19,000	**57,000**
Commercial & Industrial waste (C&I)[36]	Permitted sites	28,000	20,000	51,000	27,000	**126,000**
	West Midlands (WPA not codeable)	31,000	28,000	25,000	25,000	**108,000**
Construction, Demolition and Excavation waste (CD&E)[37]	Permitted sites	269,000	114,000	61,000	256,000	**700,000**
	West Midlands (WPA not codeable)	120,000	77,000	94,000	83,000	**373,000**
	Exempt sites	U1 and U3 exemptions				**465,000**
Agricultural waste	Permitted sites	0	7,000	1,500	460	**9,300**
	West Midlands (WPA not codeable)	40	10	50	10	120
	Exempt sites	U10, U11, T24 and T25 exemptions				**9,000**
Waste managed at exempt sites*		All exemptions excluding U1, U3, U10, U11, T24 and T25				**420,000**
Hazardous waste		13,000	44,000	65,000	44,000	**167,000**
Retailer take-back and Producer Compliance Scheme collections	Batteries	Estimate excludes LACW batteries				**220**
	WEEE	Estimate excludes LACW WEEE				**170**
Low level radioactive waste (LLRW)		No publicly available information on LLRW quantities – see Appendix F for registered producers				
Total waste arisings		**599,000**	**432,000**	**418,000**	**562,000**	**2,900,000**

Notes:
Figures rounded to nearest 1,000 tonnes
Total waste arisings will not sum due to rounding
(*) excludes exemptions included in CD&E and agricultural waste estimate
See Appendix D for breakdown of C&I and CD&EW calculation

34 WasteDataFlow (WDF), WDI 2017, HWI 2017, EA waste exemptions register, EA National Packaging Waste Database (See Appendix C for full waste stream source breakdown)

[35] LACW data is published Defra LA Waste Statistics for the 2017/18 monitoring year, whereas the other estimates of waste arisings relate to the 2017 calendar year.
[36] Non-Hazardous C&I Waste, includes food processing waste (sub-chapter of EWC 02).
[37] Non-Hazardous CD&EW

3.4.9 A comparison of the 2017 waste arisings estimates, as above, with the projected arisings for 2017/18, as projected for the Black Country Waste Planning Study (2009)[38], has been undertaken. The projected and actual arisings, and the difference between the two is shown in Table 3.9. In 2009 LACW was referred to as municipal waste. The C&I and CD&E waste 2017/18 arisings include 'West Midlands Not Codeable' waste, as apportioned to the respective authority.

Table 3.9 Comparison between 2017/18 projections (2009) and actual arisings 2017/18[39]

	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
MSW (household) projected	158,000	157,000	158,000	162,000	635,000
MSW (commercial) projected	5,100	20,000	21,000	28,000	74,000
LACW actual	138,000	142,000	120,000	128,000	527,000
LACW Difference	**25,000**	**36,000**	**59,000**	**63,000**	**182,000**
C&I projected	493,000	729,000	496,000	406,000	2,124,000
C&I actual	59,000	49,000	76,000	51,000	234,000
C&I Difference	**434,000**	**680,000**	**420,000**	**355,000**	**1,889,000**
Hazardous projected	49,000	74,000	60,000	65,000	249,000
Hazardous actual	13,000	44,000	65,000	44,000	167,000
Hazardous Difference	**37,000**	**30,000**	**-5,000**	**21,000**	**83,000**
CD&E projected	328,000	598,000	239,000	280,000	1,445,000
CD&E actual	389,000	190,000	156,000	338,000	1,073,000
CD&E Difference	**-61,000**	**408,000**	**84,000**	**-58,000**	**372,000**

Figures rounded to nearest 1,000 tonnes

3.4.10 Projected LACW arisings by 2016/17 (then referred to as 'municipal waste') were significantly higher than the actual arisings. The assumptions behind the modelling were justifiable and a long series of data on past LACW arisings was available for the 2009 study, the differences may be explained by factors including:

- Underlying trend of falling household waste arisings nationally since 2008, which has been attributed to the effects of the economic recession[40];

[38] Black Country Core Strategy Waste Planning Study (2008), Atkins, Appendix E
[39] WDF, WDI 2017, HDI 2017, Black Country Core Strategy Waste Planning Study (2008), Atkins, Appendix E
[40] See APSE (Association for Public Service Excellence) Briefing 13/35 – The Impact of the Economic Downturn on Household Waste Generation http://apse.org.uk/apse/index.cfm/members-area/briefings/2013/13-35-impact-of-economic-recession-on-waste-generationpdf/

- The increase in 'lightweighting'[41] of packaging since 2006;
- Net housing completions in the Black Country have lagged behind the BCCS requirements for the first half of the plan period, on which the waste projections were based[42].

3.4.11 There are significant differences between the 2017 estimated arisings and what was projected for C&I waste and CD&E waste, as the 2009 study was largely relying on regional and sub-regional estimates in regional studies, and there was not a long series of data from the WDI and HWI to compare (only 2006 and 2007 WDI data was available).

3.4.12 Hazardous waste arisings have been lower than predicted apart from Walsall, which recorded higher than predicted tonnages. It isn't clear why this is the case, because the HWI doesn't identify the sites where the waste originated, but analysis of the hazardous waste arisings generated in Walsall suggests it may be in part connected to increased generation of residues from new or expanded treatment facilities[43].

3.4.13 Waste arisings for 2017 and the preceding two years 2015 and 2016 are included within Appendix G to illustrate the trend over these three years. LACW arisings have fluctuated between 2015 and 2017, an increase was seen 2015/16 with a decrease 2016/17, with all 2017 arisings bar Wolverhampton being lower than 2015 arisings. 2017 Black Country total arisings were approx. 0.5% lower than those recorded in 2015. There may be a number of reasons for this steady projection, linked to housing growth in the area and household's waste production. Overall C&I arisings appear to have increased over recent years, in particular Walsall's waste arisings which have increased by more than a half (~58%). Wolverhampton arisings however appear to have decreased by 22%.

3.4.14 CD&E waste has fluctuated over the last three years which may mirror the typical variation in the demand on the construction industry variation and economic implications. 2017 arisings are only marginally higher than those in 2015, Dudley and Sandwell have consistently increased whereas Walsall and Wolverhampton have varied with 2017 arisings being lower than they were in 2015. Hazardous waste overall has grown in the Black Country by 7% over the last 3 years, in particular Wolverhampton, which has increased by more than a quarter. Agricultural arisings in 2015 were considerably lower than those reported in 2016 and 2017, the 2017 arisings are almost triple that recorded in 2015. This increase is mainly related to agricultural arisings in Sandwell.

3.4.15 Table 3.10 sets out how the Black Country's waste arisings were managed at permitted sites in 2017 (excludes waste managed at exempt sites). Appendix D explains the methodology behind categorising waste management sites that received the waste, into the four management methods shown in the table. In 2017 almost 430,000 tonnes (21%) of waste arisings were reused, recycled or composted, over 680,000 tonnes (34%) were recovered or treated and over 715,000 tonnes (36%) was disposed of (primarily to landfill). Over 180,000 tonnes (9%) of waste arisings was managed at a 'transfer' facility where it is stored before bulking and transporting to another facility for reuse, recycling, treatment or disposal. More details on the data sources used to estimate how the Black Country's waste was managed in 2017 are included in Appendix D.

3.4.16 The proportion of LACW which was reused, recycled or composted in 2017 was estimated to be 38%, 57% of LACW was used to recover energy and 5% was disposed of (primarily to landfill).

[41] Lightweighting is a term that has been used to describe the process of making packaging lighter or replacing it with lighter weight alternatives

[42] Based on data from MHCLG Table 122: Housing Supply - Net Additional Dwellings, by Local Authority District, England 2001-02 to 2017-18 8

[43] See Appendix 1 of Technical Appendices on 'Waste Management Site Information' published alongside the adopted Walsall SAD (February 2019): https://go.walsall.gov.uk/site_allocation_document

3.4.17 The proportion of C&I waste which was reused, recycled or composted in 2017 was estimated to be 48%, 12% of C&I waste was recovered or treated, 29% was in transfer and 10% was disposed of (primarily to landfill). Almost 99% of agricultural waste was estimated to be reused, recycled or composted, 1.3% was in transfer and less than 1% was disposed of.

3.4.18 In contrast, almost 60% of CD&E waste was estimated to be disposed of (primarily to inert landfill) in 2017, just 10% was reused, recycled or composted, 23% was recovered or treated and 9% was in transfer. These figures are likely to underestimate reuse, recycling, composting and recovery and overestimate disposal because a significant fraction (460,000 tonnes) of CD&E waste is estimated to be reused at exempt sites in construction projects. Defra UK Statistics on Waste[44] also claim that more than 90% of non-hazardous C&D waste generated in the UK is recovered. Possible other reasons for such a high disposal rate might include:

- In 2017 there were 4 operational landfill sites in the Black Country (see Appendix H) – these were former quarries requiring restoration by infilling of the voids with waste;
- A high proportion of the waste accepted at operational landfills is likely to have been deposited into the void and would therefore have been classified as 'disposal' rather than 'use of waste' or 'recovery' of waste;
- On-site pre-treatment of waste was only taking place at two operational landfill sites in 2017 (Edwin Richards and Oak Farm) – due to proximity to 'sensitive receptors,' on-site treatment has not been permitted at the other two landfill sites (Himley and Highfields South);
- Evidence in the WDI shows that CD&E from the Black Country is being disposed of at former quarries/ landfill sites outside of the Black Country for restoration purposes;
- The Black Country has many sites affected by mining and industrial 'legacy' where imported inert waste is required as part of the land remediation process - this is likely to be classified as 'disposal' rather than 'recovery';
- Many Black Country sites' excavation waste is not 'inert' due to ground contamination and has to be screened to remove any hazardous material for disposal off-site before the remaining material can be redeposited on-site. This is likely to be one of the reasons for the relatively low recycling rate for CD&E waste in the Black Country.
- Other temporary inert waste disposal operations also happen from time to time in the Black Country, for example, infilling of railway cuttings or importation of inert waste to deal with differential site levels, this too is likely to be classified as 'disposal' rather than 'recovery'; and
- The Defra UK Statistics do not include hazardous C&D waste (such as asbestos) or excavation waste – at least some of the CD&E generated in the Black Country is likely to be asbestos waste from buildings and contaminated soil/ water treatment residues, which require disposal in a hazardous landfill site[45].

3.4.19 Finally, over 60% of hazardous waste in 2017 was recovered/treated. 30% is known to be disposed of (primarily to hazardous landfill or incinerator without energy recovery) and less than 10% of hazardous waste from the Black Country was managed at a 'transfer' facility where it is stored before bulking and transporting to another facility for reuse, recycling, treatment or disposal.

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44 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778594/UK_Statistics_on_Waste_statistical_notice_Feb_2019.pdf Defra UK Statistics on Waste (14 February 2019), Table 5

45 Various attempts have been made to estimate how much contaminated soil is generated in the Black Country but they are not reliable (e.g. RPS 2009, Black Country Core Strategy Waste Planning Study (3.6) and Black Country Authorities 2010, Black Country Waste Background Paper 2 (Appendix 7))

Table 3.10 Current (2017) Waste Management (tonnes) (Permitted sites only. Excludes exempt sites)[46]

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
Dudley	Reuse, recycling and composting	47,000 (34.1%)	17,000 (62%)	4,000 (2%)	0	0	69,000 (15%)
	Recovery and treatment***	87,000 (62%)	1,000 (5%)	6,000 (2%)	8,785 (68%)	0	103,000 (23%)
	Transfer	-	5,000 (17%)	800 (0.3%)	500 (4%)	0	6,000 (1%)
	Disposal	4,000 (3.1%)	4,000 (16%)	259,000 (96%)	4,000 (28%)	0	271,000 (60%)
Sandwell	Reuse, recycling and composting	55,000 (39%)	5,000 (24%)	7,000 (6%)	0	7,000 (100%)	74,000 (23%)
	Recovery and treatment	80,000 (56.5%)	2,000 (11%)	35,000 (31%)	31,000 (71%)	0	149,000 (46%)
	Transfer		13,000 (64%)	7,000 (6%)	2,000 (5%)	0	22,000 (7%)
	Disposal	6,459 (4.6%)	243 (1%)	64,758 (57%)	10,612 (24%)	0	82,072 (25%)
Walsall	Reuse, recycling and composting	48,000 (40.3%)	19,000 (37%)	17,000 (29%)	0	2,0003 (99.6%)	86,000 (29%)
	Recovery and treatment	66,000 (54.9%)	4,000 (7%)	11,000 (17%)	38,000 (59%)	6 (0.4%)	118,000 (40%)
	Transfer		29,000 (56%)	15,000 (25%)	7,000 (11%)	0	51,000(17%)
	Disposal	5,805 (4.9%)	134 (0.3%)	18,102 (30%)	19,317 (30%)	0	43,358 (15%)
Wolverhampton	Reuse, recycling and composting	50,000 (39.5%)	15,000 (56%)	36,000 (14%)	0	500 (100%)	102,000 (22%)
	Recovery and treatment	70,000 (54.5%)	4,000 (13%)	82,000 (32%)	27,000 (60%)	0	182,000 (40%)
	Transfer		7,000 (27%)	11,000 (4%)	2,000 (4%)	0	19,000 (4%)

[46] WasteDataFlow (WDF), WDI 2017, HWI 2017, EA waste exemptions register, EA National Packaging Waste Database (See Appendix C for full waste stream source breakdown)

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
	Disposal	8,000 (5.9%)	1,000 (4%)	127,000 (50%)	16,000 (36%)	0	151,000 (33%)
West Midlands (apportioned to Black Country)	Reuse, recycling and composting	-	57,000 (53%)	41,000 (11%)	-	0.2 (0.2%)	98,000 (20%)
	Recovery and treatment	-	17,000 (16%)	114,000 (31%)	-	0.2 (0.1%)	132,000 (27%)
	Transfer	-	15,000 (14%)	66,000 (18%)	-	118 (99.5%)	81,000 (17%)
	Disposal	-	18,000 (17%)	151,000 (41%)	-	0.2 (0.2%)	170,000 (35%)
Black Country	Reuse, recycling and composting	201,000 (38.1%)	113,000 (48%)	106,000 (10%)	0	9,000 (98.7%)	429,000 (21%)
	Recovery and treatment	302,000 (57.3%)	28,000 (12%)	248,000 (23%)	105,000 (63%)	6 (0.1%)	683,000 (34%)
	Transfer		67,000 (29%)	99,000 (9%)	12,000 (7%)	118 (1.3%)	180,000 (9%)
	Disposal	24,000 (4.6%)	24,000 (10%)	620,000 (58%)	49,000 (30%)	0 (0%)	717,000 (36%)

Notes:
Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding.
The table excludes waste manged at exempt sites (approx. 890kt).
Total Local Authority collected waste managed may not match total Local Authority collected waste collected arisings due to stockpiling of waste between reporting periods.
*LACW and Hazardous 'recovery and treatment' method includes 'other' fate
(**) LACW data is for the 2017/18 monitoring year rather than the 2017 calendar year
(***) Recovery and treatment for all areas includes energy recovery/ recovery of waste as 'Refuse Derived Fuel' (RDF).

Existing Waste Management Capacity

3.4.20 The estimated operational waste management capacity in the Black Country at the 'baseline' date is assumed to be equivalent to 'waste received' at Environment Agency permitted sites and incinerators (with and without energy recovery) in 2017, i.e. 2017 operational capacity, with the exception of landfill sites, for the reasons explained below. Further information on the data sources used to estimate the Black Country's existing waste management capacity in 2017 are included in Appendix C. The figures in Table 3.11 are annual capacity estimates and include hazardous waste (as recorded within the WDI). Waste received on/ in land in 2017 has been omitted from the capacity estimates in Table 3.11 because it is typically a short-term operation not likely to continue over the whole plan period. Landfill capacity is also omitted from Table 3.11 and is reported separately from other waste capacity (see Table 3.13), as it is finite/ time limited though often a long-term operation, and is not measured in the same way.

3.4.21 Sites falling within the Environment Agency 'Treatment' Site Category have been sub-divided into 'Treatment – Recycling' (= sites whose operations are predominantly preparing for re-use, recycling or composting) and 'Treatment – Recovery' (= sites whose operations are predominantly recovery of waste as fuel or other waste treatment). This is based on analysis of the operations carried out at each 'Treatment' site, using information provided in planning applications and information published on operators' websites. This sub-categorisation aligns with the waste projections in section 4.4 as recycling and recovery fall under two separate categories. It should be noted that both these categories include different types of treatment aimed at either recycling or recovering value from two very different and quite separate waste streams – CD&E waste and hazardous and non-hazardous waste.

3.4.22 There was estimated to be approximately 3.7 million tonnes per annum (mtpa) of capacity at permitted sites in 2017. Just under 1 mtpa of this capacity was estimated to be at treatment facilities/operations, with recycling operational capacity just over 700,000 tonnes and recovery facilities just under 300,000 tonnes ,with approx. 70% of the Black Country's total 'Treatment' capacity being 'Recycling' and around 30% 'Recovery.' However, there is considerable variation at individual WPA level; in Sandwell around 80% of 'Treatment' capacity is 'Recycling,' in Dudley it is mainly Recycling, Wolverhampton it is around 60%, and in Walsall it is only around 40%.

3.4.23 Over 1.1 mtpa capacity was at metal recycling sites (MRS), of which a high proportion of this capacity is contributed by a relatively small number of very large sites. Approximately 1.3 mtpa capacity was at transfer facilities, although this does not really count towards "management" capacity because it serves a different function. Operational capacity at incineration plants, both with and without energy recovery was just over 220,000 tpa, the majority of which was 'with energy recovery' at the two Council energy from waste facilities (EfWs) in Dudley and Wolverhampton.

3.4.24 All of Dudley's and Wolverhampton's Incinerator capacity is at Council sites whereas all of Sandwell's is at commercial sites. The Transfer figures in this table include inputs into Council Waste Transfer Stations (WTSs) and household waste and recycling centres (HWRCs) which themselves are likely to involve double-counting of waste transferred between sites.

Table 3.11 Existing Waste Management Capacity, 2017 (tonnes per annum)[47]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Metal Recycling Sites (MRS)		152,000	514,000	435,000	48,000	1,149,000
Transfer		167,000	654,000	362,000	147,000	1,330,000
Treatment	*Recycling*	*159,000*	*380,000*	*95,000*	*30,000*	*664,000*
	Recovery	*4,000*	*160,000*	*146,000*	*20,000*	*330,000*
Incineration (with and without energy recovery)		95,000	14,000	-	112,000	221,000
Total		577,000	1,722,000	1,037,000	358,000	3,694,000

Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding
SNRHW = Stable non-reactive hazardous waste

3.4.25 The waste management capacity in 2017 at LACW sites is shown in Table 3.12. These figures are included within the table above, so there will be an element of double counting but they are reported separately to show the operational capacity of the sites belonging to the Black Country waste disposal authorities, LACW transfer site capacity makes up approximately 25% of the overall transfer capacity within the Black Country and incineration operational site capacity makes up approximately 94% of the overall incineration capacity. Sandwell and Walsall do not have their own energy from waste facilities but both authorities have long-term contracts with the Four Ashes EfW in Staffordshire that cover the plan period (Dec 2013 – Dec 2038).

Table 3.12 Existing Waste Management Capacity at LACW sites, 2017 (tonnes per annum)[48]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Incineration (EfW)		95,000	-	-	112,000	207,000
Transfer	WTS	24,000	125,000	91,000	16,000	256,000
	HWRC	17,000	20,000	20,000	22,000	78,000
Total		136,000	145,000	111,000	151,000	542,000

Figures rounded to nearest 1,000 tonnes
WTS: Waste Transfer Station
HWRC: Household Waste Recycling Centre

3.4.26 It should be noted that the 2017 'waste received' data only gives a snapshot of throughput at permitted sites and incinerators in that year, which may not be typical. Two alternative estimates of operational capacity have therefore been reviewed for comparison provided in appendix I. The two alternative estimates of capacity are the average (mean) annual throughput over the past five years 2013 – 2017 from the WDI and Operational Incinerators schedule, and the sum total capacity estimates for individual sites from the Black Country Waste Sites Database 2019 (a gazetteer of these sites can be found in Appendix H).

[47] EA Operational Incinerators and WDI (2017)

[48] EA Operational Incinerators and WDI (2017)

3.4.27 The 5-year average (mean) throughput at permitted sites and incinerators 2013 – 2017 gives a total capacity of around 3.4 mtpa, whereas the 2017 capacity estimates from the Black Country Waste Sites Database 2019 gives a total capacity of around 4.5 mtpa. The latter estimate is the sum of the estimated operational capacity of each known waste facility operating in the Black Country at the end of 2017 for which capacity information is available, excluding landfill sites whose capacity is measured differently. The total capacity figure is significantly higher than the other two estimates because it includes capacity at exempt sites, installations and accredited re-processors where figures are available, as well as the capacity of permitted sites and incinerators. The capacity estimates for permitted sites and incinerators are based on rounded average (mean) throughput 2007 – 2017, although in some cases the figure has been adjusted where throughput has gone significantly up or down since 2007.

3.4.28 The operational status and estimated void space for the Black Country landfill sites is provided in Table 3.13.

Table 3.13 Black Country Landfill Sites – Operational Status and Estimated Void Space, End of 2017 (cubic metres)

Site Name	Facility Type	Authority	Operational Status, End of 2017	Average Input Rate 2013 – 2017 (tonnes)	Estimated Void Space Remaining, End of 2017 (m^3)	Permitted Landfill End Date
Himley Quarry Landfill	Non-Hazardous (SNRHW)	Dudley	Operational	117,000	603,000	31.12.25
Oak Farm Quarry Landfill	Non-Hazardous (SNRHW)	Dudley	Operational	334,000	300,000	21.02.42
Ketley Quarry Landfill	Inert	Dudley	Closed	191,000	0	21.02.42
Edwin Richards Landfill Site	Non-Hazardous	Sandwell	Operational	174,000	10,789,000	21.02.42
Former Aldridge (Birch Lane) Quarry	Inert	Walsall	Pre-Operational	0	600,000	12.09.16
Branton Hill Quarry Extension	Inert	Walsall	Pre-Operational	0	500,000	31.12.30
Highfields South Landfill Site	Non-Hazardous	Walsall	Operational	113,000	1,138,000	31.12.25
Sandown Quarry	Inert	Walsall	Pre-Operational	0	3,000,000	Post Feb 2042

Source: Environment Agency Waste Data Interrogator (WDI) – 5-year average (mean) tonnages received 2013 – 2017, Environment Agency Remaining Landfill Capacity: England as at end 2017, Walsall Site Allocation Document 2019, Policy W4, Planning Permission BC for Branton Hill Quarry Extension.
Note: the figures in the table have been rounded to the nearest 1,000 tonnes/ cubic metres

3.4.29 Ketley Quarry Landfill and Oak Farm Quarry Landfill are now (May 2019) closed. Ketley closed during 2017 and Oak Farm during 2018. The void space of Aldridge (Birch Lane) Quarry is based on estimates from previous landfill surveys (it is stated to be 0 in the Environment Agency Remaining Landfill Capacity table). Infilling of this site should have been completed by September 2016 but had not started at the end of 2017.

3.4.30 The void space of Sandown Quarry is based on estimates from previous landfill surveys. This site is still an operational clay pit, and restoration by infilling with quarry waste is permitted under the current conditions. In principle, the site could accept other imported wastes, though this would be subject to planning permission (see Walsall SAD Policy W4). There is no obligation to begin restoration until brick clay working has ceased, and the conditions allow this to continue until 21 February 2042.

3.4.31 Even though there is potential void space at Aldridge Quarry and Sandown Quarry, it is uncertain whether these will come forward as landfill sites at all/ within the plan period.

3.4.32 Average inputs into Edwin Richards Landfill are based on 2016 and 2017 figures only, as infilling only resumed in 2016. Inputs in 2017 were much higher than inputs in 2016, suggesting that the average input rate is not likely to be representative of the input rate going forward.

3.4.33 Branton Hill Quarry Extension did not receive planning permission until August 2018 so strictly speaking there was no permitted void space at this site at the end of 2017.

3.4.34 Infilling at the inert landfill (Oak Farm Quarry Landfill) was assumed to be completed during 2018 leaving no remaining operational inert only landfill capacity within the Black Country. Remaining void space at the non-hazardous SNRHW landfill (Himley Quarry) was estimated to be 513,000 tonnes at the end of 2017 and remaining landfill capacity at the end of 2017 at the two non-hazardous landfills (Edwin Richards and Highfields South) was just over 10.1 mt.

3.4.35 Of the sites still operational/ not started, two (Himley and Highfields South) are expected to close by 2025, and another (Branton Hill) by 2030 assuming that mineral working proceeds in line with the approved phasing plan. Dependant on annual inputs, it may be that the only site which will still have some operational void space remaining at the end of the plan period and beyond is Edwin Richards.

3.4.36 Taking into account the above, Table 3.14 shows the estimated landfill capacity in the Black Country remaining at permitted landfill sites at the end of 2017. Using conversion factors to convert volume into weight, it is estimated that the total landfill capacity is sufficient to dispose of around 10.7 mt of non-hazardous waste, excluding capacity at Oak Farm which is now closed.

Table 3.14 Landfill Capacity in the Black Country – Void space (cubic meters) and total capacity (tonnes) remaining at permitted sites at end of 2017

Site	Type	Authority	Estimated Void Space at end 2017 (m^3)	Estimated Total Capacity (tonnes)	Permitted End Date
Inert Only					
No permitted sites					
Non-Hazardous					
Himley	Non-Hazardous (SNRHW)	Dudley	603,000	513,000	31.12.25
Oak Farm*	Non-Hazardous (SNRHW)	Dudley	300,000	255,000	21.02.42
Edwin Richards	Non-Hazardous	Sandwell	10,789,000	9,171,000	21.02.42
Highfields South	Non-Hazardous	Walsall	1,138,000	967,000	31.12.25
Total Non-Hazardous Void Space at end 2017			12,830,000	10,905,000	
Hazardous					
No permitted sites					

Source: Environment Agency Remaining Landfill Capacity: England, as at end 2017, void space converted to tonnes using the formula recommended in the former PPG10 Companion Guide (0.85 tonne = 1 cubic metre). All figures rounded to the nearest 1,000 tonnes. Totals may not sum due to rounding.
* This site had ceased operating by the end of 2018.

Specialist Waste Management Capacity

3.4.37 Specialist waste management capacity in the Black Country has been estimated from a range of sources and is summarised in Table 3.15. The level of confidence in estimates of specialist waste capacity from permitting data or specialist databases is considered to be high. However, confidence in estimates of capacity at exempt sites is "very low". Unfortunately, there was no publicly available information on Low Level Radioactive Waste (LLRW) management capacity in the Black Country. Further information on the data sources used to estimate the Black Country's specialist waste management capacity in 2017 are included in Appendix C.

3.4.38 Hazardous waste management capacity has been accounted for in the waste management capacity Table 3.11 above, but the hazardous waste management capacity in Table 3.15 is taken from the Hazardous Waste Interrogator (HW) (2017) and provides visibility of the permitted site hazardous waste capacity within the Black Country. This is based on hazardous waste deposits in the Black Country, as reported by fate; the facility types are therefore categorised slightly differently. It must be noted that the hazardous waste proportions reported in the WDI and the HWI are slightly different.

3.4.39 The End of Life Vehicles (ELV) recycling and depollution facilities and WEEE treatment sites are also included within the MRS and Treatment categories, respectively, in Table 3.11 above.

3.4.40 There was estimated to be approximately almost 2.2 mtpa capacity at specialist waste management sites (excluding wastewater treatment). Almost 1.6 mtpa of this capacity was estimated to be

available at exempt sites, approximately 60,000 tpa at End of Life Vehicles (ELV) and WEEE facilities and over 350,000 tpa at hazardous waste facilities.

3.4.41 The wastewater capacity relates to Maximum Permitted Daily Water Flow (DWF) at five treatment facilities in the Black Country (Lower Gornal, Ray Hall, Goscote, Walsall Wood and Barnhurst) obtained from the Environment Agency 'Consented Discharges to Controlled Waters with Conditions' database and the Draft Black Country Water Cycle Study (August 2019), JBA Consulting. The maximum permitted DWF is estimated to be approx. 162,000 m^3/day across the Black Country sites. Table E6 in Appendix E shows the 'Load Entering' Black Country Wastewater Treatment Facilities (p.e.), 2012 – 2016 and the data suggests that the quantity of wastewater treated at the specified plants has increased between 2012 and 2016.

3.4.42 There is only one sludge treatment centre (STC) in the Black Country, Barnhurst (Wolverhampton), which has a capacity to treat approx. 73,000 tpa, it also has an energy recovery facility which is generating 0.6 MWe of electricity per annum. There is another STC near the Black Country, Roundhill (South Staffs), which has a capacity to treat 122,000 tpa and has an energy recovery facility which is generating 1 MWe of electricity per annum and a biomethane plant which is generating 750 m3 of gas per hour. Bioresources Market Information published by Severn Trent in November 2016 under Ofwat guidelines confirms that Barnhurst and Roundhill have co-located Sludge Treatment Centres (STCs) for treatment of Secondary Activated Sludge. This information indicates that Barnhurst produces around 3,600 dry tonnes of solids (DTS) of sludge end product per annum, and that Roundhill produces around 2,400 DTS of sludge end product per annum.

Table 3.15 Specialist Waste Management Capacity, 2017 (tonnes per annum unless otherwise specified)[49]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Agricultural waste	Exempt Sites	U10, U11, T24 and T25 exemptions				11,000
Hazardous waste	Treatment	14	21,000	84,000	15	106,000
	Recovery	14,000	46,000	66,000	13,000	138,000
	Transfer	2,000	31,000	63,000	13,000	109,000
	Disposal*	1,000	0	1	300	2,000
	Other**	50	400	20	0	400
Low level radioactive waste (LLRW)		No publicly available information on facility capacities to treat LLRW				Not known
Construction waste exemptions		U1 and U3 exemptions				580,000
Disposal (D) exemptions		D1 to D8 exemptions				30,000
Storage (S) exemptions		S1 to S3 exemptions				460,000
Treatment (T) exemptions		T1 to T33 excluding T24 and T25 (Agricultural and food processing waste exemptions)				360,000
Use (U) exemptions		U2, U4to U9 and U12 to U16 exemptions				130,000

[49] See Appendix C for breakdown of data sources

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Wastewater treatment	DWF (m^3/d)***	9,000	76,000	30,000	48,000	162,000
Wastewater sludge treatment	Tonnes	-	-	-	73,000	73,000
ELV recycling and depollution		30,000	7,000	10	5,000	42,000
WEEE treatment		-	4,000	14,000	200	19,000

Note: Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding.
*Includes landfill and incineration without energy recovery
**Includes 'other' fate and rejected
***DWF (M3/d) = Daily Water Flow (cubic metres per day)

Black Country Baseline Total Capacity Estimate

3.4.43 Table 3.16 summarises the total estimated baseline waste management capacity in the Black Country in 2018, based on the information on capacity at permitted landfills in Table 3.14 and capacity at other permitted sites in Table I1 (Appendix I). This excludes capacity at 'exempt' sites and specialist capacity (Table 3.15). To account for likely changes in operational capacity at the waste management sites, Black Country capacity is based on 5-year average (mean) tonnages of 'waste received' at Permitted Sites and Operational Incinerators by Site Category, 2013 – 2017, as discussed in paragraph 3.4.26. Material legislative and collection approach changes have been minimal over this time period, so a five-year average is a more reliable figure than using the longer 10 year average.

Table 3.16 Black Country Baseline Waste Capacity Estimate, 2018 (tonnes per annum)

Capacity Type	Dudley	Sandwell	Walsall	W'ton	Black Country
Recycling and Recovery (annual throughput capacity, tonnes per annum)					
Incinerator	*93,000*	*12,000*	*0*	*109,000*	***214,000***
MRS	*122,000*	*575,000*	*277,000*	*39,000*	***1,013,000***
Treatment - Recycling	*54,000*	*366,000*	*85,000*	*37,000*	***543,000***
Treatment - Recovery	*31,000*	*179,000*	*154,000*	*16,000*	***380,000***
Recycling and Recovery Total	300,000	1,131,000	516,000	202,000	**2,148,000**
Treatment -Recycling – Inert/C&D only*	*38,000*	*194,000*	*15,000*	*16,000*	***261,000***
Transfer (annual throughput capacity, tonnes per annum)					
Transfer	188,000	453,000	361,000	183,000	**1,185,000**
Landfill (void space in cubic metres (m^3) and total capacity in tonnes)					
Inert Only – m^3	*0*	*0*	*0*	*0*	***0***

Capacity Type	Dudley	Sandwell	Walsall	W'ton	Black Country
Inert Only – tonnes	*0*	*0*	*0*	*0*	***0***
Non-Haz – m^3	*603,000*	*10,789,000*	*1,138,000*	*0*	***12,530,000***
Non-Haz - tonnes	*513,000*	*9,171,000*	*967,000*	*0*	***10,650,000***
Hazardous – m^3	*0*	*0*	*0*	*0*	***0***
Hazardous – tonnes	*0*	*0*	*0*	*0*	***0***
Landfill Total – m^3	903,000	10,789,000	1,138,000	0	**12,530,000**
Landfill Total - tonnes	513,000	9,171,000	967,000	0	**10,650,000**

Source: Recycling and Recovery and Transfer - Appendix I Table I1, Landfill - Table 3.14. All figures rounded to the nearest 1,000 tonnes. Totals may not sum due to rounding. Includes capacity at permitted sites only. * This is the 5-year average throughput of Treatment – Recycling sites that receive Inert/ C&D waste only, or receive predominantly Inert/ C&D waste.
Landfill capacity in Dudley excludes capacity at Oak Farm, which ceased operating in 2018 and has no capacity remaining. Remaining landfill capacity in Dudley and Walsall is expected to be used up by the end of 2025.

3.4.44 Based on this information, in 2018 the capacity of permitted waste sites in the Black Country was estimated to be:

- Recycling and Recovery – 2.1 million tonnes per annum
- Transfer – 1.2 million tonnes per annum
- Inert Landfill – 0 cubic metres/ 0 tonnes
- Non-Hazardous Landfill – 12.5 million cubic metres/ 10.7 million tonnes
- Hazardous Landfill – 0 cubic metres/ 0 tonnes

3.4.45 This gives a total baseline capacity of around 14.0 million tonnes.

3.4.46 A very high proportion of this is Non-Hazardous Landfill capacity at one site (Edwin Richards in Sandwell), and about half of the Black Country's permitted Recycling and Recovery capacity (by tonnage) is at metal recycling sites (MRS). Whereas the Landfill capacity is a finite resource that will deplete over time, the other waste capacity will fluctuate and can go up or down as existing sites close or new sites come forward. Strictly speaking, Transfer sites (which include HWRCs) are part of the logistics chain for waste, so including the capacity of these sites means there will be a large element of double counting within the total capacity figure. However, this is probably balanced by excluding any allowance for capacity at 'exempt' sites and re-processors. More importantly, Transfer capacity needs to be included in the waste capacity projections because the new plan will need to identify capacity gaps for all types of waste facility, including capacity for bulking and sorting waste.

3.4.47 The section on cross-boundary waste movements shows that a significant amount of waste from the Black Country is being exported outside the Black Country. However, the Black Country is aiming to maintain 'net self-sufficiency' over the plan period, and in any case, there is no guarantee that capacity outside the Black Country will continue to be available throughout this period. The capacity available outside the Black Country has therefore not been factored into the total baseline capacity estimate.

Planned Waste Infrastructure Projects

Nationally Significant Infrastructure Projects

3.4.48 Responsibility for determining applications for NSIPs rests with the Planning Inspectorate (PINS). Details of development consents granted and current applications for NSIPs are published on the PINS website.[50]

3.4.49 The BCAs have reviewed the projects identified on the NSIP website. There appear to have been no applications for energy from waste, hazardous waste or wastewater NSIPs in or near to the Black Country. There is however one NSIP in Lincolnshire (BAEF) listed in Table 3.17, which considering the capacity of the site, may need to source feedstock from a number of sources including from within the West Midlands.

Waste Infrastructure Projects Relevant to Study Area

3.4.50 Table 3.17 is a schedule of waste infrastructure projects with that are considered to be of relevance to the study. This relevance is established in the following ways:

- It is located within the Black Country; or
- It is located within the area within which cross boundary waste flows into and out of the Black Country have been identified in the waste baseline; or
- It is located outside this area but is of a size or nature that suggests a regional significance that could impinge upon the Black Country.

3.4.51 To identify potential sites, Authority Monitoring Report's, planning portals and/or waste needs assessments (where they exist) have been looked at for Birmingham City Council, Coventry City Council, Solihull Metropolitan Borough Council (MBC), Shropshire Council, Telford & Wrekin Council, Staffordshire County Council, Warwickshire County Council and Worcestershire County Council.

[50] https://infrastructure.planninginspectorate.gov.uk/projects/

Table 3.17 Waste Infrastructure Projects relevant to the study area by Authority and by Type[51]

Authority	Facility Type	Project	Operator	Stage	Throughput (tpa)	Comment
Dudley	HWRC	n/a	Dudley MBC or its Contractor	Pre-scoping	25,000	Council is considering replacing existing HWRC with new facility with c.25 ktpa operational capacity.
Dudley	Pyrolysis Plant	REWS Power Plant (Tipton)	High Energy Fuels Ltd	Planning permission, pre-operational	180,000	Pyrolysis plant within retained existing building (former concrete batching plant) at Bloomfield Road, Tipton, Dudley. Facility will be producing 'torrefied' wood pellets, synthetic gas and electricity from pyrolysis of waste biomass using technology patented by parent company REWS UK PLC. Planned capacity of 180,000 tpa of waste material (feedstock), namely wood and RDF sourced from adjacent waste processing facility operated by AB Waste and from the general market. Operator's website indicated that construction of the plant was complete at the end of 2019 and commissioning was underway.
Sandwell	Energy from Waste Plant	Kelvin Energy Recovery Facility	Verus Energy Oak Ltd	Planning permission, pre-operational	395,000	Application for conventional energy from waste plant on part of the Giffords Recycling site, with a capacity to accept up to 395,000 tpa of imported pre-treated RDF submitted in 2017 (DC/17/61177). This is the latest in a series of permissions for energy from waste facilities on the same site. The previous scheme approved in April 2014 (DC/14/56920) – amended following original proposal (DC/10/52454) - was for a gasification plant with a capacity to receive up to 140,000 tpa of residual household, commercial and industrial waste, including some residual waste from the adjacent sanitary waste recovery facility (now operated by PHS). This was technically implemented before being superseded by the current, larger scheme. Planning permission was refused for this by Sandwell MBC in June 2018 on the grounds of impacts on amenity of nearby residents from noise and impacts on highway safety. The application was approved by a Planning Inspector in September 2019 following an appeal against the refusal (APP/G4620/W/18/3216591). The Environment Agency issued a permit for the facility in July 2019 and the Inspector gave significant weight to this.
Walsall	HWRC	n/a	Walsall Council or its Contractor	Pre-planning	40,000	Council is considering replacing existing HWRC with new facility with c.40 ktpa operational capacity.

[51] See Appendix C for data sources

Authority	Facility Type	Project	Operator	Stage	Throughput (tpa)	Comment
Walsall	WTS	n/a	Walsall Council or its Contractor	Pre-planning	150,000	Council is considering replacing 100 ktpa WTS with new facility with c.150 ktpa operational capacity.
Walsall	Energy from Waste Plant	3Rs (Fryers Road)	BH Energy Gap (Walsall) Limited	Un-implemented planning permission, planning permission for alternative scheme pending	up to 485,000	Energy recovery project at Fryers Road, Bloxwich, which has been revised several times since 2013. Original proposal was for 300,000 tpa gasification plant burning RDF produced on-site from imported residual mixed municipal, commercial and industrial waste. Application submitted September 2019 (19/1172) for conventional 'resource recovery and renewable energy production facility' burning imported pre-treated/source segregated residual waste, including RDF. This has a significantly higher annual throughput than the previous gasification plant proposal (up to 485,000 tpa) and does not include on-site waste processing.
Walsall	Pyrolysis Plant	REWS Power Plant (Bloxwich)	REWS UK PLC	Unimplemented CLOPUD	100,000	CLOPUD (Certificate of Lawful Proposed Use or Development) approved in September 2014 to use existing industrial unit as a pyrolysis plant for the processing of RDF prepared off-site, for the primary purposes of generating and exporting the manufactured clean gas directly to the grid (13/1343/LP). Website of REWS UK PLC, developer of pre-operational pyrolysis plant in Tipton, Dudley (see above) indicates they are looking to acquire this site as a new operational centre. Facility would be a pyrolysis plant producing bio-coal and syngas from waste feedstock prepared at the Tipton plant.
Coventry	Materials Recycling Facility (MRF)	Regional Materials Recycling Facility	TBC – project being led by Coventry City Council	local plan site allocation, pre-application	120,000 – 175,000	Feasibility Study carried out in 2017/18 into technical and economic viability of developing a Materials Recycling Facility (MRF) to serve Coventry City Council, neighbouring authorities (including Walsall Council) and local businesses. The MRF would be developed on land adjacent to the existing CSW (Coventry and Solihull Waste Partnership) EfW site, which is allocated for waste management use in the adopted Coventry Local Plan. Outcome of feasibility study was positive and detailed Business Case for the project was developed during 2018/19, based on a plant with a capacity of around 120,000 tpa with flexibility to increase to 175,000 tpa over a 20-year contract period. It is anticipated this would include up to 30,500 of dry recyclable household waste from Walsall per annum. Coventry's Cabinet authorised officers to establish arms-length company ('AssetCo') between Coventry City Council and the Partner Authorities to progress the project on 27 August 2019. Walsall's Cabinet agreed to next stage of joint working arrangement on 4 September 2019. The indicative timetable identified for the project is for it to be fully commissioned by May 2023, and assuming a 20-year life, it would continue in operation up to 2043 therefore over the rest of the BCP plan period and beyond.

Authority	Facility Type	Project	Operator	Stage	Throughput (tpa)	Comment
Lincolnshire	ATT	Boston Alternative Energy Facility (BAEF)	Alternative Use Boston Projects Limited	Pre-application	1,000,000	Nationally Significant Infrastructure project (NSIP). Gasification facility using RDF as feedstock. The facility is expected to target MSW and C&I waste from conurbations (such as London and the West Midlands) because local arisings will not meet feedstock requirements.
Lincolnshire	ATT	Waste to jet fuel project, Immingham	Velocys Plc	Pre-planning	c.500,000	Gasification facility using MSW and RDF as feedstock and producing syngas which is converted to jet fuel. The facility is expected to target MSW and C&I waste from conurbations (such as London and the West Midlands) because local arisings will not meet feedstock requirements.
Shropshire	MRF	n/a	Mr A Richards	Planning consent	187,800	Change of use from potato plant to a materials recovery facility to process C&I and CD&E waste at Warrant Road, Stoke Heath, Market Drayton, Shropshire, TH9 2JJ Planning consent granted in 2016
Solihull	IVC, biomass and wastewater treatment	n/a	Beechwood Recycling Ltd	Planning permission granted	32,500 municipal 56,500 C&I	In-Vessel Composting (IVC) Facility and Biomass Energy Facility for the composting and treatment of up to 45,000 tonnes per annum of comingled green and food waste and wood waste. In addition, a Wastewater Treatment Plant will process/treat up to 44 million litres of waste water per annum. Permission granted 2016.
Solihull	CD&E waste recycling	n/a	NRS Aggregates Ltd	Planning permission granted	100,000	Crushing, screening and washing of construction and demolition waste using fixed plant at Meriden Quarry. Planning permission granted 2018
Solihull	CD&E waste recycling	n/a	CEMEX UK Operations Ltd	Planning permission granted	49,000	Proposed recycled aggregate facility in existing Berkswell Quarry - CD&EW. Permission granted 2018
Staffordshire	MRF	n/a	Veolia Environmental Services	Planning permission granted	70,000	Additional capacity at existing MRF - increase the annual permitted tonnage from 49,000 tonnes per annum to 70,000 tonnes per annum. Permission granted 2017.
Staffordshire	Waste Transfer Station	n/a	Boulton Skip Hire Ltd	Planning permission granted	25,000 C&I 50,000 municipal	Change in the use of land, consisting of the development of a Waste Transfer station at Moorfields Industrial Estate. Permission granted 2017.
Staffordshire	Renewable energy facility	n/a	John Pointon and Sons Limited	Planning permission granted	83,000	Combined heat and power renewable energy facility using waste wood as a biomass fuel. Permission granted 2017.

Authority	Facility Type	Project	Operator	Stage	Throughput (tpa)	Comment
Staffordshire	Renewable energy facility	n/a	Greener Composting	Planning permission granted	7,000	Biomass boiler facility at Manor Farm, Wall, Staffordshire. Permission granted 2018.
Warwickshire	CD&E waste recycling	n/a	Interfan Ltd	Decision pending	75,000	Inert waste recycling for CD&EW
Warwickshire	Waste Transfer Station	n/a	FCC Environment Ltd	Planning permission granted	20,000	Bulking and transfer of green and bio-waste (food). Permission granted 2018.
Warwickshire	Composting facility	n/a	Veolia Environmental Services	Planning permission granted	40,000	Composting of green waste in open windrows and the chipping of wood. C&I waste. Permission granted 2018.
Warwickshire	MRF	n/a	Fortress Recycling Limited	Planning permission granted	25,000	Installation of sorting and handling plant to process dry mixed recycling. C&I waste. Permission granted 2017.
Warwickshire	EfW	Hams Hall energy Centre	Rolton Kilbride Limited	Planning permission granted	150,000	Renewable Energy Centre - waste management facility for the recovery of energy (heat and electricity) from non-hazardous residual waste using an Advanced Conversion Technology (gasification). C&I and municipal waste facility. Permission granted in 2017.
Worcestershire	Waste Transfer Site	n/a	T Edmunds	Decision pending	Unknown	Transfer site for green waste.
Worcestershire	Biomass boiler	n/a	Go Greener Recycling	Planning permission granted	25,000 C&I 150,000 CDE&W	Biomass boiler and waste transfer station, Permission granted 2018.
Worcestershire	EfW	n/a	Mercia Waste Management	Planning permission granted	230,000	Additional capacity: increase the throughput of the EnviRecover Energy from Waste Facility from 200,000 to 230,000 tonnes per annum. Permission granted 2019.

Authority	Facility Type	Project	Operator	Stage	Throughput (tpa)	Comment
Worcestershire	Waste Transfer Site	n/a	Chloros Environmental Ltd	Planning permission granted	24,000	Waste Transfer Station for Hazardous and Non-Hazardous Waste. Permission granted 2019.

Cross-Boundary Waste Issues

Waste imports and exports

3.4.52 Table 3.18 presents estimates of the volumes of hazardous and non-hazardous waste imported and exported from the Black Country. Imports have been calculated by using the EA WDI 2017 and waste received at permitted sites at Dudley, Sandwell, Walsall and Wolverhampton in 2017 by origin region. This includes Black Country waste received at Black Country facilities. Exports of waste originating have been calculated by using the EA WDI 2017 and waste received at permitted sites in England. This identifies the locations of the sites, including those in the Black Country that received waste in 2017, whose origin was coded to Dudley, Sandwell, Walsall and Wolverhampton. Therefore, both estimates of imported and exported waste include the same fraction of Black Country waste. The figures in Table 3.18 do not include imports to Black Country incinerators or exports to incinerators outside of the Black Country. The 'Waste Received' data has been used as it is the most reliable data set to use when assessing cross-boundary movements of waste, although it does only record waste received at Environment Agency permitted sites and does not always record the origin of the waste beyond regional level, and in some cases does not record the origin at all.

3.4.53 Some of the waste arisings from the Black Country ends up in Wales but this has not been taken into account within the data. The Welsh WDI (WWDI) shows that approximately 30,000 tonnes of codeable waste from the Black Country was exported to Wales in 2015 and 2017 (see Appendix J), mostly metal treatment residues from Sandwell. The same pattern is seen in the 2016 WWDI, although the tonnages were higher (just under 38,000 tonnes). There is no equivalent data for Scotland or N Ireland.

3.4.54 The Black Country was estimated to be a net importer of non-hazardous waste in 2017 by approximately 1.6 mt. Non-hazardous waste imports were estimated to be almost 4.3 mt and exports almost 1.75 mt. Nearly 1 mt of Black Country's non-hazardous waste was received at facilities within the Black Country.

3.4.55 The Black Country was estimated to be a net importer of hazardous waste in 2017 by approximately 286,000 tonnes. Imports of hazardous waste were estimated to be c.380,000 tonnes and exports c.66,000 tonnes. Approximately 28,000 tonnes of Black Country's hazardous waste was treated at facilities within the Black Country. Overall, the Black Country was estimated to import c.1.9 mt more hazardous and non-hazardous waste than it exported in 2017.

Table 3.18 Waste imports to and exports from the Black Country, 2017 (tonnes)

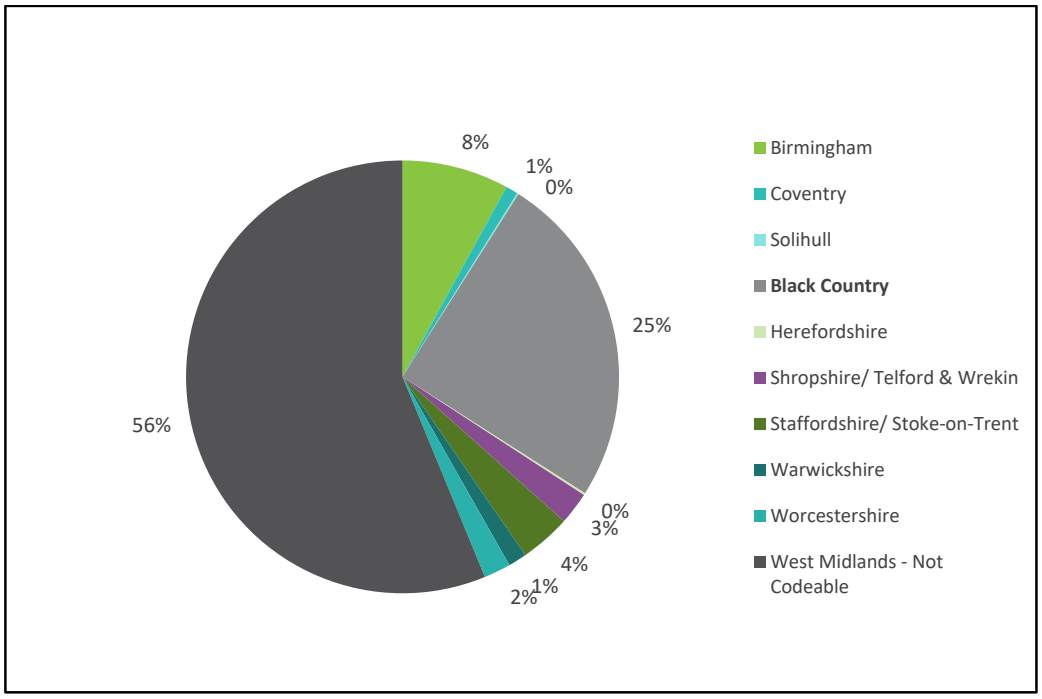
	Imports to BC facilities	Exports to permitted sites in England	Black Country waste arisings received at sites within the Black Country	Net imports
Non-hazardous waste	4,319,000	1,746,000	966,000	1,607,000
Hazardous waste	380,000	66,000	28,000	286,000
Total	4,699,000	1,812,000	994,000	1,893,000

Figures rounded to nearest 1,000 tonnes. Figures are for permitted sites only and do not include data from 2017 Incinerator Waste Returns or Welsh Waste Data Interrogator. Figures also differ from net imports figures in Table 4.5 because they are based on 2017 data only.
Source: Environment Agency Waste Data Interrogator (WDI) 2017

3.4.56 Total imports into Black Country permitted sites totalled 4.7 mt of which approx. 4.3 mt was non-hazardous and 380,000 tonnes was hazardous. Of this imported waste, approximately 994,000 tonnes originated within the Black Country as inter area transfer. The figures in Tables 3.18 and E8 (Appendix E) differ from the "Net imports of waste" figures in Tables 4.5, 4.8 and E14 (Appendix E), which have been used as the 'baseline' figures for the waste capacity projections, because the latter figures use 5-year average waste received figures rather than the tonnages of waste received in 2017.

3.4.57 The total imports into the Black Country originating from the West Midlands region (including the Black Country) was 3.9 mt, representing 82% of the total waste received. Approximately 2.2 mt of this total was origin West Midlands – WPA Not Codeable. Figure 3.2 shows the Waste Received at Permitted Sites in the Black Country in 2017, of which waste originated in the West Midlands Region (where known) and the underlying data can be found in Appendix J.

Figure 3.2 Waste Received at Permitted Sites in the Black Country in 2017: Waste Originating in the West Midlands Region (where known) by Origin WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2017

3.4.58 Table 3.19 shows the origin/region of country and waste management by site category of waste received at permitted waste management facilities in the Black Country. Nearly 83% of waste received at these facilities originated within the West Midlands. Over 46% of the waste received in the Black Country was coded as being from the West Midlands (WPA not codeable), a proportion of which is likely to have arisen within the Black Country as well as other West Midlands authorities. Approx. 21% of the waste received in the Black Country was coded as being from Authorities within the Black Country. Almost 7% of the waste received in the Black Country was coded as being from Birmingham. Outside of the West Midlands, the East Midlands was the second largest importer of waste into the Black Country; importing 176,000 tonnes (3.73% of total waste). Appendix J provides a breakdown of waste imported in 2017 by Basic Waste Category and Region/ Country.

3.4.59 A schedule of those facilities within the Black Country importing more than 10,000 tonnes are at Appendix K, including tonnages sent for incineration.

Table 3.19 Origin Region/ Country and Waste Management by Site Category of Waste Received in the Black Country, 2017 (tonnes)

Origin Region/ Country	Landfill	MRS	Transfer	Treatment	On/In Land	Total	%
East Midlands	24,000	11,000	75,000	65,000	0	175,000	4
East of England	2,000	13,000	15,000	18,000	0	48,000	1
London	21,000	9,000	11,000	57,000	0	99,000	2
North East	4,000	3,000	2,000	5,000	0	15,000	0
North West	15,000	10,000	56,000	35,000	0	116,000	2
South East	600	30,000	12,000	48,000	0	91,000	2
South West	4,000	37,000	51,000	35,000	0	127,000	3
West Midlands	1,115,000	1,007,000	1,054,000	667,000	41,000	3,884,000	83
Yorks & Humber	7	8,000	49,000	35,000	0	91,000	2
N Ireland	0	1,000	30	2,000	0	3,000	0
Scotland	0	150	1,000	5,000	0	6,000	0
Wales	1,000	18,000	3,000	19,000	0	42,000	1
Outside UK	0	800	50	2,000	0	3,000	1
Total	1,186,000	1,149,000	1,330,000	994,000	41,000	4,699,000	100.00

Source: Environment Agency Waste Data Interrogator (WDI) 2017
Note: Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding.

3.4.60 Imports of waste for incineration are not recorded in the WDI or in the EA Operational Incinerators tables, but the EA has published the Incinerator Waste Returns separately, which give the origin of the waste. It should be noted that waste returns cover ALL waste accepted by a site, not just the tonnage incinerated. Table 3.20 shows that nearly 80% of waste received at incinerators in the Black Country originated in the West Midlands. Of this, approx. 71% originated within the Black Country, with the wider West Midlands contributing just under 8% of the total waste sent for incineration. The high proportion of waste imports to incinerators that originated in the Black Country is not unexpected given that the biggest incinerators in the area are the two municipal EfWs in Dudley and Wolverhampton.

Table 3.20 Origins of waste received in the Black Country for Incineration, 2017 (tonnes)

Origin Region	Incineration Total	%
East Midlands	43,000	19
North West	37	0
Wales	4,000	2
West Midlands	177,000	79
Total	224,000	100

Source: EA 2017 Incinerator Waste Returns
Figures rounded to nearest 1,000 tonnes

3.4.61 The cross-boundary movements in 2015 and 2016 are shown in Appendix J, not including waste sent for incineration; they show a broadly similar pattern of inter- and intra- regional waste movements to that of 2017. With regards to imported waste, while more than 80% of the waste received at sites in the Black Country in 2017 was from within the West Midlands, it was more than 84% in 2015, suggesting the Black Country may be moving away from intra-regional 'self-sufficiency' although a 3 year time series of data is too short to tell whether this is an actual trend or just fluctuation.

3.4.62 Table E11 (Appendix E) summarises Black Country waste imports, by Site Category, including waste sent for incineration. Of the 4.9 mt of waste received at permitted sites and incinerators in 2017, the biggest percentage (by tonnage) (27%) was received at Transfer sites, followed by Landfill sites (24%), MRS (23%), Treatment sites (20%), incinerators (5%) and On/In Land sites (1%).

3.4.63 In 2017 1.8 mt of waste originating in the Black Country was exported to permitted sites in England and Wales; 1.7 mt of this was non-hazardous and 66,000 tonnes was hazardous. The waste received at permitted facilities does not provide the fate of the waste exported, but it is possible to identify what type of facility the waste has been sent to in the respective region. Table 3.21 shows the waste management by site category at destination region.

Table 3.21 Destination region and waste management by site category of origin waste Black Country, 2017 (tonnes)

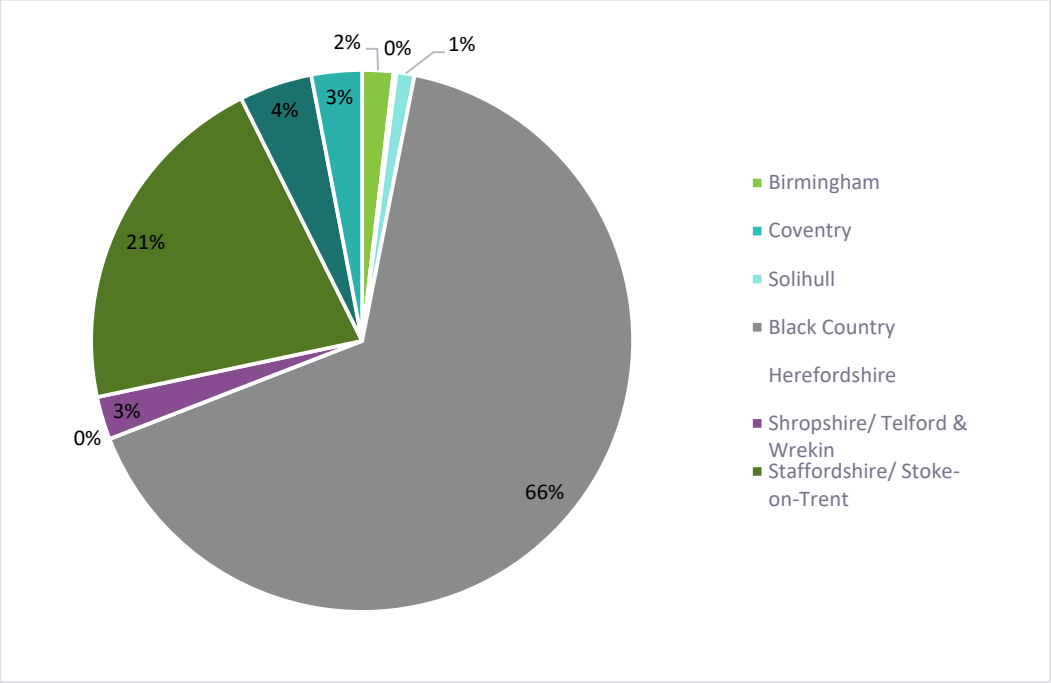
Destination	Landfill	MRS	Transfer	Treatment	On/in Land	Total	%
East Midlands	16,000	3,000	27,000	70,000	-	115,000	6
East of England	2,000	400	10	2,000	-	4,000	0.2
London	-	9	2	8,000	-	8,000	0.4
North East	15	100	4	2,000	-	2,000	0.1
North West	9,000	400	2,000	6,000	-	17,000	0.9
South East	500	100	20	13,000	-	14,000	0.8
South West	200	116,000	100	7,000	-	123,000	7
Wales	18	24,000	200	6,000*	-	30,000	2
West Midlands	525,000	189,000	396,000	336,000	60,000	1,507,000	82
Yorkshire & Humber	200	12,000	100	8,000	-	20,000	1

Destination	Landfill	MRS	Transfer	Treatment	On/in Land	Total	%
Total	553,000 (30%)	344,000 (19%)	426,000 (23%)	459,000 (25%)	60,000 (3%)	1,842,000	100

Source: Environment Agency Waste Data Interrogator (WDI) 2017 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2017
*Includes approx. 4,000 tonnes of waste handled at Metal Reprocessing Sites (a separate BWC category in the WWDI)
Note: Totals may not sum due to rounding.

3.4.64 1.5 mt (82%) of the waste was exported to facilities within the West Midlands. Of this, 69% (approx. 1 mt) was received at sites within the West Midlands metropolitan area (Birmingham, Coventry, Sandwell, Solihull, Walsall, Wolverhampton) and, 66% at sites in the Black Country. Figure 3.3 shows the breakdown of waste received at permitted sites in the West Midlands, whose waste origin was Black Country (the underlying data can be found in Appendix J). The second largest export of waste was to permitted sites in the South West; they received 123,000 tonnes which represents 6.7% of exported waste. The third largest export area was the East Midlands, where permitted sites received 115,000 tonnes of waste originating in the Black Country, representing 6.3% of exported waste. Appendix J provides a breakdown of waste exported in 2017 by Basic Waste Category and Region/ Country.

Figure 3.3 Waste Received at Permitted Sites in the West Midlands in 2017 (tonnes), Waste Originating in the Black Country (where known) by Destination WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2017

3.4.65 As mentioned, the origin of waste is not always specified in the returns to the Environment Agency and this is not a requirement for waste permits. The origin of nearly 6 million tonnes of the waste received at permitted sites in England in 2016 and 2017 and just over 5 million tonnes of the waste received in 2015 was recorded in the WDI as 'West Midlands WPA Not Codeable' or 'West Midlands Estimated.' This represents around 30% of all the waste recorded as originating in the West Midlands by tonnage. Nearly all of this waste was non-hazardous, and more than 95% was received at permitted sites within the West Midlands region. Sites in the Black Country received 2.2

million tonnes of the 'WPA Not Codeable' waste in 2017. Some of this waste will have almost certainly have arisen in the Black Country but we have no way of knowing how much or how and where it was managed, so it cannot be accounted for within the total Black Country export figures above.

3.4.66 Waste exported from the Black Country for incineration have been identified through the EA Operational Incinerators waste returns database and destination regions are shown in Table 3.22. It shows that 94% of waste originating in the Black Country is incinerated within the West Midlands. Of this, it is known that approx. 54% is treated at facilities within the Black Country.

Table 3.22 Destination region and waste management by incineration of origin waste Black Country, 2017 tonnes)

Destination	Incineration Total	%
East of England	15,000	5
North East	25	0
North West	3,000	1
South East	2,00	1
West Midlands	292,000	94
Yorkshire & Humber	0.1	0
Total	311,000	100

3.4.67 Table E11 (Appendix E) summarises Black Country waste exports, by Site Category, including waste sent for incineration. Of the 2.1 mt of waste received at permitted sites in England and Wales and incinerators in England, in 2017, the biggest percentage (by tonnage) (26%) was received at Landfill sites, followed by Treatment sites (21%), Transfer sites (20%) MRS (16%), incinerators (15%) and On/In Land sites (3%).

3.4.68 A list of West Midlands sites outside the Black Country that received the largest tonnages of Black Country waste during 2015 – 2017 can be found in Appendix J.

3.4.69 Appendix J also includes tables (J13-J15) showing the destination WPA of waste originating in the Black Country exported to the East Midlands 2015-2017. There appears to have been an overall increase in waste exported from the Black Country to the East Midlands between 2015 and 2016. A list of East Midlands sites that received the largest tonnages of waste from the Black Country during 2015 – 2017 can also be found in appendix J. Some of the exports can be linked to local authority waste contracts.

3.4.70 Appendix J also includes tables (J16 – J18) showing the destination WPA of waste originating in the Black Country exported to the South West 2015-2017. There appears to have been an overall increase in waste exported from the Black Country to the South West between 2016 and 2017. Nearly all of the waste exported to the South West 2015 – 2017 was received at just three sites which are listed in appendix J.

3.4.71 As shown in Table 3.17 and the data provided there are considerable movements of waste between the BCAs and their neighbouring local authorities; in 2017, 4.7 mt of waste was imported to permitted facilities within the Black Country and 1.8 mt of waste was exported from the Black Country to permitted facilities outside of the Black Country (excludes waste sent for incineration).

The overall picture is that more than 80% of waste imported and exported from the Black Country stays within the West Midlands region and the only other regions that receive significant tonnages of Black Country waste are the East Midlands and South West. Exports outside the West Midlands are <20% of total codeable arisings. Waste flows within the West Midlands emphasises the interdependence that exists between the authorities within this region. This dependence on other authorities presents an opportunity in which to discuss and co-operate on the existing waste flows and what the possibilities there are for the future management of waste arisings within the West Midlands.

HWRC cross-border use

3.4.72 As HWRCs serve a user-defined catchment, the origin of deposits cannot be recorded, and it may be likely that users outside the Black Country catchment area deposit waste at Black Country HWRCs and increase the waste arisings that the BCAs have to deal with. Inter-use of HWRCs by neighbouring authorities is an issue, and with housing growth predicted to carry on rising, the issue will only exacerbate in the future. The City of Wolverhampton Council has (at May 2019) a cross border agreement with Dudley Council for the latter to contribute to the costs of operating one of its HWRC (Anchor Lane) which is used by a large number of Dudley residents (contributing an estimated 40% of waste inputs).

3.4.73 There are a number of other initiatives that can be taken to limit the amount of non-catchment area waste received at the Black Country's HWRCs, these include:

- Enforcement action - residents need permits or ID proving they live in-borough;
- Cross border agreements - formal agreement between neighbouring authorities for unlimited out of area resident access, usually includes a payment; and
- Shared HWRC - HWRC developed by two adjoining authorities, serving specific catchment areas for use by residents from both authorities.

3.4.74 There are also a number of charging mechanisms which have been used by local authorities concerning cross-border use; these have previously included charges either being levied directly on out of area users (e.g. single level of charge, direct weighing charge or charges by waste type) or on the neighbouring authority, whereby a financial agreement is put in place.

Waste Crime

3.4.75 Another concern for cross-border waste issues within the Black Country is waste crime and fly-tipping, as criminals do not recognise authority borders; the waste flows associated with this activity is hard to predict and plan for. In 2017/18 there were 12,256 incidents reported to the Black Country Authorities, slightly down on the previous 2016-17 figure - 13,575 fly tipping incidents within the Black Country[52]. All kinds of waste are fly-tipped, the most common being household waste. Other wastes that are fly-tipped include appliances like fridges and washing machines, waste from building and demolition work, animal carcasses, vehicle parts and tyres. Hazardous wastes such as oil, asbestos sheeting and chemicals are also dumped illegally.

3.4.76 Walsall have already taken action to tackle fly-tipping through establishing a task force, in 2018 they trialled preventative measures and approaches to reducing the number of incidents. These included:

- A trial period of extending the opening hours at the borough's HWRCs;

[52] Fly-tipping incidents and actions taken, reported by local authorities in England 2012/13 – 2017/18, Defra

- A trial period of a free collection of bulky household items;
- A free trial skip service for the deposit of bulky items;
- An increase to the level of reward leading to successful prosecutions for fly-tipping from £100 to £500; and
- Ongoing communications campaign to inform and educate residents and businesses.

3.4.77 The outcomes of the trial indicated that the bulky waste skip trial was not a great success; fly tipping increased when this was being trialled[53]. However, extended HWRC opening hours and free bulky collections appear to have been effective and it is now proposed to open both HWRCs 7 days a week and reduce the fee charged for bulky collections. The trial has resultantly helped the Council make evidence-led decisions in future budget setting and service design.

3.4.78 The benefits of reduced fly tipping within the Black Country would include:

- Lower collection, disposal and investigation costs;
- Cleaner neighbourhoods and public areas; and
- Public satisfaction; fly-tipping and the cleanliness of neighbourhoods is a key concern for residents.

3.4.79 A partnership approach between the four Councils to enforce legal action against waste criminals, as well as co-operation with other responsible bodies (e.g. police, Environment Agency, Highways Agency, Network Rail), landowners and the public would be a worthy option for the Black Country to consider in trying to tackle fly-tipping. There are a number of other initiatives that the Black Country as a whole can consider to tackle fly tipping, which include: use of technology and data intelligence to record and share information on fly tipping incidents; local campaigns and communications across the community to help clear up neighbourhoods or other public areas (Walsall as mentioned have a communications campaign), campaigns can also be combined with educational programmes; training members of the waste management and street cleaning crews to collect evidence and report fly-tipping incidents, incentives for those which lead to successful enforcement action; community sentences appropriate for some offenders could include mandatory involvement in neighbourhood clear ups undertaken under existing campaigns.

3.5 Key Issues for Delivery of Waste Infrastructure

3.5.1 There are a number of key issues for the delivery of waste infrastructure in the Black Country to 2038 and beyond.

3.5.2 Housing and employment land demand are projected to increase as the Black Country regeneration of the urban area progresses. The needs of new waste infrastructure need to be balanced with those of housing and employment for suitable development sites. The BCAs should look to identify development sites for waste infrastructure but with priority placed upon the safeguarding of existing and allocated sites for continued use.

3.5.3 Ongoing emphasis on waste reduction and resource efficiency has seen waste per household decrease from a peak of 1,244 kilograms per household per year (kg/hh/yr) in 2002/03 to 984 kg/hh/yr in 2017/18 (a reduction of over 20%). This has been driven by a range of factors including, but not limited to, household income, increased resource efficiency (such as

[53] Walsall Council, 2019, Outcomes of trials to address fly-tipping in Walsall, Walsall Newsroom website

lightweighting[54]) and changes in consumer habits and behaviours. Similar factors are also thought to be driving reductions in C&I waste. Waste reduction and resource efficiency improvements could have a significant influence on future waste growth which is explored in the next section.

3.5.4 There are emerging changes in the need for different types of waste management capacity. Operational capacity of non-specialist waste management facilities in the Black Country was estimated to be c.3.7 mtpa in 2017 (3.3 mtpa when considering the 5-year average throughput as discussed in Section 3.4.26), in comparison to arisings of c.2 mt and imports of c.3 mt (c.5 mt in total). However, the Black Country is currently short of some types of capacity (e.g. active inert landfill space, household waste MRFs and composting facilities) and reliant on exporting these materials to other areas.

3.5.5 In addition, the way waste will be managed in future is expected to change significantly if the UK transitions towards a Circular Economy. Assuming this happens, the quantities of waste reused, recycled and composted are expected to increase significantly. However, it is now doubtful whether the UK government will adopt the EU 'Circular Economy Package' measures in full following Brexit. Municipal waste recycling rates has also plateaued, suggesting it will be a challenge to meet the higher municipal waste recycling targets, and it remains to be seen whether the actions identified in 'Our Waste, Our Resources' to reduce waste and eliminate difficult to recycle plastic waste will be effective. Waste and capacity projections in the next section provide information on potential future waste management capacity gaps under the 'Circular Economy' scenario and under alternative scenarios with lower recycling rates.

3.5.6 The location of any new infrastructure would need to consider a range of factors from access to transport networks and waste producers to environmental constraints, such as proximity to sensitive receptors, and economic viability.

[54] Lightweighting is a concept that originated in the auto industry about manufacturing vehicles that are less heavy to achieve better fuel efficiency and reduce raw material use and costs. The term has also been used to describe the process of making packaging lighter or replacing it with lighter weight alternatives.

4. Projected Future Waste Capacity Requirements

4.1 The Purpose of this Chapter

4.1.1 The new Plan seeks to deliver very significant development growth which will increase the amount of waste produced that will require management. This chapter evaluates the implications for current management capacity to evaluate whether additional provision will be required over the Plan period and when this requirement is likely to arise.

4.2 Need for Other Development

Household Growth

4.2.1 There are three housing growth scenarios that have been modelled for the purpose of this study as part of the new Black Country Plan. The housing need figure used in the projections has been calculated according to final standard method published by Ministry for Housing, Communities and Local Government (MHCLG) in February 2019 which has been incorporated into the NPPG[55]. These scenarios relate to the extent to which the Black Country plans to meet its Objectively Assessed Need (OAN) and whether it seeks to meet a proportion of the residual requirement of Birmingham. The standard method only provides an indication of housing need for the next 10 years so it is necessary to annualise and extrapolate the figures to provide an estimate of need for longer periods as required for local plan production. The annualised net housing 'need' figures for the Black Country stated below are the sum of the annualised net housing 'need' figures for each authority, however, due to rounding, these figures differ slightly from the Black Country annualised net housing 'need' figures as stated in Housing Baseline Information provided by Black Country Authorities, May 2019.

Housing Growth Scenario 1 (Baseline)

4.2.2 This relates to the annualised total housing 'need' for the Black Country. This equates to:

- Actual net completions of 5,471 dwellings 2016/17 – 2017/18;
- A total 'need' for 75,040 net additional dwellings for the rest of the plan period 2018/19 to 2037/38, which equates to an average (mean) of 3,752 dwellings per annum; and
- A further total 'need' for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 (assumed to be the same as the plan period pro rata), which equates to an average (mean) of 3,752 dwellings per annum.

4.2.3 The total housing need under the baseline scenario is therefore 80,511 net additional dwellings 2016/17-2037/38 and 118,031 net additional dwellings 2016/17 to 2047/48 (see Table 4.1).

[55] MHCLG (July 2019), National Planning Practice Guidance: Housing and economic land availability assessment

Housing Growth Scenario 2 (Birmingham Plus)

4.2.4 This relates to the annualised total housing 'need' for the Black Country under Scenario 1 plus an additional 3,000 net dwellings to help meet the shortfall in Birmingham's needs. It has been agreed to 'test' the potential to accommodate this within the Black Country over the plan period 2018/19 – 2037/38. This equates to:

- Actual net completions of 5,471 dwellings 2016/17 – 2017/18;
- An increased total 'need' for 78,060 net additional dwellings for the rest of the plan period 2018/19 to 2037/38, which equates to an average (mean) of 3,903 dwellings per annum;
- A further total 'need' for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 as for Scenario 1, which equates to an average (mean) of 3,752 dwellings per annum.

4.2.5 The total housing 'need' under Scenario 2 is therefore 83,531 net additional dwellings 2016/17 – 2037-38 and 121,051 net additional dwellings 2016/17 to 2047/48 (see Table 4.1).

Housing Growth Scenario 3 (Black Country Minus)

4.2.6 This relates to the annualised total housing 'need' for the Black Country under Scenario 1, but with the provision of 7,000 net dwellings outside of its boundaries over the plan period 2018/19 – 2037/38. Under this assumption this equates to:

- Actual net completions of 5,471 dwellings 2016/17 – 2017/18;
- A reduced total 'need' for 68,500 net additional dwellings in the Black Country for the rest of the plan period 2018/19 to 2037/38, which equates to an average (mean) of 3,425 dwellings per annum; and
- A further total 'need' for 37,520 net additional dwellings for the next 10 years beyond the plan period 2038/39 to 2047/48 as for Scenario 1, which equates to an average (mean) of 3,752 dwellings per annum.

4.2.7 The total housing 'need' under Scenario 3 is therefore 73,971 net additional dwellings 2016/17 – 2037/38 and 111,491 net additional dwellings 2016/17 to 2047/48 (see Table 4.1).

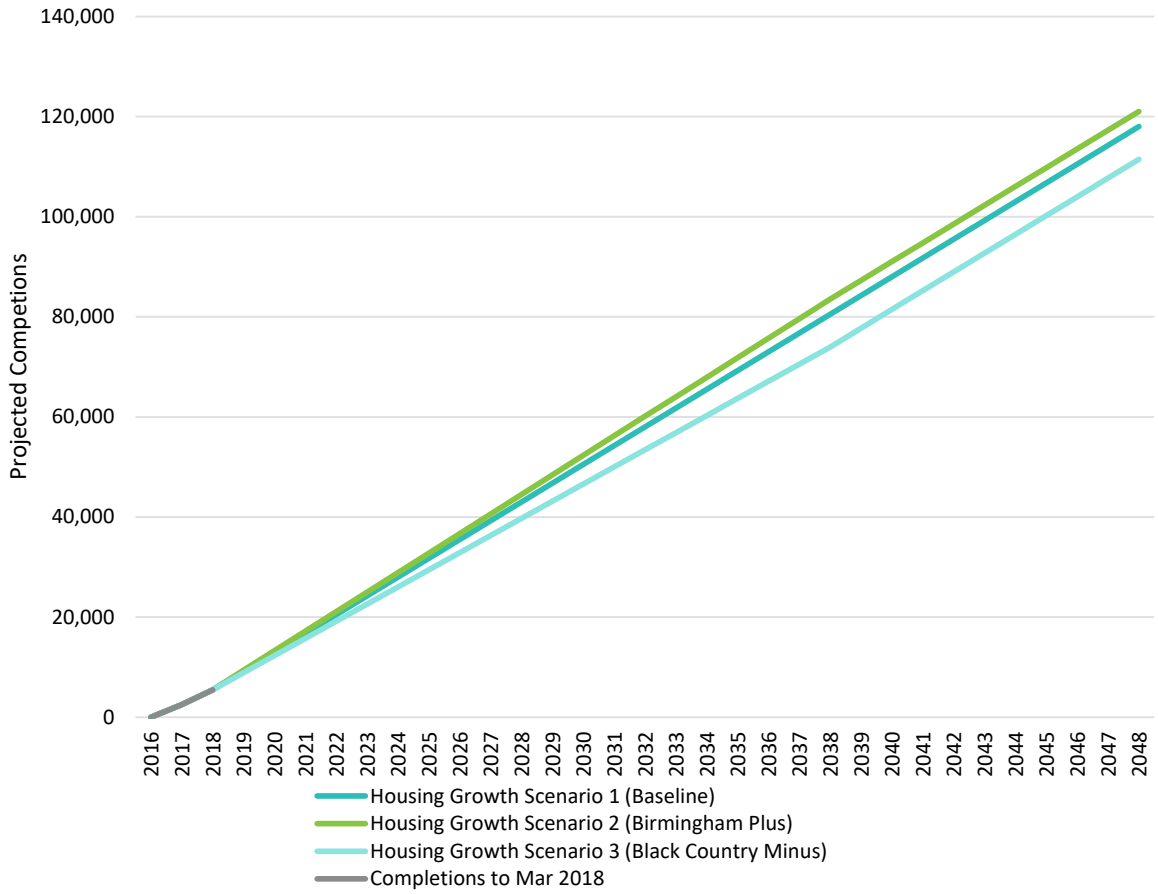
4.2.8 Table 4.1 and Figure 4.1 summarise these scenarios, with Table 4.1 showing 5-yearly cumulative totals for the Plan Period 2016 to 2038 and the 10 years beyond the Plan Period 2038 to 2048.

Table 4.1 Housing Growth Scenarios (cumulative net housing need/growth (net dwellings) 2016 – 2048)

Scenario / Authority	Completions 2016 - 2018	Required 2018/19 - 2022/23	Required 2023/24 - 2027/28	Required 2028/29 – 2032/33	Required 2033/34 – 2037/38	Required 2038/39 – 2042/43	Required 2043/44 – 2047/48
Housing Growth Scenario 1 (Baseline)							
Dudley	1,323	6,423	11,523	16,623	21,723	26,823	31,923
Sandwell	1,557	6,172	10,787	15,402	20,017	24,632	29,247
Walsall	1,218	6,698	12,178	17,658	23,138	28,618	34,098
Wolverhampton	1,373	4,938	8,503	12,068	15,633	19,198	22,763
TOTAL	**5,471**	**24,231**	**42,991**	**61,751**	**80,511**	**99,271**	**118,031**
Housing Growth Scenario 2 (Birmingham Plus)							
Dudley	1,323	6,603	11,883	17,163	22,443	27,543	32,643
Sandwell	1,557	6,257	10,957	15,657	20,357	24,972	29,587
Walsall	1,218	7,103	12,988	18,873	24,758	30,238	35,718
Wolverhampton	1,373	5,023	8,673	12,323	15,973	19,538	23,103
TOTAL	**5,471**	**24,986**	**44,501**	**64,016**	**83,531**	**102,291**	**121,051**
Housing Growth Scenario 3 (Black Country Minus)							
Dudley	1,323	6,003	10,683	15,363	20,043	25,143	30,243
Sandwell	1,557	5,982	10,407	14,832	19,257	23,872	28,487
Walsall	1,218	5,753	10,288	14,823	19,358	24,838	30,318
Wolverhampton	1,373	4,858	8,343	11,828	15,313	18,878	22,443
TOTAL	**5,471**	**22,596**	**39,721**	**56,846**	**73,971**	**92,731**	**111,491**

Source: Black Country Authorities

Figure 4.1 Housing Growth Scenarios



Employment Growth

4.2.9 There are three employment growth scenarios that have been modelled as part of the new Black Country Plan. These all respond to the estimates annualised/ total employment land requirement for the Black Country over the plan period in the Stage 1 Employment Development Need Assessment (EDNA) which is the basis for the supply requirement identified at 3.24 of the Issues & Options Report (July 2017). These scenarios relate to the extent to which the Black Country plans to meet its employment land requirement within its own boundaries of the extent to which demand is met in South Staffordshire.

- Employment Growth Scenario 1 (Baseline). This relates to the annualised total employment land demand within the Black Country. This equates to:
  - A total provision of 880 hectares for the period 2016/17 to 2037/38; and
  - A further provision for 400 hectares for the period 2037/38 to 2047/48.
- Employment Growth Scenario 2 (Minimum Supply Export). This relates to the annualised total employment land demand for the Black Country but with a 'minimum' proportion of the land supply (90 hectares) provided outside its boundaries. This represents the bottom end of the range of provision outside the Black Country identified in the Issues & Options Report (2017). This equates to:

- A provision of 790 hectares for the period 2016/17 to 2037/38; and with further provision for 400 hectares for the period 2037/38 to 2047/48; and
- A balancing provision of 90 hectares for the period 2018/19 to 2037/38 in South Staffordshire.

- Employment Growth Scenario 3 (Maximum Supply Export). This relates to the annualised total employment land demand for the Black Country but with a greater 'maximum' proportion of the land supply (300 hectares) provided outside its boundaries. Although this is higher than the upper end of the provision identified in the Issues & Options Report (2017), it represents the BCAs' current thinking on the maximum provision likely to be identified outside the Black Country based on ongoing discussions with neighbouring authorities. This equates to:
  - A provision of 580 hectares for the period 2016/17 to 2037/38 with further provision of 400 hectares for the period 2037/38 to 2047/48; and
  - A balancing provision of 300 hectares for the period 2018/19 to 2037/38 in South Staffordshire.

4.2.10 These provisions and their apportionment between the BCA are shown in Table 4.2, as 5-yearly cumulative totals.

Table 4.2 Employment Growth Scenarios (cumulative net employment need/growth 2016 – 2048)

Scenario / Authority	Estimated Growth 2016 - 2018	Required 2018/19 - 2022/23	Required 2023/24 - 2027/28	Required 2028/29 – 2032/33	Required 2033/34 – 2037/38	Required 2038/39 – 2042/43	Required 2043/44 – 2047/48
Employment Growth Scenario 1 (Baseline)							
Dudley	16.9	59.1	101.3	143.5	185.8	228.0	270.1
Sandwell	8.8	30.8	52.8	74.9	96.9	118.9	140.9
Walsall	41.4	144.9	248.4	351.9	455.4	558.9	662.4
Wolverhampton	12.9	45.2	77.4	109.7	142.0	174.2	206.6
TOTAL	**80.0**	**280.0**	**480.0**	**680.0**	**880.0**	**1,080.0**	**1,280.0**
Employment Growth Scenario 2 (Minimum Supply Export)							
Dudley	15.0	52.5	89.9	127.4	166.8	209.0	251.1
Sandwell	7.8	27.4	46.9	66.4	87.0	109.0	131.0
Walsall	36.7	128.6	220.4	312.3	408.8	512.3	615.8
Wolverhampton	11.5	40.1	68.7	97.4	127.5	159.7	192.1
TOTAL	**71.0**	**248.5**	**426.0**	**603.5**	**790.0**	**990.0**	**1,190.0**
Employment Growth Scenario 3 (Maximum Supply Export)							
Dudley	10.6	36.9	63.3	89.7	122.4	164.7	206.8
Sandwell	5.5	19.3	33.0	46.8	63.9	85.9	107.9
Walsall	25.9	90.6	155.2	219.9	300.1	403.6	507.1

Scenario / Authority	Estimated Growth 2016 - 2018	Required 2018/19 - 2022/23	Required 2023/24 - 2027/28	Required 2028/29 – 2032/33	Required 2033/34 – 2037/38	Required 2038/39 – 2042/43	Required 2043/44 – 2047/48
Wolverhampton	8.1	28.2	48.4	68.6	93.6	125.8	158.2
TOTAL	**50.0**	**175.0**	**300.0**	**425.0**	**580.0**	**780.0**	**980.0**

Source: Black Country Authorities

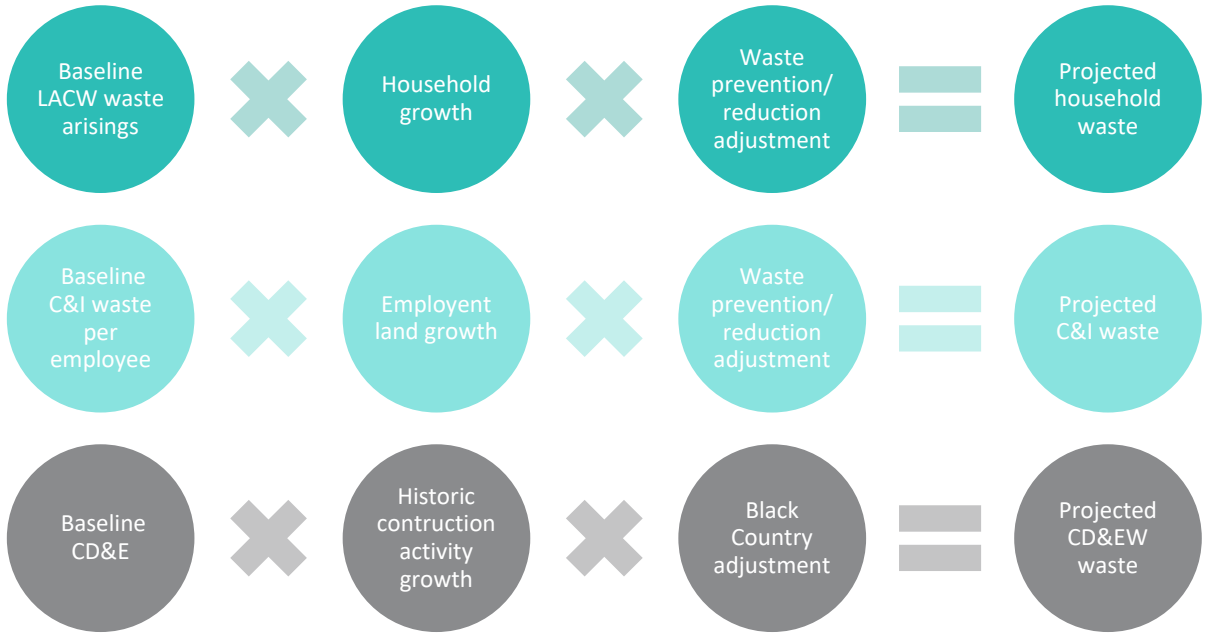
4.3 Waste Projections

4.3.1 The waste projections for the Black Country are a function of waste growth projections and waste management scenarios. These have been informed by the Black Country Authorities and the Resources and Waste Strategy and incorporate differences in waste growth and recycling and recovery performance which may vary over the plan period. Using the available data, we have projected the waste growth over the plan period to inform the potential waste infrastructure that may be required in the future.

Waste Growth Projections

4.3.2 Figure 4.2 provides an overview of the projection methodology for household, C&I and CD&E waste growth.

Figure 4.2 Waste growth projection methodology overview



4.3.3 The household waste growth rate has been estimated as a function of household growth over the plan period and changes in average household waste arisings to reflect waste prevention/reduction activities.

4.3.4 The C&I waste growth rate has been estimated as a function of employment land growth over the plan period and has included an adjustment to reflect waste prevention/reduction activities.

4.3.5 The CD&E waste growth rate has been estimated from historic data on construction activity levels in the West Midlands with an adjustment for the Black Country; an index has been applied to account for the expected increases in the construction industry in the Black Country in future.

4.3.6 The growth of hazardous waste and other waste streams/types was based on agreed growth rates which reflect the level of growth experienced by the C&I waste stream.

Household and C&I Waste Growth

4.3.7 Based on discussions held with their housing, employment and centre groups, the Black Country Authorities agreed a set of baseline and alternative scenarios for the household waste projections based on housing need, and the C&I waste growth projections based on employment land demand arising in the Black Country over the plan period and beyond.

4.3.8 For household waste growth different housing growth scenarios were considered in conjunction with changes in the quantity of waste generated per household. The baseline and alternative housing growth scenarios and waste reduction scenarios are shown in Table 4.3.

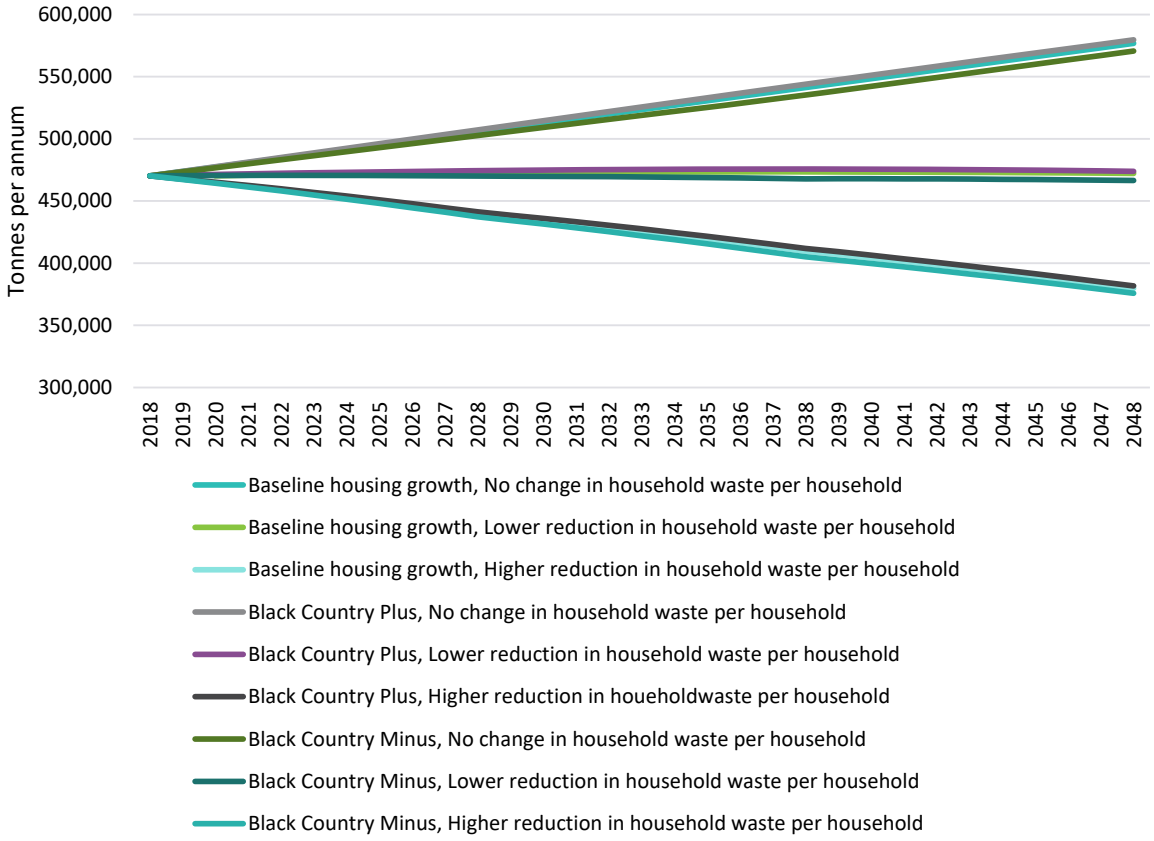
Table 4.3 Housing growth and household waste per household reduction scenarios

	Housing growth	Waste growth
Scenario 1	Baseline housing growth: delivery of 100% of the Black Country's housing need in the Black Country*	No change in household waste per household: household waste per household stays at existing levels
Scenario 2	Black Country Plus: delivery of 100% of the Black Country's housing need in the Black Country plus 3,000 additional dwellings for Birmingham	Higher reduction in waste per household: household waste per household decreases by the equivalent of 13% every ten years in line with the observed trend between 2006/07 and 2016/17;
Scenario 3	Black Country Minus: delivery of Black Country housing need minus 7,000 dwellings to be provided outside of the Black Country	Lower reduction in waste per household: household waste per household decreases by the equivalent of 6.5% every ten years. This level of waste reduction if approximately half of the change observed between 2006/07 and 2016/17

*The housing land supply information which sits behind the baseline housing scenario projections is only an estimate, and the apportioning of land required for housing in the area has associated caveats; it can only give a very approximate indication of where development is most likely to take place if all of the Black Country's housing need has to be met within the plan area.

4.3.9 Figure 4.3 illustrates the impact of different housing growth and waste generation per household scenarios on household waste growth projections. It shows that waste generation per household scenarios have the largest impact on waste growth projections. In comparison changes in housing growth only have a minor impact on household waste growth projections. This is because the growth in waste from a marginal increase in the number of households is outweighed by a reduction in the quantity of waste generated by all households.

Figure 4.3 Household waste growth projections



4.3.10 For C&I waste growth different employment land growth scenarios were considered in conjunction with changes in the quantity of waste generated per hectare of employment land. The employment land growth and C&I waste reduction scenarios are shown in Table 4.4.

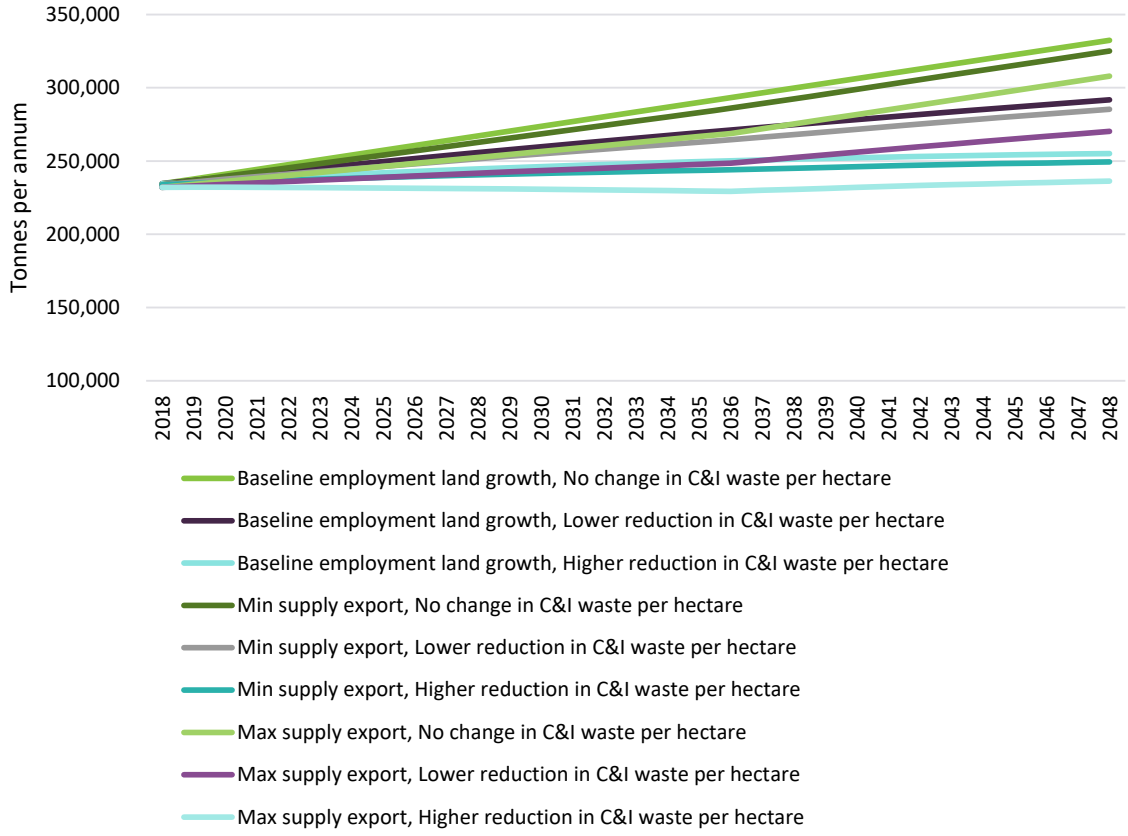
Table 4.4 Employment land growth and C&I waste reduction scenarios

	Employment land growth	C&I waste growth
Scenario 1	Baseline employment land growth: delivery of 100% Black Country's additional employment land need to be met within the Black Country*	No change in C&I waste per hectare.
Scenario 2	Minimum Supply Export: delivery of Black Country additional employment land need minus 90 Hectares to be provided in South Staffordshire	Higher reduction in waste per hectare of employment land. C&I waste per hectare decreases by the equivalent of 6% every seven years. This level of waste reduction is approximately twice the national trend between 2010 and 2016.
Scenario 3	Maximum Supply Export: delivery of Black Country additional employment land need minus 300 Hectares to be provided in South Staffordshire	Lower reduction in waste per hectare of employment land. C&I waste per hectare decreases by the equivalent of 3% every seven years in line with national trend between 2010 and 2016.

* The apportioning of required employment land demand in the area has associated caveats; it can only give a very approximate indication of where development is most likely to take place if all of the Black Country's employment land demand has to be met within the plan area.

4.3.11 Figure 4.4 illustrates the impact of different employment land growth and C&I waste generation per hectare scenarios on C&I waste growth projections. It shows that C&I waste generation per hectare scenarios have the largest impact on C&I waste growth projections. This is because the growth in waste from a marginal increase in the number of businesses is outweighed by a reduction in the quantity of waste generated by all businesses.

Figure 4.4 C&I waste growth projections



4.3.12 Considering the proposed scenarios and the information and knowledge provided to us on the likelihood of each scenario, with the agreement of the BCAs, the following waste growth scenarios are to be used in the projections:

- Household waste: Black Country Minus housing growth scenario combined with the Lower reduction in household waste per household waste growth scenario. Under this scenario household waste **decreases** by 0.8% (-0.03% p.a.) between 2018 and 2048.
- C&I waste: Minimum Supply Export employment land growth scenario combined with Lower reduction in C&I waste per hectare waste growth scenario. Under this scenario C&I waste **increases** by 22% (0.7% p.a.) between 2018 and 2048.

Other Waste Growth

4.3.13 For the CD&E, agricultural and hazardous waste streams, one growth scenario has been used in the projections:

- CD&E: historic construction activity growth and Black Country adjustment equivalent to an increase in contraction activity of 0.04% p.a. Under this scenario CD&E waste **increases** by approximately 89% (2.1% p.a.) between 2018 and 2048.
- Agricultural and hazardous waste streams were assumed to grow at the same rate as C&I waste and **increase** by 22% (0.7% p.a.) between 2018 and 2048.

Impact of imports and exports

4.3.14 Table 4.5 shows that the Black Country currently imports approximately 4.2 mt of waste for management. Black Country waste imports includes waste originating in the Black Country received at sites in the Black Country. Of the 4.2 mt, approximately 1.2 mt is waste which has originated within the Black Country. The Black Country net imports of waste for management were over 3 mt in 2017. The figures in Table 4.5 are different to those in Table 3.18 as the figures in Table 4.5 are based on 5-year average tonnages of waste received at permitted sites and incinerators in the Black Country 2013-2017[56]. Imports have been assumed to increase at the same rate as C&I waste and grow by 22% (0.7% p.a.) between 2018 and 2048.

Table 4.5 Net imports of waste for management in the Black Country (tonnes), 2013-2017 average inputs, by Site Category*

	Recycling	Recovery	Transfer	Disposal	Total
Imports of waste for management	1,559,000	631,000	1,185,000	824,000	4,200,000
Black Country waste imports	143,000	254,000	388,000	369,000	1,154,000
Net imports of waste for management	**1,416,000**	**377,000**	**797,000**	**455,000**	**3,046,000**

*Based on 5-year average WDI inputs at permitted facilities and incinerators in the Black Country, 2013-2017. Black Country waste import tonnages are taken from the 2017 WDI.
Note: includes waste for incineration, categorised under recovery. May not sum due to rounding.

4.3.15 The recycling and recovery imports of waste for management in Table 4.5 are broken down as follows:

- Recycling: MRS (1,013,000) + Treatment-recycling (547,000) = **1,559,000 tonnes**
- Recovery: Incinerator (214,000) + Treatment-recovery (375,000) + On/In Land (42,000) = **631,000 tonnes**

4.3.16 The recycling and recovery of Black Country waste imports for management in Table 4.5 are broken down as follows:

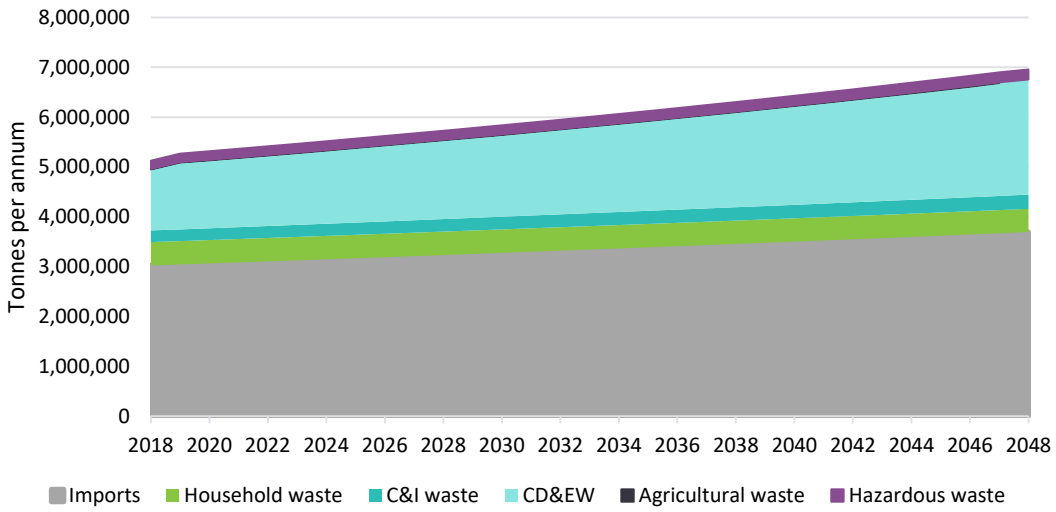
- Recycling: MRS (129,000) + Treatment-recycling (14,000) = **143,000 tonnes**
- Recovery: Incinerator (160,000) + Treatment-recovery (54,000) + On/In Land (41,000) = 255,000 tonnes (rounded to **254,000** on actual total)

[56] Recycling and Recovery capacity figures in Table 4.5 are based on a previous 'split' of the WDI Treatment figures into Recycling and Recovery capacity. The figures have since been adjusted (see Table E7 (Appendix E) for the revised data) and they do not significantly differ enough to invalidate the results of the projections.

4.3.17 The recycling, recovery and transfer capacity figures in Table 4.5 and the total disposal (landfill) capacity in Table 3.15 have been used as the 2018 'baseline' for the waste capacity projections in Table 4.8.

4.3.18 Figure 4.5 presents the waste projections for the Black Country between 2018 and 2048. The projected waste growth tonnages over the plan period by waste stream, from baseline date (2018) to the end date (2038) and at five-yearly intervals in between, are shown in Table 4.6. The quantity of waste the Black Country is projected to manage, increases from 5.1 mt in 2018 to 6.3 mt in 2038 (an increase of 23% or 1.04% p.a.). The underlying data tables for the waste growth projections up to 2048 are included within Appendix L.

Figure 4.5 Black Country waste growth projections



Note: projection does not include waste managed at exempt sites or collected by retailer takeback and producer compliance schemes.

Table 4.6 Projected Waste Growth over the Plan Period by Waste Stream (tonnes)

Waste Stream	2018	2023	2028	2033	2038
Imports	3,023,000	3,126,000	3,232,000	3,342,000	3,455,000
Household	470,000	471,000	470,000	470,000	468,000
C & I	234,000	243,000	252,000	260,000	268,000
CD&E	1,224,000	1,442,000	1,584,000	1,739,000	1,910,000
Agricultural	9,000	10,000	10,000	10,000	11,000
Hazardous	168,000	173,000	179,000	185,000	192,000
Total	**5,129,000**	**5,465,000**	**5,727,000**	**6,006,000**	**6,303,000**

Source: 2017 WDI and Incinerator Waste Returns
Figures may not sum due to rounding.

Waste Management Scenarios

4.3.19 The waste management scenarios are presented in Table 4.7 and focus on the recycling performance to be achieved and by what year. Waste management scenario 2 for household and C&I waste is in line with the Circular Economy targets for re-use and recycling of municipal waste over the plan period 2016/17 – 2037/38 (i.e. 50% by 2020, 60% by 2025, 65% by 2030). This scenario assumes that the national Waste and Resources Strategy will incentivise re-use and recycling of household waste to a significant extent, whereas waste management scenario 3 will do so to a lesser extent.

4.3.20 A different set of assumptions have been applied to the CD&E stream, based on the construction waste targets set under the Waste Framework Directive (2009/98/EC), the management of current CD&E arisings and the likely targets to be set in the future. Article 11.2 of the WFD includes recycling targets that by 2020 a minimum of 70% (by weight) of non-hazardous CD&E, excluding naturally occurring material defined in category 17 05 04 in the List of Wastes, shall be prepared for re-use, recycled or undergo other material recovery. The current management of CD&E arisings show that this target is unlikely to be met within the Black Country. However, as the EU commission introduced the Construction and Demolition Waste Management Protocol in October 2016, which is a set of non-binding guidelines to encourage the construction sector to recycle more and meet targets, it is likely that more ambitious and challenging targets will be set in due course (post-Brexit law transposition pending); in the absence of any targets, Wood has assumed these to be as in Table 4.7.

4.3.21 The waste projections under each scenario over the Plan Period and the ten years beyond, up to 2048, by site category required to manage the waste are included within appendix L.

Table 4.7 Waste Management Scenarios

	Household waste	C&I waste	CD&E waste
Waste management scenario 1 (WMS1): no change in recycling performance	No change in household waste recycling	No change in C&I waste recycling	No change in CD&E recycling
Waste management scenario 2 (WMS2): meet EU Circular Economy targets	65% household waste reuse, recycling and composting by 2030	65% C&I waste reuse, recycling and composting by 2030	c.85% CD&E recycling or recovery by 2030
Waste management scenario 3 (WMS3): progress towards EU Circular Economy targets	55% household waste reuse, recycling and composting by 2030	55% C&I waste reuse, recycling and composting by 2030	c.80% CD&E recycling or recovery by 2030

4.4 Potential Changes to Existing and New Capacity

4.4.1 Many of the changes expected to existing capacity and development proposals are well known through a combination of the terms of existing planning consents (e.g. time limitations), extant planning consents, ongoing applications, pre-application discussions and other local intelligence. These known factors are taken into account below.

4.4.2 The plans of the market are more difficult to know. Operators are constantly seeking to respond to changes in market demand and respond to market opportunities that may well not translate into firm proposals for some years although could emerge and be realised during the period of the new Plan. Market competition and commercial confidentiality issues mean that it is difficult for a Plan to anticipate the nature and scale of these. Market consultation has been attempted with five current or future providers of significant facilities.

Biffa

4.4.3 Biffa operates across the UK and has some transfer, sorting and treatment facilities in the Black Country as well as landfills in the Midlands which take wastes that require safe as well as general waste diverted from EfWs during down-times and maintenance periods. There is a major anaerobic digester at the Poplars landfill at Cannock and a contaminated soils bio-remediation plant and a street sweepings recycling plant at Meece landfill also in Staffordshire. The company has no specific new development projects proposed in the Black Country but is concerned that strategically important transfer, sorting and treatment facilities be protected from encroachment from new housing. Biffa periodically publishes its views on the national market and particular topics of concern in respect of waste and planning policy and the latest of these[57] raises the issue of encroachment by housing as being of national concern.

4.4.4 A further issue for Waste Local Plans is seen as replacement landfill capacity that are unlike recycling and treatment facilities, which are more flexible in their location and permanent once built. In Biffa's view, even with future target recycling levels achieved there is still an on-going need for landfill for wastes which can only be landfilled plus contingency disposal for EfW. It is known that the greatest area of need is in the south and south east[58] and Biffa see it as likely that alternative capacity will be sought further away in, for example, the Midlands.

MES Environmental

4.4.5 It has not been possible to discuss the future of the existing municipal incinerators in the Black Country with its operator MES Environmental (MES-E). Most of the waste accepted by the two facilities in Dudley and Wolverhampton is accounted for by the municipal waste contracts to meet the needs of these WDAs that expire in 2023. Both facilities have operated since 1998 and their future depends directly upon the procurement decisions of the Councils. In the event that these contracts are not extended, or MES-E were not awarded new contracts then unless the equivalent tonnages of C&I waste can be obtained it is likely that these sites could be closed.

Other Consultees

4.4.6 Three other national waste companies that operate significant facilities within and serving the Black Country were also contacted but were unable to respond.

- Veolia operates the Four Ashes Energy Recovery Facility, a large hazardous waste treatment and transfer facility in Aldridge (Empire Treatment Works), and a paper and card recycling facility in Darlaston. It has municipal waste contracts with Walsall and Wolverhampton.
- FCC Environmental that operates a hazardous soil treatment facility and adjacent landfill in Rowley Regis.
- BH Energy Gap that has planning consent[59] for a resource recovery and renewable energy production facility on Fryers Road, Bloxwich.

4.4.7 Although not consulted, another national waste company with a presence in the Black Country - Suez - has a WTS in Willenhall, Wolverhampton which includes a specialised facility for manufacture of concrete blocks from street sweepings and gulley wastes. They also have a contract to operate Walsall Council's Fryers Road WTS and HWRC in Bloxwich and the Merchant's Way HWRC in Aldridge.

[57] Biffa, The Reality Gap (2017) UK residual waste management infrastructure: The continuing challenges and requirements
[58] Environment Agency, Waste management data for England 2017, March 2019
[59] Walsall Council, Planning Decision Notice 15/1157. Application for new, larger, conventional energy recovery scheme was submitted in 2019 (19/1172) (see Table 3.17).

4.4.8 There are several national metal recyclers with a significant presence in the Black Country; MRS capacity accounts for a significant proportion of the Black Country's recycling and recovery capacity:

- ELG have two MRSs in the Black Country, one in Rowley Regis, Sandwell and one in Darlaston, Walsall. ELG also has a pyrolysis plant for recovery of carbon fibre in Coseley, Dudley.
- European Metal Recycling (EMR) have a very large MRS in Darlaston, Walsall, which also has a fridge recycling plant. They also have three facilities in Sandwell, the Cradley Metal Recycling Centre (formerly Metal & Waste Recycling), a MRS at Downing Street, Smethwick, and a gasification plant for automotive shredder residue (ASR) at Union Road, Oldbury.
- Sims Metal Management have a MRS in Halesowen, Dudley and two MRS in Smethwick, Sandwell, one of which (Rabone Lane) is very large.

Existing Capacity

4.4.9 Potential changes to existing waste capacity within the Black Country may arise from the possible projects being realised. Within the Black Country, replacement of Walsall Council's Fryers Road 100,000 tpa non-hazardous domestic, commercial and industrial waste transfer station (WTS) with a 150,000 tpa facility would contribute an additional 50,000 tpa household and C&I capacity to the future waste capacity projections within the Black Country. There are also plans to replace the Fryers Road HWRC with a HWRC which has a 20,000 tpa operational capacity as opposed to 12,000 tpa capacity; this may also include commercial waste streams if the permit variation is granted. Dudley's Stourbridge HWRC may be relocated to a larger, more central site subject to member approval with an estimated operational capacity of 25,000 tpa; an additional 5,000-10,000 more capacity than is currently in place.

4.4.10 There are no current proposals for new materials recycling facilities (MRFs) in the Black Country. It is expected that the Black Country Authorities will continue to rely on MRF capacity outside the area for the management of dry recyclable household waste such as glass, metal, plastics, card and paper. The only MRF project of significance to the Black Country is the proposed 'Regional Materials Recycling Facility' to be developed in Coventry (see Table 3.17). If this goes ahead it could be managing up to 30,500 tpa of dry recyclable household waste from Walsall over a 20-year contract period from 2023 to 2043[60].

4.4.11 Capacity to treat contaminated soils may decrease as Dunton Environmental soil treatment 'hub' at Horsley Fields in Wolverhampton, a temporary facility, is due to close in 2020 due to expiration of its lease. In its first year (2015-16), the site processed over 40,000 tpa and has a permitted capacity of 200,000 tpa.

4.4.12 As noted, there is uncertainty over the future of EfWs in Dudley and Wolverhampton, which have been in operation since 1998, after existing contracts end in 2023. These are the main residual waste treatment facilities for household waste and there are a number of options possible regarding the long-term future of the facilities post contract end. In projecting future capacity, it has been assumed these existing facilities will be upgraded or replaced by facilities of an equivalent size.

4.4.13 The existing landfill capacity will naturally diminish with the Black Country and wider region over the plan period and therefore existing disposal capacity is a concern. This is more so with the current inert landfill capacity estimate and will present a problem in the future. Walsall SAD policies support restoration by landfilling with inert waste and the demand for inert landfill capacity may

[60] Report to Walsall Council Cabinet 4 September 2019: Regional Materials Recycling Facility – Coventry – Public Session

encourage the restoration of two sites: the former Aldridge (Birch Lane) Quarry in Walsall, which remains unrestored since working ceased in 2008, and Sandown Quarry in Walsall. The latter site now has very limited clay reserves remaining and therefore may come forward as an inert landfill in advance of the 2042 end date for mineral working.

4.4.14 There may be a potential reduction in capacity for RDF exports in the EU; the Black Country currently exports approximately 82,000 tonnes of RDF outside of the UK. Following the UK's departure from the EU, it may be that avenues to export this RDF will decrease and the Black Country will have to find alternative RDF takers. However, if the circular economy high recycling targets are implemented, it may be that RDF production decreases accordingly and this reduction in RDF capacity will be less of a concern.

New Capacity

4.4.15 As referenced earlier (Table 3.17), there are potentially four permitted energy recovery projects (two conventional EfW facilities (the '3Rs project being promoted by B H Energy Gap in Bloxwich, Walsall and the Kelvin Energy Recovery Facility being promoted by Verus Energy Oak in Sandwell) and two pyrolysis plants (the REWS projects at Bloomfield Road, Tipton, Dudley and Willenhall Lane, Bloxwich, Walsall)) which may collectively provide additional recovery capacity of up to 1.1 mtpa[61]. Regarding the largest scheme, the energy from waste project to be operated by BH Energy Gap in Walsall, the scheme has a technical start in planning terms and it would appear that there is still an intent to proceed with the project which is approaching financial close. However, as the project has no identified timescale for delivery this future treatment capacity has not been included within the projections.

4.4.16 Two planned EfW NSIPs in Lincolnshire have potential to source waste from the Black Country because local arisings would be insufficient. However, these projects are still in planning or pre-planning stages. One of the facilities (Boston Alternative Energy Facility) intends to use sea transport to transport most of the feedstock and the other facility is believed to favour rail transport. The Black Country may therefore need to access sea and/or rail transport infrastructure to exploit this planned capacity. Due to the uncertainty over whether these facilities will be constructed and whether the Black Country could access these facilities if they were, Wood have not included the capacity from these planned facilities in the capacity projections.

4.4.17 The remaining infrastructure identified in Table 3.17 is likely to have minimal impact on allocations within the Black Country as the larger developments are for waste streams which are restricted in the distance that they can be economically transported for treatment or disposal or are for relatively small quantities which suggest that the increases are to account for small scale local waste arisings. We have therefore not included these potential waste infrastructure projects within the projections.

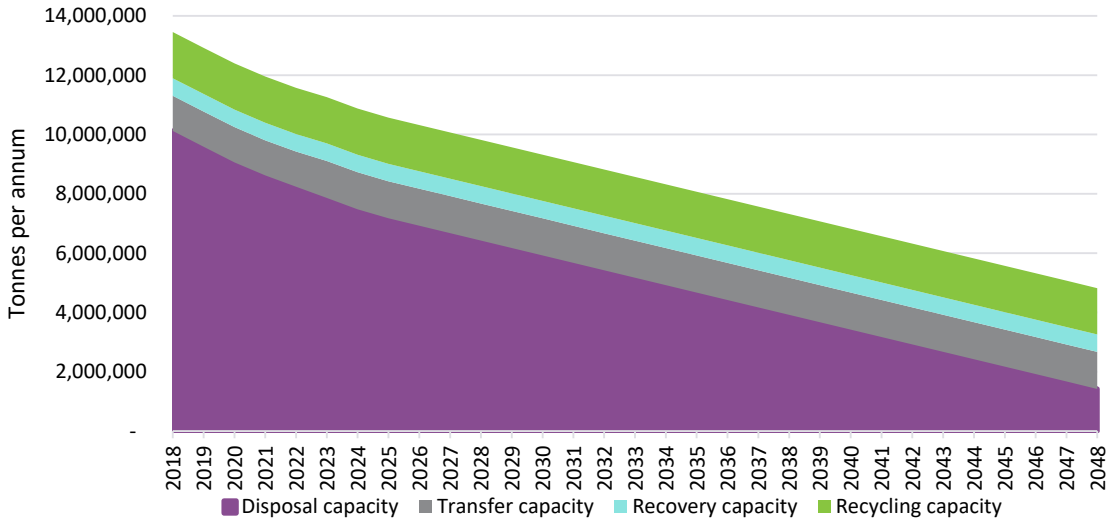
Capacity Projections

4.4.18 Total waste management capacity within the Black Country is projected to decrease over the plan period from approximately 14.0 mt at the start of 2018 (see paragraphs 3.4.43 – 3.4.45 and Table 3.16) to just over 7.3 mt at the end of 2038, as shown in Figure 4.6. This reduction in waste management capacity is driven by decreasing disposal capacity as existing permitted landfill run out of void space. The capacity for Recycling, Recovery and Transfer, based on the evidence

[61] Total of the stated maximum capacity of each project. REWS Power Plant Tipton in Dudley up to 180,000 tpa + Kelvin Energy Recovery Facility in Sandwell up to 395,000 tpa + REWS Power Plant Bloxwich in Walsall up to 100,000 tpa + 3Rs (BH Energy Gap) in Walsall up to 458,000 tpa = **1,133,000 tpa in total**.

reviewed on possible future changes, is not anticipated to increase or decrease significantly over the plan period, although the future of some existing sites (in particular the Dudley and Wolverhampton EfWs) is uncertain. It is also difficult to predict where new Recycling, Recovery and Transfer facilities might come forward during the plan period, as this will be largely dependent on availability of suitable employment sites (see Section 5 below).

Figure 4.6 Capacity projections by site category



4.4.19 The projected waste capacity over the plan period by site category, from baseline date (2018) to the end date (2038) and at five-yearly intervals in between, is shown in Table 4.8. The underlying data tables for the waste capacity projections up to 2048 are included within Appendix L. It will be noted that the projections include capacity at Transfer sites. It is acknowledged that including this within the total capacity estimate will result in a significant element of double counting, because waste transfer plays only a minimal role in the process of managing waste. However, this is balanced by making no allowance for capacity at 'exempt' sites or re-processors within the capacity figure. The waste capacity projections also need to include Transfer capacity because we need to identify possible 'capacity gaps' for all types of waste operation, including for sorting and bulking of waste.

Table 4.8 Projected Waste Capacity over the Plan Period by Site Category (tonnes)

Site Category	2018	2023	2028	2033	2038
Recycling	1,559,000	1,559,000	1,559,000	1,559,000	1,559,000
Recovery	589,000	589,000	589,000	589,000	589,000
Transfer	1,185,000	1,185,000	1,185,000	1,185,000	1,185,000
Disposal	10,120,000	7,858,000	6,421,000	5,171,000	3,921,000
Total	**13,454,000**	**11,256,000**	**9,819,000**	**8,569,000**	**7,319,000**

Source (2018 data): Environment Agency Waste Data Interrogator (WDI) – 5-year average (mean) tonnages received 2013 – 2017, Environment Agency Remaining Landfill Capacity: England as at end 2017, EA Incinerator Returns 2017. The Treatment – Recycling and Treatment – Recovery split in Table 3.16 was adjusted slightly after the projections were done, hence the differing values for 2018, but the adjustments are not significant enough to make a big difference to the projections. Figures may not sum due to rounding.

4.4.20 The projected waste capacity for recovery in 2018 in Table 4.8 (589,000 tonnes) differs to the imports of waste for recovery in the Black Country presented in Table 4.5 (631,000 tonnes) as this figure excludes the On/In land capacity within the Black Country. This is typically a short-term operation which is not likely to continue over the whole plan period and has therefore been removed from the waste capacity projections.

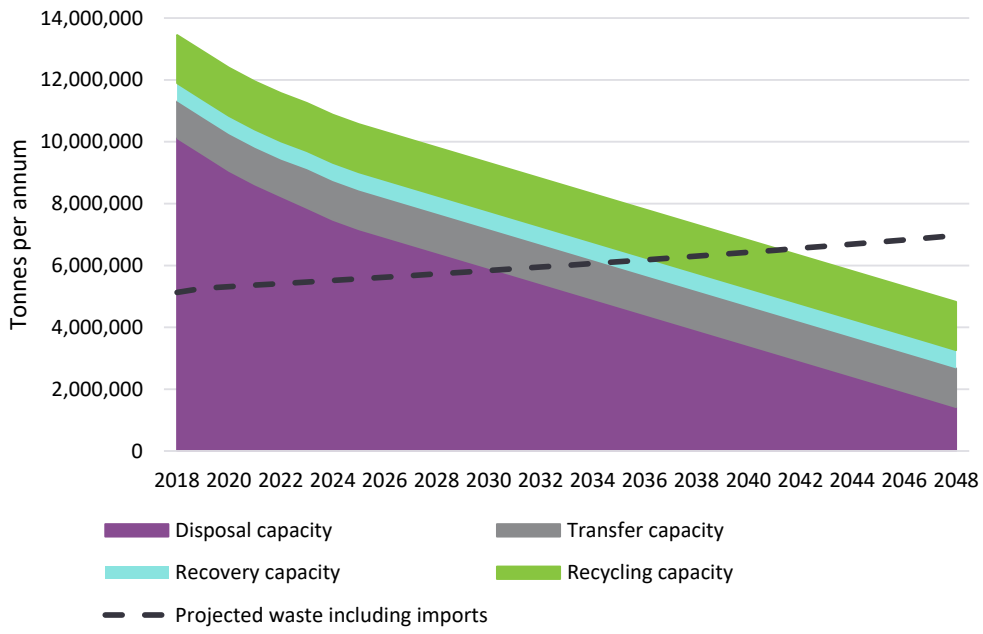
4.5 Waste Management Capacity Gaps

4.5.1 In order to determine future waste management capacity gaps, the waste projections developed in Section 4.3 have been combined with the waste management capacity estimates adjusted to account for the expected changes to existing capacity and future capacity requirements.

Total waste projected to be managed in the Black Country

4.5.2 Figure 4.7 compares projected waste growth over the plan period to the total waste management capacity within the Black Country. By 2042 it appears that there will not be sufficient waste management capacity in the Black Country to manage projected waste volumes including the material imported into the area. However, the way waste will be managed in future is likely to change significantly in order to increase recycling rates and support the transition towards a circular economy. The next sections examine whether the Black Country has the right types of waste management to manage projected waste volumes.

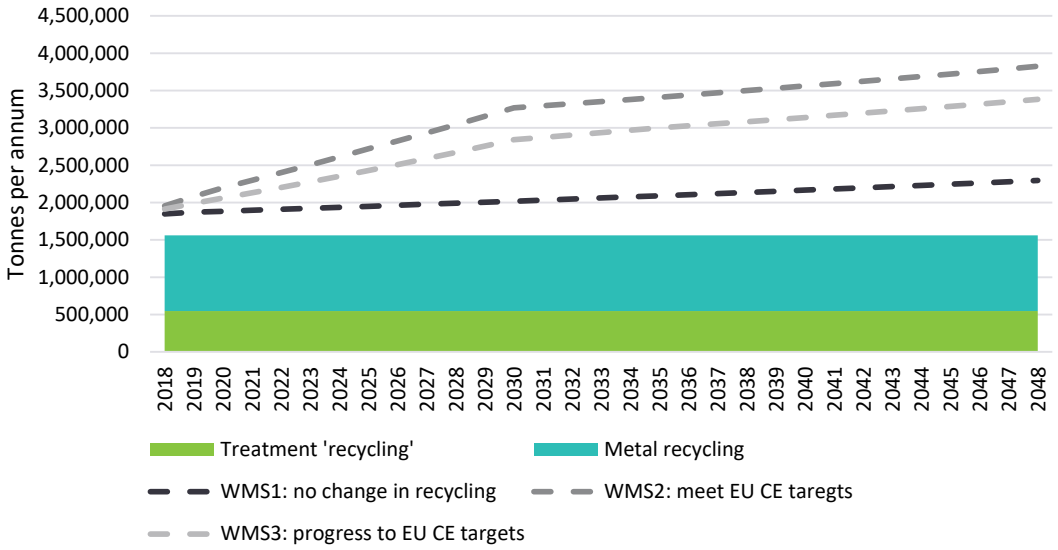
Figure 4.7 Total waste projected to be managed against projected capacity by site category



Reuse, recycling and composting projections

4.5.3 Figure 4.8 compares the reuse, recycling and composting projections to recycling capacity estimates, by site type according to the waste management scenarios in Table 4.7.

Figure 4.8 Recycling waste management scenario projections against recycling and composting capacity by site category



4.5.4 Under the WMS2 option (meet EU CE targets) reuse, recycling and composting is projected to increase by approx. 1.9 mt, from 2 mt in 2018 to 3.8 mt in 2048. The majority of this increase is projected to be generated through increased recycling/composting of CD&E, C&I waste and imported waste with around 124,000 tonnes of additional household waste for recycling/composting.

4.5.5 At the start of the Plan Period there is not enough capacity across all three scenarios to manage the tonnages produced; there is a capacity deficit under WMS2 option of approx. 395 ktpa, 352 ktpa under WMS3 option and 288 ktpa under WMS1 option. At the end of the plan period, there is a capacity gap of 1.9 mtpa under WMS2 option, 1.5 mtpa under WMS3 option and 576 ktpa under option WMS1. Beyond the Plan Period, up to 2048, there is a capacity gap of 2.3 mtpa under WMS2 option, 1.8 mtpa under WMS3 option and 735 ktpa under option WMS1.

4.5.6 Most of the recycling capacity within the Black Country is at Metal Recycling Sites (MRS) (approx. 1.0 mt). However, whilst metal recycling may increase in the future, it is not expected to be a major contributor to increased levels of recycling. Therefore, only a fraction of the material from increased recycling rates projected in WMS2 option and WMS3 option (progress towards EU CE targets) is likely to be managed at MRS. The majority of the increase in material for reuse, recycling and composting in future will need to be managed at MRF and organic waste facilities with transfer stations and reprocessors also playing a key role in the management of source-segregated recyclables.

4.5.7 Given that only a fraction of the increases in recycling projected in WMS2 option and WMS3 option is likely to be metal, the projection highlights that there is a risk of there being insufficient MRF capacity to manage CD&E, C&I and household recycling in future. In addition, the Black Country is currently reliant on MRFs outside the Black Country to manage over 68,000 tonnes of recycling from households[62]. The BCAs may continue to be able to access this external capacity and Walsall Council may also be able to access capacity at the proposed 'Regional Materials Recycling Facility' in Coventry from 2023 onwards (see Table 3.17). However, external MRD capacity may not be able

[62] In 2016/17 Walsall and Wolverhampton used Casepak's facility in Leicestershire and Sandwell used Pure Recycling's facility in Warwickshire. Dudley collects household recycling source-segregated and had limited demand (<1,000 tonnes) for MRF capacity in 2016/17.

to meet all of the Black Country's needs for household recycling capacity in future; commercial or contractual influences may result in this capacity declining or becoming unavailable. It should be noted that some of the material recycling sites that sort and segregate material for re-use are permitted as Transfer sites, so their capacity is included under Transfer.

4.5.8 As stated in paragraph 3.4.21, the treatment category includes different types of treatment aimed at either recycling or recovering value from two very different and quite separate waste streams – CD&E waste and hazardous and non-hazardous waste. Analysis of waste received at Treatment – Recycling sites 2013 – 2017 in the WDI shows that nearly half of the total 5-year average throughput was at sites that receive only Inert/ C&D waste or receive predominantly Inert/ C&D waste (see Table 3.16). Around 75% of this was at sites in Sandwell and a high proportion of this was received at a single site, the Network Rail ballast recycling facility at Bescot Sidings. However, these figures should be treated with extreme caution because they are only likely to represent a fraction of the Inert/ C&D waste recycling capacity available.

4.5.9 It is a moot point whether physical treatment of inert CD&E waste is a 'recycling' or a 'recovery' operation, it is probably a bit of both[63]. Very high 'recycling' rates of more than 90% are being claimed for non-hazardous construction and demolition waste by Defra and the Mineral Products Association (MPA)[64]. Establishing inert waste treatment capacity is further complicated by sites not being permitted in a consistent way. The WDI is only a partial guide to the CD&E recycling facilities that exist because they don't all have Waste Permits or Installation Permits, and those that do are split between the Treatment, Transfer and Landfill Site Categories. For example, while some sites processing inert waste are permitted as Physical Treatment sites and are included in the 'Treatment – Recycling' capacity, others are permitted as Inert Waste Transfer sites and are included in the Transfer capacity. On-site recycling at Landfill sites is typically covered by the Landfill permit, but the 'waste received' data does not distinguish between the waste recovered for re-use and the waste deposited in the landfill. Figures must therefore be interpreted with caution.

4.5.10 An evident capacity gap is that there is no composting capacity within the Black Country; there are no open windrow or In-Vessel Composting (IVC) facilities and none are planned. The current open windrow capacity used by the BCAs to treat green waste is located outside of the Black Country[65] and the Resources and Waste Strategy has proposed mandatory free garden waste collections (subject to consultation). As there are unlikely to be any locations in the Black Country with sufficient distance separation from 'sensitive receptors' to be able to provide them, the Black Country will continue to rely on composting capacity in other parts of the West Midlands to manage its green waste. Additional capacity may be required in future to manage increases in garden waste associated with housing growth.

4.5.11 It has been widely acknowledged[66] that increased food waste composting and recovery will be required to reach household and C&I recycling and composting rate targets. Following Defra's consultation on consistency in household and business recycling collections in England, The Environment Bill includes a requirement for separate collection of food waste from households and businesses by 2023. There are currently no anaerobic digestion (AD) or IVC facilities for food waste in the Black Country. Although classified as a 'recovery' rather than a 'recycling' operation, AD is as an alternative method of recovering value from food waste which is considered environmentally better than composting and other recovery options. Wolverhampton used to send food waste to an AD facility outside of the Black Country at Four Ashes, Staffordshire however their food waste service ended in June 2018. It is likely that the BCAs will be able to access this capacity in future however it will not be able to meet all of the Black Country's needs for food waste treatment

[63] CIRIA Resource Efficiency Knowledgebase - The Efficient Use of Materials in Regeneration Projects, 13: Definitions

[64] Section 4 and Table 5, UK Statistics on Waste, 7 March 2019, Defra

[65] Shropshire, Staffordshire and Warwickshire.

[66] For example, in the EU's Circular Economy Package and the Waste and Resources Strategy,

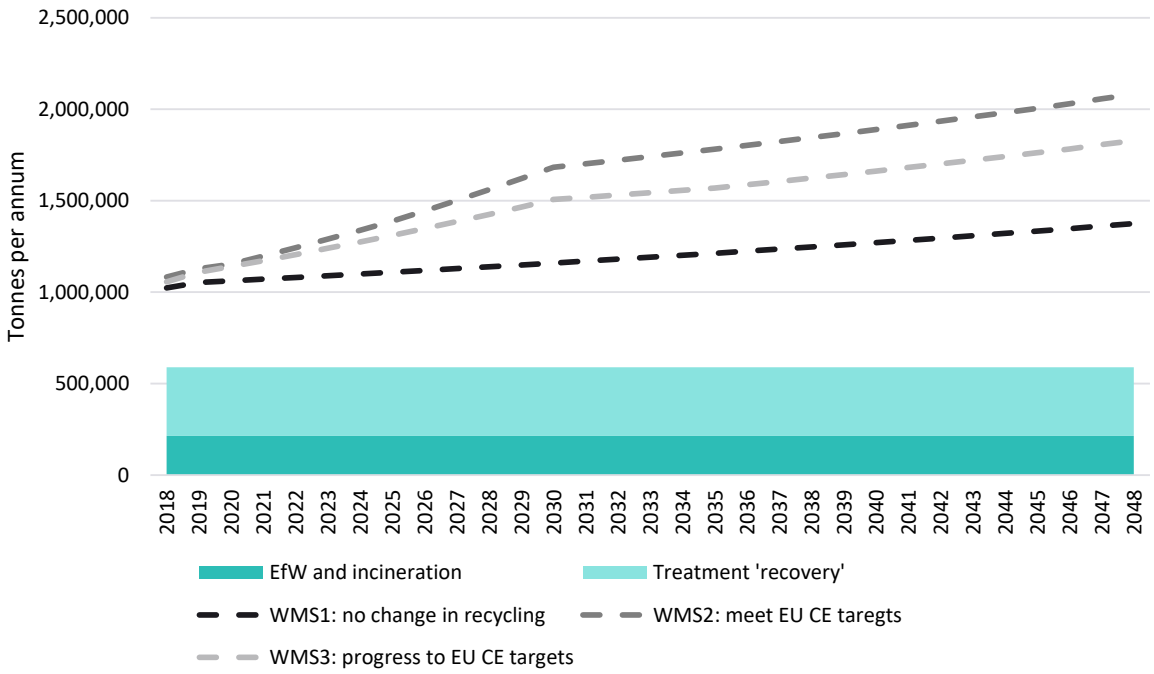
capacity in future. The introduction of separate food waste collections in the Black Country for household and C&I waste could generate between 50,000-150,000 tonnes for management by 2048.

Recovery projections

4.5.12 Figure 4.9 compares the waste recovery projections to the recovery capacity estimates, by site type according to the waste management scenarios in Table 4.7.

4.5.13 Under the WMS2 option material produced requiring recovery is projected to increase by almost 1.0 mt, from 1.1 mt in 2018 to over 2.0 mt in 2048. It is clear from the graph that there will not be sufficient capacity within the Black Country to manage this increase in tonnages. At the start of the Plan Period there is not enough capacity across all scenarios to manage the tonnages produced, especially under WMS2 option where there is a capacity deficit of 493 ktpa. At the end of the Plan Period, there is a capacity gap of 1.3 mtpa under WMS2 option, 1.0 mtpa under WMS3 option and 658 ktpa under option WMS1. Beyond the Plan Period, up to 2048, there is a capacity gap of 1.5 mtpa under WMS2 option, 1.2 mtpa under WMS3 option and 786 ktpa under option WMS1.

Figure 4.9 Recovery waste management scenario projections against recovery and treatment capacity, by site category



4.5.14 As mentioned in paragraph 4.5.9, it is unclear whether physical treatment of inert CD&E waste is a 'recycling' or a 'recovery' operation. A significant proportion of the capacity for recovery of this type of waste in the Black Country is at small sites/ temporary operations due to the difficulty of locating this away from 'sensitive receptors.' There are also very few quarries and landfills in the Black Country where this type of operation can take place. As there will be planned housing and employment growth over the plan period, the majority of the increase in waste requiring recovery is projected to be achieved through increased recovery of CD&E waste. It is important that additional recovery facilities are capable of managing projected increases in CD&E waste in the future.

4.5.15 There is a recovery sub-category of contaminated soil treatment in the Black Country – there are two sites (Edwin Richards in Sandwell and Dunton Environmental in Wolverhampton), both identified as Treatment – Recovery. The Dunton Environmental site is a temporary soil treatment hub operating under a temporary permission due to cease in 2020. Capacity for treatment of contaminated soils will therefore decrease significantly if the Dunton Environmental facility is not replaced with a new soil treatment 'hub' elsewhere. It is likely that the Black Country has sufficient treatment capacity for other hazardous waste treatment and this capacity is unlikely to change over the plan period.

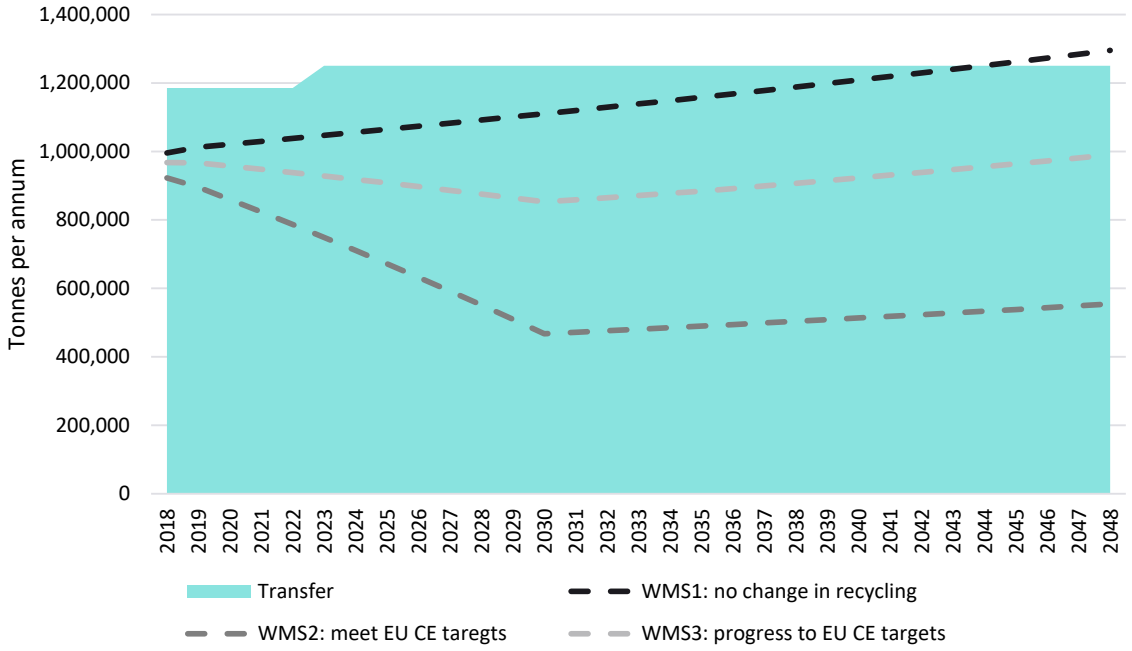
4.5.16 The recovery and treatment of household waste is projected to decrease by over 127,000 tonnes in WMS2 to meet the 65% recycling target. This would make the Black Country less reliant on EfW capacity to manage its household waste however there would still be a requirement for over 142,000 tonnes of EfW to manage household waste in 2048. Sandwell and Walsall have a long-term contract allowing them to send residual household waste to the Four Ashes EfW in Staffordshire until the end of the plan period, but the future of the Dudley and Wolverhampton EfWs (as noted in Section 4.4.5) is uncertain. The four energy recovery projects (identified in Table 3.17 and 4.4.15) have a combined capacity of up to 1.1 million tonnes which would go a long way towards meeting the capacity gap for each of the scenarios modelled.

Transfer projections

4.5.17 Figure 4.10 compares the waste transfer projections to the waste transfer capacity estimates. The Black Country appears to have sufficient transfer capacity to manage its own arisings and imports over the plan period, with surplus requirements across the period and beyond. The small increase in transfer capacity in 2023 is associated with potential changes to existing WTS capacity being delivered within the Black Country, as discussed in Section 4.4. The decrease in waste transfer projections under WMS2 and WMS3 are related to a rise in waste being sent to recycling and recovery operations to meet 2030 targets. However, if waste is sent externally to be managed then transfer capacity within the Black Country will still be considerably utilised.

4.5.18 At the end of the Plan Period, there is a capacity surplus of 747 ktpa under WMS2 option, 343 ktpa under WMS3 option and 62 ktpa under option WMS1. Beyond the Plan Period, up to 2048, there is a capacity surplus of 696 ktpa under WMS2 option and 261 ktpa under WMS3 option. Under option WMS1 there is a capacity deficit from 2044 onwards which is 45 ktpa by 2048.

Figure 4.10 Transfer waste management scenario projections against transfer capacity



Disposal projections

4.5.19 Figure 4.11 compares the waste disposal projections to the waste management capacity for disposal, by site type. The graph shows the remaining total landfill capacity versus the annual waste arisings for disposal. The landfill capacity takes into account only permitted landfill sites within the Black Country, as of the end of 2017. It does not consider the remaining void space of external West Midlands landfills; it is thought the Black Country will be able to continue to access this capacity, but little is known about arrangements at these landfills and they therefore have not been included.

4.5.20 It is assumed that infilling of internal inert landfill capacity was complete by the end of 2018 so inert only landfill capacity is zero throughout the plan period and beyond. It should be noted however, that non-hazardous landfills can and do accept inert wastes. The non-hazardous SNRHW landfill (Himley Quarry) infilling is expected to be complete by 2025 with an assumed infill rate of 150,000 tpa over the rest of its life. Apart from this landfill, there is a lack of hazardous landfill capacity in the Black Country. There are two operational non-hazardous landfills; Edwin Richards has the largest void space as of the end of 2017 (see Table 3.13) and it is assumed the infill rate will be 250,000 tpa based on recent annual inputs, and completion of landfilling at Highfields South is expected to be at the end of 2025 with an assumed average infill rate of around 130,000 tpa.

4.5.21 Even though there is potential void space at Aldridge Quarry and Sandown Quarry, it is uncertain whether these will come forward as landfill sites at all/ within the plan period, so these sites have not been accounted for within the capacity projections. Branton Hill Quarry has also not been included due to uncertainty with its start date.

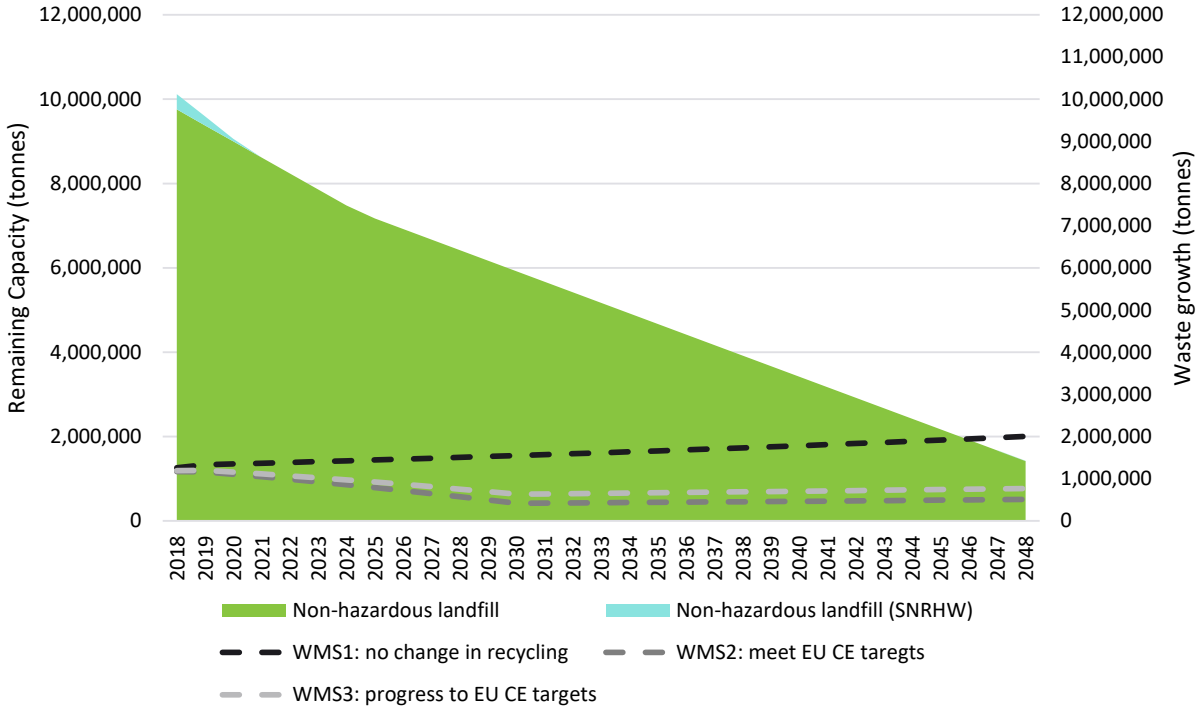
4.5.22 It is projected that the only landfill site within the Black Country which will still have some operational void space remaining at the end of the plan period and beyond is Edwin Richards.

4.5.23 The graph shows that under the WMS1 option (no change in recycling) there is enough capacity to dispose of waste throughout the Plan Period, but existing landfill sites run out of void space by 2046. By the end of 2048 there will be a capacity gap of 584,000 tonnes to dispose of the waste.

Under this option the disposal capacity gap will be bridged by infilling the existing landfill voids more slowly than the current projected annual fill rate or increased use of disposal sites outside of the Black Country.

4.5.24 Under the WMS2 option and WMS3 option increasing recycling rates result in less waste going for disposal with no apparent gap in disposal capacity. Throughout the plan period and beyond (up to 2048) there appears to be sufficient capacity for waste arisings, with a capacity surplus of 911,000 tonnes under the WMS2 option and 651,000 tonnes under the WMS3 option.

Figure 4.11 Disposal waste management scenario projections against disposal capacity by site category



Black Country's waste capacity gaps

4.5.25 To summarise, the 'capacity gaps/surpluses' at the 'baseline' date (2018), as well as the likely gaps by the end of the Plan Period (2038) and at 5-yearly intervals in between, for each site category, is shown in Table 4.9. These capacity gaps are if the available waste capacity is in line with the capacity projections and no additional capacity is provided. The underlying data tables for the waste capacity gaps up to 2048 are included within Appendix L.

Table 4.9 Projected Capacity Gaps/Surpluses under each WMS over the Plan Period, by Site Category (tonnes)

Site Category	2018	2023	2028	2033	2038
Recycling					
WMS1	-288,457	-362,982	-430,976	-501,826	-575,670
WMS2	-395,314	-944,734	-1,482,144	-1,792,924	-1,939,659
WMS3	-352,123	-716,229	-1,111,054	-1,376,542	-1,523,041

Site Category	2018	2023	2028	2033	2038
Recovery					
WMS1	-433,956	-500,590	-549,337	-601,789	-657,768
WMS2	-493,269	-700,912	-971,188	-1,152,230	-1,256,011
WMS3	-466,964	-650,213	-835,886	-954,416	-1,034,525
Transfer					
WMS1	189,546	203,406	158,592	111,703	62,336
WMS2	262,889	501,313	698,917	769,519	746,536
WMS3	218,060	321,969	374,750	379,132	343,477
Disposal					
WMS1	8,858,296	6,451,633	4,914,370	3,555,518	2,187,255
WMS2	8,951,123	6,935,799	5,847,063	4,739,241	3,465,288
WMS3	8,926,457	6,835,940	5,664,838	4,515,431	3,230,243

Figures may not sum due to rounding.

4.5.26 Table 4.9 shows us that the waste management capacity gaps over the Plan Period are more apparent for recycling sites under WMS option 2 and 3 as more waste is sent for recycling in line with government targets. There is also a considerable capacity deficit for recovery sites over all three options, in particular WMS2. There is more waste sent for recovery under WMS2 as this is related to the way imported waste has been forecasted, this element constituting a large fraction of the overall waste. Given the internal increase in waste sent for recycling, and the reduced requirement on waste sent for recovery, it is expected that waste imported for recovery to be slightly higher under WMS2 than WMS3. Under WMS3 the internal demand for recovery capacity is higher with less waste sent for recycling. There is sufficient disposal capacity under all three options over the plan period, in particular under WMS2 and WMS3 as less waste is sent for disposal.

4.5.27 Housing growth will put pressure on existing household waste management capacity, and as this is largely managed outside the Black Country under current contractual arrangements this is an important focus going forward. The BCA may also need to accommodate some of the waste capacity requirements of other waste planning authorities, especially as they are a net importer of waste, putting greater pressure on an already saturated waste management infrastructure capacity.

4.5.28 There are limited options for residual waste disposal with few quarries in the Black Country likely to come forward for restoration by infilling with inert or non-hazardous waste during the Plan Period. There are also limited options for CD&E waste recycling and organic waste treatment; there are no composting or anaerobic digestion facilities within the area.

4.5.29 In order to achieve 'net self-sufficiency' the Black Country would be expected to provide for extra waste capacity of the types it can in theory accommodate (e.g. re-use, recycling, MRS, energy recovery, waste treatment, inert and non-hazardous landfill) to make up for the types of waste capacity it cannot accommodate because of being a largely built-up area (e.g. composting, AD, hazardous landfill).

5. Delivering the Black Country's Future Waste Capacity Requirements

5.1 Policy Options for Waste

5.1.1 Waste facilities are an essential part of the total infrastructure of an area hence provision must be made in the BCCS to deliver facilities and enable the objectives of moving waste up the hierarchy and enabling communities to take responsibility for waste arising in their area to be met.

5.1.2 Certain forms of waste infrastructure are relatively specialised or of strategic scale or are in other ways particularly important in terms of the contribution they make to the overall network. However, and in combination, all facilities can contribute to delivering these objectives.

5.1.3 The regeneration agenda to diversify employment, reverse population decline and improve the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses. If the BCCS is to ensure provision to meet the ongoing and the emerging requirements for waste management capacity identified in Section 4 then effective policies to arbitrate between different land uses are required.

5.1.4 This section seeks to support policy formulation by providing evidence to understand the forces that influence land-use change and the re-use of sites. Whilst quantification of these forces is difficult, an appreciation can be gained through evidence of development interest and other 'market signals'. In this way, the extent to which regeneration poses a threat to traditional employment areas in general and existing waste uses in particular, can be evaluated.

5.1.5 This appreciation is gained in the following ways:

- by understanding the nature of the Black Country and the environmental and policy constraints that apply to development in general and to waste provision in particular. This has been addressed through the application of a Geographical Information System (GIS) based approach to exclude areas where development would be inappropriate;
- by understanding the behaviour of the local development market in respect of the general conditions that promote interest in the redevelopment of land and how this is being presently translated in the context of the Black Country. This has been addressed through a combination of publicly available data and research, evidence of development activity obtained from each of the BCAs and consultation with developer stakeholders;
- by applying the above findings to an assessment of twenty three areas and sites agreed with the BCAs. These are either currently accommodating waste capacity, being proposed for redevelopment or, in some cases, proposed for development for the first time. This has been addressed through a combination of the GIS mapping of publicly available evidence and desk study validated through site visits;
- by understanding the generic development and planning costs that are likely to apply to waste proposals of various scales and complexities and those influenced by specific site sensitivities that may apply.

5.1.6 Taken together, these tasks serve to identify what are likely to be the best areas for future waste capacity and the extent to which these may be threatened by past, present or proposed development activity. This prompts consideration of potential approaches to safeguarding existing

uses and potential allocations as well as measures and indicators to monitor the effectiveness of any safeguarding policy.

5.2 Identification and Assessment of Waste Options – Mapping Constraints

5.2.1 The applied methodology seeks to identify deliverable waste sites that are available, suitable and feasible now or in the near future.

Sources of Guidance

5.2.2 The methodology is objective based. Assessment criteria are expressed as a specific objective founded in policy and 'best practice' that focuses upon the implementation of legislation of policy principles. These have been derived through a review of the following:

- National planning policy and other policy to identify Government objectives; (e.g. the National Planning Policy Framework;
- Reference to the policies of the existing policies of the BCCS as well as the findings of the review of these policies set out in Section 3.3 of this report; and
- Operational, technical and deliverability considerations (e.g. site size, configuration, highway infrastructure etc).

Site Assessment Methodology

Defining the Study Area

5.2.3 The study area relates to the existing settlement boundaries within the administrative area of the four authorities. Areas of Green Belt within and outside these areas are considered where amendments to these boundaries are being considered prior to possible revision in the BCCS.

Assessing the Study Area

5.2.4 A Geographical Information System (GIS) based approach is used to 'filter out' unsuitable areas through the application of defined constraints. As well as this top down assessment of constraints, a bottom up approach also identifies site opportunities. The methodology and the mapping of constraints comprises three distinct stages:

- **Stage 1** – The identification and mapping of preferred locations for waste uses. These are referred to as *Positive Locational Objectives*.
- **Stage 2** – The identification and mapping of constraints that rule out development as a matter of policy. These are referred to as *Spatial Exclusionary Objectives*; and
- **Stage 3** – The identification and mapping of constraints that may rule out development as a matter of policy. These are referred to as *Spatial Discretionary Objective*.

5.2.5 As the methodology is objective based, this facilitates a consistent approach across the study area.

Stage 1 Positive Locational Objectives – Potential Areas

Site Size

5.2.6 Site requirements will vary according to the nature and capacity of the type of facility being sought. Reference cases have been sought from planning permissions granted over the past 5 years. Aside from EfW, the area of search has been restricted to the nearby authorities of Shropshire, Staffordshire and Warwickshire. The details of these reference cases are in Table 5.1 below

5.2.7 There is some variation in the site areas for apparently comparable development. The larger sites can be explained due to specific site conditions (waterfront location and extensive landscaping at Newhaven, the co-location with other facilities at Shrewsbury) and where the applicant controls a much wider area so that land economy is not paramount and a long access is required.

5.2.8 For the purposes of this study a minimum site requirement is 1 hectare. This is considered to be adequate to accommodate a modern HWRC will adequate circulation and space for on-site queuing to avoid conflicts with other highway users within the urban area.

Table 5.1 Facility Specific Site Requirements

Location	Tonnage Managed	Site Area (ha)	Facilities Accommodated	Comment on EfW Area
Energy from Waste Comparators				
Greatmoor, Buckinghamshire	300,000	9.6	Energy from Waste Facility, incinerator bottom ash processing	An area of landfill falls within the application boundary. The EfW has a total footprint of 10,151 m^2 (1 hectare) within 1.5 hectares including circulation.
Newhaven	242,000	4.7	Energy Recovery Facility, Waste Transfer Station	A waterfront site with extensive landscaping. The ERF building is 0.9 hectares within 1.9 hectares including circulation.
North Hykeham, Lincolnshire	150,000	3.2	Energy from Waste Facility, incinerator bottom ash recovery facility	The ERF building is 0.9 hectares within 1.9 hectares including circulation.
Shrewsbury	90,000	4.3	Energy Recovery Facility with Household Recycling Centre (HRC) and Waste Transfer Station/Materials Recycling Centre (WTS)	Contains a suite of waste management facilities. The ERF buildings equate to about 0.6 hectares within 1.2 hectares including circulation.
Dudley	99,000	4.3	Energy Recovery Facility Offices, Depot, RCV parking, salt barn	0.4 hectares within 1.2 hectares including circulation.
Wolverhampton	115,000	1.2	Energy Recovery Facility	0.6 hectares within 1.2 hectares including circulation.
Treatment (In-Vessel Composting, Anaerobic Digestion) Comparators				
Poplars Landfill, Cannock	120,000	1.2	Anaerobic Digestion	On land associated with Poplars Landfill and other waste facilities
Withybrook Road, Bedworth	45,000	3.2	Anaerobic Digestion	On land at Coleshill Sewage Treatment Works Coleshill

Location	Tonnage Managed	Site Area (ha)	Facilities Accommodated	Comment on EfW Area
Lighthorne, Gaydon	50,000	5.2	In-Vessel Composting 'Wet' Anaerobic Digestion	On farm facility
Ash Road, Whitchurch	25,000	2.2	Anaerobic Digestion	On farm facility
Household Waste Site Comparators				
Thorn Turn, Dunstable	7,700	0.7 ha	HWRC as part of wider waste recycling and transfer operations	A greenfield site. Area estimated from approved plans.
Biggleswade	10,404	0.8 ha	Standalone HWRC	A redeveloped site. Area from application form.

Definition of Assessment Areas

5.2.9 Within the defined area of search, the example sites to be assessed are identified through reference to:

- Areas within existing industrial / employment land allocations;
- Individual sites appearing in the evidence base and 'Call for Sites' which was open from 12 July 2017 until 1 June 2019;
- Other sites or areas not included in the evidence base through:
  - Within the settlement boundary, the identification of under-used, vacant identified through site visit informed by detailed examination of desk and web-based resources;
  - Within and outside of the settlement boundary, areas of search defined by access to the major highway network motorway junctions and the primary road network (PRN); and
  - Areas where site opportunities exist close to clusters of existing waste uses.

Sources of Site Data

5.2.10 Digitised layers of all potential sites were made available from the sources in Table 5.2. Note that nomenclature differs across the authorities and that Table 5.2 references the names of the GIS layers provided.

Table 5.2 Stage 1 – Sources of Information Used to Map Positive Locational Objectives

Source	Data Obtained and Source
Dudley MBC	Development Sites, employment areas and allocations, area action plan sites, opportunity sites, strategic waste sites, existing waste uses (point data) all obtained digitally from BCAs
Sandwell MBC	
Walsall MBC	
Wolverhampton CC	

5.2.11 This comprehensive schedule of potential sites was then screened against the minimum site size criterion of 1 hectare to within the study area. The results are mapped in Figure 5.1.

Stage 2 – Screening against Spatial Exclusionary Objectives

5.2.12 Against the guidance in the NPPF and the environmental designations protected by local policy, Spatial Exclusionary Objectives are areas unacceptable in principle for development and hence discounted from the area of search. Table 5.3 sets out the constraints that apply to the Black Country.

Table 5.3 Stage 2 – Screening Criteria for Spatial Exclusionary Objectives

Screening Criteria	Data Obtained and Source
Land Use	
Site allocations in adopted SADs, AAPs and 'saved' UDP policies	Digitised data obtained from BCAs
Water Environment	
Surface water bodies	Environment Agency / Canals and Rivers Trust / Ordnance Survey
Groundwater Source Protection Zones (SPZs), I (Inner Zone)	Environment Agency
Undefended Flood Zone 3/3b	Environment Agency
Internationally & Nationally Important Sites for Nature Conservation	
Special Areas for Conservation (SAC)	Natural England
Sites of Special Scientific Interest (SSSI)	Natural England
National Nature Reserves (NNR)	Natural England
Ancient Woodland	Natural England
Internationally & Nationally Important Sites for Cultural Heritage	
Scheduled Ancient Monuments (SAMs)	Historic England
Grade I or II* Listed Buildings/Registered Parks and Gardens	Historic England

5.2.13 Where application of an exclusionary constraint reduces the suitable area of a site to below the site size threshold then the remaining site is discounted. The outcome of this stage of the methodology is a narrowed study area and is depicted in Figure 5.2.

Stage 3 – Screening against Spatial Discretionary Objectives

5.2.14 Areas of Discretionary Objectives are identified where development is not unacceptable in principle, but which should be avoided to respect the reasons for which it was designated unless sites unconstrained by these objectives are not identified. Table 5.4 sets out the constraints that apply:

385000 390000 395000 400000 405000 410000

305000 300000 295000 290000 285000

Wolverhampton

Walsall

Dudley

Sandwell

Key

Development sites;

Employment areas and allocations;

Area action plan areas;

Opportunity sites; and

Strategic waste sites

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

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Figure 5.1
Positive locational objectives - potential areas

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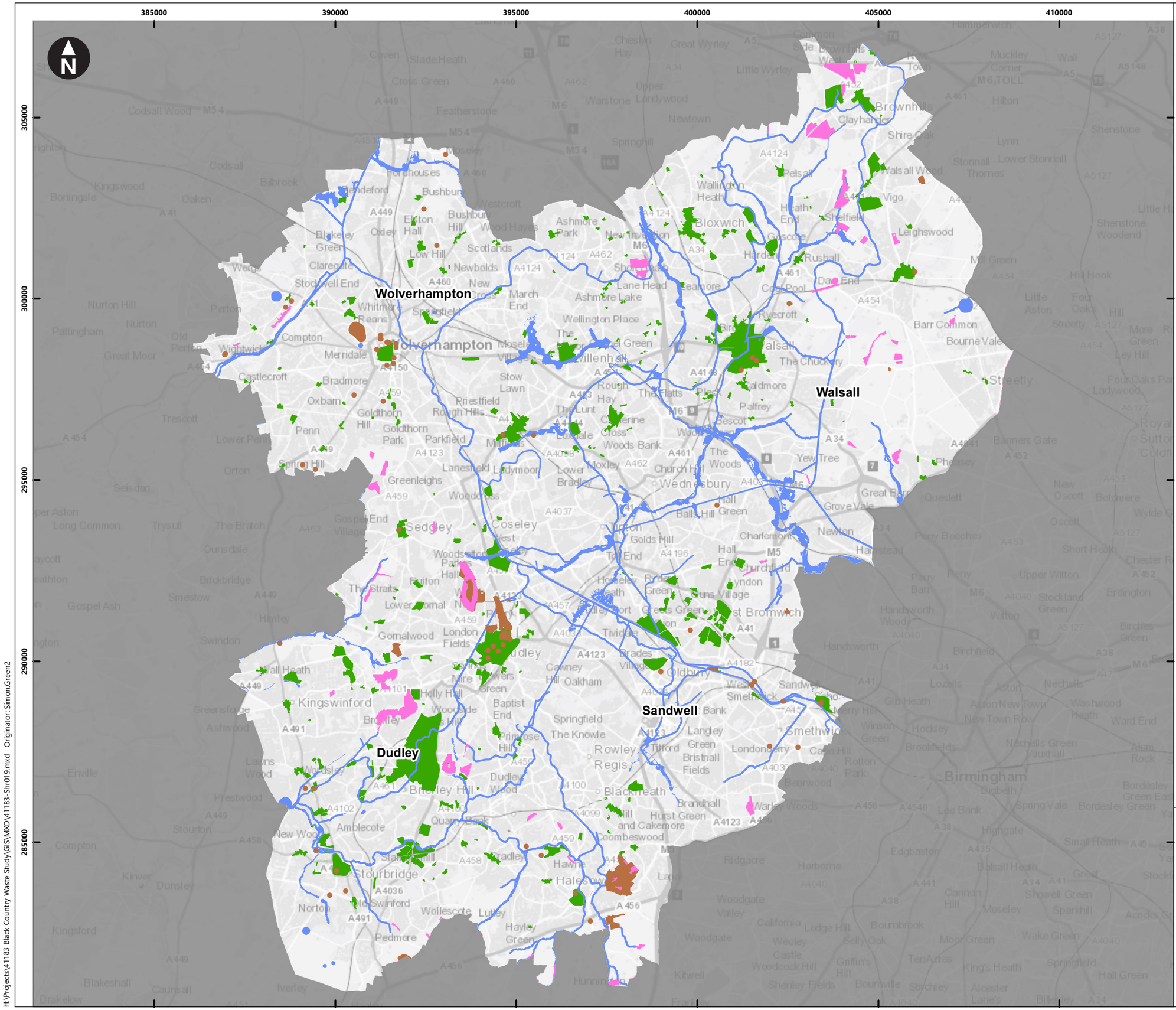

Key

Land Use

- Land use allocations
- Development sites
- Regeneration sites
- District/town/local centres

Water Environment

- Flood Zone 3
- SPZ 1 - Inner Zone
- Water bodies
- Rivers & canals

Nature Conservation

- Special Areas of Conservation
- National Nature Reserves
- Site of Special Scientific Interest
- Ancient Woodland

Cultural Heritage

- Scheduled Monuments
- Historic Parks & Gardens I & II*
- Listed Buildings I & II"

0 1 2 3 4 5 6 km

Scale at A3: 1:100,000

Black Country Waste Study

Figure 5.2
Stage 2 screening against spatial exclusionary criteria

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Table 5.4 Stage 3 – Screening Criteria for Spatial Discretionary Objectives

Screening Criteria	Data Obtained and Source
Land Use	
Green Belt*	Digitised data obtained from BCAs
Designated Open Space	Digitised data obtained from BCAs
Grades 1, 2 and 3a Agricultural Land	Natural England
Water Environment	
Source Protection Zones (SPZ) II (Outer Zone)	Environment Agency
Undefended Flood Zone 2	Environment Agency
Sites of Importance for Nature Conservation / Geological Conservation	
Global Geopark	Natural England
Sites of Interest for Nature Conservation (SINC)	Digitised data obtained from BCAs
Sites of Local Interest for Nature Conservation (SLINC)	Digitised data obtained from BCAs
Local Nature Reserves (LNRs)	Natural England
Wildlife Corridors	Digitised data obtained from BCAs
Mineral Safeguarding Areas	Digitised data obtained from BCAs
Sites of Importance for Cultural Heritage	
Grade II Listed Buildings/Registered Parks and Gardens	Historic England
Conservation Areas	Digitised data obtained from BCAs
Archaeological Priority Areas	Digitised data obtained from BCAs
Locally Listed Buildings	Digitised data obtained from BCAs
Historic Environment Record (HER) sites	Digitised data obtained from BCAs
Other Constraints	
Air Quality Management Area (AQMA) – NO_2 Areas of Exceedance	DEFRA
Noise Action Plan 'Important Areas'	DEFRA
Minerals Safeguarding Areas	Digitised data obtained from BCAs

*Green Belt would normally be treated as an exclusionary constraint as it is unsuitable for development that does not retain its openness. However, the evidence of need for significant housing and employment growth over the new plan period implies altering Green Belt boundaries and this may offer the opportunity to provide waste facilities to meet new needs especially where there are currently relative gaps in provision

5.2.15 Where application of a discretionary constraint reduces the suitable area of a site to below the site size threshold then the remaining site is discounted. The outcome of this stage of the methodology is a refined study area is depicted in Figure 5.3 within which the provision of new waste capacity would be preferred and waste options identified for assessment.

5.3 Identification and Assessment of Waste Options – Competition for Sites

5.3.1 Having ruled out areas of policy and environmental constraint, site potential is now narrowed down to those areas suitable for development and within which, waste capacity must be provided together with competing development needs. Hence, and before assessing the potential specific waste area or site options unaffected by these constraints, it is important to consider the forces that influence the competition for urban land where this is in limited supply.

5.3.2 Fundamentally, and as any developer or landowner will seek to maximise development value, this competition is commonly articulated around the land value that the end use can command.

5.3.3 As residential land values are consistently and significantly higher than those for employment uses, they present a threat to ongoing land supply for jobs. This is especially the case where employment land in sub-prime market areas accommodates industrial uses of local importance or waste that yield lower returns.

5.3.4 This section seeks to evaluate the degree to which areas of existing and potential waste uses can be said to be directly or indirectly threatened by higher value development that prejudices waste and its contribution to the local economy and the extent to which plan policy can protect these areas.

Theoretical Basis

5.3.5 There are a number of elements to the assessment of site viability. Figure 5.4 outlines the basic theoretical relationship between its elements. These are:

- Residential Revenue. This is the value of the sales that are generated from a site (for instance, 35 dwellings each sold at £200 000 will generate a scheme revenue of £7m;
- Base development costs associated with the construction of scheme including materials as well as fees for architects, engineers etc;
- Site specific abnormal costs to enable the site to be developed for its end use such as remediation, the creation of development platforms on steep sites, access requirements or the mitigation of environmental effects from neighbouring uses;
- Often known as the Site Residual Value, this is an amount that is available to 'share around' as a benefit of the development taking place. These elements all vary according to circumstance but includes:
  - Developers profit margin which is normally is the order of 15%;
  - Benefit to the planning authority in the form of Section 106 or Community Infrastructure Levy contributions; and
  - Finally, and crucially, the amount that is paid to the landowner to buy the land. Unless this value meets the expectations of the owner then the site is unlikely to be available for development. These expectations may be based upon knowledge of the values secured by other landowners. In some cases, longstanding option (or legal) agreements may exist that have set the parameters of any payment to the landowner and these may hamper delivery where economic conditions change or unexpected development costs emerge.

5.3.6 These three elements of the Site Residual Value are all variable and will be subject to negotiation. However, for a site to be viable, the sum of all three cannot exceed the difference between the development revenues and costs and this may only vary where a developer is willing to accept less than a 15% profit margin.

5.3.7 In the case of the theoretical examples in Figure 5.4 these demonstrate the relative residential and industrial land values that are broadly representative of the Black Country in May 2017 for unconstrained 'clean' sites and the impact that higher development costs and policy requirements could have upon the sum ultimately paid to the landowner.

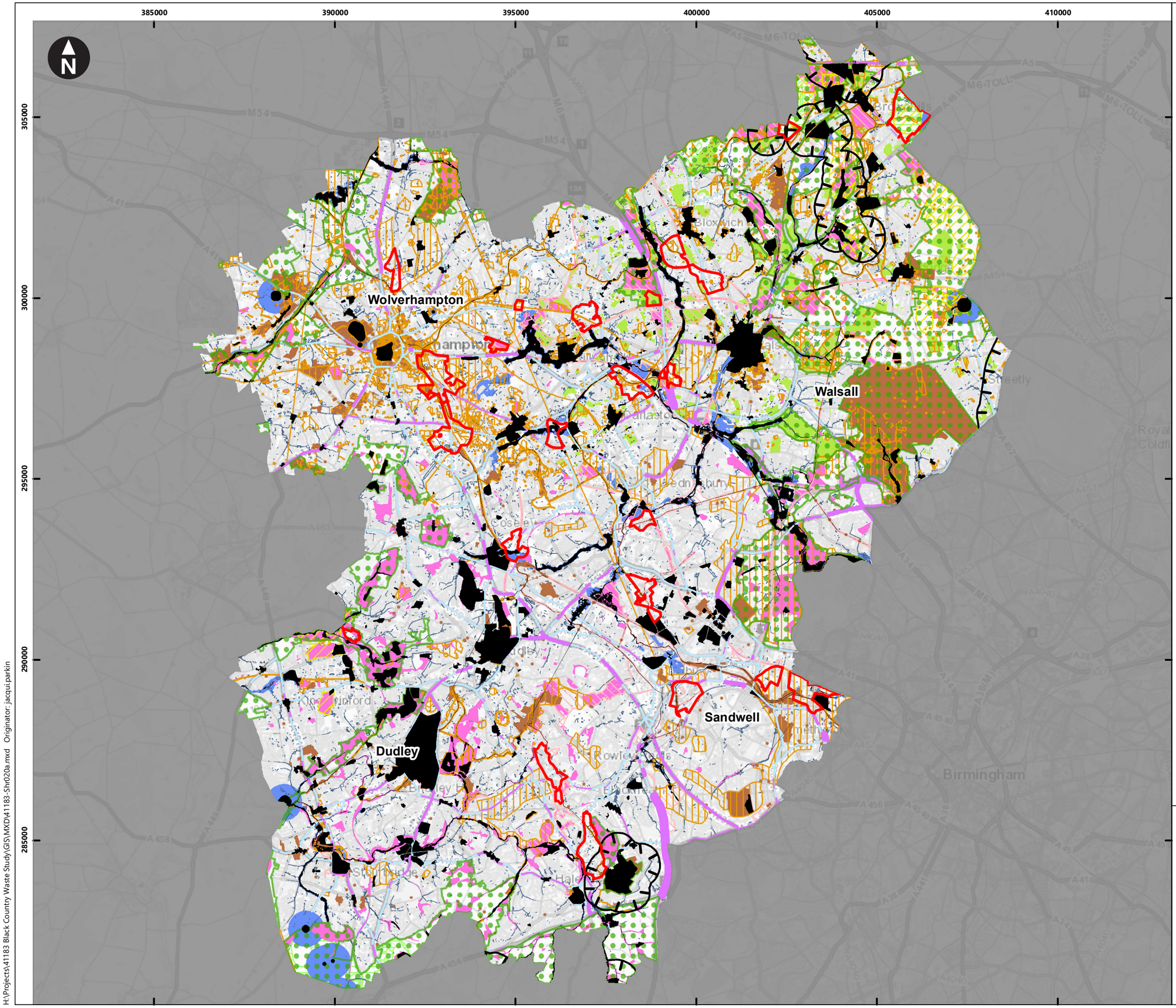

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Figure 5.3
Stage 3 screening against spatial discretionary criteria

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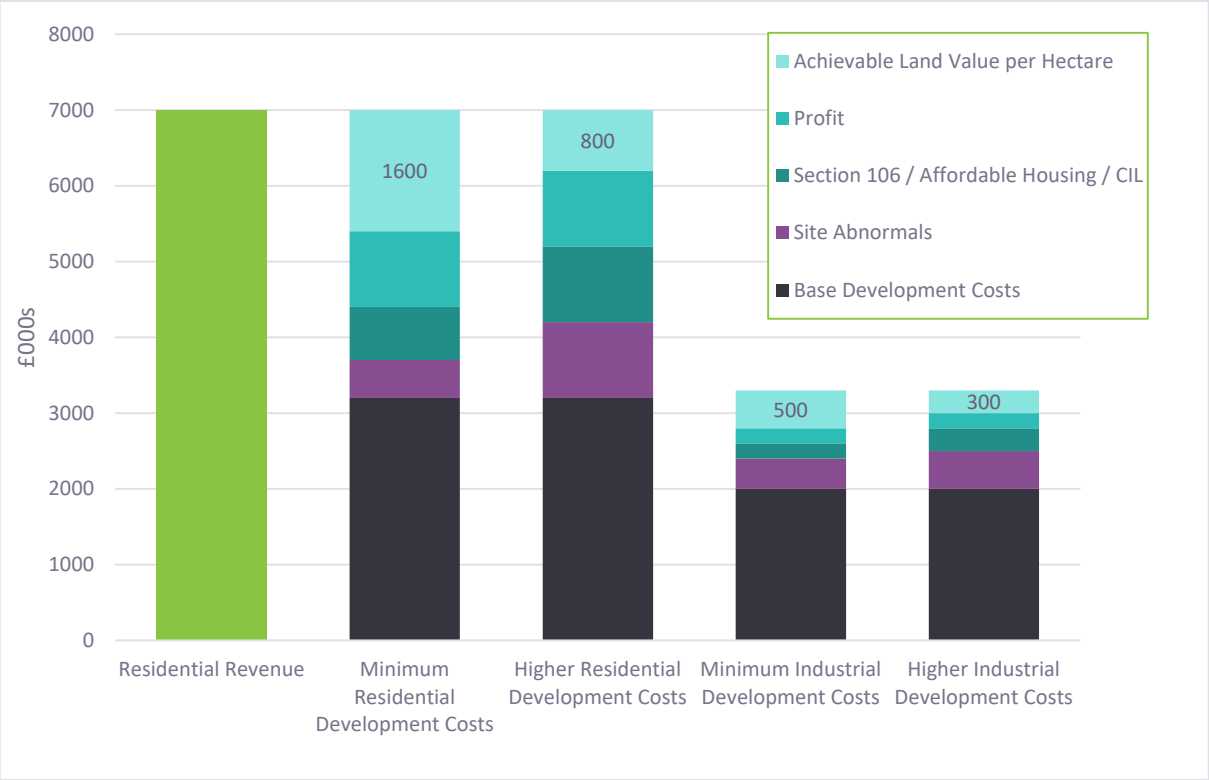
Figure 5.4 Theoretical Relationship between Development Revenues, Costs and Land Values



5.3.8 Although the relative attraction of land values is clear, housing would present a theoretical threat only where the following circumstances apply:

- where there is a good housing market where land values are attractive or where this is expected to emerge;
- where site conditions are such that remediation costs are not so significant housing that is unviable; and
- where existing 'bad neighbour' uses would be incompatible.

Available Evidence

5.3.9 Sources of data to aid this evaluation are problematic. Whilst industrial areas facing encroachment from housing are easily identified, there is little available published information and what is available is for the most part, generalised or out-of-date.

5.3.10 The following section details the available sources. However, sources of relevance have been identified in respect of land values and remediation costs

Comparative Land Values

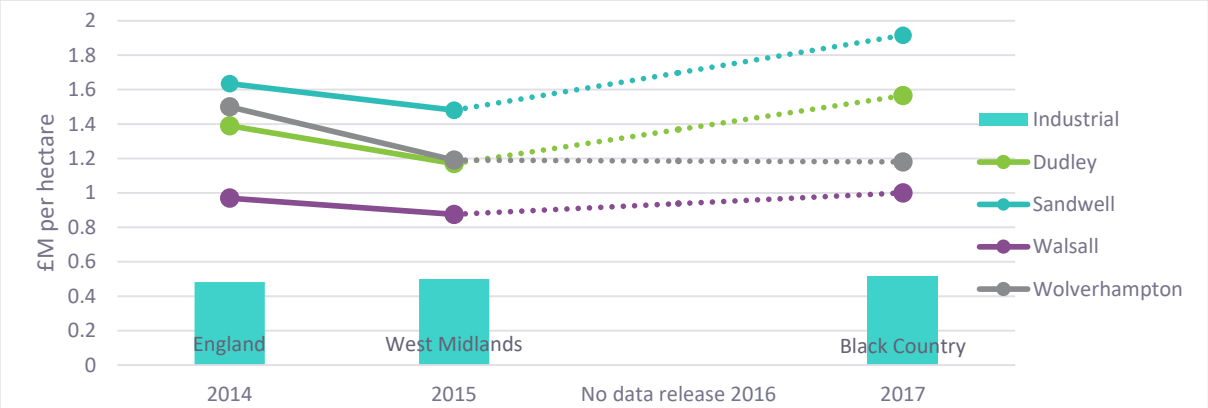
5.3.11 The extent of the disparity between land values is evident from the Government's periodic statistical releases that give comparative land values for a variety of proposed end uses. The latest of these was issued by the Valuations Office Agency (VOA) related to values in May 2017. Table 5.5 tracks changes in the value transactions since 2014 comparing residential values in each of the BCAs with those for industrial uses at the most appropriate geography. These are also depicted graphically in Figure 5.5.

Table 5.5 Comparative Land Values 2014 – 2017 (£M per hectare)

End Use	Geography	2014[67]	2015[68]	2016	2017[69]
Residential	Dudley	1.39	1.17	n/a	1.57
	Sandwell	1.64	1.48	n/a	1.92
	Walsall	0.97	0.88	n/a	1.00*
	Wolverhampton	1.50	1.19	n/a	1.18
Industrial	Black Country LEP	n/a	n/a	n/a	0.52
	West Midlands	n/a	0.50	n/a	0.55 to 1.00
	England	0.48	0.51	n/a	n/a

* Identified in the source as "Walsall West". There is no explanation as to why it is the only entry in 326 councils qualified in this way so may be a drafting error

Figure 5.5 Comparative Land Values 2014 – 2017



5.3.12 It is important to note that the reported figures are averages and hypothetical. Hence direct comparison is only possible if it is assumed that particular policy requirements or site 'abnormals' are removed from consideration.

5.3.13 In respect of residential land the VOA states that *"The values here assume nil Affordable Housing provision in order to give pure residential use value, rather than market value. In reality we expect the market value of land to reflect the cost of affordable housing provision";* and that

5.3.14 *"The value estimates for industrial land can be used to proxy alternative use value for developments on brownfield land. These are provided for hypothetical sites in England assuming:*

- *A typical urban, brownfield location, with nearby uses likely to include later, modern residential developments;*
- *All services are assumed available to the edge of the site;*

[67] Department for Communities & Local Government, Land Value Estimates for Policy Appraisal, February 2015
[68] Department for Communities & Local Government, Land Value Estimates for Policy Appraisal, December 2015
[69] Valuations Office Agency Ministry of Housing, Communities & Local Government, Land Value Estimates for Policy Appraisal (May 2017 Values), May 2018

- *Use is restricted to industrial/warehouse and full planning consent is in place;*
- *There are no abnormal site constraints or contamination and/or remediation issues."*

5.3.15 Although these values clearly do not reflect local requirements for affordable housing nor the degree to which the legacy of past contaminative uses need to be addressed, they do provide some basis for the assessment.

Abnormal Costs

5.3.16 Abnormal costs are site specific and any attempt to predict them or provide a 'rule of thumb' is fraught with difficulty. However, and last issued in 2008, best practice issued by English Partnerships[70] indicates the range of potential remediation costs per hectare at a 2007 cost base. Table 5.6 updates these costs to a 2017 cost base to reflect likely current costs.

Table 5.6 Range of potential remediation costs per hectare of contaminated land according to site conditions, end uses and risk to ground or surface water – updated 2017 cost base (£000s)[71]

Water Risk	End Use	Site Category A	Site Category B	Site Category C	Site Category D
		Industrial / colliery spoil, factories and 'works'	Garages, pitheads, railways, textiles, timber treatment and sewage works	Metal workings, scrap yards, paint and solvents	Gas, iron and steel works, chemical works, ship breaking yards
Low Risk	Residential	102 – 271	339 – 847	407 – 983	441 – 1,118
	Employment	68 – 169	271 – 576	339 – 779	407 – 881
High Risk	Residential	237 – 542	474 – 1,220	712 – 1,932	949 – 2,338
	Employment	169 – 339	339 – 847	678 – 1,627	712 – 1,627

5.3.17 The site categories in Table 5.6 are 'bracketed' and there is some overlap between their costs. Given the absence of previous large steel and chemical works in the study area, it is likely that previous uses and costs in the Black Country will fall within those in Categories A, B and C. Additionally, and as the vast majority of the Black Country falls within low water risk areas (that is away from inner and outer source protection zones SPZ 1 and 2) it is likely that remediation costs per hectare will fall within the range of the upper to lower values in the highlighted cells in Table 5.6.

Planning Costs

5.3.18 A further aspect is that the costs of obtaining planning consent can vary significantly and this may be relatively important where development revenues are lower. Due to their nature, waste applications can be contentious, require a more detailed and comprehensive application and are for more likely to cross the thresholds of the EIA regulations. Housing applications are unlikely to require EIA unless they are extremely large (which is unlikely in urban areas) or involve particularly sensitive receptors or site conditions.

[70] English Partnerships Best Practice Note 27 (revised February 2008) Contamination and Dereliction Remediation Costs, Table 1
[71] Royal Institution of Chartered Surveyors, Building Cost Information Service, All-in Tender Price Index, Quarter 1, 2017

5.3.19 The scope and costs of any planning application can only be defined through reference to the specific circumstances of the proposal and the interplay between:

- the nature of the proposal in terms of its type (recycling, treatment etc), the proposed technology and the tonnage to be managed;
- the presence of environmental assets and their particular sensitivities to, for example, noise, dust or pollution to water;
- the presence of sensitive receptors such as housing and the need to demonstrate that the proposal would not be detrimental to amenity, safety or health; and
- the need for measures to make the proposal acceptable in planning terms through, for instance, access measures or off-site works.

5.3.20 Notwithstanding these difficulties, Table 5.7 sets out what are considered to be rough order costs subject to the following assumptions:

- that the application would be for full consent;
- that the scope reflects the core requirements of a planning authority in determining a waste use; and
- that the costs are considered the likely market response given the need to provide commercial offers to a developer.

Table 5.7 Rough Order Planning Costs for Assessed Sites with Potential for Waste

Authority / Ref	Likely Scope of Planning Application	Potential Costs*	Exclusions / Assumptions
EIA Development **Energy from Waste or Other Waste Development requiring EIA**	**Rough Order Total** Environmental Impact Assessment assuming full suite of environmental assessments as follow: Screening, scoping and management Noise and Vibration Air Quality Water Environment (hydrology and hydrogeology, flood risk assessment and drainage strategy) Cultural Heritage Ecology Phase 1 with species specific surveys as required Phase 1 Site Report (contamination and stability) Landscape and Visual Socio and Economic Transport Assessment Public Consultation Event Planning Statement and Application Discharge of Conditions	**£200k to £300k**	• Design costs not included • LPA Determination fee not included • Access and junctions assumed to be acceptable and no design work is required • Assumes the use of an existing access with no design or implementation costs • Excludes intrusive site investigation that may be necessary to support design and inform Environmental Impact Assessment • Excludes other assessments e.g. Health Impact Assessment that may be requested by LPA or third parties.
Non-EIA Development **Materials Recycling Transfer Facility** **Treatment Facility**	**Rough Order Total** Noise Air Quality Ecology if adjacent to designated site, wildlife corridor, vegetated land or vacant buildings Flood Risk Assessment and Drainage Strategy Transport Statement Planning Application Discharge of Conditions	**£55k to £85** £8k £8k £6k to £25k £6k to £9k £6k £10k £10k to £20k	As for EIA Development above Upper end of range includes reporting of protected species Dependent upon complexity Dependent upon number and complexity

Authority / Ref	Likely Scope of Planning Application	Potential Costs*	Exclusions / Assumptions
Non-EIA Development	**Rough Order Total**	**£140k to £175k**	As for EIA Development above
	Noise and Air Quality (if bad neighbour use present)	£8k £8k	
Housing	Ecology if adjacent to designated site, wildlife corridor, vegetated land or vacant buildings	£6k to £25k	Upper end of range includes reporting of protected species
	Flood Risk Assessment and Drainage Strategy	£6k to £9k	
	Transport Statement (if warranted by scheme size)	£6k	
	Planning Application	£10k	
	Discharge of Conditions	£10k to £20k	
Other Housing Specific Costs	Community Infrastructure Levy	£58k	Assumes £15/m^2 for 40 dwellings
	S106 Costs	£30k	Rough order assumption for travel plan and limited highway works

* All total figures are rounded to the nearest £5,000

Local Market Consultation

5.3.21 As the available data is so problematic, consultation has been undertaken with three housing developers that have been active, to varying degrees, in the Black Country over the past five years. This has been done to gain a broad understanding of the market and the extent to which this may present a threat to existing uses of lower value proposals. These discussions have yielded the following views:

- The economics of residential development in the Black Country has steadily improved over the last five years to the extent that major developers are more open to considering sites in the Black Country. One stated that a previous decision to concentrate on more buoyant areas in the Region is now being reviewed;
- Although the published VOA land values were viewed as too high, there was general agreement that Sandwell and areas Dudley are the most buoyant areas with parts of western Walsall and eastern Wolverhampton being the weakest. One stated that it was not surprising that only Sandwell and the peripheral parts of Dudley can yield Community Infrastructure Levy (CIL) contributions.
- Remediation costs can be very significant and will 'make or break' a site. One developer quoted a remediation cost of nearly £0.75M per hectare which cannot be sustained without a high-density scheme. Sites are approached very cautiously and on an individual basis;
- It is felt that Affordable Housing Registered Providers (RPs) are also wary of the Black Country. One developer stated that the amount of interest in sites is unpredictable and that RPs will only offer around 50 to 55% of open market value (OMV) for the dwellings. Hence developers will seek to drive a hard bargain to reduce the affordable element;
- Taken together, tight margins, abnormal costs and risks mean that a deliverable planning permission takes time. Negotiations tend to be contested and lengthy and where the resultant land values do not meet landowner expectations this will also cause delay or potentially postpone the scheme;
- One consultee stated that there is a high degree of hope value in parts of the local market and that this is not confined to the Black Country. It is probable that in the 'more marginal areas' of interest for housing that commercial and industrial uses are more viable especially where remediation standards can be relaxed.

Conclusions

5.3.22 In summary, there is insufficient available information to quantify the potential impact of other development pressures upon waste development. The interplay of location, legacy costs, policy requirements and landowner expectations mean that the feasibility of development can only be assessed on a site by site basis.

5.3.23 Notwithstanding, stakeholder consultation has broadly confirmed the presented evidence in respect to relative – although not absolute – land values and the likely range of site abnormal costs.

5.3.24 Given the generally more favourable development market in Sandwell and Dudley, it could be expected that residential development might present more of a risk to lower end value uses than would be the case in areas of Wolverhampton and Walsall. This relative ability of individual Councils to apply the CIL Regulations across the Black Country was seen as reflective of this position.

5.3.25 Even in the more buoyant areas, sites can present significant challenges and risks that mean that planning permission and implementation can be difficult and lengthy. Consequently, it may not be the case that sites identified through the call for sites necessarily present a threat to an existing waste use although they will likely preclude any further development for lower value end uses.

5.3.26 These conclusions serve to confirm the views expressed by Biffa that housing is being proposed into areas where viable schemes were previously difficult to achieve. Areas of land previously considered secure for potential waste use are being encroached upon and existing waste capacity is being threatened. This is seen by the waste sector as a national trend but there is ample evidence to demonstrate that this also applies in the Black Country where the waste sector is comparatively more important than in England as a whole.

5.4 Identification and Assessment of Waste Options – Site Assessments

5.4.1 Within the refined study area depicted in Figure 5.3, areas and sites for potential assessment are identified and agreed with the relevant BCAs as representative of the opportunities presented across the study area.

5.4.2 These were primarily identified through desk study (maps, aerial photos and on-line web tools) to identify established areas subject to and employment policy where waste or industrial uses are already present and included vacant or underused land and buildings or opportunity sites. The selected areas were confirmed and further defined through consultation with the relevant planning authority.

5.4.3 In addition, the BCAs also identified additional sites located outside the refined study area in the Green Belt for assessment. These were identified through the 'Call for Sites' exercise, which was open from 12 July 2017 until 1 June 2019, or identified as part of the Employment Development Need Assessment.

5.4.4 The twenty three sites were then subjected to the further stages of assessment shown in Figure 2.1.

- **Stage 4** – The identification of positive locational factors that would favour waste uses such as good highway access, potential rail connection or brownfield opportunities within industrial areas. These are referred to as *Positive Locational Objectives*; and
- **Stage 5** – The identification of constraints and opportunities relating to the site itself, neighbouring uses and its locality. This is referred to as *The Detailed Non-Spatial Assessment of Sites*.

Stage 4 – Positive Locational Assessment

5.4.5 This stage assesses the degree to which each site possesses the opportunity to support the positive planning objectives in Table 5.8 in respect of the re-use of land, co-location with complementary uses and taking advantage of existing transport infrastructure and proximity to access to the motorway network as depicted on Figure 5.6.

Table 5.8 Stage 4 – Positive Locational Factors

Assessment Criteria	Data Obtained and Source
Land Use	
Brownfield Sites Existing Industrial Areas Co-location with Existing Waste Facilities or re-use of Former Waste Facilities Existing Infrastructure	All data obtained in digitised form from BCAs and validated through desk-based sources and aerial photographs
Traffic and Transportation	
Located within 5 minute drive time from Motorway Junctions at peak times Connected / close to Strategic Highway Network / Key Route Network Located to offer potential to access strategic freight site or rail head on freight line	Digitised data obtained from BCAs Accessibility isochrones obtained from ArcGIS online

Stage 5 – Detailed Non-Spatial Assessment of Sites

5.4.6 As constraints can be specific to sites and cannot be modelled spatially, this stage assesses the degree to which each site is constrained by on-site issues and off-site influences that prejudice its feasibility or viability for waste development. This process is undertaken through a combination of desk study and site visits where access or visibility is possible as set out in Table 5.9.

Table 5.9 Stage 5 – Detailed Non-Spatial Assessment of Sites

Assessment Criteria	Data Obtained and Source
Site Constraints	
Sites in Excess of 1 hectare Site Configuration Constraining Infrastructure Requirement for Remediation	Desk assessment following site visit Desk assessment following site visit Desk assessment and site visit Indicated by site visit
Economic	
High Quality Employment Land where waste would be inappropriate	Desk assessment and site visit
Traffic and Transportation	
Accessibility from adopted highway with good quality highway frontage Sensitive land uses at or along site accesses / local roads Public Rights of Way	Desk assessment and site visit Desk assessment and site visit Desk assessment and site visit
Amenity	
Land Uses sensitive to noise/vibration, odour, nuisance, dust and emissions within 250m	Desk assessment and site visit

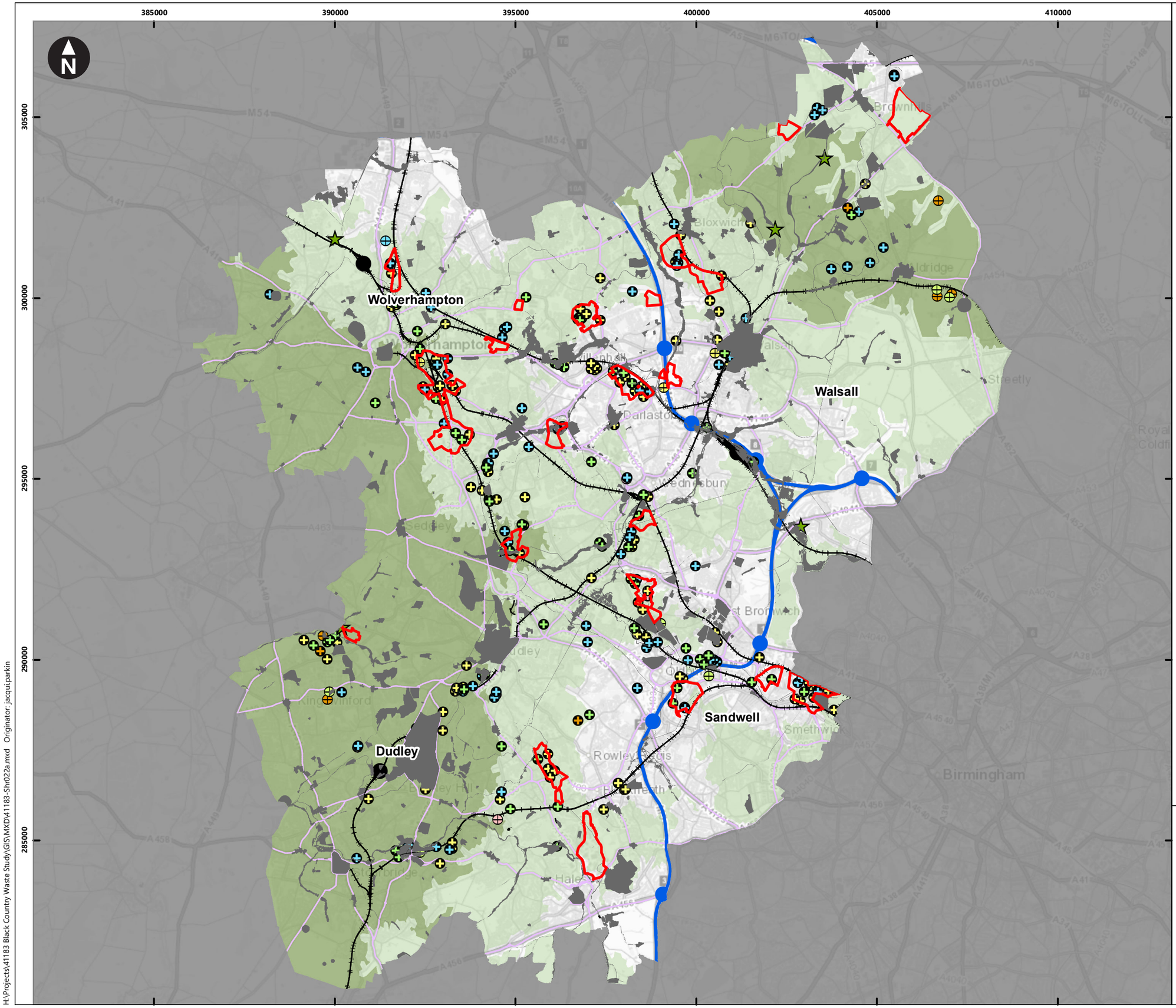


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Figure 5.6
Positive Locational Assessment
Transport Infrastructure

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Assessment Criteria	Data Obtained and Source
Nature Conservation	
Tree Protection Orders (TPOs)	Indicated by site visit
Likely presence of protected species and/ or priority habitats	Indicated by site visit
Landscape and Visual	
Highly visible sites	Site visit
Important gateway sites	Site visit

Form of Assessment

5.4.7 For each assessment criterion within each objective, indicators and thresholds of concern or opportunities are identified. These can be either negative or positive in nature depending upon whether the objective is to prevent or encourage an event happening. The scale of effect for the spatial and non-spatial objectives can then be assessed through applying the following grading system:

A. locating a facility at this location would move significantly towards an objective;

B. locating a facility at this location would move marginally towards an objective;

C. locating a facility at this location would have no effect (or a neutral effect) on the objective;

D. locating a facility at this location would move marginally away from an objective; and

E. locating a facility at this location would move significantly away from an objective.

5.4.8 These gradings are set out in the individual site assessments in Appendix M and inform the overall summary assessments in Table 5.10.

5.5 Recommended Preferred Options

5.5.1 The assessment of sites under Stages 4 and 5 has identified a number of areas that could form preferred site options to be safeguarded. In summary:

- None of the sites hold any potential for composting as their boundaries all lie within 250m of residences. Such a condition is only likely to be met within the Green Belt and would be highly prescribed.
- There are eight areas assessed to hold opportunities for energy from waste. Although any proposal would need to be tested through a planning application, two of these are subject, or have been subject to consent for such uses. Other opportunities have been identified within the larger areas where other waste uses are already clustered. These areas would also be suitable for materials recycling, transfer and treatment.
- Other smaller areas would also be suitable for materials recycling, transfer and treatment. This potential is likely to be site specific as some of these areas are relatively narrow and hence, proximate to housing.
- It is apparent that some of the assessed areas are subject to encroachment by other non-employment development that has reduced their suitability for waste uses.

5.5.2 These sites as well as those discarded through assessment are in Table 5.10 with site assessments at Appendix M.

Table 5.10 Schedule and Summary Potential of Assessed Areas

Authority / Fig No	Area Name / Estate	Area (Ha)*	Suitable Waste Uses	Under Threat?	Preferred Option? Rationale
Dudley					
Fig M.1	Bloomfield Road / Budden Road, Coseley	28.1	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Yes. Area is suitable for waste uses and under some threat of encroachment from housing. To be safeguarded.
Fig M.2	Lower Gornal Wastewater Treatment Works	10.5	Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Uncertain. To be considered if available and subject to Green Belt considerations. To be safeguarded
Fig M.3	Coombswood Estate, Halesowen Industrial Park and Forge Trading Estate, Halesowen	74.8	-	Yes	No. Good quality employment area that has been largely renewed over recent years. There are no current waste uses and it is considered that any redevelopment of a former forge would be at significant cost and be for higher value employment uses.
Sandwell					
Fig M.4	Cornwall Road and Parkrose Industrial Estates, Soho	60.1	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Yes. Area is suitable for a range of waste uses. To be safeguarded.
Fig M.5	Tat Bank, Langley	53.1	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Yes. Area is suitable for waste uses. To be safeguarded.
Fig M.6	Charles Street Enterprise Park and Queens Court Trading Estate, Swan Village	42.7	Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Site under threat with only the core area of a narrow site suitable for waste. An area is already under development for housing with further proposals to redevelop existing waste uses both on the site and at its boundaries.
Fig M.7	Hill Top and Bilport Lane Industrial Estates, Wednesbury	19.9	Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Yes. Bilport Lane Estate is suitable for waste uses. To be safeguarded. The Hill Top Estate is unsuitable for waste.
Fig M.8	Powke Lane and Waterfall Lane Trading Estate, Rowley Regis	46.1	Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Yes. A narrow estate with existing waste uses bounded by housing and protected open space. There is some threat of encroachment at its furthest extents but otherwise appears secure. To be safeguarded.

Authority / Fig No	Area Name / Estate	Area (Ha)*	Suitable Waste Uses	Under Threat?	Preferred Option? Rationale
Fig M.9	Dartmouth Road, Sandwell	26.2	-	No	No. Good quality employment area with some landscaping that has been largely renewed over recent years. A single operational waste use is located in the centre of the estate that is not representative of its wider area.
Walsall					
Fig M.10	Ashmore Lake Industrial Estate, Willenhall	40.0	Recycling	Yes	Yes. Area contains a number of waste uses but future potential is likely to be restricted to smaller uses according to site specific factors. Access is through mainly residential areas. To be safeguarded.
Fig M.11	Holland Industrial Park / Heath Road and Environs, Darlaston	52.4	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Yes. Area includes some significant waste uses and offers further potential subject to site availability. To be safeguarded.
Fig M.12	Phoenix 10, off Darlaston Road, Pleck	17.0	Recycling	Yes	Uncertain. Plans for redevelopment for employment uses have been agreed between the WMCA, Walsall Council, Homes England, the Black Country LEP and Henry Boot Developments to remediate and develop the site. Waste uses are not a stated objective.
Fig M.13	Leamore and Newfield Close Industrial Estates, Bloxwich	80.4	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	No	Yes. Area is suitable for waste uses, includes a number of existing facilities (including Walsall Council's WTS and a HWRC) and contains a range of site opportunities. There is planning permission for an EfW at Fryers Road and an industrial unit at Willenhall Lane has a CLOPUD confirming that a pyrolysis plant is permitted. To be safeguarded.
Fig M.14	Lynx / Beatwaste Site, Bentley	12.1	-	No	No. Unsuitable for waste as adjacent to housing and a school. Development for housing or other employment preferred.
Fig M.15	York's Bridge, Lichfield Road, Pelsall	17.8	-	Yes	No. Unsuitable for waste as adjacent to housing. Site is also likely to be unavailable as promoted for housing.
Fig M.16	Home Farm, Sandhills, Brownhills	84.1	-	Yes	No. Unsuitable for waste as adjacent to housing. Site is also likely to be unavailable as promoted for housing.
Wolverhampton					
Fig M.17	Shaw Road, Dunstall	24.6	-	Yes	No. Good quality regenerating employment The recycling centre is now the only waste presence and is not representative of its wider area.
Fig M.18	Corner of Wolverhampton / Ettingshall Corridor	2.7	-	Yes	No. Unsuitable for waste given proximity to existing and planned housing

Authority / Fig No	Area Name / Estate	Area (Ha)*	Suitable Waste Uses	Under Threat?	Preferred Option? Rationale
Fig M.19	Wolverhampton / Ettingshall Corridor (North)	88.5	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Yes. Eastern area is suitable for waste uses. To be safeguarded. The western area is unsuitable for waste due to its proximity to housing.
Fig M.20	Wolverhampton / Ettingshall Corridor (South)	74.5	Energy from Waste Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Yes. Eastern area be safeguarded. Area is suitable for waste uses. The western area is unsuitable for waste due to its proximity to housing.
Fig M.21	Land adjacent to Tata Steel, Wednesfield	4.8	-	No	No. Good quality employment area. Waste would not be representative of its wider area and the site is unlikely to be competitive or available for such a use.
Fig M.22	Deans Road Neachells Lane	12.0	-	No	No. Unsuitable for development due to its proximity to housing and a school.
Fig M.23	Dale Street, Loxdale, Bilston	20.6	Treatment In-vessel composting Anaerobic digestion Transfer Recycling	Yes	Yes. Area is suitable for waste uses. To be safeguarded.

* Excluding areas discounted under exclusionary objectives under Stage 2

5.6 The Need and Approach to Safeguarding

5.6.1 It is apparent from Site Assessments and that Non-Waste Options Impact Assessment that many areas of the Black Country are facing transformation through site regeneration and that many traditional areas of employment where waste uses have operated successfully and without conflict are fewer in number.

5.6.2 As waste facilities are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for waste uses to help achieve the objectives of moving waste up the hierarchy and enabling communities to take responsibility for waste arising in their area. This is already a concern in Policy WM2 of the adopted BCCS.

5.6.3 In such a densely populated area, the application of exclusion zones or 'cordon sanitaire' around waste uses is impractical and for this reason this study has identified no suitable sites for open windrow composting which would require a 250m stand off from its perimeter to other development.

5.6.4 A more useful approach could be to consider:

- define consultation zones drawn to a specified distance to the boundary of existing waste uses to help ensure their longevity. These zones could be drawn tightly around small uses (such as ELV facilities) but could extend to a buffer of up to 100 to 150m where the facility is more significant. These zones should endure should the protected use cease; and/or
- define consultation zones around areas identified as a preferred option for new waste uses; and

- require a waste use impact assessment to be submitted by the applicant for any housing and non-conforming use within these defined areas.

5.6.5 Whatever approach to their definition is adopted, the policy requirement would be to consider a specified range of proposed non-waste development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals. A suggested approach might be that *"proposals which are considered to have the potential to adversely impact on the operation of a safeguarded waste site or infrastructure or Plan allocations are unlikely to be opposed where:*

- *a temporary permission for a waste use has expired, or the waste management use has otherwise ceased and the site or infrastructure is considered unsuitable for a subsequent waste use; or*
- *redevelopment of the waste site or loss of the waste infrastructure would form part of a strategy or scheme that has wider environmental, social and/or economic benefits that outweigh the retention of the site or the infrastructure for the waste use, and alternative provision is made for the displaced waste use; or*
- *a suitable replacement site or infrastructure has otherwise been identified and permitted".*

5.6.6 Clearly, and given the wide range of proposals that require planning permission, most proposals will not need to be consulted upon, so a schedule of development excluded from safeguarding provisions should be drawn up. This would comprise applications that do not entail new population such as Listed Building Consents, advertisements, Reserved Matters, Certificates of Lawfulness, minor works or demolition as well as development that introduces new population but can be reasonably accepted such as:

- Local Plan allocations where the plan took account waste safeguarding requirements except where a development would be at a higher density or demonstrably different in nature to that envisaged in the Local Plan;
- Infilling within a settlement;
- Converted buildings adjacent to an existing dwelling;
- Changes of use;
- Development within the curtilage to an existing dwelling;
- Amendments to current permissions (with no additional land take involved);
- Temporary development (for up to five years);

5.7 Monitoring

5.7.1 Monitoring the effects of the policies of the BCCS will be important. This is to ensure that policies are having their intended effects and to identify whether any review is required. To do this, a monitoring framework should be prepared to set out how this is to be measured, the action required and the threshold of concern that would prompt an audit of decisions and consideration of whether action or review of the policy is required.

5.7.2 Our Waste, Our Resources states that the Government is "committed to moving away from weight-based to impact-based targets" but hasn't yet proposed what alternative metrics will be used, how data will be collected and by whom. This raises a question of what the most appropriate monitoring framework would comprise.

5.7.3 Notwithstanding this uncertainty, Table 5.11 suggests a broad framework for consideration which has been compiled from recent examples produced by other waste planning authorities and based upon a current understanding of the likely scope of the re-cast waste policies of the BCCS.

Table 5.11 Proposed Plan Monitoring Framework

Objective / Policy Consideration	Indicator	Target	Method	Threshold of Concern	Action if Threshold Crossed
Moving Waste up the Waste Hierarchy	Percentage of approvals are consistent with policy	100% of approvals are consistent with policy	Monitoring of planning application decisions, annual monitoring	If more than 1 proposal approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate
Strategic Role of the Plan Area in the Management of Waste	Approvals are consistent with policy	100% of approvals are consistent with policy	Monitoring of planning application decisions, annual monitoring	If more than 1 proposal approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate
Meeting Waste Management Requirements – LACW C&I (including Hazardous) CD&E	Approvals are consistent with policy	100% of approvals are consistent with policy	Monitoring of planning application decisions, annual monitoring	If more than 1 proposal approved in any one year goes against this policy or if a shortfall in capacity for LACW / C&I/ CD&E is identified within a 5 year period from adoption of the Plan	Consider need for review of relevant policy and initiate review if appropriate
Locational Criteria for Provision of New Waste Capacity	Approvals are consistent with policy	100% of approvals are consistent with policy	Monitoring of planning application decisions, annual monitoring	If more than 1 proposal approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate
Waste Site Identification Principles	Approvals are consistent with policy	100% of approvals are consistent with policy	Monitoring of planning application decisions, annual monitoring	If more than 1 proposal approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate
Waste Management Facility Safeguarding	Percentage of approved development proposals that have no adverse effect on the waste site Safeguarding Areas identified on a policies map	100% of approvals are consistent with policy	Monitoring of planning applications within Consultation Areas for waste, annual monitoring	If more than 3 proposals approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate
Local Amenity and Cumulative Impacts	Percentage of approved development proposals meet criteria of policy	100% of approvals that may impact on local amenity and business are consistent with policy	Monitoring of planning applications within Consultation Areas for waste, annual monitoring	If more than 3 proposals approved in any one year goes against this policy	Consider need for review of relevant policy and initiate review if appropriate

6. Findings and Conclusions

6.1 Findings

6.1.1 The waste industry has grown quickly over the past twenty years and makes a significant contribution to the national economy. The past two decades has seen growth of around 55% in employment and incomes in the sector and it is predicted that between 44,000 and 84,000 jobs will be directly or indirectly dependent upon the sector by 2020.

6.1.2 Recent government policy has confirmed its importance in assisting industry to move towards the circular economy. The objectives and targets embodied within these national commitments and the challenges they present imply significant growth and technological development in the sector well into the future.

6.1.3 The waste sector is of particular importance in the Black Country where it makes a far more significant contribution to the economy (0.88% of its jobs) against 0.55% of those nationwide. It is expected that its contribution to the Black Country's GVA will grow by nearly 250% over the fifteen years to 2030. To deliver these environmental and economic benefits, the new Plan will have an important role in providing the land use policy in its support.

6.1.4 Housing and employment growth is projected to increase over the plan period to meet the identified needs of the area, putting pressure on land supply. The requirement to provide for new waste infrastructure needs to be balanced against the need to allocate sufficient, suitable housing and employment sites. In seeking to identify development sites for waste infrastructure, priority needs to be placed upon the safeguarding existing and allocated sites for continued use, and retaining the potential of the existing employment areas in which they occur to accommodate new facilities.

6.1.5 Waste reduction and resource efficiency improvements could have a significant influence on future waste growth. Waste per household decrease from a peak of 1,244 kilograms per household per year (kg/hh/yr) in 2002/03 to 984 kg/hh/yr in 2017/18 (a reduction of over 20%). This has been driven by a range of factors including household income, increased resource efficiency and changes in consumer behaviours. Similar factors are also thought to be driving reductions in C&I waste.

6.1.6 These changes suggest a change in the need for different types of waste management capacity. Permitted capacity of non-specialist waste management facilities in the Black Country was estimated to be c.12.5 mt in comparison to arisings and imports of c.5.6 mt in total). However, the Black Country is currently short of active and inert landfill space, household waste MRFs and composting facilities and reliant on exporting these materials to other regions.

6.1.7 In addition, the transition towards a Circular Economy is expected to significantly change the way waste will be manged in future. In particular, the quantities of waste reused, recycled and composted are expected to increase substantially leading to a number of significant capacity gaps by 2038. If self-sufficiency is to be maintained then an additional 1.5 mt of recycling, 1 mt of recovery and 0.8 mt of transfer capacity will be required.

6.1.8 The Black Country retains large areas identified as existing employment uses in adopted plans apparently large areas. However, the regeneration agenda to diversify employment, reverse population decline and improve the environment of the Black Country all imply greater challenges to the retention or provision of increasingly non-conforming uses.

6.1.9 All other things being equal, development for housing and high-quality employment will always yield greater revenues. Whilst viable development depends on the interplay of location, abnormal

development costs, policy requirements and landowner expectations that can only be evaluated on a site by site basis, there are significant areas where land used has changed to housing development and there is ample evidence of an ongoing trend through planning applications and site promotion.

6.1.10 Consultation with developers broadly confirmed the available evidence. Economic conditions are now generally more favourable across the Black Country and especially in Sandwell and Dudley.

6.1.11 As abnormal developments can present challenges to viability, the delivery of housing can be a difficult and lengthy process. But although the development may not be immediate, it will likely preclude any further development for lower value end uses.

6.1.12 These views serve to confirm those expressed by Biffa. At a national level, areas of land previously considered secure for potential waste use are being lost and existing waste capacity is being threatened. This could be seen as a particular issue in the Black Country where the waste sector is comparatively more important than in England as a whole.

6.1.13 As waste facilities are an essential part of the total infrastructure of an area, it is not only important that they are appropriately located but also that policy protection is applied to areas suitable for waste uses to help achieve the objectives of moving waste up the hierarchy and enabling communities to take responsibility for waste arising in their area. A policy response to safeguard capacity could consider:

- the definition of consultation zones drawn to a specified distance (say 250m) to the boundary of existing waste uses and endure should the existing use cease; and/or
- the definition of consultation zones around areas currently suitable for new waste uses into areas assessed as holding, as yet unrealised, potential; and
- require a waste use impact assessment to be submitted by the applicant for any housing and non-conforming use.

6.1.14 Whatever approach to their definition is adopted, the policy requirement would be that the WPA is consulted on a specified range of proposed non-waste development within these areas. This process should be precautionary but not unreasonably impede regeneration or the development of other much needed or otherwise suitable proposals.

6.1.15 Monitoring the effects of the policies of the BCCS will be important to ensure that the policies are having their intended effects and to identify whether any review is required.

6.2 Issues for the Black Country Plan

6.2.1 In taking the Black Country Plan forward, it will be important to ensure that the policies are having their intended effects and to identify whether any review is required. The following should be considered:

- Identifying indicative targets for delivery of new re-use and recycling capacity in the Black Country up to 2038, to maintain 'net self-sufficiency' and meet the 'Circular Economy' recycling requirements;
- Identifying the types of facility that cannot realistically be provided in the Black Country, such as composting, AD and hazardous landfill, meaning that the Black Country will continue to rely on exporting waste to other areas for this type of management;
- Identifying, if feasible, indicative targets for delivery of other identified waste capacity needs over the plan period;

- Providing an effective mechanism to safeguard the Black Country's existing waste facilities and discourage any development near to them that could prevent them from continuing to operate;
- Provide guidance for waste management in new developments so that adequate provision is made to manage waste on-site including sorting, segregation and storage of waste for collection;
- Identify the preferred options for development of new waste facilities, having regard to those recommended in the study; and
- Include an updated policy on new waste management development, setting out what new waste facilities will be expected to do prevent unacceptable effects on local people, health and the environment.

Bibliography

As well as setting out the documents referred to in this report, the following sets out a bibliography of the key background documents which have informed the Black Country Waste Study. This is not intended to be an exhaustive list. The document and web links (where appropriate) were up-to-date at the time the report was written in January 2020 but may be subject to change.

Document Title	Web Link (where available)
European and National Policy and Legislation on Waste	
Directive 94/62/EC on packaging and packaging waste (PPW Directive)	http://ec.europa.eu/environment/waste/packaging/index_en.htm
Directive 1999/31/EC on the landfill of waste (Landfill Directive)	http://ec.europa.eu/environment/waste/landfill_index.htm
Directive 2000/53/EC on end of life vehicles (ELV Directive)	http://ec.europa.eu/environment/waste/elv/index.htm
Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators (Batteries Directive)	http://ec.europa.eu/environment/waste/batteries/index.htm
Directive 2008/98/EC on waste (Waste Framework Directive)	http://ec.europa.eu/environment/waste/framework/
The List of Wastes (England) Regulations 2005 (SI 2005 No. 895)	http://www.legislation.gov.uk/uksi/2005/895/contents
The Waste (England and Wales) Regulations 2011 (SI 2011 No. 988) and 2012 and 2014 Amendment Regulations	http://www.legislation.gov.uk/uksi/2011/988/contents/made http://www.legislation.gov.uk/uksi/2012/1889/contents http://www.legislation.gov.uk/uksi/2014/656/contents/made
Directive 2012/19/EU on waste electrical and electronic equipment (WEEE Directive)	http://ec.europa.eu/environment/waste/weee/index_en.htm
Waste Management Plan for England (December 2013), Defra (N.B. to be reviewed following publication of "Our Waste, Our Resources" in December 2018, but this did not happen in 2019 and it remains to be seen when this will take place - see below)	https://www.gov.uk/government/publications/waste-management-plan-for-england
National Planning Policy (NPP) for Waste (October 2014), CLG (N.B. to be reviewed following publication of "Our Waste, Our Resources" in December 2018, but this did not happen in 2019 and it remains to be seen when this will take place - see below)	https://www.gov.uk/government/publications/national-planning-policy-for-waste
National Policy Statements (NPS) for Nationally Significant Infrastructure Projects (NSIPs): • Renewable Energy (EN-3) (July 2011) • Waste Water (March 2012) • Hazardous Waste (June 2013)	https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure https://www.gov.uk/government/publications/national-policy-statement-for-waste-water https://www.gov.uk/government/publications/hazardous-waste-national-policy-statement
The Clean Growth Strategy: Leading the Way to a Low Carbon Future (October 2017), HM Government	https://www.gov.uk/government/publications/clean-growth-strategy
Industrial Strategy White Paper - Industrial Strategy: Building a Britain Fit for the Future (November 2017), HM Government	https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future

Document Title	Web Link (where available)
Parliamentary Environmental Audit Committee: Chinese Waste Import Ban Inquiry (launched January 2018) [72]	https://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2017/chinese-waste-import-ban-17-19/
A Green Future: Our 25 Year Plan to Improve the Environment (January 2018), HM Government	https://www.gov.uk/government/publications/25-year-environment-plan
Freight Study Call for Evidence (January 2018), National Infrastructure Commission (Interim report expected Autumn 2018)	https://www.nic.org.uk/our-work/freight-study/
European Commission – Closing the Loop: An EU Action Plan for the Circular Economy (Circular Economy Action Plan) (December 2015) and Circular Economy Package (July 2018)[73]	http://ec.europa.eu/environment/waste/target_review.htm http://ec.europa.eu/environment/circular-economy/ https://www.letsrecycle.com/news/latest-news/european-parliament-approves-circular-economy-package/
Our Waste, Our Resources: A Strategy for England and Evidence Annex (December 2018), Defra	https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england
National Planning Policy Framework (NPPF) (February 2019), CLG – paragraph 4 and 3. Plan-Making paragraphs 15 – 27 [74]	https://www.gov.uk/government/publications/national-planning-policy-framework--2
UK Position on Shipments of Plastic Waste to Malaysia (7 June 2019), British High Commission, Kuala Lumpur	https://www.gov.uk/government/news/uk-position-on-shipments-of-plastic-waste-to-malaysia
WRAP Market Knowledge Portal – Plastic (2019)	https://www.wrap.org.uk/content/plastic

[72] Concerns about the import ban were previously reported in the press, but Defra seems to have been unaware of the problem until late in 2017. See Let's Recycle 28 September 2017 (https://www.letsrecycle.com/news/latest-news/trade-bodies-call-for-urgent-action-on-china/), MRW 2 November 2017 (https://www.mrw.co.uk/latest/gove-admits-ignorance-over-impact-of-china-import-ban/10024976.article) and Resource 15 January 2018 (https://resource.co/article/eac-launches-special-inquiry-effects-china-waste-ban-12351). Further bans are proposed and there are indications that all waste imports could be banned eventually. See MRW and Let's Recycle 20 April 2018 (https://www.letsrecycle.com/news/latest-news/further-chinese-import-restrictions-announced/, https://www.mrw.co.uk/latest/china-to-ban-imports-of-a-further-32-waste-materials/10030299.article) and MRW 28 June 2018 (https://www.mrw.co.uk/latest/indications-emerge-of-a-complete-ban-on-china-waste-imports-by-2020/10032579.article)

[73] The Circular Economy Action Plan was adopted by the EU in 2015 and the Circular Economy Package came into force in July 2018. The Circular Economy Package amends six Directives on waste: the Packaging and Waste (PWW) Directive (94/62/EC), Landfill Directive (1999/31/EC), End of Life Vehicles (ELV) Directive (2000/53/EC), Batteries Directive (2006/66/EC), Waste Framework Directive (2008/98/EC) and Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU). The amendments include changes to the definition of 'municipal' waste, changes to the definition of recycling construction and demolition waste (though the target of 70% by 2020 remains the same), higher targets for recycling of 'municipal' waste (60% by 2025 and 65% by 2030), and a lower maximum target for 'municipal' waste landfilled (no more than 10% by 2030). The European Commission adopted a report on the implementation of the Circular Economy Action Plan in March 2019. The Final Circular Economy Package key documents include reports on chemicals and plastics.

[74] The revised NPPF was amended in February 2019 following changes to the 'standard method' for calculating housing need, which were consulted on late in 2018. It was further amended in June 2019 to remove paragraph 209 (a) on shale gas extraction following a successful legal challenge. The NPPF does not cover waste, but paragraph 4 cross-refers to the National Planning Policy for Waste (2014). The NPPF advice on Plan-Making also applies, and confirms that strategic policies should cover waste management (paragraph 20 b)).

Document Title	Web Link (where available)
House of Commons Library Briefing Paper: Brexit and the Environment, 8 August 2018	https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-8132
Environment Bill 2019 – 2020 N.B. This Bill was originally introduced to Parliament in October 2019 but fell because it failed to complete its progress before Parliament was dissolved ahead of the December 2019 General Election. It was subsequently re-introduced to Parliament in January 2020.	https://services.parliament.uk/bills/2019-20/environment.html
Environment Bill Policy Statement 30 January 2020, Defra	https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement
House of Commons Library Briefing Paper: Analysis of the Environment Bill 2019 (October 2019) N.B. An updated briefing paper will accompany the Environment Bill 2020.	https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-8712
Waste Good Practice Guidance	
CL:AIRE SUBR:IM (Sustainable Urban Brownfield Management) Bulletins 2006 – 2011	https://www.claire.co.uk/information-centre/cl-aire-publications
Making Space for Waste: Designing Waste Management in New Developments (2010), Association of Directors of Environment, Economy, Planning & Transport (ADEPT)	https://www.adeptnet.org.uk/documents/making-space-waste-designing-waste-management-new-developments
Definition of Waste: Development Industry Code of Practice Version 2 (March 2011), Contaminated Land Applications in Real Environments (CL:AIRE)	https://www.claire.co.uk/projects-and-initiatives/dow-cop
Guidance on Applying the Waste Hierarchy (June 2011), Defra	https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy
Guidance on Applying the Waste Hierarchy to Hazardous Waste (November 2011), Defra	https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy-to-hazardous-waste
Recycled Aggregates: Guidance for Producers and Purchasers (April 2016), John Barritt Consulting Ltd	http://www.johnbarritt.co.uk/recycled-aggregates-guidance/
Guidance on the Legal Definition of Waste (August 2012) and Updated Version of Part 2 (May 2016), Defra	https://www.gov.uk/government/publications/legal-definition-of-waste-guidance
Valuation of mineral-bearing land and waste management sites (2nd edition, April 2016), Royal Institution of Chartered Surveyors (RICS) professional guidance, global	http://www.rics.org/uk/knowledge/professional-guidance/guidance-notes/valuation-of-mineral-bearing-land-and-waste-management-sites-2nd-edition/
Register Your Waste Exemptions (online guidance covering exemptions for Using Waste, Treating Waste, Disposing of Waste and Storing Waste), Environment Agency	https://www.gov.uk/guidance/register-your-waste-exemptions-environmental-permits
Guidance for Preparing a Waste Evidence Base for Local Plans (Draft) (May 2018), West Midlands Resource Technical Advisory Body (RTAB)	Not currently available online.

Document Title	Web Link (where available)
End of Waste Quality Protocols (Environment Agency) 2010 - 2016: Non-Packaging Plastics Recycled Gypsum from Waste Plasterboard Biodiesel Aggregate from Waste Steel Slag Processed Cullet from Flat Glass Tyre-Derived Rubber Materials Anaerobic Digestate Processed Fuel Oil (PFO) Bio-methane from Waste Aggregates from Inert Waste Poultry Litter Ash (PLA) Compost Pulverised Fuel Ash (PFA) and Furnace Bottom Ash (FBA)	https://www.gov.uk/government/collections/quality-protocols-end-of-waste-frameworks-for-waste-derived-products
Waste and Resources Action Programme (WRAP) online guidance: Food Waste Reduction Recycling and Reprocessing Sustainable Electricals Sustainable Textiles	http://www.wrap.org.uk/food-waste-reduction http://www.wrap.org.uk/collections-and-reprocessing http://www.wrap.org.uk/sustainable-electricals http://www.wrap.org.uk/sustainable-textiles
Construction Industry Research and Information Association (CIRIA) online guidance: Resource Efficiency Knowledgebase (developed by WRAP between 2002 and 2014) Regeneration and Contaminated Land	https://www.ciria.org/Resources/REK/Resource_Efficiency_Knowledgebase_.aspx https://www.ciria.org/CIRIA/Topics/Regeneration_and_contaminated_land/Topic_overviews/Regeneration_and_contaminated_land.aspx?hkey=42ca2967-93bc-468c-8d24-616472007e1f N.B. Need to register on the CIRIA website to access these documents
National Planning Practice Guidance (NPPG) – Waste ('living' guidance) CLG[75]	https://www.gov.uk/guidance/waste
Waste Data and Research	
Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste (February 2007), Capita Symonds and WRc plc for Department for Communities and Local Government	http://webarchive.nationalarchives.gov.uk/20120919181503/http://www.communities.gov.uk/publications/planningandbuilding/surveyconstruction2005
Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005: Construction, Demolition and Excavation Waste (February 2007), Capita Symonds and WRc plc for Department for Communities and Local Government	http://webarchive.nationalarchives.gov.uk/20120919181503/http://www.communities.gov.uk/publications/planningandbuilding/surveyconstruction2005
Study into Commercial and Industrial Waste Arisings (April 2009), ADAS for East of England Regional Assembly N.B. Estimated Arisings for individual waste planning authorities in the West Midlands using this methodology were calculated by the West Midlands Resource Technical Advisory Body (RTAB), however, there were concerns about the appropriateness of the methodology for the West Midlands	https://apps.warwickshire.gov.uk/api/documents/WCCC-680-172

[75] Most of this was produced in October 2014 at the same time as the National Planning Policy for Waste and there have only been minor changes since then. Wastewater treatment is covered by separate NPPG on Water: https://www.gov.uk/guidance/water-supply-wastewater-and-water-quality

Document Title	Web Link (where available)
Commercial and Industrial Organic Waste Arisings – a Gap Analysis (June 2009), Waste and Resources Action Programme (WRAP)	http://www.wrap.org.uk/content/commercial-and-industrial-organic-waste-arisings-%E2%80%93-gap-analysis
Overview of Demolition Waste in the UK (December 2009), Construction Resources & Waste Platform (CRW)	http://www.wrap.org.uk/sites/files/wrap/CRWP-Demolition-Report-2009.pdf
Construction, demolition and excavation waste arisings, use and disposal for England 2008 (April 2010), Capita Symonds Ltd and Alfatek Redox (UK) Ltd for Waste and Resources Action Programme (WRAP) N.B. Withdrawn in 2015 when a new methodology was introduced – see Digest of Waste and Resource Statistics below.	https://www.gov.uk/government/statistics/construction-and-demolition-waste
Commercial and Industrial Waste Survey 2009 (May 2011), Jacobs for Defra N.B. Withdrawn in 2015 when a new methodology was introduced - see Digest of Waste and Resource Statistics below. This has itself since been superseded by the current methodology introduced in February 2018 – see below.	https://www.gov.uk/government/statistics/commercial-and-industrial-waste-generation-and-management
Energy from Waste: A Guide to the Debate (February 2014) (revised edition), CLG and Defra	https://www.gov.uk/government/publications/energy-from-waste-a-guide-to-the-debate
Resource Management: a catalyst for growth and productivity (February 2015), Defra	https://www.gov.uk/government/publications/resource-management-a-catalyst-for-growth-and-productivity
Resource Efficient Use of Mixed Wastes: Construction and Demolition Waste Management in United Kingdom V2 – September 2015 (Revised 27/01/16), BIO by Deloitte in partnership with BRE, ICEDD, VTT, RPS and NOVA University of Lisbon	http://ec.europa.eu/environment/waste/studies/mixed_waste.htm
National Infrastructure Delivery Plan 2016 – 2021 (March 2016), HM Government	https://www.gov.uk/government/collections/national-infrastructure-plan
Proceedings of the Institution of Civil Engineers (ICE) Volume 169, Issue 2 (April 2016), Construction Materials	https://www.icevirtuallibrary.com/toc/jcoma/169/2 N.B. Only editorial and abstracts of articles are available to non-subscribers
The Retail Industry's Contribution to Reducing Food Waste (December 2016), British Retail Consortium	https://brc.org.uk/news/2016/the-retail-industrys-contribution-to-reducing-food-waste
Restructuring Trends, 'Waste Not Want Not: The Changing Face of the UK Waste Sector' (undated but probably 2016), PWC	https://www.pwc.co.uk/services/business-recovery/insights/restructuring-trends/waste-not-want-not-changing-face-uk-waste-sector.html
The Hospitality and Food Service Agreement: Taking Action on Waste (final report) (January 2017), Waste and Resources Action Programme (WRAP)	http://www.wrap.org.uk/content/hospitality-and-food-service-agreement-taking-action-waste
Household Food Waste in the UK, 2015 (January 2017), Waste and Resources Action Programme (WRAP) [76]	http://www.wrap.org.uk/content/household-food-waste-uk-2015-0

[76] WRAP have announced that they are updating the household food waste estimates in 2018 – see CIWM Journal 04/07/18: https://ciwm-journal.co.uk/wrap-to-update-household-food-waste-arising-estimates/

Document Title	Web Link (where available)
Designing Buildings Wiki: Improving Construction and Demolition Waste Data (online resource updated March 2017), BRE Buzz (Building Research Establishment)	https://www.designingbuildings.co.uk/wiki/Improving_construction_and_demolition_waste_data
Residual Waste Infrastructure Review (12th Edition) (August 2017), Eunomia	http://www.eunomia.co.uk/reports-tools/residual-waste-infrastructure-review-12th-issue/ N.B. it is necessary to register on the Eunomia website to download reports
Mind the Gap 2017 – 2030: UK Residual Waste Infrastructure Capacity Requirements' (August 2017), SUEZ	http://www.sita.co.uk/news/suez-publishes-latest-uk-waste-treatment-capacity-forecasts/
The Reality Gap (2017) (August 2017), Biffa	https://www.biffa.co.uk/media-centre/publications/
Congestion, Capacity, Carbon: Priorities for National Infrastructure: Consultation on a National Infrastructure Assessment, Modelling Annex and Modelling Annex Data (October 2017), National Infrastructure Commission [77]	https://www.nic.org.uk/our-work/national-infrastructure-assessment/ https://www.nic.org.uk/supporting-documents/congestion-capacity-carbon-modelling-annex-october-2017 / https://www.nic.org.uk/supporting-documents/congestion-capacity-carbon-modelling-annex-data-october-2017/
Fly-Tipping Statistics for England 2016 to 2017 (October 2017), Defra	https://www.gov.uk/government/statistics/fly-tipping-in-england
ENV24: Fly-Tipping Incidents and Actions Taken in England (October 2017) Defra	https://www.gov.uk/government/statistical-data-sets/env24-fly-tipping-incidents-and-actions-taken-in-england
UK Residual Waste: 2030 Market Review (November 2017), Tolvik Consulting for ESA	http://www.esauk.org/esa_reports/
On a Voyage of Recovery: A Review of the UK's Resource Recovery from Waste Infrastructure (December 2017), Phil Purnell (in Sustainable and Resilient Infrastructure)	https://www.tandfonline.com/doi/full/10.1080/23789689.2017.1405654
Waste Beyond Recycling (January 2018), Cory Riverside Energy roundtable information sheet	https://www.ice.org.uk/knowledge-and-resources/information-sheet/heating-up-enthusiasm-for-energy-from-waste
Waste Beyond Recycling (January 2018), Cory Riverside Energy roundtable information sheet	https://www.ice.org.uk/knowledge-and-resources/information-sheet/heating-up-enthusiasm-for-energy-from-waste
Digest of Waste and Resource Statistics, 2018 Edition (May 2018), Defra N.B. The figures for C&I waste 2010 -2014 published in this report and in earlier reports for 2015 – 2017 were updated in February 2018 using a revised methodology – see above	https://www.gov.uk/government/collections/digest-of-waste-and-resource-statistics
Annual Waste and Resource Management Review - 2018 (May 2018), Grant Thornton (N.B. based on 2017 data)	https://www.grantthornton.co.uk/insights/annual-waste-and-resource-management-review-2018/

[77] National Infrastructure Assessments to be produced every five years, will be considering pressures on solid waste and wastewater infrastructure in England over the long-term, up to 2050 (pp 8-10, 23, 29, 34). The main priority identified for waste infrastructure is the need to reduce carbon emissions (pp 7, 13, 16-17, 40 and Chapter 4) – it is not identified as a priority issue for city-regions or to support housing (Chapters 2 and 3). The first National Infrastructure Assessment was published in July 2018 (see below).

Document Title	Web Link (where available)
An economic assessment and feasibility study of how the UK could meet the Circular Economy Package recycling targets (May 2018), Ricardo Energy & Environment for Environmental Services Association (ESA)	http://www.esauk.org/esa_reports/
Save the Oceans – Stop Recycling Plastic (June 2018), Mikko Paunio for The Global Warming Policy Foundation (GWPF) [78]	https://www.thegwpf.org/new-report-recycling-plastic-waste-is-making-ocean-litter-worse/
Energy for the Circular Economy: An Overview of Energy from Waste in the UK (June 2018), Environmental Services Association (ESA)	http://www.esauk.org/esa_reports/
National Infrastructure Assessment (July 2018), National Infrastructure Commission (NIC) [79]	https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/
The Packaging Recycling Obligations (July 2018), National Audit Office (NAO) [80]	https://www.nao.org.uk/report/the-packaging-recycling-obligations/
Competition and Markets Authority (CMA): Ausurus Group/ Metal & Waste Recycling Merger Inquiry Final Report (August 2018) [81]	https://www.gov.uk/cma-cases/european-metal-recycling-metal-waste-recycling-merger-inquiry

[78] Challenges received wisdom about 'recycling' of MSW (particularly waste plastics) and the 'circular economy' and concludes that incineration is the best way to deal with mixed MSW, environmentally as well as economically. The conclusion that energy from waste is currently the optimum technology for mixed MSW is broadly consistent with the findings of the recent ESA report. While the recent National Audit Office (NAO) report draws similar conclusions about the environmental impact of exporting plastics for 'recycling,' the GWPF report recommends incineration rather than better regulation and improved access to recycling technologies, because it assumes that the current difficulties with plastics recycling are insurmountable.

[79] This advocates improving recycling capacity in England, particularly for plastics, and recommends higher recycling targets (65% of all 'municipal' waste and 75% of plastic packaging by 2030) rather than increasing energy from waste capacity as advocated by the ESA and others, clearer labelling of plastics, restricting use of hard-to-recycle plastics by 2025, and separate collection of food waste from households and businesses for anaerobic digestion by 2025 (see pages 9 - 10, 33 – 35, 45 - 48). However, the assessment has not considered wastewater in detail because of a "lack of reliable data" (see page 86). The 'significant' data gap for commercial and industrial waste is also identified in the assessment (see page 107).

[80] Concludes that the government has failed to face up to the underlying problems around recycling of packaging, particularly for plastics, because the data collected on recycling is not robust so recycling rates may have been over-estimated. There has also been heavy reliance on out-sourcing the problem by exporting much of this waste, giving rise to risks of fraud and error. Recommends reforming the system for data collection to improve understanding of recycling performance and government intervention to incentivise recycling as part of the forthcoming UK Waste and Resources Strategy.

[81] This relates to proposed merger of Metal & Waste Recycling Ltd (MWR) and European Metal Recycling (EMR). CMA concluded that the merger would harm the choices available to suppliers (such as car breakers) that supply shredder feed in the South East of England, and car manufacturers that sell large volumes of scrap metal through tendered contracts in the West Midlands and the North East of England. However, CMA did not find that competition would be weakened in the general buying (not via a tendered contract) and selling of general scrap metal. The merger was therefore approved subject to a 'divestment package' requiring EMR to sell five of the sites it bought from MWR, including the Cradley Metal Recycling Centre in Sandwell.

Document Title	Web Link (where available)
Written Evidence Submitted to HM Government Exiting the EU Committee: Sectoral Reports 12: Electricity Market including Renewables and 14: Environmental Services (21 December 2018)	https://www.parliament.uk/business/committees/committees-a-z/commons-select/exiting-the-european-union-committee/publications/
ENV18: Local Authority Collected Waste: Annual Results Tables (December 2018), Defra	https://www.gov.uk/government/statistics/local-authority-collected-waste-management-annual-results
District Heat Networks in the UK – Potential, Barriers and Opportunities (2018), Energy Technologies Institute (ETI)	https://www.eti.co.uk/insights/district-heat-networks-in-the-uk-potential-barriers-and-opportunities
From Waste to Resource: A UK Mineral Products Industry Success Story (February 2019), Mineral Products Association (MPA) [82]	https://mineralproducts.org/19-release18.htm http://mineralproducts.org
ENV23: UK Statistics on Waste – Statistical Release (7 March 2019), Defra and Government Statistical Service	https://www.gov.uk/government/statistics/uk-waste-data
Waste Management for England 2017 (updated March 2019), Environment Agency [83]	https://www.gov.uk/government/publications/waste-management-data-for-england
The Tipping Point (March 2019), D S Smith [84]	https://www.dssmith.com/recycling/insights/recycling-tipping-point
Environment Agency Waste Data Interrogators and Hazardous Waste Interrogators	https://data.gov.uk/data/search?q=waste+data+interrogator
National Infrastructure Planning - Planning Inspectorate: Projects	https://infrastructure.planninginspectorate.gov.uk/projects/
Royal Institution of Chartered Surveyors (RICS) UK Market Surveys: RICS UK Residential Market Surveys (monthly) RICS UK Commercial Market Surveys (quarterly) RICS UK Construction and Infrastructure Surveys (quarterly) RICS/ RAU UK Rural Land Market Surveys (half-yearly)	https://www.rics.org/uk/news-insight/research/market-surveys/
Development Plans for Waste	
West Midlands Metropolitan Area	
Black Country Core Strategy (2006 - 2026) (adopted February 2011)	http://blackcountrycorestrategy.dudley.gov.uk/
Black Country Core Strategy Review: Issues and Options Consultation Report (July 2017)	http://blackcountrycorestrategy.dudley.gov.uk/
Solihull Local Plan: Shaping a Sustainable Future (adopted December 2013)	http://www.solihull.gov.uk/resident/planning/appealsenforcement/planmaking/ldf/localplan

[82] The data underpinning this report was gathered by the MPA to challenge Defra's previous figures on recovery of construction and demolition waste which assumed much lower rates of recovery and higher rates of disposal to landfill. As a result of this, the construction and demolition waste recovery figures in the latest (2019) government statistical release on waste have been adjusted to take account of the data provided by the MPA.
[83] This is the latest summary of waste data for England by the Environment Agency on throughput at regulated sites.
[84] Research report by D S Smith on the state of recycling infrastructure in the UK. D S Smith have a depot in Willenhall, Walsall. Examines factors that affect the UK's ability to improve recycling rates, such as challenges of new consumer behaviours (e.g. online shopping) which have increased the amount of waste packaging produced, public confusion about what can and cannot be recycled, and economic pressures on local councils coupled with recent Chinese import restrictions. Recommendations are aimed at government but have implications for councils: appointment of dedicated recycling minister, statutory recycling targets at national/ local authority level, prioritisation of separate collections, universal labelling of packaging materials, and putting 'circular economy' at the heart of the national budget.

Document Title	Web Link (where available)
Solihull Local Plan Review: Draft Local Plan (December 2016) and Draft Local Plan Supplementary Consultation (January 2019) [85]	http://www.solihull.gov.uk/lpr
Birmingham Development Plan 2031 (adopted January 2017)	http://www.birmingham.gov.uk https://www.birmingham.gov.uk/directory_record/1360/environment_and_sustainability
Coventry Local Plan 2018 (adopted December 2017)	http://www.coventry.gov.uk/localplan
West Midlands – Other	
Waste Core Strategy for Worcestershire – Adopted Waste Local Plan 2012 - 2027 (adopted November 2012)	http://www.worcestershire.gov.uk/info/20015/planning_policy_and_strategy/311/waste_core_strategy
Staffordshire and Stoke-on-Trent Joint Waste Local Plan (2010 – 2026) (adopted March 2013)	https://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/wastelocalplan/wasteLocalPlan.aspx https://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/wastelocalplan/Waste-Local-Plan-document-library.aspx
Warwickshire Waste Core Strategy – Adopted Local Plan 2013 - 2028 (adopted July 2013)	Not currently available online – links on Warwickshire County Council website are all broken. Walsall MBC have a PDF of adopted plan and can provide it on request.
Shropshire Local Development Framework – Adopted Core Strategy (adopted February 2011)	https://shropshire.gov.uk/planning-policy/local-planning/core-strategy/
Shropshire Site Allocations and Management of Development (SAMDev) Plan 2006 – 2026 (adopted October 2015)	https://shropshire.gov.uk/planning-policy/local-planning/samdev-plan-2006-2026/the-plan/
Shropshire Local Plan Partial Review 2016 – 2036 N.B. The review is being carried out in stages – the third stage consultation on Preferred Sites ran until February 2019.	https://shropshire.gov.uk/planning-policy/local-planning/local-plan-partial-review-2016-2036/
Telford & Wrekin Local Plan 2011 – 2031 (adopted January 2018)	http://www.telford.gov.uk/info/20172/planning_policy_and_strategy/1229/telford_and_wrekin_local_plan_2011-2031
Herefordshire Minerals and Waste Local Plan (MWLP) – Draft Plan (January 2019)	https://www.herefordshire.gov.uk/consultations/article/10112/draft_minerals_and_waste_local_plan_consultation_2019
East Midlands	
Derby and Derbyshire Waste Local Plan (adopted March 2005)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/minerals-and-waste-planning-policy.aspx
Derby and Derbyshire Waste Plan (in preparation) (N.B. includes Derby City but does not include Peak District National Park)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/waste-plan/waste-plan.aspx [86]
Leicestershire and Leicester Waste Development Framework – Core Strategy & Development Control Policies up to 2021 (adopted October 2009)	https://www.leicestershire.gov.uk/environment-and-planning/planning/minerals-and-waste-local-plan/policy-documents

[85] Supplementary Consultation was about updated housing need, housing settlement strategy and site allocations, and did not affect the waste policy.
[86] Link to Derbyshire Partnership Forum website is broken and there is currently nothing about the plan on the Derbyshire Partnership Forum website.

Document Title	Web Link (where available)
Leicester Local Plan Consultation Draft – Emerging Options (July 2017)	https://consultations.leicester.gov.uk/sec/local-plan/
Leicestershire Minerals and Waste Local Plan (MWLP) 2019 (adopted September 2019) (N.B. does not include Leicester City)	https://www.leicestershire.gov.uk/environment-and-planning/planning/minerals-and-waste-local-plan/issues-consultation
Northamptonshire Minerals and Waste Local Plan (adopted July 2017)	http://www3.northamptonshire.gov.uk/councilservices/environment-and-planning/planning/planning-policy/minerals-and-waste-planning-policy/Pages/update-of-the-adopted-minerals-and-waste-local-plan.aspx
Nottinghamshire and Nottingham Replacement Waste Local Plan Part 1: Waste Core Strategy (adopted December 2013)	http://www.nottinghamshire.gov.uk/planning-and-environment/waste-development-plan/adopted-waste-local-plan
Nottingham Local Plan Part 2: City Land and Planning Policies Document (LPPD) – Submission (April 2018) [87]	https://www.nottinghamcity.gov.uk/planning-and-building-control/planning-policy/the-local-plan-and-planning-policy/
Rutland Local Development Framework – Core Strategy (adopted July 2011)	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan/
Rutland Local Plan Review 2016 – 2036 – Consultation Draft Plan (July 2017), additional consultation published August 2019	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan-review/
Black Country Local Plans – SADs and AAPs	
Sandwell Site Allocations and Delivery DPD (adopted December 2012)	http://www.sandwell.gov.uk/info/200275/planning_and_buildings/676/site_allocations_and_delivery_development_plan_document/1
Bilston Corridor Area Action Plan (AAP) including Bilston Neighbourhood Plan (adopted September 2014)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Stafford Road Corridor Area Action Plan (AAP) (adopted September 2014)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Wolverhampton City Centre Action Plan (AAP) (adopted September 2016)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Dudley Borough Development Strategy (DBDS) DPD (adopted January 2017)	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/
Walsall Site Allocation Document (SAD) 2019 (adopted February 2019)	https://go.walsall.gov.uk/site_allocation_document
Walsall Town Centre Area Action Plan (AAP) 2019 (adopted February 2019)	https://go.walsall.gov.uk/walsall_town_centre_area_action_plan
Black Country Authorities' Monitoring Reports	
Dudley Authorities' Monitoring Reports (AMRs)	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/annual-monitoring-report
Sandwell Authorities' Monitoring Reports (AMRs)	http://www.sandwell.gov.uk/downloads/download/441/annual_monitoring_reports

[87] Does not include specific waste policies, but policies address waste in support of adopted Waste Core Strategy. The examination took place in 2018 and the Inspector's report was published in January 2019.

Document Title	Web Link (where available)
Walsall Authorities' Monitoring Reports (AMRs)	https://go.walsall.gov.uk/environment/planning/planning_policy/local_plans/annual_monitoring_report
Wolverhampton Authorities' Monitoring Reports (AMRs)	http://www.wolverhampton.gov.uk/article/2406/Annual-Monitoring-Report
Black Country Core Strategy – Existing Evidence	
Waste Evidence	
Waste Treatment Facilities and Capacity Study: West Midlands Region: Final Report (May 2007), SLR	http://www.solihull.gov.uk/Resident/Planning/appealsenforcement/planmaking/ldf/evidencebase
West Midlands Landfill Capacity Study – 2009 Update: Study Report (June 2009), Scott Wilson	http://www.solihull.gov.uk/Resident/Planning/appealsenforcement/planmaking/ldf/evidencebase
The Regional Approach to Landfill Diversion Infrastructure (July 2009), DTZ and SLR for Advantage West Midlands	https://www.sustainabilitywestmidlands.org.uk/resources/west-midlands-waste-landfill-diversion-strategy/
West Midlands Commercial and Industrial Waste - Opportunities for Recycling and Recovery (May 2010), Waste and Resources Action Programme (WRAP)	http://www.wrap.org.uk/content/west-midlands-commercial-and-industrial-waste-%E2%80%93-opportunities-recycling-and-recovery
Black Country Core Strategy Waste Planning Study (May 2009), Atkins	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/f/
Black Country Core Strategy Waste Background Paper 2 and Appendices (February 2010), and Black Country Core Strategy Waste Monitoring Update (June 2010), Black Country Authorities	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/f/
West Midlands Renewable Energy Capacity Study (March 2011), SQW, Maslen Environmental and CO2 Sense for Advantage West Midlands	http://www.sqw.co.uk/files/7813/8694/8739/21.pdf N.B. Data Sheets for Black Country Authorities are not currently available online, but can be provided on request
Waste Planning and Management Trends in the West Midlands to 2011/12 (July 2013), West Midlands Resource Technical Advisory Body (RTAB)	https://www.westmidlandsiep.gov.uk/resources
Birmingham Waste Capacity Study 2010 (February 2010), Enviros Consulting Ltd and Birmingham Waste Capacity Study Update 2014 (June 2014), Jacobs	https://www.birmingham.gov.uk/downloads/download/388/waste_capacity_study_2010
Walsall Site Allocation, CIL Deliverability and Viability Study (September 2015), DTZ – Part 2 and Appendices 2a – 2c cover the employment land portfolio, and Part 3 and Appendix 3 consider potential waste sites	https://go.walsall.gov.uk/evidence#DeliveryViability
Waste Planning and Management Trends in the West Midlands to 2013/14 (November 2015), West Midlands Resource Technical Advisory Body (RTAB)	https://www.westmidlandsiep.gov.uk/resources
Environmental Evidence	
Black Country Strategic Flood Risk Assessment (SFRA) (February 2009), Jacobs	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/
Ford Brook Strategic Flood Risk Mapping: Final Report (July 2009), Halcrow Group Limited	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/
Black Country Water Cycle Study and Scoping Surface Water Management Plan (September 2009), Scott Wilson	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/

Document Title	Web Link (where available)
Black Country Historic Landscape Characterisation (2010), Wolverhampton City Council	http://archaeologydataservice.ac.uk/archives/view/blackcountry_hlc_2009/
Birmingham and Black Country Local Nature Partnership: State of the Environment Dashboard (September 2015)	https://www.bbcwildlife.org.uk/LNP
Urban Capacity Evidence	
Black Country Urban Capacity Review (May 2018), Black Country Authorities (N.B. Urban Capacity Review Update published December 2019)	http://blackcountrycorestrategy.dudley.gov.uk/t2/?assetdet13950554=318915 https://blackcountryplan.dudley.gov.uk/t2/p4/
Employment Land / Economic Development Evidence	
Sandwell Employment Sites Identification Study Draft Report (June 2011), GVA	http://www.sandwell.gov.uk/downloads/file/3273/employment_sites_identification_study_-_draft_report
Black Country Strategic Economic Plan (SEP) (March 2014), Black Country Local Enterprise Partnership (LEP)	https://www.blackcountrylep.co.uk/about-us/plans-for-growth/strategic-economic-plan/
The Black Country and South Staffordshire Sub-Regional High Quality Employment Land Study: Stage 1 Report (November 2014) and 2014/15 Stage 2 Report (August 2015), Warwick Economics & Development Ltd (WECD)	https://www.sstaffs.gov.uk/planning/the-evidence-base.cfm
Walsall Site Allocation, CIL Deliverability and Viability Study (September 2015), DTZ – Part 2 and Appendices 2a – 2c consider potential employment sites	https://go.walsall.gov.uk/evidence#DeliveryViability
Residential and Employment Sites Viability Assessment for the Dudley Borough Development Strategy (October 2015), Dudley MBC	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/susapp/
Dudley Strategic Employment Land Review 2016, Dudley MBC	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/susapp/
Walsall Employment Land Review March 2016 (Updated April 2017), Walsall Council	https://go.walsall.gov.uk/evidence#LandForIndustry
West Midland Combined Authority Strategic Economic Plan (SEP): Making our Mark (June 2016), West Midlands Combined Authority	https://www.wmca.org.uk/what-we-do/strategy/
Black Country 2017 Strategic Economic Plan (SEP) (Draft as at March 2017), Black Country Local Enterprise Partnership (LEP)	https://www.blackcountrylep.co.uk/about-us/plans-for-growth/strategic-economic-plan/
Black Country Economic Development Needs Assessment (EDNA): Stage 1 Report (May 2017), Warwick Economics & Development Ltd (WECD)	http://blackcountrycorestrategy.dudley.gov.uk/t2/p2/
Housing Need Evidence	
The Black Country and South Staffordshire Strategic Housing Market Assessment (SHMA) (June 2017), Peter Brett Associates	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/
Greater Birmingham and Solihull LEP / Black Country Strategic Housing Needs Study (March 2017), Peter Brett Associates	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/?assetdet13950554=314260

Document Title	Web Link (where available)
Black Country and South Staffordshire Strategic Housing Market Assessment Part 2 – Objectively Assessed Need for Affordable Housing (June 2017), HDH Planning and Development Ltd and Peter Brett Associates	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/?assetdet13950554=314260
Greater Birmingham Housing Market Area (HMA) Strategic Growth Study and Appendices (February 2018), G L Hearn and Wood	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/?assetdet13950554=314260
Town Centre Evidence	
Black Country Centres Study (November 2009), GCA Grimley	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
Wolverhampton City Centre Retail Update Study, Vols. 1 and 2 (December 2014), Hollis Vincent	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
West Bromwich Town Centre Health Check (June 2015), WYG	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
Walsall Town Centre Demand Study & Development Sites Assessment (September 2015), DTZ	https://go.walsall.gov.uk/aap_evidence#Ddv
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Midlands Connect Strategy: Powering the Midlands Engine (March 2017), Midlands Connect	https://www.midlandsconnect.uk/publications/
Midlands Connect: Freight (Narrative Report) (April 2017), Jacobs and Midlands Connect: Freight (Strategy Overview) (April 2017), Midlands Connect	https://www.midlandsconnect.uk/publications/
National Productivity Investment Fund (NPIF) bid: Walsall Economic Growth and Infrastructure Package (June 2017), Walsall Council [88]	https://www.tfwm.org.uk/strategy/freight-highways/ https://www.gov.uk/government/news/government-invests-350-million-improving-local-roads
West Midlands Rail Limited Single Network Vision – Version 1 June 2017, West Midlands Rail	http://www.westmidlandsrail.com/strategy/
Movement for Growth: 2026 Delivery Plan for Transport (September 2017), Transport for West Midlands	https://www.tfwm.org.uk/strategy/movement-for-growth/
West Midlands Transport Plan 2017-18, West Midlands Combined Authority and Transport for West Midlands	https://www.tfwm.org.uk/strategy/movement-for-growth/

[88] In 2017 a number of bids for funding were submitted for transport improvements in the West Midlands under the National Productivity Investment Fund (NPIF), which were co-ordinated by the West Midlands Combined Authority. The decision was announced in October 2017 and the Walsall package was the only Black Country bid to be awarded any funding. The Lichfield Southern Bypass (Final Phase) submitted by Staffordshire County Council was also awarded funding.

Document Title	Web Link (where available)
Network Rail Strategic Business Plan 2019-2024: Comprehensive High Level Summary (February 2018)	https://www.networkrail.co.uk/who-we-are/publications-resources/strategicbusinessplan/#downloadall
17/0870: Planning Application for M6 Junction 10 Improvements – approved by Walsall Council on 8 May 2018	https://go.walsall.gov.uk/NewsDetails/m6-junction-10-improvements-get-green-light http://planning.walsall.gov.uk/swift/apas/run/wphappcriteria.display
Midlands Connect: Our 2018/19 Priorities (May 2018)	https://www.midlandsconnect.uk/publications/
Midlands Connect Long-Term Midlands Motorway Hub Study: Summary Report (June 2018), Midlands Connect	https://www.midlandsconnect.uk/publications/
Midlands Connect and RIS2: Turning Evidence into Investment: Our Five Priorities for the Midlands from Highways England's Road Investment Strategy 2 (2020 – 2025) (March 2019)	https://www.midlandsconnect.uk/publications/ris2-priorities/
High Speed 2 Railway Line (HS2)	https://www.hs2.org.uk/
M54/ M6 Link Road	https://highwaysengland.co.uk/projects/m54-to-m6m6-toll-link-road/
West Midlands Interchange (Four Ashes SRFI)	http://www.westmidlandsinterchange.co.uk/
BCCS Sustainability Appraisal and HRA	
Sustainability Appraisal of the Black Country Core Strategy – Scoping Report (February 2017) and Sustainability Appraisal of the Black Country Core Strategy Review 2016 – 2036: Issues and Options Report – Regulation 18 Report (June 2017), Lepus Consulting	http://blackcountrycorestrategy.dudley.gov.uk/t2/p4/
J15: Habitats Regulations Assessment of the Joint Black Country Core Strategy – Screening Report and Appendices (June 2010), UE Associates	https://blackcountryplan.dudley.gov.uk/t1/p1/
J16: Habitats Regulations Assessment of the Joint Black Country Core Strategy – Appropriate Assessment (June 2010), UE Associates	https://blackcountryplan.dudley.gov.uk/t1/p1/

Appendix A
Glossary of Terms

Provided separately

Appendix B
Adopted Black Country Core Strategy Waste Policies

Provided separately

Appendix C
Waste Data Sources

Provided separately

Appendix D
Methodology Data

Provided separately

Appendix E
Waste Arisings, Management & Capacity Data Tables

Provided separately

Appendix F
List of Registered Producers of Low Level Radioactive Waste

Provided separately

Appendix G
Trends in Arisings 2015, 2016 & 2017

Provided separately

Appendix H
Gazetteer of Sites
(Waste Capacity Estimates)

Provided separately

Appendix I
Alternative Estimates of Waste Capacity

Provided separately

Appendix J
Waste Imported and Exported by Basic Waste Category and Region/Country, 2015 – 2017

Provided separately

Appendix K
Imports Schedule
(Imports of Waste in Excess of 10,000 tpa)

Provided separately

Appendix L
Waste Growth and Capacity Projections

Provided separately

Appendix M
Site Assessments and Plans

Provided separately