Black Country Authorities

Black Country Waste Study Update

Updated waste needs assessment to support preparation of the Black Country Plan

Wood Environment & Infrastructure Solutions UK Limited – September 2022

Report for

Black Country Authorities
c/o Sandwell Metropolitan Borough Council

[redacted]

Main contributors

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Document revisions

No.	Details	Date
1	Final Draft	July 2022
2	Final Revised Draft	July 2022
3	Final Report	September 2022

Executive summary

Context and Scope of the Black Country Waste Study Update

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, the Black Country's 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 – the Black Country Plan (BCP) – to replace the BCCS covering the period up to 2039 which is expected to be adopted in 2024.

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 Black Country Waste 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 Plan could respond to these challenges to meet the waste capacity requirements to 2039.

The Black Country Waste Study was first published in April 2020 and forms part of the evidence base for the Draft BCP (Regulation 18).

The waste needs assessment outlined in the Black Country Waste Study (2020) used 2017 as the baseline year and was informed by the latest available waste data at the time the needs assessment was undertaken. More up to date waste data is now available and as such, the waste needs assessment should be updated using this data to inform the next stage of the BCP plan production, namely the Regulation 19 consultation on the Publication Plan. At the time of writing, the latest available data – Waste Data Flow (for LACW waste) and WDI data – only included data for the period 2020-2021.

Whilst it is acknowledged that the waste needs assessment which underpins the BCP waste policies needs to be updated using the latest available data, allowance needs to be made of the impact of the COVID pandemic on waste arising and thereby waste data available for 2020. 2020 waste data is likely to present an anomaly due to the impact of the pandemic, notably the wholesale shift to learning and working from home and the impact of the many restrictions which saw the prolonged closure of many economic sectors including entertainment, leisure and retail.

The updated waste needs assessment presents two baselines – 2019 and 2020. Whilst 2020 is the latest available data, given that this data is likely to present an anomaly due to the impacts of the pandemic, the chosen baseline year for the new Plan is therefore 2019.

The purpose of the Black Country Waste Study Update is two-fold:

- Update the waste needs assessment using latest available data; and
- Assessing land available to meet additional capacity.

The Revised Baseline

In 2019 the Black Country was estimated to generate approximately 1.9 million tonnes (mt) of waste. Excluding exempt sites, the largest waste stream was estimated to be construction, demolition and excavation (CD&E) waste at over 875,000 tonnes. Under 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 over 300,000 tonnes and hazardous waste arisings to be over 170,000 tonnes. Other waste stream arisings were just over 2,000 tonnes, composed primarily of agricultural waste.

With the exception of exempt sites, over 470,000 tonnes (25%) was re-used, recycled or composted, over 620,000 (33%) was subject to recovery or treatment, over 485,000 tonnes (26%) (mainly construction and demolition waste) was disposed to landfill, and just under 295,000 tonnes (16%) 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 mt in 2019. Of this total the biggest percentage (by tonnage) (30%) was received at Treatment sites, followed by Metal Recycling Sites (MRS) (27%), Transfer Sites (24%) and Landfill sites (15%), with the remainder managed through incineration (5%).

Overall, the Black Country was estimated to import c.1 mt more waste than it exported in 2019 being a net importer of non-hazardous waste by approximately 650,000 tonnes and a net importer of hazardous waste by approximately 391,000 tonnes. The vast majority of these imports (79%) arose from within the West Midlands Region.

Despite being a net importer, exports from the Black Country amounted to nearly 2 mt in 2019. Of the 2 mt of waste received at permitted sites in England and Wales and incinerators in England, outside the Black Country, in 2019, the biggest percentage (by tonnage) (25%) was received at Transfer sites, followed by Treatment sites (24%), Landfill sites (23%), incinerators (15%), MRS (12%) and On/In Land sites (2%).

Projected Future Waste Capacity Requirements

Two housing and one employment growth scenarios have been modelled as part of the new Black Country Plan. The housing need figures and the employment land requirement used in the projections have been taken from the Draft BCP (Regulation 18). These scenarios relate to the extent to which the Black Country plans to meet its need for housing and employment land, with all scenarios assuming that the Black Country will need to export some of the demand over the Plan period.

Under these projections, the quantity of waste the Black Country is projected to manage increases from 5.2 mt in 2019 to 6.7 mt in 2039 equating to an increase of 34% or 1.46% p.a. An ongoing emphasis on waste reduction has seen a 20% reduction in waste per household 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 2019/20 – 2038/39 (i.e. 55% by 2025, 60% by 2030, 65% by 2035) 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 quite significantly from 13.7 mt in 2019 to 8.9 mt in 2039 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 0.8 mt to 2.2 mt of recycling 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). A need for replacement transfer and HWRC capacity in Walsall has also been identified which has been factored into the projections. The capacity requirements for recycling is expressed as a range, because it depends 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.

Update waste needs assessment conclusions

In comparison to the Black Country Waste Study (2020) which used a 2017 baseline, the main differences to this updated Study using a 2019 baseline are as follows:

- **An increase in waste to be managed over the Plan Period:** By 2039 the amount of waste to be managed has increased by c. 400,000 tpa, which is largely due to an increase in C&I tonnages. A change in trends in recent years on this waste stream has meant a greater increase in C&I arisings. This has also had an impact on agricultural and hazardous waste arisings as well as the amount of waste being imported over the Plan Period.
- **Increase in recycling capacity gap:** The increase in arisings mentioned above has also impacted the recycling capacity over the Plan Period. The capacity deficit has increased even more so; by 2039 the capacity gap will be 2.1 mtpa under WMS2 option and 1.9 mpta under WMS3 option.
- **There is no longer a recovery capacity deficit:** There is now a surplus over the Plan Period under all options. This is due to planned infrastructure and an additional c.1 mpta recovery capacity which is expected to come online between 2023 and 2027.

Review of land availability to meet additional waste management capacity requirements to 2039

As previously outlined in the Black Country Waste Study 2020, the review of land availability is undertaken within the context of the predominant urban nature of the Black Country which retains large areas of existing employment uses in adopted plans. However, the continued 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 bases, 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 promotions.

At a national level, areas of land previously developed 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 to the local economy 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.

Policy protection for existing and new waste management facilities in the Black Country is provided in the Draft BCP through employment policies Policy EMP1 (Providing for Economic Growth and Jobs) and Policy EMP3 (Local Employment Areas) as well as waste policies Policy W2 (Waste Sites) and Policy W3 (Preferred Areas for New Waste Facilities).

Policy EMP3 safeguards Local Employment Areas for a number of uses including scrap metal, timber and construction premises and yards, and waste collection, transfer and recycling uses as set

out in Policy W3. As such, it is considered that the 281 hectares of employment land allocated in the Draft BCP (as set out in Policy EMP1) takes into consideration the need to accommodate additional waste management capacity throughout the Plan Period.

Although the updated waste needs assessment has identified a need to provide for additional waste recycling capacity of between 1.9 and 2.2 mtpa, this is offset by there no longer being a waste recovery capacity deficit. Consequently, no additional waste management capacity over and above that already identified in the Draft BCP (Regulation 18) needs to be provided for in the BCP Regulation 19. Provided no changes have been made to the BCP employment policies, notably EMP3, it is envisaged that any additional waste management capacity can be accommodated within designated Local Employment Areas as set out in Policy W3.

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 Emerging Black Country Plan

1.2.1 The BCAs are preparing a new strategic plan – the Black Country Plan (BCP) – to replace the extant joint Black Country Core Strategy (BCCS) which was adopted in 2011 and covers the period to 2026. The BCP will cover the period up to 2039. Consultation on the Issues and Options took place in 2017, and the Draft Black Country Plan (Regulation 18) was published for consultation between August and October 2021.The outcomes from that consultation, along with further evidence gathering, will inform the next version of the BCP – called the Publication Plan. The Publication Plan will be published for consultation in late summer/autumn 2022.

1.3 Black Country Waste Study 2020

1.3.1 To inform the Draft BCP, the BCAs commissioned Wood Environment & Infrastructure Solutions UK Limited (hereafter referred to as Wood) to undertake a waste planning study for the Black Country to set out the waste evidence base for the BCP. The study included a waste needs assessment. The results of this study were published in the Black Country Waste Study 2020, which was issued alongside the other evidence base documentation to support the Draft BCP.

1.4 Black Country Waste Study Update

1.4.1 It is imperative that the waste evidence base used to inform the waste policies of the BCP is robust and that wherever possible this evidence is based on the latest (publicly) available data.

1.4.2 The waste needs assessment outlined in the Black Country Waste Study (2020) used 2017 as the baseline year and was informed by the latest available waste data at the time the needs assessment was undertaken. As evident from the comments received in response to the Draft BCP Regulation 18 consultation, notably from the West Midlands Regional Technical Advisory Board (WMRTAB), more up to date waste data is now available and as such, the waste needs assessment should be updated using this data to inform the next stage of the BCP plan production, namely the Regulation 19 consultation on the Publication Plan. At the time of writing, the latest available data – Waste Data Flow (for LACW[1] waste) and WDI data – only included data for the period 2020-2021.

1.4.3 Whilst it is acknowledged that the waste needs assessment which underpins the BCP waste policies needs to be updated using the latest available data, allowance needs to be made of the impact of the COVID pandemic on waste arising and thereby waste data available for 2020. 2020 waste data is likely to present an anomaly due to the impact of the pandemic, notably the wholesale shift to learning and working from home and the impact of the many restrictions which saw the prolonged closure of many economic sectors including entertainment, leisure and retail.

1.4.4 The purpose of this Black Country Waste Study Update is two-fold:

- Update the waste needs assessment using latest available data (**Chapters 2** and **3**); and
- Assessing land availability to meet additional capacity (**Chapter 4**).

1.4.5 A glossary of terms can be found in **Appendix A**.

[1] LACW = local authority collected waste

2. Updated Waste Needs Assessment

2.1 Updated evidence base

2.1.1 This section reviews and sets out the latest evidence to form a baseline for the emerging Black Country Plan (BCP). 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.

2.2 Waste Data Sources and Limitations

2.2.1 The waste data sources, and their limitations can be found in **Appendix B**.

2.2.2 We present two baselines – 2019 and 2020 – as part of this waste evidence update; whilst 2020 is the latest available data, as previously outlined in paragraph 1.4.3 the 2020 data is likely to present an anomaly due to the impact of the COVID pandemic on waste arisings and thereby waste data and is merely shown for comparative reasons. The chosen 'baseline' for the new Plan is therefore 2019, and we have used the most recent data sets available at the time of writing, which includes using data sets for 2019/20 and 2019 to estimate waste arisings and methods of management.

2.2.3 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 2019/20 monitoring year (April 2019 – March 2020), the 2019 Waste Data Interrogator (WDI) and Hazardous Waste Interrogator (HWI) data are for the 2019 calendar year (January – December), 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.

2.2.4 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 B** 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 D**. 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 2019. There is no equivalent readily available data for Scotland or Northern Ireland.

2.2.5 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.

2.2.6 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.

2.2.7 It should be noted that figures in the WDI from 2017 onwards are not directly comparable with earlier years, owing to improvements made by the Environment Agency to capture additional installations for some treatment facilities, which were omitted for previous years. This needs to be considered when looking at data and trends pre-2017. From 2019 onwards, WDI also includes data related to waste received/removed at operational incinerators, which was previously held on a different dataset.

2.2.8 Taking into account the limitations and assumptions stated above, and the fact that the data sources have been combined within the calculations for the Black Country 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.

2.3 Current Waste Arisings and Management

2019

2.3.1 Current waste arisings have been estimated as shown in **Figure 2.1**, with waste and recycling arisings estimated according to their source (e.g. household) or type (e.g. hazardous), as appropriate according to convention and statutory reporting requirements, and summed together to estimate total waste and recycling arisings in the Black Country.

Figure 2.1 Current waste arising estimate

2.3.2 **Table 2.1** presents the waste arisings estimates for the Black Country in 2019. 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 2019 the

Black Country was estimated to generate approximately 1.9 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" (see **Appendix B**).

2.3.3 Excluding exempt sites, the largest waste stream was estimated to be the CD&E at 875,000 tonnes. Just under 525,000 tonnes were collected by local authorities from household and non-household sources. C&I waste arisings were estimated to be over 300,000 tonnes and hazardous waste arisings to be over 170,000 tonnes.

2.3.4 Other waste stream arisings were over approximately 2,000 tonnes, composed of agricultural waste arisings of c.1,600 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 E 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 B**.

Table 2.1 Current Waste Arisings, 2019 (tonnes)[2]

Waste source		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Local Authority Collected Waste (LACW)[3]	Household	122,000	128,000	111,000	104,000	**465,000**
	Non-household	15,000	14,000	10,000	20,000	**59,000**
Commercial & Industrial waste (C&I)[4]	Permitted sites	31,000	44,000	61,000	53,000	**189,000**
	West Midlands (WPA not codeable)	32,000	30,000	26,000	25,000	**113,000**
Construction, Demolition and Excavation waste (CD&E)[5]	Permitted sites	150,000	82,000	61,000	240,000	**533,000**
	West Midlands (WPA not codeable)	113,000	74,000	85,000	70,000	**342,000**
	Exempt sites	U1 and U3 exemptions				**465,000**
	Permitted sites	170	1,100	90	260	**1,600**

[2] WasteDataFlow (WDF), WDI 2019, HWI 2019, EA waste exemptions register, EA National Packaging Waste Database (See Appendix B for full waste stream source breakdown)

[3] LACW data is published Defra LA Waste Statistics for the 2019/20 monitoring year, whereas the other estimates of waste arisings relate to the 2019 calendar year.

[4] Non-Hazardous C&I Waste, includes food processing waste (sub-chapter of EWC 02).

[5] Non-Hazardous CD&EW

Waste source		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Agricultural waste	West Midlands (WPA not codeable)	2	1	3	1	**6**
	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		17,000	52,000	69,000	34,000	**172,000**
Retailer take-back and Producer Compliance Scheme collections	Batteries	Estimate excludes LACW batteries				**240**
	WEEE	Estimate excludes LACW WEEE				**160**
Low level radioactive waste (LLRW)		No publicly available information on LLRW quantities – see **Appendix E** for registered producers				
Total waste arisings		**480,000**	**425,000**	**423,000**	**546,000**	**2,769,000**

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 C for breakdown of C&I and CD&EW calculation

2.3.5 **Table 2.2** sets out how the Black Country's waste arisings were managed at permitted sites in 2019 (excludes waste managed at exempt sites). **Appendix B** explains the methodology behind categorising waste management sites that received the waste, into the four management methods shown in the table. In 2019, over 470,000 tonnes (25%) of waste arisings were reused, recycled or composted, over 620,000 tonnes (33%) were recovered or treated and over 485,000 tonnes (26%) were disposed of (primarily to landfill). Just under 295,000 tonnes (16%) of waste arisings were 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 2019 are included in **Appendix B**.

2.3.6 The proportion of LACW which was reused, recycled or composted in 2019 was estimated to be 36%, 60% of LACW was used to recover energy and 4% was disposed of (primarily to landfill).

2.3.7 The proportion of C&I waste which was reused, recycled or composted in 2019 was estimated to be 42%, 21% of C&I waste was recovered or treated, 27% was in transfer and 10% was disposed of (primarily to landfill). Almost 95% of agricultural waste was estimated to be reused, recycled or composted, 4.5% was in transfer and less than 1% was recovered, treated or disposed of.

2.3.8 In contrast, almost 50% of CD&E waste was estimated to be disposed of (primarily to inert landfill) in 2019, just 18% was reused, recycled or composted, 16% was recovered or treated and 18% 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[6] 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 2019 there were 3 operational landfill sites in the Black Country – 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 one operational landfill site in 2019 (Edwin Richards) – 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[7].

2.3.9 With regards to hazardous waste, over 60% in 2019 was recovered/treated and just over 6% is known to be disposed of (primarily to hazardous landfill or incinerator without energy recovery). Over 30% 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.

[6] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste Defra UK Statistics on Waste (11 May 2022), Table 7
[7] 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 2.2 Current (2019) Waste Management (tonnes) (Permitted sites only. Excludes exempt sites)[8]

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
Dudley	Reuse, recycling and composting	49,000 (36.1%)	12,000 (38.3%)	5,000 (3.6%)	0	200 (97.6%)	67,000 (19.9%)
	Recovery and treatment***	85,000 (62.2%)	10,000 (32.6%)	5,000 (3.4%)	10,000 (59.8%)	0	111,000 (33%)
	Transfer		6,000 (21%)	6,000 (3.9%)	6,000 (35.3%)	0	18,000 (5.5%)
	Disposal	2,000 (1.7%)	2,000 (8.1%)	134,000 (89.1%)	1,000 (4.9%)	4 (2.4%)	140,000 (41.6%)
Sandwell	Reuse, recycling and composting	48,000 (33.4%)	14,000 (32.2%)	12,000 (15.1%)	0	1,100 (100%)	75,000 (23.4%)
	Recovery and treatment	88,000 (62.2%)	8,000 (17.5%)	17,000 (20.7%)	36,000 (68.3%)	0	149,000 (46.3%)
	Transfer		17,000 (38.2%)	37,000 (45.2%)	15,000 (28.8%)	0	69,000 (21.4%)
	Disposal	6,000 (4.4%)	5,000 (12.1%)	16,000 (19%)	2,000 (2.9%)	0	29,000 (8.9%)
Walsall	Reuse, recycling and composting	48,000 (39.7%)	16,000 (26%)	24,000 (39.5%)		10 (11.6%)	88,000 (28.2%)
	Recovery and treatment	68,000 (56.4%)	8,000 (13.4%)	4,000 (7.2%)	40,000 (58.7%)	9 (10.3%)	121,000 (38.8%)
	Transfer		36,000 (58%)	14,000 (23.4%)	22,000 (32.7%)	100 (78.2%)	72,000 (23.2%)
	Disposal	5,000 (4%)	2,000 (2.6%)	18,000 (30%)	6,000 (8.6%)		30,000 (9.8%)

[8] WasteDataFlow (WDF), WDI 2019, HWI 2019, EA waste exemptions register, EA National Packaging Waste Database (See Appendix B for full waste stream source breakdown)

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
Wolverhampton	Reuse, recycling and composting	45,000 (36.7%)	26,000 (49.9%)	63,000 (26.3%)	0	263 (100%)	135,000 (30%)
	Recovery and treatment	72,000 (57.9%)	16,000 (29.9%)	6,000 (2.7%)	22,000 (66%)	0	116,000 (25.8%)
	Transfer		9,000 (17.3%)	8,000 (3.4%)	9,000 (26.5%)	0	26,000 (5.8%)
	Disposal	7,000 (5.4%)	2,000 (3%)	162,000 (67.6%)	3,000 (7.5%)	0	173,000 (38.4%)
West Midlands (apportioned to Black Country)	Reuse, recycling and composting	-	60,000 (52.9%)	49,000 (14.2%)	-	0	108,000 (23.7%)
	Recovery and treatment	-	21,000 (18.7%)	103,000 (30%)	-	0 (1.1%)	124,000 (27.2%)
	Transfer	-	12,000 (10.7%)	97,000 (28.1%)	-	6 (93.6%)	109,000 (23.8%)
	Disposal	-	20,000 (17.7%)	95,000 (27.7%)	-	0 (5.3%)	115,000 (25.2%)
Black Country	Reuse, recycling and composting	190,000 (36.3%)	128,000 (42.4%)	154,000 (17.5%)		2,000 (94.7%)	473,000 (25.2%)
	Recovery and treatment	313,000 (59.8%)	63,000 (20.8%)	136,000 (15.5%)	109,000 (63.2%)	9 (0.5%)	621,000 (33.1%)
	Transfer		80,000 (26.5%)	162,000 (18.5%)	53,000 (30.6%)	100 (4.5%)	295,000 (15.7%)
	Disposal	20,000 (3.8%)	31,000 (10.3%)	425,000 (48.5%)	11,000 (6.3%)	4 (0.3%)	486,000 (25.9%)

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 2019/20 monitoring year rather than the 2019 calendar year
(***) Recovery and treatment for all areas includes energy recovery/ recovery of waste as 'Refuse Derived Fuel' (RDF).

2020

2.3.10 **Table 2.3** presents the waste arisings estimates for the Black Country in 2020. In 2020 the Black Country was estimated to generate approximately 1.8 mt of waste excluding estimates for waste managed at exempt sites, circa 40,000 tonnes less than in 2019.

2.3.11 Excluding exempt sites, the largest waste stream was estimated to be the CD&E at 865,000 tonnes. Just under 525,000 tonnes were collected by local authorities from household and non-household sources. C&I waste arisings were estimated to be over 290,000 tonnes and hazardous waste arisings to be over 155,000 tonnes.

2.3.12 Other waste stream arisings were over approximately 1,500 tonnes, composed of agricultural waste arisings of c.1,100 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.

2.3.13 In comparison to 2019, most waste streams have lower tonnages, apart from hazardous waste arisings, which were c. 15,000 tonnes higher in 2020.

Table 2.3 Current Waste Arisings, 2020 (tonnes)

Waste source		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Local Authority Collected Waste (LACW)[9]	Household	128,000	126,000	114,000	105,000	**473,000**
	Non-household	15,000	11,000	9,000	16,000	**51,000**
Commercial & Industrial waste (C&I)[10]	Permitted sites	31,000	38,000	76,000	48,000	**193,000**
	West Midlands (WPA not codeable)	28,000	26,000	22,000	21,000	**97,000**
Construction, Demolition and Excavation waste (CD&E)[11]	Permitted sites	106,000	76,000	122,000	262,000	**566,000**
	West Midlands (WPA not codeable)	99,000	67,000	4,000	60,000	**300,00**
	Exempt sites	U1 and U3 exemptions				**465,000**
Agricultural waste	Permitted sites	260	180	50	600	**1,100**
	West Midlands (WPA not codeable)	10	2	1	3	**30**
	Exempt sites	U10, U11, T24 and T25 exemptions				**9,000**

[9] LACW data is published Defra LA Waste Statistics for the 2020/21 monitoring year, whereas the other estimates of waste arisings relate to the 2020 calendar year.
[10] Non-Hazardous C&I Waste, includes food processing waste (sub-chapter of EWC 02).
[11] Non-Hazardous CD&EW

Waste source		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Waste managed at exempt sites*		All exemptions excluding U1, U3, U10, U11, T24 and T25				**420,000**
Hazardous waste		18,000	48,000	62,000	28,000	**156,000**
Retailer take-back and Producer Compliance Scheme collections	Batteries	Estimate excludes LACW batteries				**240**
	WEEE	Estimate excludes LACW WEEE				**110**
Low level radioactive waste (LLRW)		No publicly available information on LLRW quantities – see **Appendix F** for registered producers				
Total waste arisings		**425,000**	**392,000**	**479,000**	**540,000**	**2,731,000**

2.3.14 Waste arisings for 2020 and the preceding four years 2015, 2016, 2017 and 2019 are included within **Appendix F** to illustrate the trend over these five years. LACW arisings have fluctuated between 523 ktpa and 532 ktpa with the 2020 arisings being the second lowest over the period. This however was due to drop in non-household collected LACW as opposed to household waste. All authority 2020 household arisings apart from Wolverhampton were higher than 2015 arisings, whereas 2019 household arisings were overall lower than 2015. 2019 Black Country total arisings were approximately 1% 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 waste production.

2.3.15 Overall C&I arisings appear to have increased over recent years, in particular Walsall's waste arisings which have more than doubled since 2015. Walsall generates the most C&I waste of all four authorities. There was a large increase in overall C&I arisings, approximately 41%, between 2018 and 2019, but 2020 arisings were lower than 2019 which is likely an impact of the pandemic.

2.3.16 CD&E waste has overall decreased over the last five years, by approx. 17%, which may mirror the typical variation in the demand on the construction industry variation and economic implications. The largest year on year variation was between 2017 arisings and 2018 arisings with an approx. 20% decrease. Arisings have stayed relatively stable since, 2020 arisings being lower than 2019, with Dudley and Sandwell arisings seeming to decrease over recent years and Walsall and Wolverhampton arisings having increased. Only Walsall arisings are now higher than they were five years ago. varied with 2017 arisings being lower than they were in 2015.

2.3.17 Up until 2020, hazardous waste arisings overall were increasing, by about 11% compared to 2015 values. 2020 arisings however were very similar to 2015 arisings which may be due to the impact of the pandemic. Agricultural arisings in 2015 were considerably lower than those reported in 2016, 2017 and 2018; the 2018 arisings were over five times higher than that recorded in 2015. This was largely linked to an increase in agricultural arisings in Sandwell. However, 2019 and 2020 arisings have decreased considerably, with both years reporting tonnages lower than 2015, which indicates the variability in arisings from this sector.

2.3.18 **Table 2.4** sets out how the Black Country's waste arisings were managed at permitted sites in 2020 (excludes waste managed at exempt sites). In 2020, under 450,000 tonnes (24%) of waste arisings were reused, recycled or composted, over 660,000 tonnes (36%) were recovered or treated and over 430,000 tonnes (24%) were disposed of (primarily to landfill). Just over 295,000 tonnes (16%) of waste arisings were managed at a 'transfer' facility where it is stored before bulking and transporting to another facility for reuse, recycling, treatment or disposal. The waste management methods are very similar to the methods seen in 2019, albeit slightly higher levels of recovery / treatment and lower levels of disposal.

2.3.19 The proportion of LACW which was reused, recycled or composted in 2020 was estimated to be 32%, 62% of LACW was used to recover energy and 5% was disposed of (primarily to landfill). The level of reuse, recycling or composting in 2019 was higher at 36% with slightly lower levels of recovery and disposal.

2.3.20 The proportion of C&I waste which was reused, recycled or composted in 2020 was estimated to be 39%, 21% of C&I waste was recovered or treated, 29% was in transfer and 12% was disposed of (primarily to landfill). Similar to LACW, higher levels of recycling were seen in 2019 (42%), with lower levels of transfer and disposal. Almost 88% of agricultural waste was estimated to be reused, recycled or composted, 5% was in transfer, 8% recovered/treated and less than 0.5% was disposed of.

2.3.21 In contrast, almost 42% of CD&E waste was estimated to be disposed of (primarily to inert landfill) in 2020, just 19% was reused, recycled or composted, 20% was recovered or treated and 19% 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. There were higher levels of disposal in 2019, with less waste recovered or treated.

2.3.22 With regards to hazardous waste, over 63% in 2020 was recovered/treated and just over 6.5% is known to be disposed of (primarily to hazardous landfill or incinerator without energy recovery). Just under 30% 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. These figures were similar to those in 2019, albeit slightly higher levels of recovery / treatment.

Table 2.4 Current (2020) Waste Management (tonnes) (Permitted sites only. Excludes exempt sites)

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
Dudley	Reuse, recycling and composting	49,000 (34.6%)	8,000 (27%)	6,000 (6%)		263 (100%)	64,000 (21.6%)
	Recovery and treatment***	90,000 (63.6%)	13,000 (40.9%)	11,000 (10.8%)	12,000 (64.7%)		126,000 (42.4%)
	Transfer		7500 (24.1%)	2,000 (1.6%)	4,000 (24.5%)		14,000 (4.6%)
	Disposal	3,000 (1.9%)	2,000 (7.9%)	86,000 (81.6%)	2,000 (10.8%)		93,000 (31.4%)
Sandwell	Reuse, recycling and composting	40,000 (29.3%)	11,000 (28.3%)	9,000 (11.8%)		100 (55.6%)	60,000 (20%)
	Recovery and treatment	90,000 (66%)	8,000 (19.9%)	26,000 (33.8%)	32,000 (66%)	80 (43.1%)	156,000 (52%)
	Transfer		12,000 (32%)	3,000 (3.7%)	15,000 (30.3%)	2 (1.3%)	30,000 (9.9%)
	Disposal	6,000 (4.7%)	7,000 (19.8%)	38,000 (50.6%)	2,000 (3.7%)		54,000 (18.1%)
Walsall	Reuse, recycling and composting	39,000 (32%)	15,000 (20.3%)	28,000 (22.8%)		2 (3%)	82,000 (21.6%)
	Recovery and treatment	71,000 (57.6%)	6,000 (8.5%)	5,000 (4.5%)	39,000 (62.6%)	4 (7.7%)	121,000 (31.8%)
	Transfer		47,000 (61.7%)	88,000 (72.4%)	18,000 (29.7%)	50 (89.2%)	153,000 (40.1%)
	Disposal	13,000 (10.3%)	7,000 (9.5%)	435 (0.4%)	5,000 (7.7%)		25,000 (6.6%)
Wolverhampton	Reuse, recycling and composting	41,000 (33.9%)	27,000 (56.5%)	81,000 (31%)		577 (100%)	150,000 (32.7%)

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
	Recovery and treatment	74,000 (61.9%)	12,000 (25.3%)	19,000 (7.3%)	17,000 (62.8%)		123,000 (26.9%)
	Transfer		9,000 (17.7%)	7,000 (2.8%)	9,000 (30.7%)		24,000 (5.3%)
	Disposal	5,000 (4.3%)	236 (0.5%)	154,000 (58.9%)	2,000 (6.5%)		161,000 (35.2%)
West Midlands (apportioned to Black Country)	Reuse, recycling and composting		51,000 (52.1%)	41,000 (13.6%)		24 (82.9%)	92,000 (23.1%)
	Recovery and treatment		22,000 (22%)	113,000 (37.6%)			134,000 (33.8%)
	Transfer		9,000 (9.1%)	66,000 (21.9%		5 (15.9%)	75,000 (18.8%)
	Disposal		16,000 (16.7%)	81,000 (26.9%)		0 (1.2%)	97,000 (24.4%)
Black Country	Reuse, recycling and composting	169,000 (32.4%)	113,000 (38.8%)	165,000 (19.1%)		968 (87.6%)	448,000 (24.4%)
	Recovery and treatment	326,000 (62.4%)	61,000 (20.8%)	175,000 (20.2%)	100,000 (64%)	83 (7.5%)	661,000 (36%)
	Transfer		84,000 (28.8%)	166,000 (19.2%)	46,000 (29.4%)	54 (4.9%)	295,000 (16.1%)
	Disposal	27,000 (5.1%)	34,000 (11.6%)	360,000 (41.6%)	10,000 (6.6%)	(0.3%)	431,000 (23.5%)

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 2020/21 monitoring year rather than the 2020 calendar year
(***) Recovery and treatment for all areas includes energy recovery/ recovery of waste as 'Refuse Derived Fuel' (RDF).

2.4 Existing Waste Management Capacity

2019

2.4.1 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 2019, i.e. 2019 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 2019 are included in **Appendix B**. The figures in **Table 2.5** are annual capacity estimates and include hazardous waste (as recorded within the WDI). Waste received on/ in land in 2019 has been omitted from the capacity estimates in **Table** 2.5 because it is typically a short-term operation not likely to continue over the whole plan period. Waste received at site categories 'Mobile Plant' and 'Storage' have also been excluded as their inclusion would likely infer double counting of waste and they too may be operations not likely to continue over the whole plan period. Landfill capacity is also omitted from Table 2.5 and is reported separately from other waste capacity (see **Table 2.8**), as it is finite/ time limited though often a long-term operation, and is not measured in the same way.

2.4.2 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 3.5 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.

2.4.3 There was estimated to be approximately 3.4 million tonnes per annum (mtpa) of capacity at permitted sites in 2019. Just under 1.2 mtpa of this capacity was estimated to be at treatment facilities/operations, with recycling operational capacity just over 720,000 tonnes and recovery facilities under 460,000 tonnes, with approx. 60% of the Black Country's total 'Treatment' capacity being 'Recycling' and around 40% 'Recovery.' However, there is considerable variation at individual WPA level; in Sandwell around 70% of 'Treatment' capacity is 'Recycling,' in Dudley it is mainly Recycling, Walsall it is around 45%, and in Wolverhampton it is only around 20%.

2.4.4 Just under 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 900,000 tpa 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 was just over 213,000 tpa, the majority of which was 'with

energy recovery' at the two Council energy from waste facilities (EfWs) in Dudley and Wolverhampton.

2.4.5 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 2.5 Existing Waste Management Capacity, 2019 (tonnes per annum)[12]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Metal Recycling Sites (MRS)		150,000	475,000	385,000	53,000	1,064,000
Transfer		96,000	386,000	303,000	155,000	940,000
Treatment	*Recycling*	167,000	375,000	153,000	27,000	722,000
	Recovery	4,000	165,000	178,000	109,000	456,000
Incineration		96,000	3,000	-	114,000	213,000
Total		**513,000**	**1,404,000**	**1,019,000**	**459,000**	**3,395,000**

Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding

2.4.6 The waste management capacity in 2019 at LACW sites is shown in **Table 2.6.** 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 38% of the overall transfer capacity within the Black Country and incineration operational site capacity makes up approximately 99% 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 2.6 Existing Waste Management Capacity at LACW sites, 2019 (tonnes per annum)

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Incineration (EfW)		96,000	-	-	114,000	210,000
Transfer	WTS	23,000	131,000	103,000	19,000	276,000
	HWRC	16,000	22,000	16,000	25,000	80,000
Total		**135,000**	**153,000**	**119,000**	**159,000**	**566,000**

[12] EA WDI (2019)

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

2.4.7 It should be noted that the 2019 'waste received' data only gives a snapshot of throughput at permitted sites and incinerators in that year, which may not be typical. An alternative estimate of operational capacity is the average (mean) annual throughput over the past five years 2015 – 2019 from the WDI (and Operational Incinerators schedule). These are the figures that will be used for the capacity projections (**Table 2.14**). The 5-year average (mean) throughput at permitted sites and incinerators 2015 – 2019 gives a total capacity of around 3.5 mtpa.

2.4.8 The operational status and estimated void space for the Black Country landfill sites is provided in **Table 2.7**.

Table 2.7 Black Country Landfill Sites – Operational Status and Estimated Void Space, End of 2019 (cubic metres)

Site Name	Facility Type	Authority	Operational Status, End of 2019	Average Input Rate 2015 – 2019 (tonnes)	Estimated Void Space Remaining, End of 2019 (m^3)	Permitted Landfill End Date
Himley Quarry Landfill	Non-Hazardous (SNRHW)	Dudley	Operational	132,000	419,000	31/12/2025
Oak Farm Quarry Landfill	Non-Hazardous (SNRHW)	Dudley	Closed	-	0	21/02/2042
Ketley Quarry Landfill	Inert	Dudley	Closed	0	0	21/02/2042
Edwin Richards Landfill Site	Non-Hazardous	Sandwell	Operational	94,000	10,637,000	21/02/2042
Former Aldridge (Birch Lane) Quarry	Inert	Walsall	Pre-Operational	0	600,000*	12/09/2016
Branton Hill Quarry Extension	Inert	Walsall	Pre-Operational	0	500,000*	31/12/2030
Highfields South Landfill Site	Non-Hazardous	Walsall	Operational	107,000	1,000,000	31/12/2025
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 2015 – 2019, Environment Agency Remaining Landfill Capacity: England as at end 2019, Walsall Site Allocation Document 2019, Policy W4, Planning Permission BC for Branton Hill Quarry Extension.

*These figures are 0 in the EA Remaining Landfill Capacity dataset, see information on next page regarding these estimates.
Note: the figures in the table have been rounded to the nearest 1,000 tonnes/ cubic metres

2.4.9 Ketley Quarry Landfill and Oak Farm Quarry Landfill are now 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 has not yet started due to issues on site, but once operational the permit allows for 75,000 tpa.

2.4.10 Even though there is potential void space at Aldridge Quarry, it is uncertain whether this will come forward as a landfill site at all within the plan period.

2.4.11 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. In June 2022, an EIA Scoping Opinion Application for a proposed planning application for the restoration of the former clay workings was submitted, involving the importation of approximately 3,000,000m^3 of non-hazardous restoration material (principally comprising soils and inert material) over a 20-year period.

2.4.12 The operation of the adjoining brickworks at Sandown Quarry is currently tied to the quarry, however 95% of the clay used in the brick making is brought in from external sources with only 5% being taken internally within the site. The EIA Scoping Application (June 2022) for the proposed planning application for the restoration of the former brickworks indicates a twin application would also seek to remove this current restriction to allow the importation of 100% of clay from off-site so that the quarry can be permitted as landfill, no longer subject to any further extraction.

2.4.13 There is potential for void space at Sandown Quarry to come forward as a landfill site within the plan period, subject to the determination of any subsequent planning applications for the filling and restoration of the site following the conclusion of the current EIA Scoping Application (June 2022).

2.4.14 Average inputs into Edwin Richards Landfill are based on 2016 - 2019 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.

2.4.15 Branton Hill Quarry Extension did not receive planning permission until August 2018, but it is estimated to have a void space of 500,000m^3 (it is stated to be 0 in the Environment Agency Remaining Landfill Capacity table). There is no update on the status of this site becoming a landfill site.

2.4.16 Infilling at the inert landfill (Oak Farm Quarry Landfill) was assumed to be completed during 2018 (although there are still entries in the WDI in 2019 and 2020) but assuming this is for restoration, that leaves 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 356,000 tonnes at the end of 2019 and remaining

landfill capacity at the end of 2019 at the two non-hazardous landfills (Edwin Richards and Highfields South) was just over 9.9 mt.

2.4.17 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.

2.4.18 Taking into account the above, **Table 2.8** shows the estimated landfill capacity in the Black Country remaining at permitted landfill sites at the end of 2019. Using conversion factors to convert volume into weight, it is estimated that the total landfill capacity is sufficient to dispose of around 10.3 mt of non-hazardous waste.

Table 2.8 Landfill Capacity in the Black Country – Void space (cubic meters) and total capacity (tonnes) remaining at permitted sites at end of 2019

Site	Type	Authority	Estimated Void Space at end 2019 (m^3)	Estimated Total Capacity (tonnes)	Permitted End Date
Inert Only					
No permitted sites					
Non-Hazardous					
Himley	Non-Hazardous (SNRHW)	Dudley	419,000	356,000	31/12/2025
Edwin Richards	Non-Hazardous	Sandwell	10,637,000	9,042,000	21/02/2042
Highfields South	Non-Hazardous	Walsall	1,029,000	875,000	31/12/2025
Total Non-Hazardous Void Space at end 2019			12,085,000	10,273,000	
Hazardous					
No permitted sites					

Source: Environment Agency Remaining Landfill Capacity: England, as at end 2019, 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.

2020

2.4.19 The figures in **Table 2.9** are annual capacity estimates and include hazardous waste (as recorded within the WDI). There was estimated to be approximately 2.9 million tonnes per annum (mtpa) of capacity at permitted sites in 2020. Just over 1 mtpa of this capacity was estimated to be at treatment facilities/operations, with recycling operational capacity just over 655,000 tonnes and recovery facilities over 355,000 tonnes, with approx. 65% of the Black Country's total 'Treatment' capacity being 'Recycling' and around 35% 'Recovery.' These figures are relatively similar to 2019 levels, albeit lower.

2.4.20 Just under 850,000 tpa 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 800,000 tpa capacity was at transfer facilities. Both MRS and Transfer tonnages in 2020 were approx. 200,000 tpa less than 2019 tonnages, which may be as a result of the pandemic. These facilities deal with a number of waste streams and may reflect the resultant change in waste operations across the country. Operational capacity at incineration plants 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. These tonnages were slightly higher than 2019 tonnages.

Table 2.9 Existing Waste Management Capacity, 2020 (tonnes per annum)[13]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Metal Recycling Sites (MRS)		228,000	286,000	292,000	40,000	846,000
Transfer		94,000	235,000	302,000	147,000	776,000
Treatment	*Recycling*	156,000	299,000	155,000	45,000	655,000
	Recovery	6,000	90,000	167,000	93,000	357,000
Incineration		98,000	8,000	-	114,000	221,000
Total		**582,000**	**919,000**	**915,000**	**439,000**	**2,855,000**

Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding

2.4.21 The waste management capacity in 2020 at LACW sites is shown in **Table 2.10**. The tonnages managed at LACW sites were approx. 15,000 tonnes lower in 2020 compared to 2019, which is mainly linked to the lower tonnages received at HWRC sites, c.30,000 tonnes less in 2020. The LA HWRCs closed for a period of time, between 1-2 months, during the start of the pandemic, and is likely to have impacted annual tonnages received at the sites. More waste, however, was received at transfer stations.

Table 2.10 Existing Waste Management Capacity at LACW sites, 2020 (tonnes per annum)[14]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Incineration (EfW)		98,000	-	-	114,000	213,000
Transfer	WTS	24,000	130,000	118,000*	21,000	294,00
	HWRC	10,000	10,000	8,000	17,000	46,000

[13] EA WDI (2019)

[14] EA WDI (2019)

Facility type	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Total	**133,000**	**141,000**	**127,000**	**153,000**	**553,000**

* This includes the tonnages received at the Fryers Rd HWRC as they were not reported separately.
Figures rounded to nearest 1,000 tonnes
WTS: Waste Transfer Station
HWRC: Household Waste Recycling Centre

2.4.22 **Table 2.11** shows the estimated landfill capacity in the Black Country remaining at permitted landfill sites at the end of 2020. Using conversion factors to convert volume into weight, it is estimated that the total landfill capacity is sufficient to dispose of around 9.9 mt of non-hazardous waste. This shows that between 2019 and 2020, nearly 400,000 tonnes were deposited at landfill sites in the Black Country.

Table 2.11 Landfill Capacity in the Black Country – Void space (cubic meters) and total capacity (tonnes) remaining at permitted sites at end of 2020

Site	Type	Authority	Estimated Void Space at end 2020 (m^3)	Estimated Total Capacity (tonnes)	Permitted End Date
Inert Only					
No permitted sites					
Non-Hazardous					
Himley	Non-Hazardous (SNRHW)	Dudley	336,000	286,000	31/12/2025
Edwin Richards	Non-Hazardous	Sandwell	10,372,000	8,816,000	21/02/2042
Highfields South	Non-Hazardous	Walsall	918,000	781,000	31/12/2025
Total Non-Hazardous Void Space at end 2020			11,627,000	9,883,000	
Hazardous					
No permitted sites					

Source: Environment Agency Remaining Landfill Capacity: England, as at end 2020, 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.

2.5 Specialist Waste Management Capacity

2019

2.5.1 Specialist waste management capacity in the Black Country has been estimated from a range of sources and is summarised in

2.5.2 **Table** 2.12. 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 2019 are included in **Appendix B**.

2.5.3 Hazardous waste management capacity has been accounted for in the waste management capacity **Table 2.5** above, but the hazardous waste management capacity in

2.5.4 **Table** 2.12 is taken from the Hazardous Waste Interrogator (HWI) (2019) 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.

2.5.5 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 2.5** above.

2.5.6 There was estimated to be approximately almost 2.1 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 100,000 tpa at End of Life Vehicles (ELV) and WEEE facilities and just under 470,000 tpa at hazardous waste facilities.

2.5.7 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 Black Country Councils Water Cycle Study (May 2020), JBA Consulting. The maximum permitted DWF is estimated to be approx. 162,000 m^3/day across the Black Country sites. **Table D12** in **Appendix D** shows the 'Load Entering' Black Country Wastewater Treatment Facilities (p.e.), 2012 – 2018[15] and the data suggests that the quantity of wastewater treated at the specified plants has increased between 2012 and 2018.

2.5.8 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.

[15] 2018 being the most recent year data is available for

Table 2.12 Specialist Waste Management Capacity, 2019 (tonnes per annum unless otherwise specified)[16]

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Agricultural waste	Exempt Sites	U10, U11, T24 and T25 exemptions				11,000
Hazardous waste	Treatment	0	73,000	85,000	62,000	220,000
	Recovery	19,000	32,000	56,000	1,000	108,000
	Transfer	4,000	31,000	68,000	37,000	141,000
	Disposal*	450	2	1	1	460
	Other**	7	190	150	0	350
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
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		7,000	31,000	42,000	3,000	84,000
WEEE treatment		-	4,000	11,000	-	15,000

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)

2020

2.5.9 **Table 2.13** is taken from the Hazardous Waste Interrogator (HWI) (2020) and provides visibility of the permitted site hazardous waste capacity within the Black Country in 2020.

[16] See Appendix B for breakdown of data sources

The capacity estimates for exempt sites and wastewater sites have not been included in the table as they are the same as 2019.

2.5.10 There was estimated to be approximately almost 2.2 mtpa capacity at specialist waste management sites (excluding wastewater treatment) in 2020. Almost 1.6 mtpa of this capacity was estimated to be available at exempt sites, approximately 180,000 tpa at End of Life Vehicles (ELV) and WEEE facilities and just under 450,000 tpa at hazardous waste facilities.

2.5.11 In comparison to 2019, there was less waste treated at hazardous waste management sites, in particular recovery sites by c.20,000 tonnes. The tonnages treated at ELV recycling and depollution sites was significantly higher in 2020, by about 80,000 tonnes. This is largely linked to an increase in waste received at one site in Dudley 'Yard Adjacent To 39 Nimmings Road' operated by Blackheath Car & Commercial Breaker Ltd. The site received about 90,000 tonnes more waste than the previous year.

Table 2.13 Specialist Waste Management Capacity, 2020 (tonnes per annum unless otherwise specified)

Facility type		Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Hazardous waste	Treatment	0	81,000	77,000	65,000	222,000
	Recovery	14,000	26,000	49,000	2,000	90,000
	Transfer	2,000	30,000	67,000	35,000	134,000
	Disposal*	1,490	1,350	1	0	2,840
	Other**	0	30	480	4	500
ELV recycling and depollution		96,000	33,000	30,000	3,000	162,000
WEEE treatment		170	4,000	11,000	490	16,000

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, rejected and long time storage

2.6 Black Country Baseline Total Capacity Estimate

2019

2.6.1 **Table 2.14** summarises the total estimated baseline waste management capacity in the Black Country in 2019, including information on capacity at permitted landfills in **Table** 2.8**.** This excludes capacity at 'exempt' sites and specialist capacity (

2.6.2 **Table** 2.12). 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, 2015 – 2019, as discussed in paragraph 2.4.7. 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 2.14 Black Country Baseline Waste Capacity Estimate, 2019 (tonnes per annum)

Capacity Type	Dudley	Sandwell	Walsall	W'ton	Black Country
Recycling and Recovery (annual throughput capacity, tonnes per annum)					
Incinerator	*94,000*	*10,000*	*0*	*110,000*	***214,000***
MRS	*137,000*	*473,000*	*368,000*	*50,000*	***1,027,000***
Treatment - Recycling	*112,000*	*407,000*	*109,000*	*28,000*	***656,000***
Treatment - Recovery	*14,000*	*176,000*	*158,000*	*57,000*	***405,000***
Recycling and Recovery Total	356,000	1,067,000	635,000	245,000	**2,303,000**
Treatment -Recycling – Inert/C&D only*	*76,000*	*226,000*	*66,000*	*13,000*	***381,000***
Transfer (annual throughput capacity, tonnes per annum)					
Transfer	150,000	509,000	341,000	164,000	**1,164,000**
Landfill (void space in cubic metres (m^3) and total capacity in tonnes)					
Inert Only – m^3	*0*	*0*	*0*	*0*	***0***
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	603,000	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: 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.
Remaining landfill capacity in Dudley and Walsall is expected to be used up by the end of 2025.

2.6.3 Based on this information, in 2019 the capacity of permitted waste sites in the Black Country was estimated to be:

- Recycling and Recovery – 2.3 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

2.6.4 This gives a total baseline capacity of around 14.2 million tonnes.

2.6.5 A very high proportion of this is Non-Hazardous Landfill capacity is 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.

2.6.6 The section on cross-boundary waste movements (**Section 2.12**) 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.

2020

2.6.7 **Table 2.15** summarises the total estimated baseline waste management capacity in the Black Country in 2020, including information on capacity at permitted landfills in **Table** 2.11. This excludes capacity at 'exempt' sites and specialist capacity (**Table 2.13**). These figures are based on the annual throughput as opposed to the five-year average of waste received at permitted facilities.

Table 2.15 Black Country Baseline Waste Capacity Estimate, 2020 (tonnes per annum)

Capacity Type	Dudley	Sandwell	Walsall	W'ton	Black Country
Recycling and Recovery (annual throughput capacity, tonnes per annum)					
Incinerator	*98,000*	*8,000*	*-*	*114,000*	***221,000***
MRS	*228,000*	*286,000*	*292,000*	*40,000*	***846,000***
Treatment - Recycling	*156,000*	*299,000*	*155,000*	*45,000*	***655,000***
Treatment - Recovery	*6,000*	*90,000*	*167,000*	*93,000*	***357,000***
Recycling and Recovery Total	488,000	684,000	613,000	293,000	**2,079,000**
Transfer (annual throughput capacity, tonnes per annum)					

Capacity Type	Dudley	Sandwell	Walsall	W'ton	Black Country
Transfer	94,000	235,000	302,000	147,000	**776,000**
Landfill (void space in cubic metres (m^3) and total capacity in tonnes					
Inert Only – m^3	*0*	*0*	*0*	*0*	***0***
Inert Only – tonnes	*0*	*0*	*0*	*0*	***0***
Non-Haz – m^3	*336,000*	*10,372,000*	*918,000*	*0*	***11,627,000***
Non-Haz - tonnes	*286,000*	*8,816,000*	*781,000*	*0*	***9,883,000***
Hazardous – m^3	*0*	*0*	*0*	*0*	***0***
Hazardous – tonnes	*0*	*0*	*0*	*0*	***0***
Landfill Total – m^3	336,000	10,372,000	918,000	0	**11,627,000**
Landfill Total - tonnes	286,000	8,816,000	781,000	0	**9,883,000**

Source: Landfill - Table 2.11. All figures rounded to the nearest 1,000 tonnes. Totals may not sum due to rounding. Includes capacity at permitted sites only.

2.6.8 Based on this information, in 2020 the capacity of permitted waste sites in the Black Country was estimated to be:

- Recycling and Recovery – 2.1 million tonnes per annum
- Transfer – 0.8 million tonnes per annum
- Inert Landfill – 0 cubic metres/ 0 tonnes
- Non-Hazardous Landfill – 11.6 million cubic metres/ 9.9 million tonnes
- Hazardous Landfill – 0 cubic metres/ 0 tonnes

2.6.9 This gives a total baseline capacity of around 12.8 million tonnes.

2.6.10 The capacity in 2020 is 1.3 mt less than the capacity in 2019. The reduction is across all site categories, and not just landfill which would be where a decrease would be expected. This baseline is only reflective of the tonnages received at permitted sites in 2020 as opposed to the five-year average which might be an explaining factor. The impact of the pandemic is also likely to be another factor, as less waste was received across all site categories, apart from incineration.

2.6.11 For reasons explained in paragraph 2.2.2, the 2019 baseline tonnages are the tonnages that have been used in the projections set out in **Chapter 3**.

2.7 Planned Waste Infrastructure Projects

Nationally Significant Infrastructure Projects

2.7.1 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.[17]

2.7.2 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** 2.16, 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 the Study Area

2.7.3 **Table 2.16** is a schedule of waste infrastructure projects 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.

2.7.4 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.

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

Table 2.16 Waste Infrastructure Projects relevant to the study area by Authority and by Type[18]

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (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	Operational 2020-21	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 AB waste is now supplying 159,000 tpa. New permit determined 16/03/2020[19].
Sandwell	Energy from Waste Plant	Kelvin Energy Recovery Facility	Verus Energy Oak Ltd	Planning permission, construction started	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

[18] See Appendix B for data sources

[19] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874442/Permit_CP3836QX.pdf

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
						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. Construction of the facility[20] commenced at the end of 2021 and is expected to take 3 years.
Walsall	HWRC	n/a	Walsall Council or its Contractor	Planning permission granted	65,000	In May 2022, the Middlemore Lane application (22/100) was granted planning permission (subject to conditions) for the Council to replace the existing HWRC at Merchants Way with a new facility with c.40 ktpa operational capacity. The Fryers Road application (22/0105) was also granted planning permission to demolish the existing HWRC and WTS at Fryers Rd, replacing them with a larger HWRC and relocating the WTS to Middlemore Lane. It will provide an improved HWRC facility with increased capacity to accept additional waste streams and up to 25,000tpa of waste, though "there will be no direct processing of waste on any part of the site and activities will be limited to basic sorting, storage and bulking of materials". Completion of both sites is estimated to be mid-2024.
Walsall	WTS	n/a	Walsall Council or its Contractor	Planning permission granted	161,000	Linking to the above Fryers Road application (22/0105) and Middelmore Lane application (22/100), planning permission was granted to replace the 100 ktpa WTS at Fryers Rd with a new facility with c.150 ktpa operational capacity at Middlemore Lane. The existing WTS at Fryers Rd will be demolished and relocated to a new WTS at Middlemore Lane. The proposal would see existing capacity being replaced with a maximum capacity of 125,000tpa for a newly located WTS, "with an additional

[20] https://enfinium.co.uk/west-midlands-businesses-invited-to-learn-about-supply-chain-opportunities-during-the-construction-of-enfiniums-new-kelvin-waste-to-energy-facility/

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
						capacity of 16,000tpa to futureproof the operations against future waste growth" as well as a "A small trader scheme located adjacent to the WTS accepting small amounts of commercial waste up to a capacity of 20,000tpa", providing together an uplift of 66,000tpa WTS capacity in Walsall. Completion of the new WTS is estimated to be mid-2024.
Walsall	Energy from Waste Plant	3Rs (Fryers Road)	BH Energy Gap (Walsall) Limited	Un-implemented planning permission, planning permission for alternative scheme granted	436,000	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 458,000 tpa) and does not include on-site waste processing. Planning permission was granted (subject to conditions) in 2020 and the facility is planned to come online in 2027 (12 months until Notice to Proceed, 36 months to build-out) with a capacity of 436 ktpa.
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, planning	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

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
				permission granted		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. The planning application (FMES/2020/0427) was granted permission in 2021 subject to conditions. The Sherborne MRF expected to be open summer 2023.
Lincolnshire	ATT	Boston Alternative Energy Facility (BAEF)	Alternative Use Boston Projects Limited	Pre-application, DCO application Decision with the Secretary of State	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. The DCO Examination period for BAEF commenced on Friday 8 October 2021[21]. Once the Examining Authority has made a recommendation to the Secretary of State, the Secretary of State will then have three months to make the decision whether to grant consent for the project. As of July 2022, a decision is yet to be made.

[21] https://www.bostonaef.co.uk/2022/02/examination-commences-for-boston-alternative-energy-facility/

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
Lincolnshire	ATT	Waste to jet fuel project, Immingham	Velocys Plc	Planning permission granted	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. There is a partnership between Velocys and British Airways with a target financial close of 2024. In June 2020, North East Lincolnshire Council formally granted planning permission (application reference DM/0664/19/FUL). Target commission date is 2027.
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.

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
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.
Staffordshire	Renewable energy facility	n/a	Greener Composting	Planning permission granted	7,000	Biomass boiler facility at Manor Farm, Wall, Staffordshire. Permission granted 2018.
Staffordshire	Recycling facility	n/a	Site Clear Solution Limited	Planning permission granted	21,800	Retrospective application for recycling and storage facility for non hazardous and hazardous waste (ref. CH.19/01/778 W). Permission granted 2019.
Staffordshire	Waste Transfer Station	n/a	Burntwood Road Sweepers Limited	Planning permission granted	25,000	Retrospective application for a waste transfer station for gully emptying and road sweeping. Permission granted 2019.
Staffordshire	Recycling facility	n/a	Rykneld Metals Ltd	Planning permission granted	25,000	Application (ref. ES.19/01/5020 W) for the extension of the metal recycling facility including the erection of a building for storage and treatment of wastes and the provision of 3 commercial units for light industrial use; erection of palisade fencing; steel gates; installation of weighbridge; and car parking. Permission granted 2020.
Staffordshire	Healthcare waste treatment	n/a	Stericycle	Planning permission granted	23,500	Change of use of existing industrial building to use as a healthcare waste treatment plant and transfer site and associated works at Units 40- 46 Mariner, Lichfield Road Industrial Estate, Tamworth. Permission granted 2020.
City of Stoke-on-Trent	Waste Treatment and Transfer	n/a	Sharpsmart Ltd	Planning permission granted	20 tpd	Change of use to a clinical waste treatment and transfer use, including installation of extraction flues and mezzanine floors (sui generis). Permission granted 2019.

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
City of Stoke-on-Trent	Inert Recycling facility	n/a	S.J. Walchester Ltd	Planning permission granted	75,000	Change of use to an inert waste recycling facility including erection of a waste storage building, waste processing machinery, two portacabin offices, weighbridges, 3m high concrete boundary wall and car parking (Part Retrospective). Permission granted 2020.
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	Certificate of Lawfulness of Existing Use or Development issued	Unknown	Transfer site for green waste. Ref. 18/000002/CL. Despatch date 07/04/2020. Lawful Development Certificate for an Existing Use issued.
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.

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
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.
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.

2.8 Cross-Boundary Waste Issues

Waste imports and exports

2.8.1

2.8.2 **Table** 2.17 presents estimates of the volumes of hazardous and non-hazardous waste imported and exported from the Black Country in 2019. Imports have been calculated by using the EA WDI 2019 and waste received at permitted sites at Dudley, Sandwell, Walsall and Wolverhampton in 2019 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 2019 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 2019, 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 '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.

2.8.3 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 33,000 tonnes of codeable waste from the Black Country was exported to Wales in 2019 (see **Appendix G**), two thirds of which were municipal wastes from Wolverhampton. Slightly higher tonnages (just over 35,000 tonnes) were recorded in the 2018 WWDI, with a different pattern in exports; 40% of wastes were metal treatment residues from Sandwell. There is no equivalent data for Scotland or N Ireland.

2.8.4 The Black Country was estimated to be a net importer of non-hazardous waste in 2019 by approximately 0.65 mt. Non-hazardous waste imports were estimated to be almost 3.5 mt and exports almost 1.9 mt. Nearly 1 mt of Black Country's non-hazardous waste was received at facilities within the Black Country.

2.8.5 The Black Country was estimated to be a net importer of hazardous waste in 2019 by approximately 391,000 tonnes. Imports of hazardous waste were estimated to be c.500,000 tonnes and exports c.76,000 tonnes. Approximately 33,000 tonnes of the Black Country's hazardous waste was treated at facilities within the Black Country. Overall, the Black Country was estimated to import c.1 mt more hazardous and non-hazardous waste than it exported in 2019.

Table 2.17 Waste imports to and exports from the Black Country, 2019 (tonnes)

	Imports to Black Country facilities	Exports to permitted sites in England	Black Country waste arisings received at sites within the Black Country	Net imports
Non-hazardous waste	3,470,000	1,881,000	943,000	647,000
Hazardous waste	500,000	76,000	33,000	391,000
Total	3,970,000	1,957,000	975,000	1,037,000

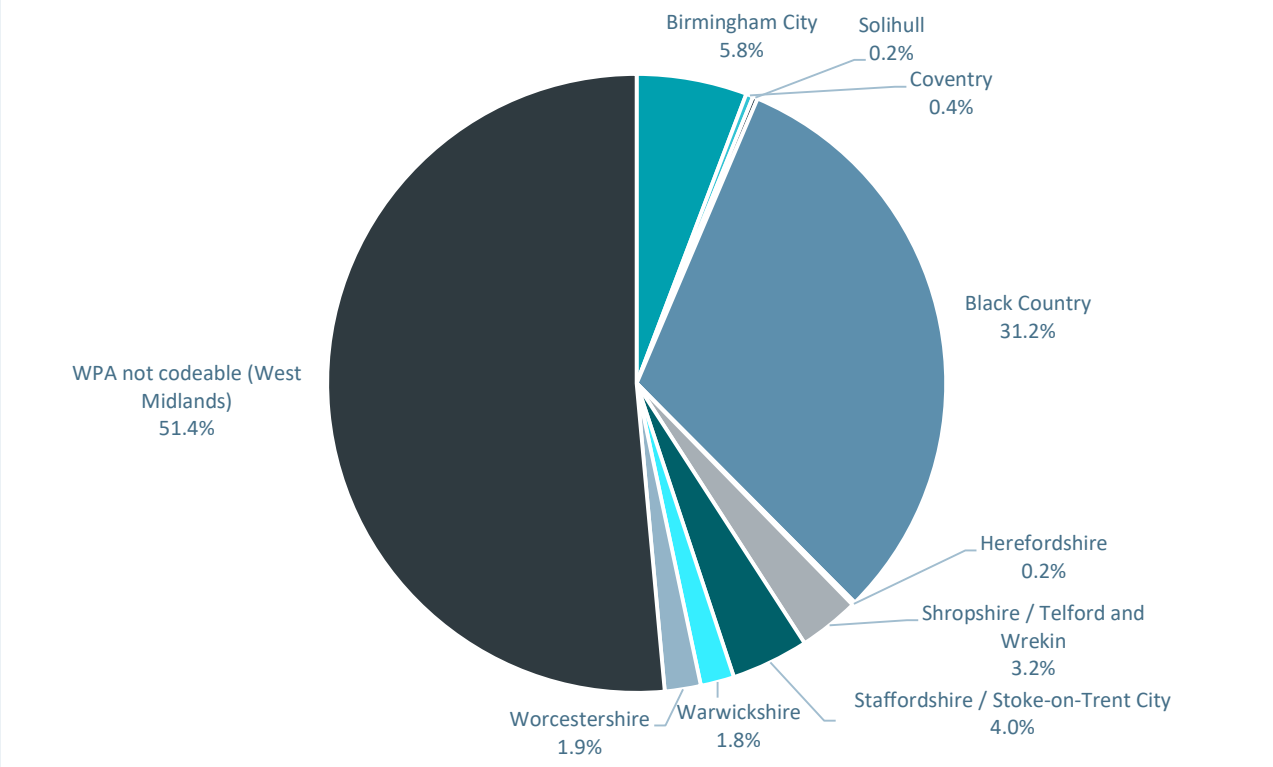
Figures rounded to nearest 1,000 tonnes. Figures are for permitted sites only and do not include data from Welsh Waste Data Interrogator. Figures also differ from net imports figures in Table 4.5 because they are based on 2019 data only.
Source: Environment Agency Waste Data Interrogator (WDI) 2019

2.8.6 Total imports into Black Country permitted sites totalled just under 4 mt of which approximately 3.5 mt was non-hazardous and 500,000 tonnes was hazardous. Of this imported waste, approximately 975,000 tonnes originated within the Black Country as inter area transfer. The figures in

2.8.7 **Table** 2.17 differ from the "Net imports of waste" figures in **Table 3.5** and **Table 3.8**, 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 2019.

2.8.8 The total imports into the Black Country originating from the West Midlands region (including the Black Country) was 3.1 mt, representing 79% of the total waste received. Approximately 1.6 mt of this total was origin West Midlands – WPA Not Codeable. **Figure** 2.2 shows the Waste Received at Permitted Sites in the Black Country in 2019, of which waste originated in the West Midlands Region (where known) and the underlying data can be found in **Appendix G**.

Figure 2.2 Waste Received at Permitted Sites in the Black Country in 2019: Waste Originating in the West Midlands Region (where known) by Origin WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2019

2.8.9 **Table 2.18** 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. Approximately 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 G** provides a breakdown of waste imported in 2019 by Basic Waste Category and Region/ Country.

Table 2.18 Origin Region/ Country and Waste Management by Site Category of Waste Received in the Black Country, 2019 (tonnes)

Origin Region/ Country	Landfill	MRS	Transfer	Treatment*	Total	%
East Midlands	3,000	27,000	35,000	84,000	150,000	4%
East of England	13	22,000	21,000	31,000	75,000	2%
London	3	17,000	8,000	46,000	72,000	2%
North East	0	17,000	16,000	12,000	46,000	1%
North West	2,000	23,000	33,000	28,000	86,000	2%
South East	130	32,000	9,000	66,000	107,000	3%
South West	340	47,000	46,000	41,000	135,000	3%
West Midlands	568,000	835,000	728,000	1,005,000	3,137,000	79%
Yorks & Humber	170	7,000	20,000	50,000	77,000	2%
N Ireland	0	1,000	60	2,000	4,000	0%
Scotland	0	1,000	1,000	6,000	9,000	0%
Wales	230	28,000	21,000	17,000	66,000	2%
Outside UK	0	6,000	0	2,000	8,000	0%
Total	574,000	1,064,000	940,000	1,391,000	3,970,000	100%

Source: Environment Agency Waste Data Interrogator (WDI) 2019
*includes incineration figures
Note: Figures rounded to nearest 1,000 tonnes
Totals may not sum due to rounding.

2.8.10 The cross-boundary movements in 2015, 2016, 2017 and 2018 are shown in **Appendix G**, datasets prior to 2019 not including waste sent for incineration; they show a broadly similar pattern of inter- and intra- regional waste movements to that of 2019. With regards to imported waste, while just under 80% of the waste received at sites in the Black Country in 2019 and 2018 was from within the West Midlands, this was more than 80% in 2016 and 2017, and more than 84% in 2015, suggesting the Black Country may be moving away from intra-regional 'self-sufficiency' although a 5 year time series of data is too short to tell whether this is an actual trend or just fluctuation.

2.8.11 **Table D18** (**Appendix D**) summarises Black Country waste imports, by Site Category, including waste sent for incineration. Of the 4 mt of waste received at permitted sites in 2019, the biggest percentage (by tonnage) (30%) was received at Treatment sites, followed by MRS (27%), Transfer sites (24%), Landfill sites (15%) and incinerators (5%).

2.8.12 In 2019 nearly 2 mt of waste originating in the Black Country was exported to permitted sites in England and Wales; 1.9 mt of this was non-hazardous and 76,000 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.

2.8.13 **Table** 2.19 shows the waste management by site category at destination region.

Table 2.19 Destination region and waste management by site category of origin waste Black Country, 2019 (tonnes)

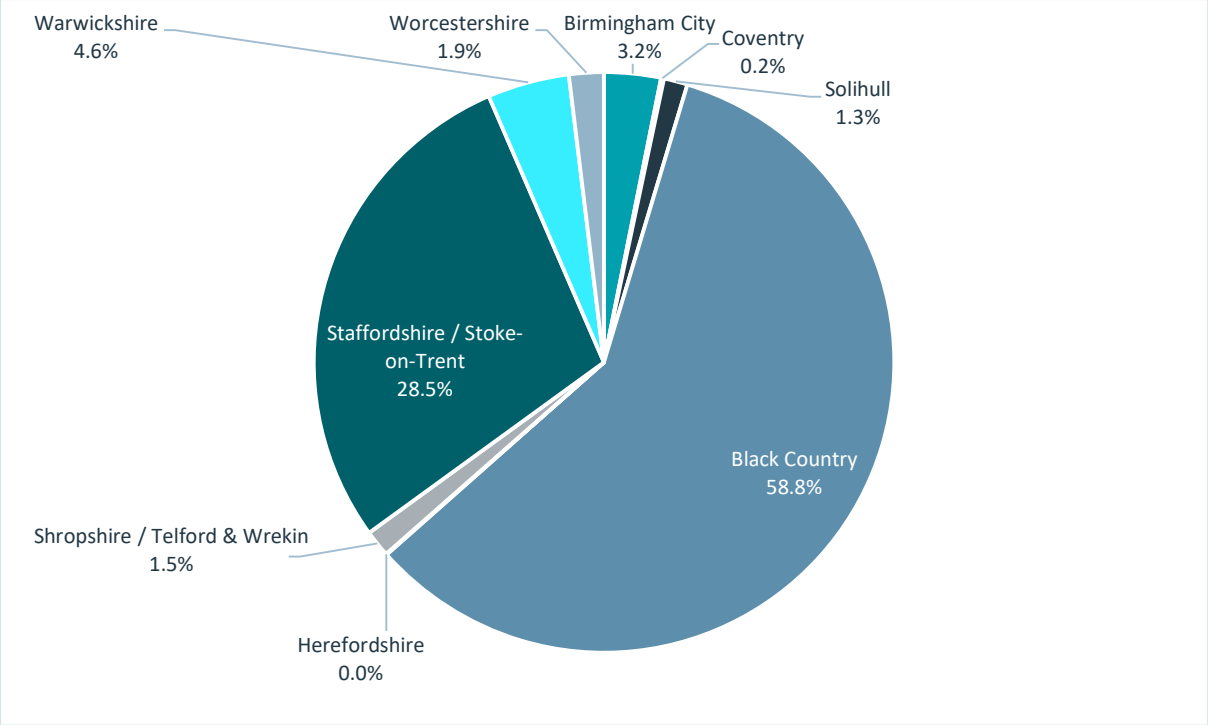
Destination	Landfill	MRS	Transfer	Treatment	On/in Land	Total	%
East Midlands	140	5,000	11,000	72,000	-	88,000	4%
East of England	190	650	30	15,000	-	16,000	1%
London	-	40	7,000	8,000	-	15,000	1%
North East	200	1,000	38,000	4,000	-	43,000	2%
North West	9,000	2,000	1,000	15,000	-	27,000	1%
South East	-	300	220	12,000	-	13,000	1%
South West	-	28,000	340	5,000	-	33,000	2%
Wales	-	7,000	1,000	25,000	-	33,000	2%
West Midlands	437,000	171,000	393,000	623,000	34,000	1,658,000	85%
Yorkshire & Humber	5	23,000	36,000	6,000	-	65,000	3%
Total	447,000 (23%)	230,000 (12%)	485,000 (25%)	761,000 (39%)	34,000 (2%)	1,957,000	100%

Source: Environment Agency Waste Data Interrogator (WDI) 2019 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2019
Note: Totals may not sum due to rounding.

2.8.14 1.7 mt (85%) of the waste was exported to facilities within the West Midlands. Of this, 46% (approx. 0.8 mt) was received at sites within the West Midlands metropolitan area (Birmingham, Coventry, Sandwell, Solihull, Walsall, Wolverhampton) and 59% at sites in the Black Country. **Figure 2.3** 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 G**).

2.8.15 The second largest export of waste was to permitted sites in the East Midlands; they received 88,000 tonnes which represents 4.5% of exported waste. The third largest export area was Yorkshire & Humber, where permitted sites received 65,000 tonnes of waste originating in the Black Country, representing 3.3% of exported waste. **Appendix G** provides a breakdown of waste exported in 2019 by Basic Waste Category and Region/ Country.

Figure 2.3 Waste Received at Permitted Sites in the West Midlands in 2019 (tonnes), Waste Originating in the Black Country (where known) by Destination WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2019

2.8.16 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 over 5.5 million tonnes of the waste received at permitted sites in England in 2018 and 2019 and nearly 6 million tonnes of the waste received in 2017 was recorded in the WDI as 'West Midlands WPA Not Codeable'. 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 90% was received at permitted sites within the West Midlands region. Sites in the Black Country received 1.8 million tonnes of the 'WPA Not Codeable' waste in 2019. 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.

2.8.17 **Table D18** (**Appendix D**) summarises Black Country waste exports, by Site Category, including waste sent for incineration. Of the 2 mt of waste received at permitted sites in England and Wales and incinerators in England, in 2019, the biggest percentage (by tonnage) (25%) was received at Transfer sites, followed by Treatment sites (24%), Landfill sites (23%), incinerators (15%), MRS (12%) and On/In Land sites (2%).

2.8.18 A list of West Midlands sites outside the Black Country that received the largest tonnages of Black Country waste during 2015 – 2019 can be found in **Appendix G**.

2.8.19 **Appendix G** also includes tables (G21-G25) showing the destination WPA of waste originating in the Black Country exported to the East Midlands 2015-2019. There appears to have been an overall increase in waste exported from the Black Country to the East

Midlands between 2015 and 2017, but tonnages have decreased slightly since. A list of East Midlands sites that received the largest tonnages of waste from the Black Country during 2015 – 2019 can also be found in **Appendix G**. Some of the exports can be linked to local authority waste contracts.

2.8.20 **Appendix G** also includes tables (G26 – G30) showing the destination WPA of waste originating in the Black Country exported to the South West 2015-2019, due to the large tonnages that were sent to the South West in 2016 and 2017 when there was an overall increase in waste exported from the Black Country. Nearly all of the waste exported to the South West 2015 – 2017 was received at just three sites which are listed in appendix G. Tonnages since have decreased by about 5%.

2.8.21 As shown in

2.8.22 **Table** 2.17 and the data provided there are considerable movements of waste between the BCAs and their neighbouring local authorities; in 2019, 4 mt of waste was imported to permitted facilities within the Black Country and 2 mt of waste was exported from the Black Country to permitted facilities outside of the Black Country. 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 Yorkshire & Humber. Exports outside the West Midlands are <15% 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

2.8.23 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. Up until April 2021, the City of Wolverhampton Council had a formal cross border agreement with Dudley Council, with the latter contributing to the costs of operating one of its HWRCs (Anchor Lane) which was used by a large number of Dudley residents[22] (accounting for at least 32% of the visitors to the site). This agreement has now ended as the authorities could not come to a fair agreement[23]. These types of agreement are one way that councils could work together to provide residents from neighbouring authorities access to a closer HWRC, monitor inter-use and ensure operating costs are equally shared.

2.8.24 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;
- Shared HWRC - HWRC developed by two adjoining authorities, serving specific catchment areas for use by residents from both authorities (although such a shared facility would not necessarily be reflected in captured waste data such as Waste Data Flow, which would attribute the data for that facility to the authority in which the facility is located); and

[22] It was also found that Sandwell and Walsall residents were also using the Anchor Lane facility due to its location.

[23] Use of Anchor Lane Household Waste & Recycling Centre from Thursday 1st April, 2021 | City Of Wolverhampton Council

- Booking systems – residents have to book online to reserve a time slot to access the HWRC to deposit waste. Residents either have to create a council account or provide an address within the area to be able to book.

2.8.25 Dudley Council introduced a booking system in May 2020 when they re-opened the HWRC following the first COVID lockdown, for safety reasons and to allow a continual flow of traffic through the facility. The booking system has been kept in place to improve traffic management in the area in stopping queues forming back onto Stourbridge Ring Road and given the Council insight into the site's usage and tonnage arisings. Sandwell Council also introduced a booking system in July 2020 to maximise the number of people accessing the site, whilst also reducing waiting times and long queues following the re-opening of sites. They also acknowledged that it would stop people who do not live in Sandwell visiting the facility and adding to the queue and extra costs to the Council and the contractor.

2.8.26 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

2.8.27 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 2020/21 there were 18,838 incidents reported to the Black Country Authorities, which is a 44% increase on the previous 2019/20 figure when there were 13,100 fly tipping incidents reported within the Black Country[24]. 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, mattresses, 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.

2.8.28 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;
- 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.

[24] Fly-tipping incidents and actions taken, reported by local authorities in England 2012/13 – 2020/21, Defra

2.8.29 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[25]. 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.

2.8.30 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.

2.8.31 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.

2.9 Key Issues for Delivery of Waste Infrastructure

2.9.1 There are a number of key issues for the delivery of waste infrastructure in the Black Country to 2039 and beyond.

2.9.2 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.

2.9.3 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 949 kg/hh/yr in 2019/20 (a reduction of over 20%). This has been driven by a range of factors including, but not limited to, household income, increased resource

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

efficiency (such as lightweighting[26]) and changes in consumer habits and behaviours. Waste reduction and resource efficiency improvements could have a significant influence on future waste growth which is explored in the next section.

2.9.4 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.3.4 mtpa in 2019 (3.5 mtpa when considering the 5-year average throughput as discussed in **Section 2.4.7**), in comparison to arisings of c.1.8 mt and imports of c.3.3 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.

2.9.5 In addition, the way waste will be managed in future is expected to change significantly as the UK transitions towards a Circular Economy. The quantities of waste reused, recycled and composted are expected to increase significantly. Although the UK government did not adopt the EU 'Circular Economy Package' measures following Brexit, they have published their own Circular Economy Package[27] which is predominantly the same as the EU CEP and includes targets such as sending no more than 10% municipal waste to landfill by 2035 and recycling 65% of municipal waste by 2035. Municipal waste recycling rates have 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.

2.9.6 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.

[26] 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.

[27] https://www.gov.uk/government/publications/circular-economy-package-policy-statement

3. Projected Future Waste Capacity Requirements

3.1 The Purpose of this Chapter

3.1.1 The BCP 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.

3.2 Need for Other Development

Household Growth

3.2.1 There are two housing growth scenarios that have been modelled for the purpose of this Study as part of the new Black Country Plan. The first scenario is taken from the Draft BCP (Regulation 18) which identifies sufficient land to provide 47,837 additional homes by 2039. This will deliver a 10% increase in housing stock and will accommodate 63% of current local housing need up to 2039 (76,076 homes) within the Black Country. The remaining housing need will be exported to neighbouring authorities. The second scenario includes a 10% buffer to allow for the c. 2,000 homes (5%) likely to be added to supply through the Centres Study[28], plus an extra 5% for sites which an inspector might add through examination.

3.2.2 For the ten years beyond the plan period (2039/40 to 2048/49) no housing figures have been identified for these years. However, the Study has used an estimation, assuming no more Green Belt releases but a continuation of urban house-building levels.

Housing Growth Scenario 1

3.2.3 This accommodates 63% of current local housing need up to 2039. This equates to:

- Actual net completions of 5,859 dwellings 2018/19 – 2019/20;
- A 'need' for 47,837 net additional dwellings for the rest of the plan period 2020/21 to 2038/39, which equates to an average (mean) of 2,518 dwellings per annum; and
- A further 'need' for 22,825 net additional dwellings for the next 10 years beyond the plan period 2039/40 to 2048/49 (assumed to be the same as the plan period pro rata), which equates to an average (mean) of 2,283 dwellings per annum.

[28] Black Country Centres Study, Main Report (March 2020) and update (August 2021) (Lambert Smith Hampton)

3.2.4 The total housing need under the baseline scenario is therefore 53,696 net additional dwellings 2018/19-2038/39 and 76,521 net additional dwellings 2018/19 to 2048/49 (see **Table 3.1**).

Housing Growth Scenario 2

3.2.5 This relates to the annualised housing 'need' for the Black Country under Scenario 1 plus an additional 10% net dwellings. This equates to:

- Actual net completions of 5,859 dwellings 2018/19 – 2019/20;
- A 'need' for 56,621 net additional dwellings for the rest of the plan period 2020/21 to 2038/39, which equates to an average (mean) of 2,770 dwellings per annum; and
- A further 'need' for 22,825 net additional dwellings for the next 10 years beyond the plan period 2039/40 to 2048/49 (assumed to be the same as the plan period pro rata), which equates to an average (mean) of 2,283 dwellings per annum.

3.2.6 The total housing need under the baseline scenario is therefore 58,480 net additional dwellings 2018/19-2038/39 and 81,305 net additional dwellings 2018/19 to 2048/49 (see **Table 3.1**).

3.2.7 **Table 3.1** and **Figure 3.1** summarise these scenarios, with **Table 3.1** showing 5-yearly cumulative totals for the Plan Period 2018 to 2039 and the 10 years beyond the Plan Period 2040 to 2049.

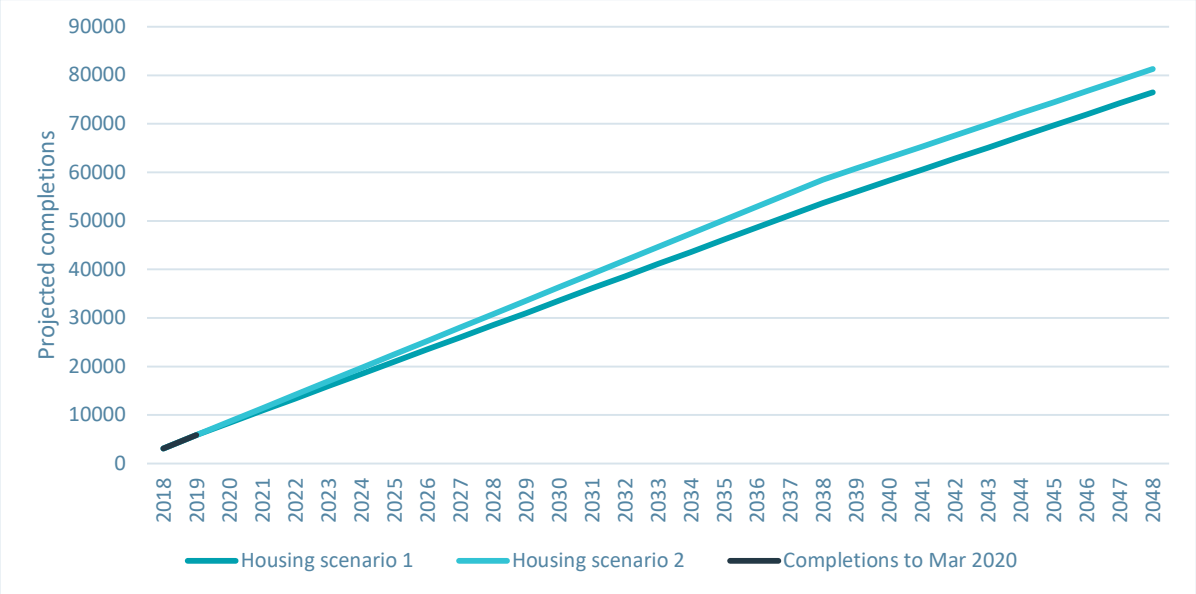
Table 3.1 Housing Growth Scenarios (cumulative net housing need/growth (net dwellings) 2018 – 2049)

Scenario / Authority	Completions 2018 - 2020	Required 2020/21 - 2024/25	Required 2025/26 - 2029/30	Required 2030/31 – 2034/35	Required 2035/36 – 2038/39	Required 2039/40 – 2043/44	Required 2044/45 – 2048/49
Housing Growth Scenario 1							
Dudley	1,565	5,048	8,531	12,014	14,800	17,990	21,180
Sandwell	1,295	3,705	6,115	8,525	10,453	12,818	15,183
Walsall	1,472	4,984	8,495	12,007	14,816	17,759	20,701
Wolverhampton	1,527	4,711	7,895	11,080	13,627	16,542	19,457
TOTAL	**5,859**	**18,448**	**31,036**	**43,625**	**53,696**	**65,109**	**76,521**
Housing Growth Scenario 2							
Dudley	1,565	5,396	9,228	13,059	16,124	19,314	22,504
Sandwell	1,295	3,946	6,597	9,248	11,369	13,734	16,099
Walsall	1,472	5,335	9,197	13,060	16,150	19,093	22,035
Wolverhampton	1,527	5,030	8,532	12,035	14,837	17,752	20,667

Scenario / Authority	Completions 2018 - 2020	Required 2020/21 - 2024/25	Required 2025/26 - 2029/30	Required 2030/31 – 2034/35	Required 2035/36 – 2038/39	Required 2039/40 – 2043/44	Required 2044/45 – 2048/49
TOTAL	**5,859**	**19,707**	**33,554**	**47,402**	**58,480**	**69,893**	**81,305**

Source: Black Country Authorities

Figure 3.1 Housing Growth Scenarios



Employment Growth

3.2.8 The Draft BCP (Regulation 18) Policy EMP1 (Providing for Economic Growth and Jobs) states that the BCA will seek to deliver at least 355ha of employment land within the plan period (exporting 210ha).

3.2.9 The evidence base for the employment land policies primarily consists of a two stage Employment Development Need Assessment (EDNA) and the Black Country Employment Area Review (BEAR)[29].

3.2.10 Within the allocation, 74ha is to de delivered from small sites / underutilised areas within existing employment areas. This was distributed between the BCAs on a proportionate basis, based on how much employment land there is in each local authority from the BEAR.

3.2.11 For the ten years beyond the plan period (2039/40 to 2048/49) no employment land figures have been identified. A continuation of annual employment land allocation levels has been used for the purpose of this study.

[29] Economy & Employment (dudley.gov.uk)

3.2.12 The annualised employment land allocation within the Black Country, used within the Employment Growth Scenario, equates to:

- A total provision of 355 hectares for the period 2020/21 to 2038/39; and
- A further provision for 187 hectares for the period 2038/39 to 2048/49.

3.2.13 These provisions and their apportionment between the BCAs are shown in **Table 3.2**, as 5-yearly cumulative totals.

Table 3.2 Employment Growth Scenario (cumulative net employment need/growth (in hectares) 2020 – 2049)

Scenario / Authority	Required 2020/21 - 2024/25	Required 2025/26 - 2029/30	Required 2030/31 – 2034/35	Required 2035/36 – 2038/39	Required 2039/40 – 2043/44	Required 2044/45 – 2048/49
Employment Growth Scenario 1						
Dudley	9.9	19.7	29.6	37.5	47.4	57.2
Sandwell	15.0	30.1	45.1	57.1	72.1	87.2
Walsall	47.2	94.5	141.7	179.5	226.7	274.0
Wolverhampton	21.3	42.5	63.8	80.8	102.1	123.3
TOTAL	**93.4**	**186.8**	**280.2**	**354.9**	**448.3**	**541.7**

Source: Black Country Authorities

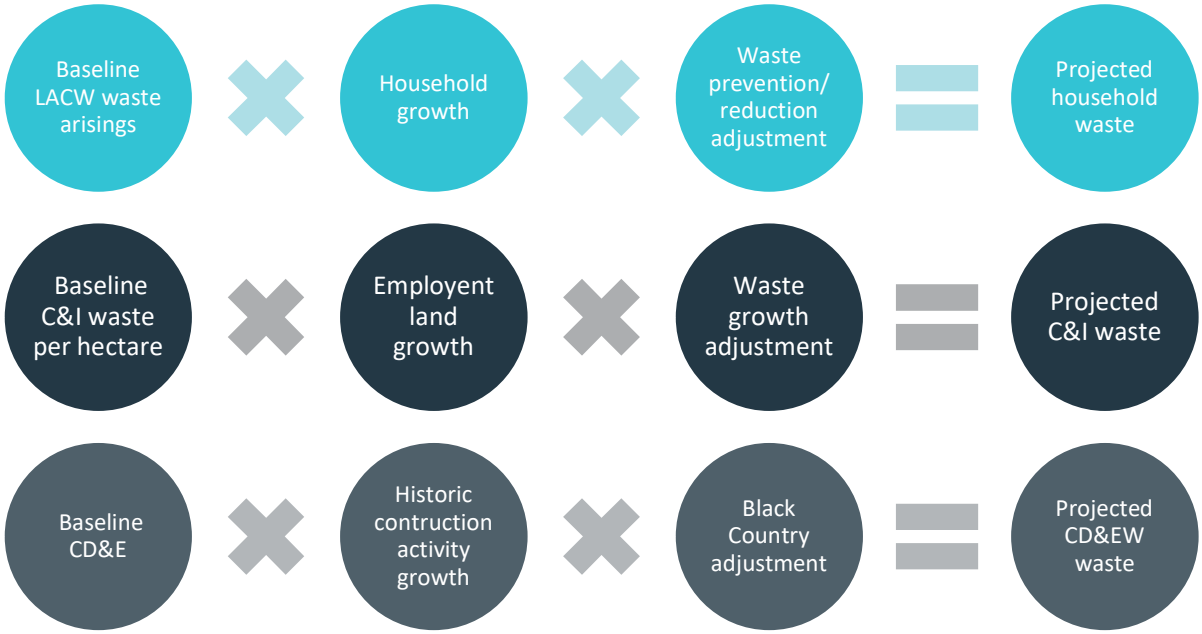
3.3 Waste Projections

3.3.1 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

3.3.2 **Figure 3.2** provides an overview of the projection methodology for household, C&I and CD&E waste growth.

Figure 3.2 Waste growth projection methodology overview



3.3.3 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.

3.3.4 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 recent national C&I waste trends.

3.3.5 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.

3.3.6 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

3.3.7 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.

3.3.8 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 waste reduction scenarios are shown in

3.3.9 **Table** 3.3**.**

Table 3.3 Household waste per household reduction scenarios

	Waste growth
Scenario 1	No change in household waste per household: household waste per household stays at existing levels
Scenario 2	Higher reduction in waste per household: household waste per household decreases by the equivalent of 11% every ten years in line with the observed trend between 2009/10 and 2019/20;
Scenario 3	Lower reduction in waste per household: household waste per household decreases by the equivalent of 5.5% every ten years. This level of waste reduction if approximately half of the change observed between 2009/10 and 2019/20.

3.3.10 **Figure 3.3** 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 3.3 Household waste growth projections

3.3.11 For C&I waste growth the employment land growth scenario was considered in conjunction with changes in the quantity of waste generated per hectare of employment land. The employment land growth and C&I waste growth scenarios are shown in **Table** 3.4.

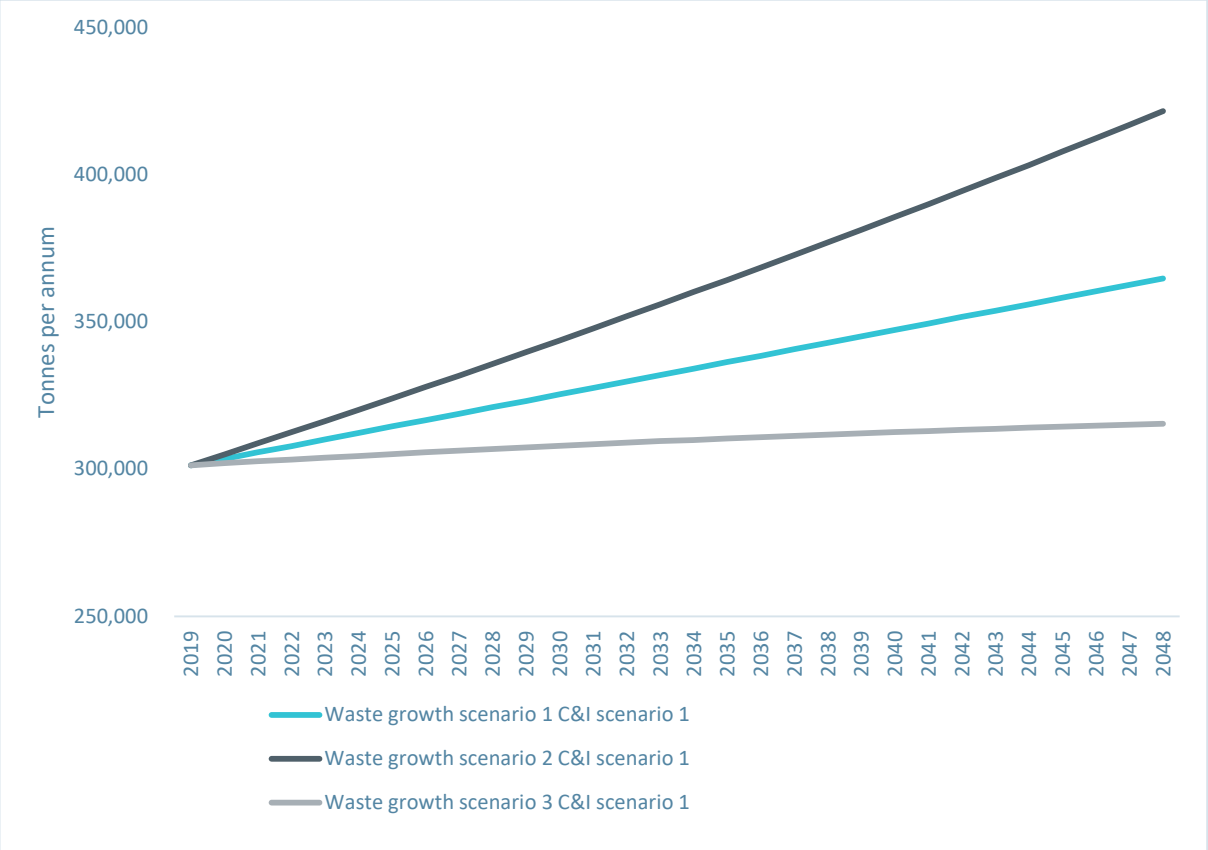
Table 3.4 C&I waste growth scenarios

	C&I waste growth
Scenario 1	No change in C&I waste per hectare.
Scenario 2	Increase in C&I Waste Generated Per Ha of Employment Land in line with national trend i.e. 0.5% increase every year.
Scenario 3	Reduction in C&I Waste Generated Per Ha of Employment Land, i.e. 0.5% reduction every year.

Note: England C&I arisings between 2017 and 2019 have been used to determine trends. The methodology used for England is based on that that provided by Defra Science and Research Project EV0804, with a thorough review of the England methodology undertaken in 2017/18. Scenario 3 does not reflect recent trends but has been proposed to mirror recent consultations, with regards to greater emphasis on waste reduction, including business waste, in coming years.

3.3.12 **Figure 3.4** illustrates the impact of C&I waste generation per hectare scenarios on C&I waste growth projections.

Figure 3.4 C&I waste growth projections



3.3.13 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 housing growth scenario 1 combined with the Lower reduction in household waste per household waste growth scenario. Under this scenario household waste **decreases** by 3.2% (-0.11% p.a.) between 2019 and 2049.

- C&I waste: employment land growth scenario 1 combined with an increase in C&I waste per hectare waste growth scenario. Under this scenario C&I waste **increases** by 40% (1.13% p.a.) between 2019 and 2049.

Other Waste Growth

3.3.14 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 construction activity. Under this scenario CD&E waste **increases** by approximately 144% (3.02% p.a.) between 2019 and 2049.
- Agricultural and hazardous waste streams were assumed to grow at the same rate as C&I waste and **increase** by 39% (1.09% p.a.) between 2019 and 2049.

Impact of imports and exports

3.3.15 **Table 3.5** shows that the Black Country currently imports approximately 4.3 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 4.3 mt, just under 1 mt is waste which has originated within the Black Country. The Black Country net imports of waste for management were over 3.3 mt in 2019. The figures in **Table 3.5** are different to those in

3.3.16 **Table** 2.17 as the figures in **Table 3.5** are based on 5-year average tonnages of waste received at permitted sites and incinerators in the Black Country 2015-2019. Imports have been assumed to increase at the same rate as C&I waste and grow by 39% (1.09% p.a.) between 2019 and 2049.

Table 3.5 Net imports of waste for management in the Black Country (tonnes), 2015-2019 average inputs, by Site Category*

	Recycling	Recovery	Transfer	Disposal	Total
Imports of waste for management	1,683,000	620,000	1,164,000	803,000	4,270,000
Black Country waste imports	173,000	191,000	386,000	225,000	975,000
Net imports of waste for management	**1,510,000**	**428,000**	**778,000**	**578,000**	**3,294,000**

*Based on 5-year average WDI inputs at permitted facilities and incinerators in the Black Country, 2015-2019. Black Country waste import tonnages are taken from the 2019 WDI.
Note: includes waste for incineration, categorised under recovery. May not sum due to rounding.

3.3.17 The recycling and recovery imports of waste for management in **Table 3.5** are broken down as follows:

- Recycling: MRS (1,027,000) + Treatment-recycling (656,000) = **1,683,000 tonnes**
- Recovery: Incinerator (214,000) + Treatment-recovery (405,000) = **620,000 tonnes**

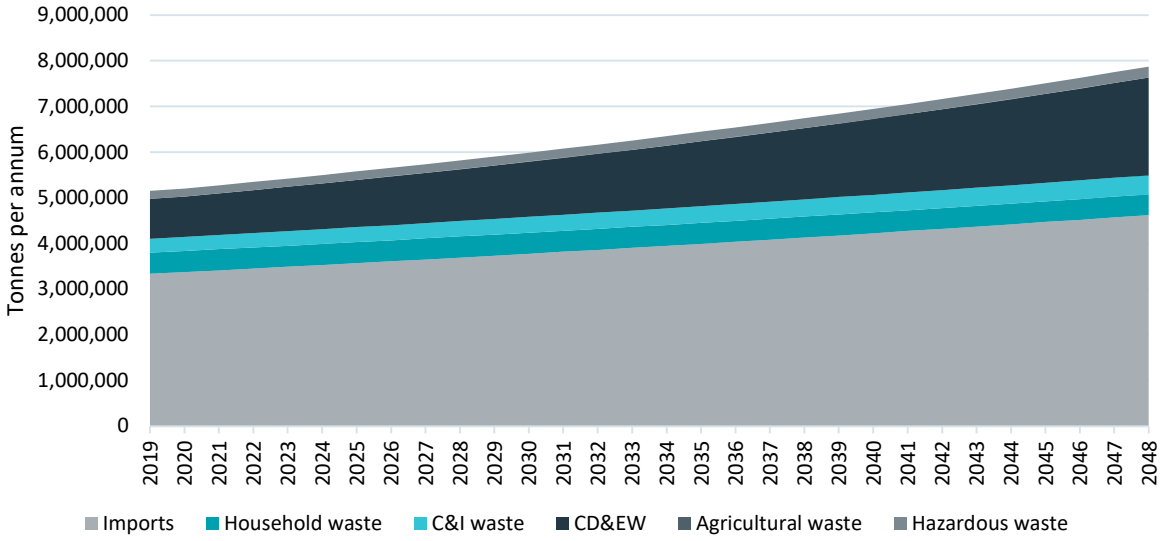
3.3.18 The recycling and recovery of Black Country waste imports for management in **Table 3.5** are broken down as follows:

- Recycling: MRS (122,000) + Treatment-recycling (51,000) = **173,000 tonnes**
- Recovery: Incinerator (154,000) + Treatment-recovery (38,000) = **191,000 tonnes**

3.3.19 The recycling, recovery and transfer capacity figures in **Table 3.5** and the total disposal (landfill) capacity in **Table 2.8** have been used as the 2019 'baseline' for the waste capacity projections in **Table 3.8**.

3.3.20 **Figure 3.5** presents the waste projections for the Black Country between 2019 and 2048. The projected waste growth tonnages over the plan period by waste stream, from baseline date (2019) to the end date (2039) and at five-yearly intervals in between, are shown in **Table 3.6**. The quantity of waste the Black Country is projected to manage, increases from 5.1 mt in 2019 to 6.7 mt in 2039 (an increase of 30.9% or 1.35% p.a.). The underlying data tables for the waste growth projections up to 2048 are included within **Appendix H**.

Figure 3.5 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 3.6 Projected Waste Growth over the Plan Period by Waste Stream (tonnes)

Waste Stream	2019/20	2023/24	2028/29	2033/34	2038/39
Imports	3,294,000	3,446,000	3,645,000	3,856,000	4,078,000
Household	465,000	464,000	462,000	460,000	458,000
C & I	301,000	316,000	336,000	356,000	377,000
CD&E	876,000	971,000	1,137,000	1,331,000	1,559,000
Agricultural	2,000	2,000	2,000	2,000	2,000
Hazardous	172,000	180,000	191,000	202,000	213,000
Total	5,111,000	5,379,000	5,772,000	6,207,000	6,688,000

Figures may not sum due to rounding.

Waste Management Scenarios

3.3.21 The waste management scenarios are presented in

3.3.22 **Table** 3.7 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 2020/21 – 2038/39 (i.e. 55% by 2025, 60% by 2030, 65% by 2035). 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.

3.3.23 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 (already achieved at a national level).

3.3.24 The current management of CD&E arisings show that this target was not 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 (assuming UK legislation follows suit). The Resources and Waste Strategy acknowledges that although the construction sector has already made considerable progress in increasing resource efficiency, there is considerable scope for further improvement. The forthcoming revised Waste Prevention Programme will set out a number of actions for improving resource efficiency in the construction area, working with industry and other UK government departments. In the absence of any targets, Wood has assumed these to be as in

3.3.25 Table 3.7.

3.3.26 The waste projections under each scenario over the Plan Period and the ten years beyond, up to 2049, by site category required to manage the waste are included within **Appendix H**.

Table 3.7 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 2035	65% C&I waste reuse, recycling and composting by 2035	c.85% CD&E recycling or recovery by 2030
Waste management scenario 3 (WMS3): progress towards EU Circular Economy targets	60% household waste reuse, recycling and composting by 2035	60% C&I waste reuse, recycling and composting by 2035	c.80% CD&E recycling or recovery by 2030

3.4 Potential Changes to Existing and New Capacity

3.4.1 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.

3.4.2 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. Existing Capacity

3.4.3 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 newly located WTS at Middlemore Lane, will have a maximum capacity of 125,000tpa. There will also be an additional capacity of 16,000tpa to futureproof the operations against future waste growth, as well as a small trader scheme located adjacent to the WTS accepting small amounts of commercial waste up to a capacity of 20,000tpa, together providing an uplift of 66,000tpa household and C&I WTS capacity in Walsall, and to the future waste capacity projections within the Black Country.

3.4.4 There are also plans to replace the Fryers Road HWRC in Walsall with a new HWRC which has a 25,000 tpa operational capacity as opposed to 12,000 tpa capacity, as well as replacement of the existing HWRC at Merchants Way with a new facility with c.40,000 tpa operational capacity. 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. Options are being explored to relocate Dudley Council services, but currently there are no suitably sized brownfield sites within the Borough that can be used for a larger centralised site, with most large sites being ear-marked for housing. As options are still being explored and the extra HWRC capacity in Dudley has not been approved or consented it has not been included within the projections.

3.4.5 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**). Planning permission was approved in 2021 with plans for the site potentially managing up to 30,500 tpa of dry recyclable household waste from Walsall over a 20-year contract period from 2023 to 2043[30].

3.4.6 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 at the end of 2022 due to expiration of its lease and regeneration plans in the area. In its first year (2015-16), the site processed over 40,000 tpa and has a permitted capacity of 200,000 tpa.

3.4.7 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[31]. In projecting future capacity, it has been assumed these existing facilities will be upgraded or replaced by facilities of an equivalent size.

3.4.8 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 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 recent proposals, see paragraphs 2.4.11and 2.4.12, as set out in the EIA Scoping Opinion Application (June 2022) for a proposed planning application for the restoration of the former clay workings, may mean this site comes forward as an inert landfill in advance of the 2042 end date for mineral working. Given that no Scoping Opinion has yet been issued at this time (July 2022), and that any landfill proposals at Sandown Quarry would require planning consent, this site has not been included within the projections.

3.4.9 There may be a potential reduction in capacity for RDF exports in the EU; in 2019 the Black Country exported approximately 59,000 tonnes of RDF outside of the UK[32]. 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.

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

[31] Dudley Council is currently (August 2022) tendering for a 5-year contract post 2023 to allow a Design, Build & Operate contract to be formulated as part of a transformation project to ensure the EfW plant operates for a further 20 years.

[32] Based on R01 codes (includes RDF) exported outside the UK from Black Country Authorities (WDI – waste removed)

New Capacity

3.4.10 As previously outlined in **Table 2.16**, 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). Progress on all of the sites apart from the REWs project in Walsall, means that collectively these sites will be providing an additional recovery capacity of up to 1 mtpa[33] over the Plan Period. As planning permission has been approved for these three sites, with the permit for the REWS site in Tipton determined in 2020, construction of the Kelvin Energy Recovery Facility starting in 2021 and timescales identified for delivery of the largest scheme, the energy from waste project to be operated by BH Energy Gap in Walsall, this future treatment capacity has been included within the projections.

3.4.11 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, this capacity has not been included within the capacity projections.

3.4.12 The remaining infrastructure identified in **Table 2.16** 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. These potential waste infrastructure projects have therefore not been included within the projections.

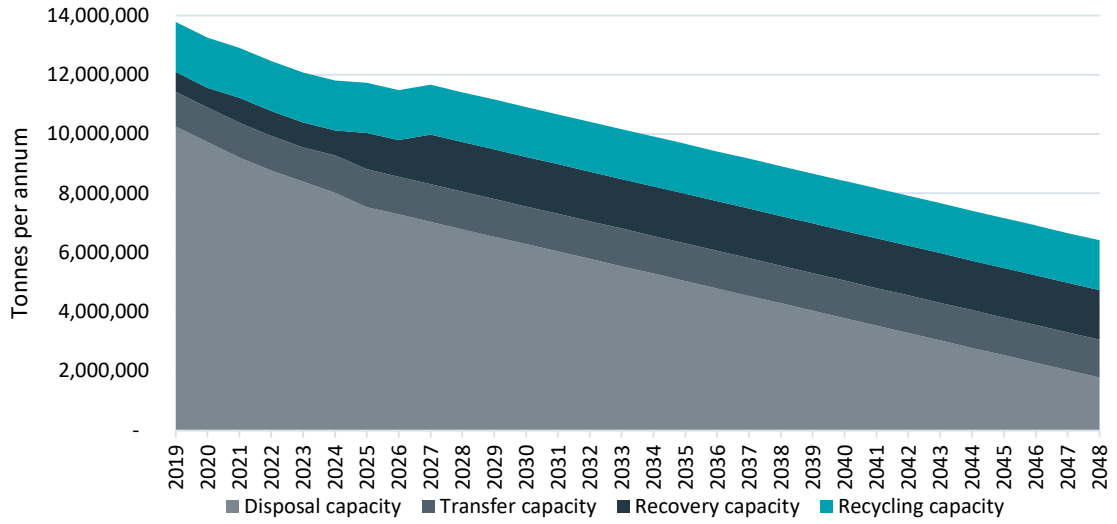
Capacity Projections

3.4.13 Total waste management capacity within the Black Country is projected to decrease over the plan period from 13.7 mt at the start of 2019 (see paragraphs 2.6.1– 2.6.4 and **Table** 2.14) to just over 8.9 mt at the end of the Plan period, as shown in **Figure 3.6**. 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 and Transfer, based on the evidence reviewed on possible future changes, is not anticipated to increase or decrease significantly over the plan period, but Recovery capacity increases significantly by approximately 1 mt (see paragraph 3.4.10). However, 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

[33] 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 + 3Rs (BH Energy Gap) in Walsall up to 436,000 tpa = **1,011,000 tpa in total**.

the Plan Period, as this will be largely dependent on availability of suitable employment sites.

Figure 3.6 Capacity projections by site category Waste growth projection methodology overview



3.4.14 The projected waste capacity over the plan period by site category, from baseline date (2019) to the end date (2039) and at five-yearly intervals in between, is shown in **Table** 3.8. The underlying data tables for the waste capacity projections up to 2049 are included within **Appendix H**. 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 3.8 Projected Waste Capacity over the Plan Period by Site Category (tonnes)

Site Category	2019/20	2023/24	2028/29	2033/34	2038/39
Recycling	1,683,000	1,683,000	1,683,000	1,683,000	1,683,000
Recovery	620,000	800,000	1,631,000	1,631,000	1,631,000
Transfer	1,164,000	1,164,000	1,270,000	1,270,000	1,270,000
Disposal	10,273,000	8,396,000	6,792,000	5,542,000	4,292,000
Total	**13,740,000**	**12,043,000**	**11,376,000**	**10,126,000**	**8,876,000**

Source (2019 data): Environment Agency Waste Data Interrogator (WDI) – 5-year average (mean) tonnages received 2015 – 2019, Environment Agency Remaining Landfill Capacity: England as at end 2019. Figures may not sum due to rounding.

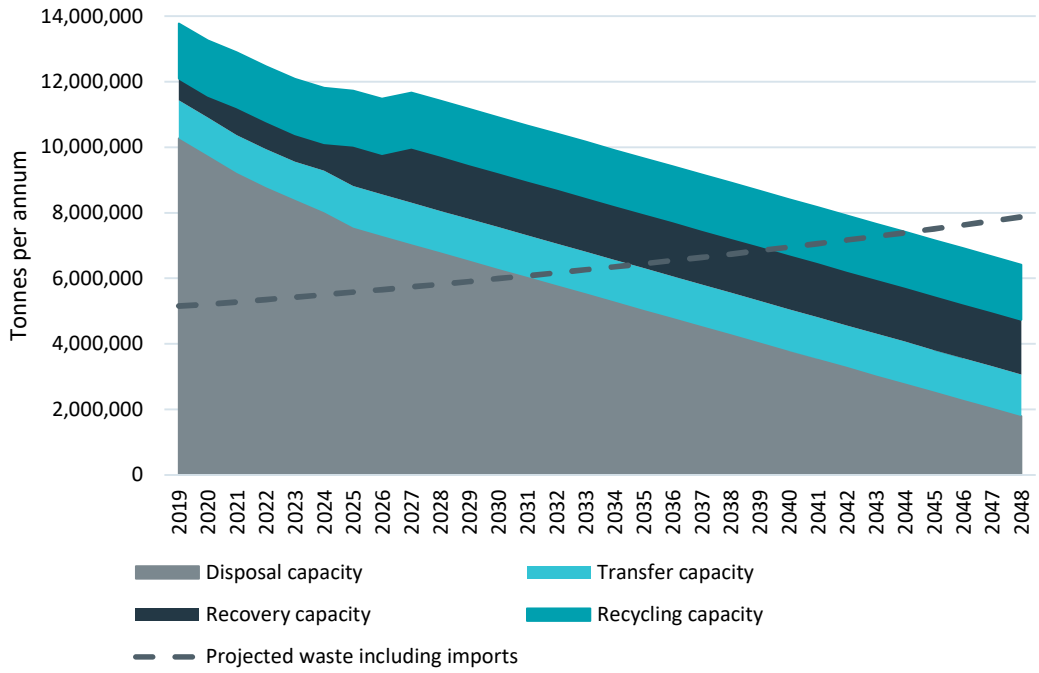
3.5 Waste Management Capacity Gaps

3.5.1 In order to determine future waste management capacity gaps, the waste projections developed in **Section 3.3** 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

3.5.2 **Figure 3.7** 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 3.7 Total waste projected to be managed against projected capacity by site category

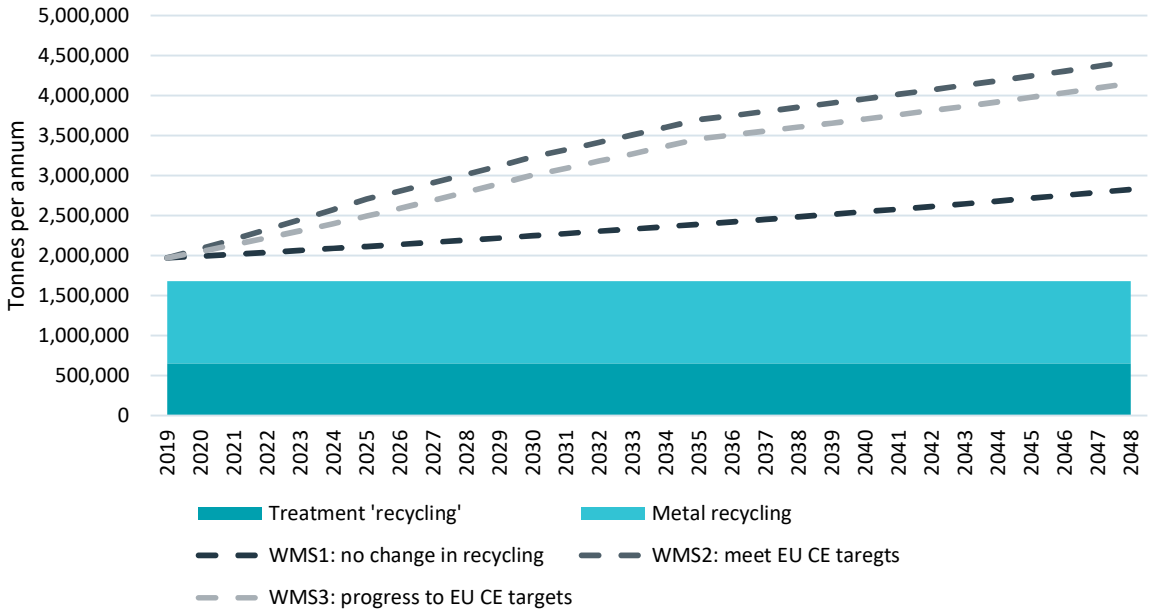


Reuse, recycling and composting projections

3.5.3 **Figure 3.8** compares the reuse, recycling and composting projections to recycling capacity estimates, by site type according to the waste management scenarios in

3.5.4 **Table** 3.7.

Figure 3.8 Recycling waste management scenario projections against recycling and composting capacity by site category



3.5.5 Under the WMS2 option (meet EU CE targets) reuse, recycling and composting is projected to increase by approximately 2.7 mt, from 2 mt in 2019 to 4.8 mt in 2049. 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.

3.5.6 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 of approximately 290 ktpa under all options. At the end of the Plan Period, there is a capacity gap of 2.1 mtpa under WMS2 option, 1.9 mtpa under WMS3 option, and 802 ktpa under option WMS1. Beyond the Plan Period, up to 2049, there is a capacity gap of 2.7 mtpa under WMS2 option, 2.4 mtpa under WMS3 option, and 1.1 mtpa under option WMS1.

3.5.7 Most of the recycling capacity within the Black Country is at Metal Recycling Sites (MRS) (approximately 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.

3.5.8 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[34]. 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 2.16)**. However, external MRF capacity may not be able 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.

3.5.9 As stated in paragraph 2.4.2, 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 2015 – 2019 in the WDI shows that more than 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 2.14**). In 2019, around 50% 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.

3.5.10 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[35]. 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)[36]. 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.

3.5.11 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[37] 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.

[34] In 2019/20 Walsall used Casepak's facility in Leicestershire, Wolverhampton used UPM Shotton in Flintshire and Sandwell used Pure Recycling's facility in Warwickshire. Dudley collects household recycling source-segregated and had limited demand (<4,000 tonnes) for MRF capacity in 2019/20.

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

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

[37] Shropshire, Staffordshire and Warwickshire.

Additional capacity may be required in future to manage increases in garden waste associated with housing growth.

3.5.12 It has been widely acknowledged[38] 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 2024. 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 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 2049.

Recovery projections

3.5.13 **Figure 3.9** compares the waste recovery projections to the recovery capacity estimates, by site type according to the waste management scenarios in

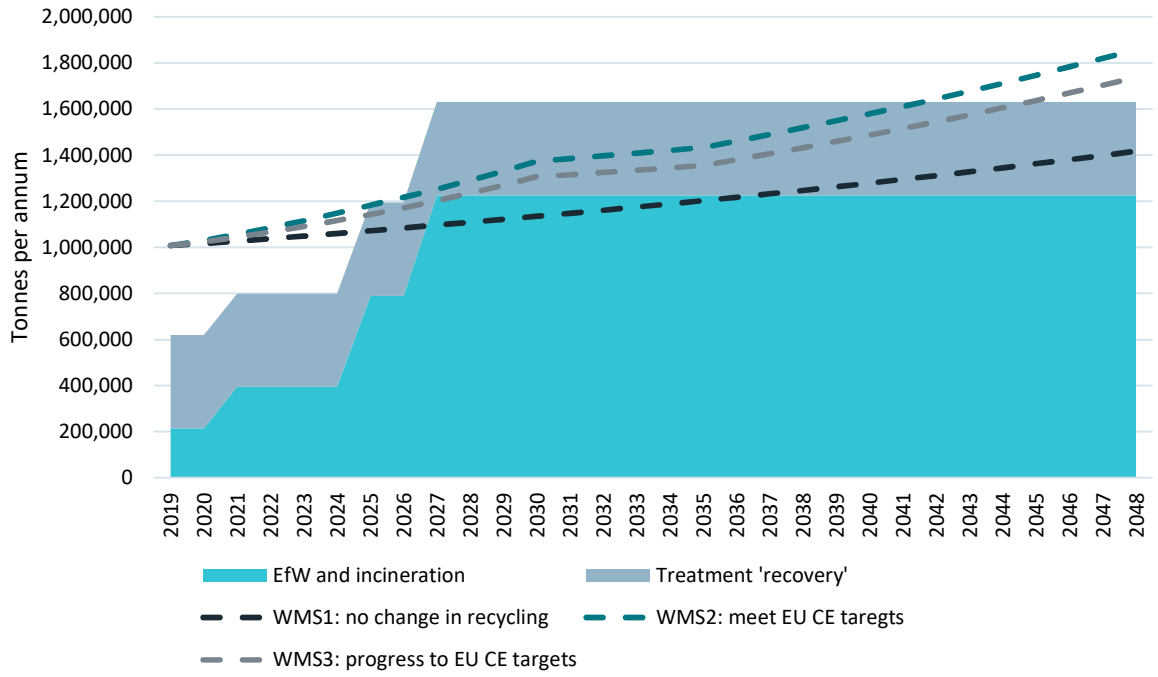
[38] For example, in the EU's Circular Economy Package and the Waste and Resources Strategy,

3.5.14 **Table** 3.7.

3.5.15 Under the WMS2 option material produced requiring recovery is projected to increase by 0.8 mt, from 1.1 mt in 2019 to 1.9 mt in 2049. From 2025, it is clear from the graph that there will be sufficient capacity within the Black Country to manage this increase in tonnages over the plan period. At the start of the Plan Period there is not enough capacity across all scenarios to manage the tonnages produced, with a capacity deficit of 388 ktpa. From 2025 till the end of the plan period however, sufficient capacity is available under all options to treat the waste. At the end of the Plan Period, there is a capacity surplus of 112 ktpa under WMS2 option, 199 ktpa under WMS3 option and 383 ktpa under WMS1 option.

3.5.16 Beyond the Plan Period, up to 2049, as tonnages increase a small capacity gap becomes apparent under WMS2 and WMS3 of 227 ktpa and 107 ktpa, respectively. There is still sufficient capacity under WMS1 with a surplus of 214 ktpa.

Figure 3.9 Recovery waste management scenario projections against recovery and treatment capacity, by site category



3.5.17 As mentioned in paragraph 3.5.10, 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.

3.5.18 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 which is due to cease at the end of 2022. 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.

3.5.19 The recovery and treatment of household waste is projected to decrease by over 138,000 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 140,000 tonnes of EfW to manage household waste in 2049. 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 3.4.7) is uncertain.

3.5.20 The three energy recovery projects (identified in **Table 2.16** and paragraph 3.4.10) have a combined capacity of up to 1 million tonnes which will contribute significantly towards meeting the capacity requirement of the scenarios modelled over the Plan Period.

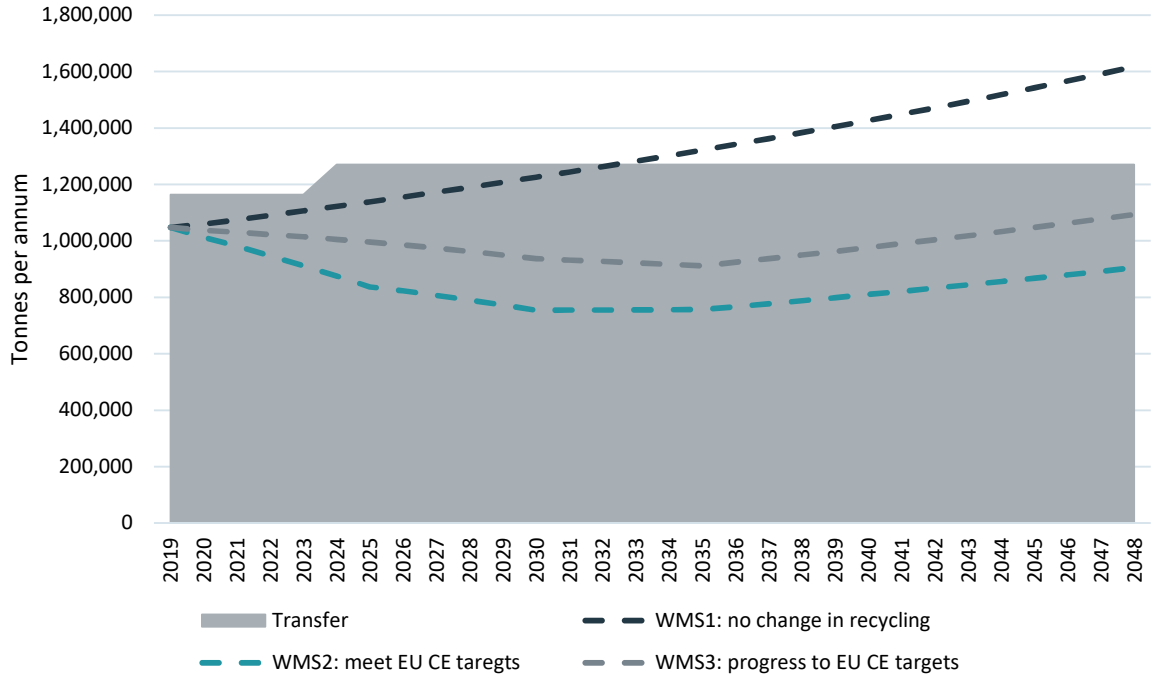
Transfer projections

3.5.21 **Figure 3.10** 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 for WMS2 and WMS3 options. There is however insufficient capacity from 2033 onwards under WMS1 option. This is linked to the imported waste tonnages and the transfer profile not changing under WMS1.

3.5.22 The small increase in transfer capacity in 2024 is associated with potential changes to existing WTS/HWRC capacity being delivered within the Black Country, as discussed in paragraphs 3.4.3 and 3.4.4. 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.

3.5.23 At the end of the Plan Period, there is a capacity surplus of 490 ktpa under WMS2 option and 330 ktpa under WMS3 option, and a capacity deficit of 113 ktpa under WMS1 option. Beyond the Plan Period, up to 2049, there is a capacity surplus of 374 ktpa under WMS2 option and 187 ktpa under WMS3 option. The capacity gap under WMS1 option is 347 ktpa by 2049.

Figure 3.10 Transfer waste management scenario projections against transfer capacity



Disposal projections

3.5.24 **Figure 3.11** 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 2019. 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.

3.5.25 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 2019 (see **Table 2.7**) 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.

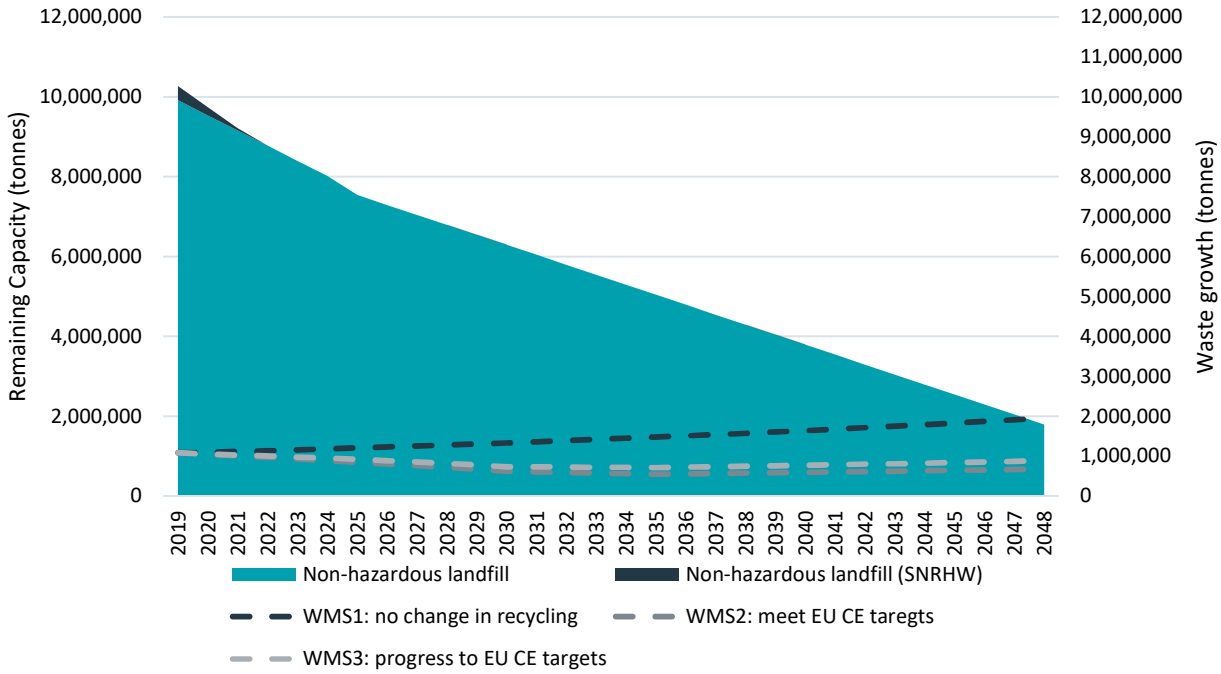
3.5.26 Even though there is potential void space at Aldridge Quarry and Sandown Quarry, it is uncertain whether these will come forward as landfill sites at all within the plan period, as such these sites have not been accounted for within the capacity projections. Branton Hill Quarry has also not been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

3.5.27 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.

3.5.28 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 2048. By the end of 2048 there will be a capacity gap of 163,000 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.

3.5.29 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 2049) there appears to be sufficient capacity for waste arisings, with a capacity surplus of 1.1 mt under the WMS2 option and 915,000 tonnes under the WMS3 option.

Figure 3.11 Disposal waste management scenario projections against disposal capacity by site category



Black Country's waste capacity gaps

3.5.30 To summarise, the 'capacity gaps/surpluses' at the 'baseline' date (2019), as well as the likely gaps by the end of the Plan Period (2039) and at 5-yearly intervals in between, for each site category, are shown in **Table 3.9**. These capacity gaps are if the available waste capacity is in line with the capacity projections and no additional capacity is provided. The position at the start of the plan period is the same for all scenarios as this is the baseline,

i.e. current status. The underlying data tables for the waste capacity gaps up to 2048 are included within **Appendix H**.

Table 3.9 Projected Capacity Gaps/Surpluses under each WMS over the Plan Period, by Site Category (tonnes)

Site Category	2019/20	2023/24	2028/29	2033/34	2038/39
Recycling					
WMS1	-290,000	-382,000	-511,000	-650,000	-802,000
WMS2	-290,000	-750,000	-1,305,000	-1,795,000	-2,136,000
WMS3	-290,000	-618,000	-1,089,000	-1,561,000	-1,891,000
Recovery					
WMS1	-388,000	-249,000	522,000	456,000	383,000
WMS2	-388,000	-316,000	340,000	222,000	112,000
WMS3	-388,000	-291,000	396,000	296,000	199,000
Transfer					
WMS1	117,000	58,000	80,000	-12,000	-113,000
WMS2	117,000	258,000	488,000	522,000	490,000
WMS3	117,000	153,000	315,000	357,000	330,000
Disposal					
WMS1	9,190,000	7,238,000	5,512,000	4,125,000	2,719,000
WMS2	9,190,000	7,472,000	6,080,000	4,969,000	3,722,000
WMS3	9,190,000	7,421,000	5,981,000	4,826,000	3,550,000

Figures may not sum due to rounding.

3.5.31 **Table 3.9** 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 ***capacity deficit for recovery sites up until 2025*** over all three options, more so for WMS2; ***however, after 2025 extra recovery capacity comes online and there is no longer a recovery deficit***. There is more waste sent for recovery under WMS2, than WMS3, 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, but the recovery projections for C&D waste are higher under WMS2 option. There is ***sufficient disposal capacity over the plan period***

under all three options, in particular under WMS2 and WMS3 as less waste is sent for disposal.

3.5.32 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.

3.5.33 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.

3.5.34 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).

3.6 Updated waste needs assessment conclusions

3.6.1 In comparison to the Black Country Waste Study 2020 which used a 2017 baseline, the main differences to this updated Study using a 2019 baseline are as follows:

- **An increase in waste to be managed over the Plan Period:** By 2039 the amount of waste to be managed has increased by c. 400,000 tpa, which is largely due to an increase in C&I tonnages. A change in trends in recent years on this waste stream has meant a greater increase in C&I arisings. This has also had an impact on agricultural and hazardous waste arisings as well as the amount of waste being imported over the Plan Period.
- **Increase in recycling capacity gap:** The increase in arisings mentioned above has also impacted the recycling capacity over the Plan Period. The capacity deficit has increased even more so; by 2039 the capacity gap will be 2.1 mtpa under WMS2 option and 1.9 mpta under WMS3 option.
- **There is no longer a recovery capacity deficit:** There is now a surplus over the Plan Period under all options. This is due to planned infrastructure, as discussed in **Table** 2.16 and paragraph 3.4.10, and an additional c.1 mpta recovery capacity which is expected to come online between 2023 and 2027.

4. Assessing land availability to meet additional capacity

4.1 Purpose of this Chapter

4.1.1 As well as setting out how any increase in the amount of waste produced as a result of seeking to deliver very significant development growth, the BCP seeks to set out how any additional waste management capacity requirements can be met. This chapter seeks to assess at a high level, what land availability there is within the Black Country to meet additional waste management capacity needs.

4.2 Draft BCP Regulation 18: provision for additional waste management capacity

4.2.1 Table 9 of the Draft BCP (Regulation 18) sets out the requirement for additional waste management capacity and includes an estimate of the land area that may be required to meet that additional capacity. Policy W3 sets out that the preferred locations for waste management facilities are the Local Employment Areas shown on the BCP Map, Waste Key Diagram and Local Authority Plan Maps. Policy W4 sets out the locational considerations for new waste facilities. The justification for not identifying preferred waste sites in the BCP is set out in paragraph 11.54 and is supported by the evidence presented in the Black Country Waste Study 2020 (Appendix M), which identified a number of employment areas as being the most suited to the development of new waste recovery, treatment and transfer infrastructure as set out in paragraph 11.55 of the Draft BCP. Policy W2 safeguards all existing strategic and other waste management facilities from inappropriate development. The policy also safeguards all new waste management sites that are implemented within the lifetime of the Plan.

4.2.2 Policy EMP1 (Providing for Economic Growth and Jobs) seeks to deliver 355 hectares of employment land within the Black Country, including B2 and B8 uses which waste management uses are compatible with. This will be met through sites allocated for development in the BCP totalling 281 hectares, with remaining 74 hectares is to be brought forward on other sites throughout the Black Country, mainly through the redevelopment, intensification and enhancement of existing employment areas and premises. As set out in Policy EMP3, Local Employment Areas are safeguarded for a number of uses including scrap metal, timber and construction premises and yards, and waste collection, transfer and recycling uses as set out in Policy W3.

4.3 Black Country Waste Study Update

Additional waste management capacity

4.3.1 The updated waste needs assessment (as detailed in Chapter 2 and 3 of this report) has identified an increased need for waste recycling capacity of between 1.9 to 2.2 mtpa in the

Black Country. This compares to 1.5 to 2.0 mtpa of additional recycling capacity identified in the Draft BCP (Regulation 18).

4.3.2 In contrast to the Black Country Waste Study 2020, the updated waste needs assessment has identified there is no longer a need to plan for additional waste recovery capacity due to the recently permitted planned infrastructure in Dudley (pyrolysis plant in Tipton), Sandwell (EfW plant), and Walsall (EfW and pyrolysis plants in Bloxwich) which together will provide additional waste recovery capacity of approximately 1 mtpa. The Draft BCP (Regulation 18) had previously identified a need to provide for an additional 1.0 to 1.2 mtpa of additional recovery capacity.

4.3.3 Overall, it is therefore considered that no new additional waste management capacity over and above that already identified in the Draft BCP (Regulation 18) needs to be identified in the new BCP (Regulation 19).

Review of land availability to meet additional waste management capacity

4.3.4 As previously outlined in the Black Country Waste Study 2020, the review of land availability is undertaken within the context of the predominant urban nature of the Black Country which retains large areas of existing employment uses in adopted plans. However, the continued 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.

4.3.5 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 bases, 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 promotions.

4.3.6 At a national level, areas of land previously developed 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 to the local economy than in England as a whole.

4.3.7 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.

4.3.8 Policy protection for existing and new waste management facilities in the Black Country is provided in the Draft BCP through employment policies Policy EMP1 (Providing for Economic Growth and Jobs) and Policy EMP3 (Local Employment Areas) as well as waste policies Policy W2 (Waste Sites) and Policy W3 (Preferred Areas for New Waste Facilities).

4.3.9 As set out in **Section 4.2**, Policy EMP3 safeguards Local Employment Areas for a number of uses including scrap metal, timber and construction premises and yards, and waste collection, transfer and recycling uses as set out in Policy W3. As such, it is considered that the 281 hectares of employment land allocated in the Draft BCP (as set out in Policy EMP1)

takes into consideration the need to accommodate additional waste management capacity throughout the Plan Period.

4.3.10 Although the updated waste needs assessment has identified a need to provide for additional waste recycling capacity of between 1.9 and 2.2 mtpa, this is offset by there no longer being a waste recovery capacity deficit. Consequently, no additional waste management capacity over and above that already identified in the Draft BCP (Regulation 18) needs to be provided for in the BCP Regulation 19. Provided no changes have been made to the BCP employment policies, notably EMP3, it is envisaged that any additional waste management capacity can be accommodated within designated Local Employment Areas as set out in Policy W3.

4.4 Conclusions

4.4.1 The updated waste needs assessed has not identified the need to make provisions for any additional waste management capacity in the BCP over and above that already identified in the Draft BCP. Provided no significant changes have been made to the BCP employment policies, notably EMP1 and EMP3, it is envisaged that any additional waste management capacity can be accommodated within designated Local Employment Areas as set out in Policy W3.

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 updated 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 updated report was written in September 2022 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

Document Title	Web Link (where available)
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
Parliamentary Environmental Audit Committee: Chinese Waste Import Ban Inquiry (launched January 2018) [39]	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)[40]	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/

[39] 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)

[40] 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.

Document Title	Web Link (where available)
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 [41]	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
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

[41] 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)
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.
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

Document Title	Web Link (where available)
National Planning Practice Guidance (NPPG) – Waste ('living' guidance) CLG[42]	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
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

[42] 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 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) [43]	http://www.wrap.org.uk/content/household-food-waste-uk-2015-0
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

[43] 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)
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 [44]	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/

[44] 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) [45]	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) [46]	https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/
The Packaging Recycling Obligations (July 2018), National Audit Office (NAO) [47]	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) [48]	https://www.gov.uk/cma-cases/european-metal-recycling-metal-waste-recycling-merger-inquiry

[45] 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.

[46] 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).

[47] 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.

[48] 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) [49]	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 [50]	https://www.gov.uk/government/publications/waste-management-data-for-england
The Tipping Point (March 2019), D S Smith [51]	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	

[49] 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.
[50] This is the latest summary of waste data for England by the Environment Agency on throughput at regulated sites.
[51] 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)
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
Solihull Local Plan Review: Draft Local Plan (December 2016) and Draft Local Plan Supplementary Consultation (January 2019) [52]	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

[52] Supplementary Consultation was about updated housing need, housing settlement strategy and site allocations, and did not affect the waste policy.

Document Title	Web Link (where available)
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 [53]
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
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) [54]	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	

[53] Link to Derbyshire Partnership Forum website is broken and there is currently nothing about the plan on the Derbyshire Partnership Forum website.
[54] 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)
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
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Draft Black Country Plan 2039 (Regulation 18) Consultation Document (August 2021)	https://blackcountryplan.dudley.gov.uk/t2/p5/
Waste evidence	
Black Country Waste Study: Review of the Evidence Base for Waste to support Preparation of the Black Country Plan (March 2020), Wood	https://blackcountryplan.dudley.gov.uk/t2/p4/t2p4f/
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

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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
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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
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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	
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Document Title	Web Link (where available)
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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
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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/
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Black Country Employment Area Review (BEAR) (July 2021), Black Country Authorities	https://blackcountryplan.dudley.gov.uk/t2/p4/t2p4b/
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

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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/
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PRISM: Black Country Joint Core Strategy Transport Technical Document Report (July 2009), PRISM Joint Application Team	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/h/
West Midlands Strategic Transport Plan: Movement for Growth (June 2016), West Midlands Combined Authority	https://www.tfwm.org.uk/strategy/movement-for-growth/
West Midlands Freight Strategy (December 2016), Transport for West Midlands	https://www.tfwm.org.uk/strategy/freight-highways/
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National Productivity Investment Fund (NPIF) bid: Walsall Economic Growth and Infrastructure Package (June 2017), Walsall Council [55]	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/

[55] 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)
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West Midlands Transport Plan 2017-18, West Midlands Combined Authority and Transport for West Midlands	https://www.tfwm.org.uk/strategy/movement-for-growth/
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/
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Appendix A
Glossary of Terms

Term	Meaning / Definition
AD	Anaerobic Digestion
AMR	Annual Monitoring Report
ATT	Advanced Thermal Technology
BCAs	Black Country Authorities
BCCS	Black Country Core Strategy
BCP	Black Country Plan
BEAR	Black Country Employment Area Review
BMW	Biodegradable Municipal Waste
CD&E	Construction, Demolition and Excavation (waste)
CEP	Circular Economy Package
C&I	Commercial and Industrial (waste)
DEFRA	Department of Environment, Food and Rural Affairs
DTS	Dry Tonnes of Solid
DWF	Daily Water Flow
EA	Environment Agency
EDNA	Employment Development Need Assessment
EfW	Energy from Waste
ELV	End of Life Vehicles
EP	Environmental Permit
EWC	European Waste Catalogue
HWI	Hazardous Waste Interrogator
HWRC	Household Waste and Recycling Centre
IVC	In Vessel Composting
ktpa	Thousand Tonnes Per Annum
LACW	Local Authority Collected Waste

Term	Meaning / Definition
LLRW	Low Level Radioactive Waste
LOW	List of Waste
MBC	Metropolitan Borough Council
MRF	Material Recycling Facility
MRS	Metal Recycling Site
MSW	Municipal Solid Waste
mt	Million Tonnes
mtpa	Million Tonnes Per Annum
MWMS	Municipal Waste Management Strategy
NOMIS	National Online Manpower Information System
NSIP	Nationally Significant Infrastructure Project
PINS	Planning Inspectorate
RDF	Refuse Derived Fuel
RTAB	Regional Technical Advisory Board
SAD	Site Allocation Document
SNRHW	Stable Non-Reactive Hazardous Waste
STC	Sludge Treatment Centre
tpa	Tonnes Per Annum
UA	Unitary Authority
WCA	Waste Collection Authority
WDA	Waste Disposal Authority
WDF	Waste Data Flow
WDI	Waste Data Interrogator
WEEE	Waste Electrical and Electronic Equipment
WFD	Waste Framework Directive
WMS	Waste Management Scenario
WPA	Waste Planning Authority
WTS	Waste Transfer Station

Appendix B
Waste Data Sources

Appendix C
C&I and CD&E Waste Data

Appendix D
Waste Arisings, Management & Capacity Data Tables

Appendix E
List of Registered Producers of Low Level Radioactive Waste

Appendix F
Trends in Arisings 2015-2020

Appendix G
Waste Imported and Exported by Basic Waste Category and Region/County, 2015 – 2019

Appendix H
Waste Growth and Capacity Projections

wood.