Black Country Authorities

BLACK COUNTRY WASTE STUDY UPDATE 2023

Updated waste needs assessment to support preparation of emerging Local Plans for each Black Country Authority - Wolverhampton

WOLVERHAMPTON WASTE UPDATE V3
NOVEMBER 2024

PUBLIC

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CONTEXT AND SCOPE OF THE BLACK COUNTRY WASTE STUDY UPDATE 2023

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).

The BCAs were 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 plan period for the BCP was set to cover the period 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, would have informed the next version of the BCP – called the Publication Plan.

In October 2022, the Leaders of the four BCAs issued a statement stating that the BCP work programme would end in that the authorities were unable to reach agreement on the approach to planning for future development needs within the framework of the BCP. Instead, the focus going forward will be on individual Local Plans, with the BCAs co-operating with each other and with other key bodies in the preparation of these Local Plans.

To inform the Draft BCP, the BCAs commissioned WSP (formally 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.

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. Following comments received in response to the Draft BCP Regulation 18 consultation, notably from the West Midlands Regional Technical Advisory Board (WMRTAB), an updated waste needs assessment was undertaken in 2022 using the latest (publicly) available data

to inform the then next stage of the BCP plan production, namely the Regulation 19 consultation on the Publication Plan.

It is imperative that the waste evidence base used to inform the waste policies of the emerging individual Local Plans for each BCA are robust and that wherever possible this evidence is based on the latest (publicly) available data.

The Black Country Waste Study Update (2022) presented two baseline years, 2019 and 2020, to reflect the latest available data at that time. 2020 waste data is likely to present an anomaly due to the impact of the COVID 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.

More up to date data is now available and as such, the waste needs assessment should be updated using this data to inform the emerging individual Local Plans for each BCA. The latest available data is the Waste Data Flow (for LACW waste) and WDI data. To ensure consistency across the four BCAs data for the period 2021-2022 has been used as a baseline, although it is acknowledged that WDI data for 2022 was published in October 2023

The purpose of this Waste Study Update is to:

- Update the waste needs assessment using the latest available data and disaggregate this information for each individual BCA;
- Review draft BCP waste policies and provide recommendations as to how these can be adapted for use in the emerging individual Local Plans for each BCA.

This report is specific to **Wolverhampton**.

THE UPDATED BASELINE FOR WOLVERHAMPTON

In 2021 Wolverhampton was estimated to generate approximately 626,000 tonnes of waste. Excluding exempt sites, the largest waste stream was estimated to be construction, demolition and excavation (CD&E) waste at just under 437,000 tonnes. Just over 102,000 tonnes were collected by Wolverhampton from household sources. Commercial and industrial (C&I) waste arisings (including LACW non-household sources) were estimated to be just under 80,000 tonnes and hazardous waste arisings to be over 25,000 tonnes. Other waste stream arisings were over 200 tonnes, composed primarily of agricultural waste and batteries.

With the exception of exempt sites, just over 179,000 tonnes (28.6%) were re-used, recycled or composted, nearly 139,000 tonnes (22.1%) were subject to recovery or treatment, over 269,000 tonnes (42.9%) (mainly construction and demolition waste) was disposed to landfill, and just under 40,000 tonnes (6.4%) were transferred for management elsewhere.

Despite Wolverhampton overall being a net exporter of Waste, facilities within its boundaries (including permitted sites and incinerators) managed 484,000 tonnes in 2021. Of this total the biggest percentage (by tonnage) (43%) was received at Transfer sites, followed by Treatment sites (24%), incinerators (23%) and MRS (11%).

Overall, Wolverhampton was estimated to export c.362,000 tonnes more waste than it imported in 2021 being a net exporter of non-hazardous waste by approximately 401,000 tonnes and a net importer of hazardous waste by approximately 39,000 tonnes. The vast majority of waste imported (79%) arose from within the West Midlands Region.

Exports from Wolverhampton amounted to nearly 730,000 tonnes in 2021. Of the 614,000 tonnes received at permitted sites in England and Wales and incinerators in England, outside of Wolverhampton, the biggest percentage (by tonnage) (42.5%) was received at Landfill sites, followed by Treatment sites (31.5%), On/In Land sites (15.5%), MRS (7%), Transfer sites (2.5%) and incinerators (1%).

PROJECTED FUTURE WASTE CAPACITY REQUIREMENTS

The housing supply figures and the employment land requirements used in the projections have been taken from the Wolverhampton Local Plan (Regulation 18) and relate to the extent to which Wolverhampton plans to meet its supply for housing and employment land, with the assumption that Wolverhampton will need to export some of the demand over the Plan period or find additional sites.

Under the projections, the quantity of waste Wolverhampton is projected to manage (included imported waste) increases from approx. 1 million tonnes (mt) in 2021 to over 1.4 mt in 2041/42 equating to an increase of 49.8% or 2% per annum. An ongoing emphasis on waste reduction has seen a 15% reduction in waste per household since 2006/07 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 the 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 2021/22 – 2041/42 (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 from 441,000 tonnes in 2021 to 371,000 tonnes in 2042 which is driven by decreasing recovery capacity. Recycling capacity and transfer capacity are not anticipated to change significantly.

Wolverhampton has no disposal capacity (landfill), and although 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.

To achieve ‘net self-sufficiency’ Wolverhampton would be expected to provide for extra waste capacity. If self-sufficiency is to be maintained then an additional 300,000 to 700,000 tonnes of recycling capacity will be required by the end of the Plan Period 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, landfill). The capacity requirements for recycling are 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.

Additional recovery capacity is also required in Wolverhampton over the plan period, although to a lesser extent than recycling capacity.

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. 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.

1.1.4. Wolverhampton is a large metropolitan borough covering 27 square miles (69 km^2). In 2021 the population was 263,700, with a population density of 3,407 people per square kilometres.

1.2 DISCONTINUED BLACK COUNTRY PLAN

1.2.1. The BCAs were 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 plan period for the BCP was set to cover the period 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, would have informed the next version of the BCP – called the Publication Plan.

1.2.2. In October 2022, the Leaders of the four BCAs issued a statement stating that the BCP work programme would end in that the authorities were unable to reach agreement on the approach to planning for future development needs within the framework of the BCP. Instead, the focus going forward will be on individual Local Plans, with the BCAs co-operating with each other and with other key bodies in the preparation of these Local Plans.

1.3 BLACK COUNTRY WASTE STUDY 2020

1.3.1. To inform the Draft BCP, the BCAs commissioned Wood Environment & Infrastructure Solutions UK Limited, now WSP UK Limited (hereafter referred to as WSP) 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 2022

1.4.1. 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. Following comments received in response to the Draft BCP Regulation 18 consultation, notably from the West Midlands Regional Technical Advisory Board (WMRTAB), an updated waste needs assessment was undertaken in 2022 using the latest (publicly) available data to inform the then next stage of the BCP plan production, namely the Regulation 19 consultation on the Publication Plan.

1.5 BLACK COUNTRY WASTE STUDY UPDATE 2023

1.5.1. It is imperative that the waste evidence base used to inform the waste policies of the emerging individual Local Plans for each BCA are robust and that wherever possible this evidence is based on the latest (publicly) available data.

1.5.2. The Black Country Waste Study Update (2022) presented two baseline years, 2019 and 2020, to reflect the latest available data at that time. 2020 waste data is likely to present an anomaly due to the impact of the COVID 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.

1.5.3. More up to date data is now available and as such, the waste needs assessment should be updated using this data to inform the emerging individual Local Plans for each BCA. The latest available data is that from the Waste Data Flow (for LACW[1] waste) and WDI data. To ensure consistency across the four BCAs data for the period 2021-2022 has been used as a baseline, although it is acknowledged that WDI data for 2022 was published in October 2023.

1.5.4. The purpose of this Black Country Waste Study Update is:

- Update the waste needs assessment using the latest available data (**Chapters 2** and **3**) and disaggregate this information for each individual BCA;
- Review draft BCP waste policies and provide recommendations as to how these can be adopted for use in the emerging individual Local Plans for each BCA (**Chapter 4**).

1.5.5. This report is specific to **Wolverhampton**.

1.5.6. 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 the baseline for the emerging Local Plan for Wolverhampton. 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 the baseline year 2021 as part of this waste evidence update. We have used the most recent data sets available at the time of writing and ensure consistency across the BCAs, which includes using data sets for 2021/22 and 2021 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 2021/22 monitoring year (April 2021 – March 2022), the 2021 Waste Data Interrogator (WDI) and Hazardous Waste Interrogator (HWI) data are for the 2021 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. (termed WPA non-codeable in the WDI). 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 arising 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 2021. 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 Wolverhampton and may not fully reflect the actual quantities of whether these streams were, for example, recycled or disposed of.

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

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 Wolverhampton.

Figure 2-1 - Current waste arisings estimate

2.3.2.

2.3.3. **Table** 2-1 presents the waste arisings estimates for Wolverhampton in 2021. 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 to Wolverhampton based on NOMIS Business Counts by Industry. In 2021 Wolverhampton was estimated to generate approximately 626,000 tonnes of waste excluding estimates for waste managed at exempt sites. Approximately, 1.1 million tonnes (mt) of waste were estimated to be managed at exempt sites, but the level of confidence associated with these estimates is "very low" (see **Appendix B**).

2.3.4. Excluding exempt sites, the largest waste stream was estimated to be the CD&E at 438,000 tonnes. Just under 121,000 tonnes were collected by local authorities from household sources. C&I waste arisings (including LACW non-household sources) were estimated to be approximately 61,000 tonnes and hazardous waste arisings to be over 25,000 tonnes.

2.3.5. Other waste stream arisings were approximately 200 tonnes, composed of agricultural waste arisings of c.100 tonnes (excluding exempt sites) and c.100 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 Wolverhampton. **Appendix E** provides a list of registered producers of LLRW (primarily hospital trusts and universities). More details on the data sources used to estimate Wolverhampton's waste arisings are also included in **Appendix B**.

Table 2-1 - Current Waste Arising Wolverhampton, 2021 (tonnes)

Waste sources		Wolverhampton
Local Authority Collected Waste (LACW)	Household	102,000
	Non-household	19,000
Commercial & Industrial waste (C&I)	Permitted sites	35,000
	West Midlands (WPA not codeable)	26,000
Construction, Demolition and Excavation waste (CD&E)	Permitted sites	374,000
	West Midlands (WPA not codeable)	64,000
	Exempt sites	465,000
Agricultural waste	Permitted sites	127
	West Midlands (WPA not codeable)	4
	Exempt sites	19,000
Waste managed at exempt sites*		665,000
Hazardous waste		25,000
Retailer take-back and Producer Compliance Scheme collections	Batteries	60
	WEEE	30
Low level radioactive waste (LLRW)	No publicly available information on LLRW quantities and no registered producers	
Total waste arisings**		**1,775,000**

Notes:
Figures rounded to nearest 1,000 tonnes.
(*) excludes exemptions included in CD&E and agricultural waste estimate.
**Total excludes potential double counting between LACW non-household waste and that identified in the WDI as C&I waste (c.19 kt).
See Appendix C for breakdown of C&I and CD&EW calculation.

2.3.6. Waste arisings for 2021 and the preceding four years 2017, 2018, 2019 and 2020 are included within **Appendix F** to illustrate the trend over these five years. LACW arisings have fluctuated between 121,000 tpa and 128,000 tpa with the 2020 arisings being the lowest over the period. In 2020, the non-household collected LACW arisings decreased which could be due to COVID restrictions.

2.3.7. Overall C&I arisings have fluctuated over recent years. A small reduction was seen between 2017 and 2018 however, in 2019 the C&I arisings increased by approximately 64%, to 77,000 tonnes. The 2020 arisings were lower than 2019, at c.70,000 tonnes, which is likely an impact of the pandemic, with 2021 arisings dropping further to c.60,000 tonnes.

2.3.8. CD&E waste has overall increased over the last five years, by approx. 30%, 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 2020 arisings and 2021 arisings with an approx. 36% increase.

2.3.9. Since 2017, the hazardous waste arisings have decreased by approx. 20,000 tonnes. Agricultural arisings in 2017 were nearly five times higher than those reported in 2018, and over three times higher than those reported in 2021, however the highest arisings were recorded in 2020, at 580 tonnes, which indicates the variability in arisings from this sector.

2.3.10. **Table 2-2** sets out how Wolverhampton's waste arisings were managed at permitted sites in 2021 (excludes waste managed at exempt sites). In 2021, over 179,000 tonnes (28.6%) of waste arisings were reused, recycled or composted, over 139,000 tonnes (22.1%) were recovered or treated and over 40,000 tonnes (6.4%) were managed at a 'transfer' facility where it is stored before bulking and transporting to another facility for reuse, recycling, treatment or disposal. Just over 269,000 tonnes (42.9%) of waste arisings were disposed of (primarily to landfill).

2.3.11. The proportion of LACW which was reused, recycled or composted in 2021 was estimated to be 37%, 60% of LACW was used to recover energy and 2.7% was disposed of (primarily to landfill).

2.3.12. The proportion of C&I waste which was reused, recycled or composted in 2021 was estimated to be 44%, 31% of C&I waste was recovered or treated, 18% was in transfer and 7% was disposed of (primarily to landfill).

2.3.13. Similarly, just 26% of CD&E waste in 2021 was reused, recycled or composted, 10% was recovered or treated,5% was in transfer and 59% was disposed of (primarily to inert landfill). These figures are likely to underestimate reuse, recycling, composting and recovery and overestimate disposal because a significant fraction (465,000 tonnes) of CD&E waste is estimated to be reused at exempt sites in construction projects.

2.3.14. Defra UK Statistics on Waste[2] also claim that more than 90% of non-hazardous C&D waste generated in the UK is recovered. Possible reasons for such a high disposal rate in both Wolverhampton and the wider Black Country region might include the following:

- Wolverhampton 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 Wolverhampton 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 Wolverhampton; and
- Other temporary inert waste disposal operations also happen from time to time in Wolverhampton, 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'.

[2] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste Defra UK Statistics on Waste (11 May 2022), Table 7

- 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 Wolverhampton is likely to be asbestos waste from buildings and contaminated soil/ water treatment residues, which require disposal in a hazardous landfill site[3].

2.3.15. With regards to hazardous waste, nearly 58% in 2021 was recovered/treated and just over 10% is known to be disposed of (primarily to hazardous landfill or incinerator without energy recovery). Around 32% of hazardous waste from Wolverhampton was managed at a 'transfer' facility where it is stored before bulking and transporting to another facility for reuse, recycling, treatment or disposal.

[3] 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 (2021) Waste Management (tonnes) (Permitted sites only. Excludes exempt sites)

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agriculture waste	Total waste arisings
Wolverhampton	Reuse, recycling and composting	38,000 (37.3%)	13,000 (37.2%)	103,000 (27.4%)		127 (99.9%)	154,000 (28.7%)
	Recovery and treatment ***	61,000 (60%)	13,000 (36.9%)	23,000 (6%)	14,000 (57.9%)	0 (0%)	111,000 (20.7%)
	Transfer		9,000 (25%)	7,000 (2%)	8,000 (32%)	0 (0.1%)	24,000 (4.5%)
	Disposal	3,000 (2.7%)	319 (0.9%)	242,000 (64.6%)	3,000 (10.1%)		247,000 (46.1%)
West Midland (apportioned to Wolverhampton)	Reuse, recycling and composting		14,000 (54.3%)	11,000 (17.4%)		4 (88.8%)	25,000 (28.1%)
	Recovery and treatment ***		6,000 (22.1%)	21,000 (33.7%)		0 (1.5%)	27,000 (30.3%)
	Transfer		2,000 (8.2%)	13,000 (21.2%)		0 (7.9%)	16,000 (17.4%)
	Disposal		4,000 (15.4%)	18,000 (27.7%)		0 (1.8%)	22,000 (24.2%)
Wolverhampton Total	Reuse, recycling and composting	38,000 (37.3%)	27,000 (44.4%)	114,000 (25.9%)		131 (99.5%)	179,000 (28.6%)
	Recovery and treatment ***	61,000 (60%)	19,000 (30.6%)	44,000 (10%)	14,000 (57.9%)	0 (0.1%)	139,000 (22.1%)
	Transfer		11,000 (17.9%)	21,000 (4.8%)	8,000 (32%)	0 (0.3%)	40,000 (6.4%)
	Disposal	3,000 (2.7%)	4,000 (7%)	259,000 (59.2%)	3,000 (10.1%)	0 (0.1%)	269,000 (42.9%)

The table excludes waste manged at exempt sites (approx. 1.1 mt).
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 2021/22 monitoring year rather than the 2021 calendar year.
(***) Recovery and treatment for all areas includes energy recovery/ recovery of waste as ‘Refuse Derived Fuel’ (RDF).

2.4 EXISTING WATE MANAGEMENT CAPACITY

2.4.1. The estimated operational waste management capacity in Wolverhampton 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 2021, i.e. 2021 operational capacity. Further information on the data sources used to estimate Wolverhampton's existing waste management capacity in 2021 are included in **Appendix B**. The figures in **Table 2-3** are annual capacity estimates and include hazardous waste (as recorded within the WDI). Waste received on/ in land in 2021 has been omitted from the capacity estimates in **Table 2-3** 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. There is no Landfill capacity in Wolverhampton.

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 484,000 tonnes per annum (tpa) of capacity at permitted sites in 2021. Just under 115,000 tpa of this capacity was estimated to be at treatment facilities/operations, with recycling operational capacity nearly 14,000 tonnes and recovery facilities just over 100,000 tonnes, with approx. 12% of Wolverhampton's total 'Treatment' capacity being 'Recycling' and around 88% 'Recovery.'

2.4.4. Just under 54,000 tpa capacity was at metal recycling sites (MRS), of which nearly two thirds of this capacity is contributed by two sites. Approximately 203,000 tpa capacity was at transfer facilities. The transfer and recycling 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 shy of 112,000 tpa, the majority of which was 'with energy recovery' at the Council's energy from waste (EfW) facility.

2.4.5. The transfer figures in this table include inputs into the Council's Waste Transfer Station (WTS) and household waste and recycling centre (HWRC) which themselves are likely to involve double counting of waste transferred between sites.

2.4.6. **Appendix I** includes a list of sites in Wolverhampton which are managing more than 10,000 tpa of waste. These are private operated sites and the sites managing the largest tonnages include the Wolverhampton EfW facility and Horseley Field waste treatment facility.

Table 2-3 - Existing Waste Management Capacity, 2021 (tonnes per annum)[4]

Facility Type		Wolverhampton
Metal Recycling Sites (MRS)		54,000
Transfer		203,000
Treatment	*Recycling*	14,000
	Recovery	101,000
Incineration		112,000
Total		**484,000**

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

2.4.7. The waste management capacity for Wolverhampton in 2021 at LACW sites is shown in **Table 2-4**. The tonnages managed at the LACW sites had just shy of 112,000 tonnes sent to EfW, 22,000 tonnes transferred through waste transfer stations (WTS), and around 18,000 tonnes managed through two household waste recycling centres (HWRCs).

Table 2-4 - Existing Waste Management Capacity at LACW sites, 2021 (tonnes per annum)[5]

Facility Type		Site name	Wolverhampton
Incineration (EfW)		Wolverhampton Waste to Energy Plant	112,000
Transfer	WTS	Crown Street Transfer Station	22,000
	HWRC	Anchor Lane HWRC	8,000
	HWRC	Shaw Road HWRC	10,000
Total			**152,000**

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

2.4.8. It should be noted that the 2021 '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 2017 – 2021 from the WDI (and Operational Incinerators schedule). These are the figures that will be used for the

[4] EA WDI (2021)
[5] EA WDI (2021)

capacity projections (**Table 2-6**). The 5-year average (mean) throughput at permitted sites, including incinerators 2017 – 2021 gives a total capacity of around 441,000 tpa.

2.4.9. No landfill sites exist in Wolverhampton, thus there is no capacity for landfill disposal within the City.

2.5 SPECIALIST WASTE MANAGEMENT CAPACITY

2.5.1. Specialist waste management capacity in Wolverhampton has been estimated from a range of sources and is summarised in **Table 2-5**. 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 Wolverhampton. Further information on the data sources used to estimate Wolverhampton's specialist waste management capacity in 2021 are included in **Appendix B**.

2.5.2. Hazardous waste management capacity has been accounted for in the waste management capacity **Table 2-3** above, but the hazardous waste management capacity in **Table 2-5** is taken from the Hazardous Waste Interrogator (HWI) (2021) and provides visibility of the permitted site hazardous waste capacity within Wolverhampton. This is based on hazardous waste deposits in Wolverhampton, 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.

2.5.3. 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 2-3** above.

2.5.4. There was estimated to be approximately almost 1.3 mtpa capacity at specialist waste management sites (excluding wastewater treatment) in 2021. Over 1.1 mtpa of this capacity was estimated to be available at exempt sites, approximately 3,300 tpa at End of Life Vehicles (ELV) and WEEE facilities and just over 121,000 tpa at hazardous waste facilities.

2.5.5. The wastewater capacity relates to Maximum Permitted Daily Water Flow (DWF) at the one treatment facility in Wolverhampton (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. 48,000 m^3/day at this site. **Table D7** in **Appendix D** shows the 'Load Entering' Wolverhampton Wastewater Treatment Facilities (p.e.), 2012-2020[6] and the data suggests that the quantity of wastewater treated at the specified plants has increased between 2012 and 2020.

2.5.6. There is a Sludge Treatment Centres (STC) in 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 Wolverhampton, 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 m^3 of gas per hour. Bioresources Market Information published by Severn Trent in November 2016 under Ofwat

[6] 2020 being the most recent year data is available.

guidelines confirms that Barnhurst and Roundhill have co-located STCs for treatment of Secondary Activated Sludge. This information indicates that Barnhurst produces around 3,600 dry tonnes of solids (DTS) of sludge end product per annum, and that Roundhill produces around 2,400 DTS of sludge end product per annum.

Table 2-5 - Specialist Waste Management Capacity, 2021 (tonnes per annum unless otherwise specified)

Facility Type		Wolverhampton
Agricultural waste	Exempt Sites (U10, U11, T24 and T25 exemptions)	19,000
Hazardous waste	Treatment	84,000
	Recovery	2,000
	Transfer	35,000
	Disposal*	37
	Other**	0
Low level radioactive waste (LLRW)	No publicly available information on facility capacities to treat LLRW	Not known
Construction waste exemptions	U1 and U3 exemptions	465,000
Disposal (D) exemptions	D1 to D8 exemptions	34,000
Storage (S) exemptions	S1 to S3 exemptions	156,000
Treatment (T) exemptions	T1 to T33 excluding T24 and T25 (Agricultural and food processing waste exemptions)	219,000
Use (U) exemptions	U2, U4 to U9 and U12 to U16 exemptions	257,000
Wastewater treatment	DWF (m3/d) ***	48,000
Wastewater sludge treatment	Tonnes	73,000
ELV recycling and depollution		3,000
WEEE treatment		300

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 WOLVERHAMPTON BASELINE TOTAL CAPACITY ESTIMATE

2.6.1. **Table 2-6** summarises the total estimated baseline waste management capacity in Wolverhampton in 2021. This excludes capacity at 'exempt' sites and specialist capacity (**Table 2-5**). To account for likely changes in operational capacity at the waste management sites, Wolverhampton capacity is based on 5-year average (mean) tonnages of 'waste received' at Permitted Sites and Operational Incinerators by Site Category, 2017-2021, as discussed in paragraph 2.4.8. 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 2-6 - Wolverhampton Baseline Waste Capacity Estimate, 2021 (tonnes per annum)

Capacity Type	Wolverhampton
Recycling and Recovery (annual throughput capacity, tonnes per annum)	
Incinerator	*113,000*
MRS	*51,000*
Treatment - Recycling	*29,000*
Treatment - Recovery	*90,000*
Recycling and Recovery Total	282,000
Treatment-Recycling – Inert/C&D only*	8,000
Transfer (annual throughput capacity, tonnes per annum)	
Transfer	159,000
Landfill (void space in cubic metres (m^3) and total capacity in tonnes)	
Inert Only – m^3	*0*
Inert Only – tonnes	*0*
Non-Haz – m^3	*0*
Non-Haz - tonnes	*0*
Hazardous – m^3	*0*
Hazardous – tonnes	*0*
Landfill Total – m^3	0
Landfill Total – tonnes	0

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 at permitted sites only. Treatment – Recycling sites that receive Inert/ C&D waste only or receive predominantly Inert/ C&D waste.

2.6.2. Based on this information, in 2021 the capacity of permitted waste sites in Wolverhampton was estimated to be:

- Recycling and Recovery – 282,000 tonnes per annum
- Transfer – 159,000 tonnes per annum
- Inert Landfill – 0 cubic metres/ 0 tonnes
- Non-Hazardous Landfill – 0 million cubic metres/ 0million tonnes
- Hazardous Landfill – 0 cubic metres/ 0 tonnes

2.6.3. This gives a total baseline capacity of around 441,000 tonnes.

2.6.4. More than a third of Wolverhampton's permitted Recycling and Recovery capacity (by tonnage) is at the EfW plant. 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 Local Plan will need to identify capacity gaps for all types of waste facility, including capacity for bulking and sorting waste.

2.6.5. The section on cross-boundary waste movements (**Section 2.8**) shows that a significant amount of waste from Wolverhampton is being exported. However, Wolverhampton is aiming to maintain 'net self-sufficiency' over the plan period, and in any case, there is no guarantee that capacity outside Wolverhampton will continue to be available throughout this period. The capacity available outside Wolverhampton has therefore not been factored into the total baseline capacity estimate.

2.7 PLANNED WASTE INFRASTRUCTURE PROJECT

NATIONALLY SIGNIFICANT INFRASTRUCTURE PROJECTS

2.7.1. Responsibility for determining applications for Nationally Significant Infrastructure Projects (NSIPs) rests with the Planning Inspectorate (PINS). Details of development consents granted and current applications for NSIPs are published on the PINS website.

2.7.2. Projects identified on the NSIP website have been reviewed as part of this study. There appear to have been no applications for energy from waste, hazardous waste, or wastewater NSIPs in or near to Wolverhampton. However, there is one NSIP in Lincolnshire (BAEF) listed in **Table 2-7**, 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 2-7** 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 Wolverhampton; or
- It is located within the area where cross boundary waste flows into and out of Wolverhampton 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 Wolverhampton[7].

2.7.4. To identify potential sites, Authority Monitoring Report's, planning portals and/or waste needs assessments (where they exist) have also been looked at for Dudley MBC, Sandwell Council, Walsall Council, 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.

[7] The Nationally Significant Infrastructure Projects listed do not represent an exhaustive list of projects, but those which the BCA consider could be of relevance to this assessment.

Table 2-7 - Waste Infrastructure Projects relevant to the study area by Authority and by Type

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	Bloomfield Road Pyrolysis Plant (formerly REWS Power Plant) (Tipton)	High Energy Fuels Ltd	Operational 2021	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[8].
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

[8] 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
						approved in April 2014 (DC/14/56920) – amended following original proposal (DC/10/52454) – was for a gasification plant with a capacity to receive up to 140,000 tpa of residual household, commercial and industrial waste, including some residual waste from the adjacent sanitary waste recovery facility (now operated by PHS). This was technically implemented before being superseded by the current, larger scheme. Planning permission was refused for this by Sandwell MBC in June 2018 on the grounds of impacts on amenity of nearby residents from noise and impacts on highway safety. The application was approved by a Planning Inspector in September 2019 following an appeal against the refusal (APP/G4620/W/18/3216591). The Environment Agency issued a permit for the facility in July 2019 and the Inspector gave significant weight to this. Construction of the facility[9] 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.

[9] 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
						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 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.

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

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
Coventry	Materials Recycling Facility (MRF)	Regional Materials Recycling Facility	TBC – project being led by Coventry City Council	Local Plan site allocation, planning permission granted	120,000 – 175,000	Feasibility Study carried out in 2017/18 into technical and economic viability of developing a Materials Recycling Facility (MRF) to serve Coventry City Council, neighbouring authorities (including Walsall Council) and local businesses. The MRF would be developed on land adjacent to the existing CSW (Coventry and Solihull Waste Partnership) EfW site, which is allocated for waste management use in the adopted Coventry Local Plan. Outcome of feasibility study was positive and detailed Business Case for the project was developed during 2018/19, based on a plant with a capacity of around 120,000 tpa with flexibility to increase to 175,000 tpa over a 20-year contract period. 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. 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 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	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.

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
				Decision with the Secretary of State		The DCO Examination period for BAEF commenced on Friday 8 October 2021[10]. 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 March 2023, a decision is yet to be made.
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

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

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
						44 million litres of wastewater per annum. Permission granted 2016.
Solihull	CD&E waste recycling	n/a	NRS Aggregates Ltd	Planning permission granted	100,000	Crushing, screening and washing of construction and demolition waste using fixed plant at Meriden Quarry. Planning permission granted 2018.
Solihull	CD&E waste recycling	n/a	CEMEX UK Operations Ltd	Planning permission granted	49,000	Proposed recycled aggregate facility in existing Berkswell Quarry - CD&EW. Permission granted 2018.
Staffordshire	MRF	n/a	Veolia Environmental Services	Planning permission granted	70,000	Additional capacity at existing MRF - increase the annual permitted tonnage from 49,000 tonnes per annum to 70,000 tonnes per annum. Permission granted 2017.
Staffordshire	Waste Transfer Station	n/a	Boulton Skip Hire Ltd	Planning permission granted	25,000 C&I 50,000 municipal	Change in the use of land, consisting of the development of a Waste Transfer station at Moorfields Industrial Estate. Permission granted 2017.
Staffordshire	Renewable energy facility	n/a	John Pointon and Sons Limited	Planning permission granted	83,000	Combined heat and power renewable energy facility using waste wood as a biomass fuel. Permission granted 2017.
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.

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
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.
Staffordshire	Skip Hire and Recycling facility	n/a	Jumbo Holdings Ltd	Decision withdrawn	100,000	Application for a skip hire and recycling facility including the sorting, processing and storage of 100,000 tonnes of waste per annum. Decision withdrawn as of March 2023.
Staffordshire	Waste Transfer Station	n/a	Geocycle UK Ltd	Planning permission granted	125,000	Consultation from the Environment Agency in connection with an Environmental Permit application for a household, commercial and industrial waste transfer station by Geocycle UK Ltd at Yelsway Lane, Stoke-on-Trent Staffordshire. Permission granted in May 2022.

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

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
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.
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.
Birmingham	WTS & HWRC	n/a	Veolia Environmental Services	Application registered. Awaiting decision	138,000 (WTS) 32,000 (HWRC)	Redevelopment of the waste management facility on Lifford Lane, Kings Norton, Birmingham to provide a replacement Household Waste Recycling Centre (HWRC) and Waste Transfer Station (WTS). The WTS will be designed to handle 138,000 tonnes per annum, whereas the HWRC will have an approximate capacity of 32,000 tonnes per annum. The application was registered in February 2023.
Birmingham	WTS & HWRC	n/a	Veolia Environmental Services	Planning permission granted	170,000 (WTS) 20,000 (HWRC)	Redevelopment of the waste management facility on Holford Drive, Perry Barr, Birmingham to provide a replacement Household Waste Recycling Centre

Authority	Facility Type	Project	Operator	Stage	Permitted capacity (tpa)	Comment
				(subject to conditions)		(HWRC) and Waste Transfer Station (WTS). The WTS will be designed to handle 170,000 tonnes per annum, whereas the HWRC will have an approximate capacity of 20,000 tonnes per annum. Planning permission was granted in April 2021 and is subject to conditions. The site is planned to reopen in spring 2023 but as of March 2023, the date has not been confirmed.

2.8 CROSS-BOUNDARY WASTE ISSUES

WASTE IMPORTS AND EXPORTS

2.8.1. **Table 2-8** presents estimates of the volumes of hazardous and non-hazardous waste imported and exported from Wolverhampton in 2021. Imports have been calculated by using the EA WDI 2021 and waste received at permitted sites at Wolverhampton in 2021 by origin region. This includes waste received in Wolverhampton at facilities located in Wolverhampton. Exports of waste originating have been calculated by using the EA WDI 2021 and waste received at permitted sites in England. This identifies the locations of the sites, including those in Wolverhampton that received waste in 2021, whose origin was coded to Wolverhampton. Therefore, both estimates of imported and exported waste include the same fraction of waste from Wolverhampton. 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.

2.8.2. Some of the waste arisings from Wolverhampton ends up in Wales. The Welsh WDI (WWDI) shows that approximately 27,000 tonnes of codeable waste from Wolverhampton was exported to Wales in 2021 (see **Appendix G**), the majority of which were municipal wastes. There is no equivalent data for Scotland or N Ireland.

2.8.3. Wolverhampton was estimated to be a net exporter of non-hazardous waste in 2021 by approximately 0.4 mt. Non-hazardous waste imports were estimated to be around 0.39 mt and exports almost 0.68 mt. Nearly 0.12 mt of Wolverhampton's non-hazardous waste was received at facilities within Wolverhampton.

2.8.4. Wolverhampton was estimated to be a net importer of hazardous waste in 2021 by approximately 39,000 tonnes. Imports of hazardous waste were estimated to be c.92,000 tonnes and exports c.52,000 tonnes. Approximately 1,000 tonnes of Wolverhampton's hazardous waste were treated at facilities within Wolverhampton.

Table 2-8 - Waste imports to and exports from Wolverhampton, 2021 (tonnes)

	Imports to Wolverhampton facilities (including waste of Wolverhampton origin)	Exports to permitted sites in England and Wales (inc. sites in Wolverhampton)	Wolverhampton waste arisings received at sites within Wolverhampton	Net imports
Non-hazardous waste	391,000	678,000	115,000	-401,000
Hazardous waste	92,000	52,000	1,000	39,000
Total	**484,000**	**730,000**	**116,000**	**-362,000**

Figures rounded to nearest 1,000 tonnes. Figures are for permitted sites only and exclude waste exported to 'Storage' sites.
The exports from Wolverhampton to permitted sites in England and Wales will not align with the Wolverhampton waste arising figure in Table 2-1 as different sources and timelines have been used, as well as the inclusion of WPA non-

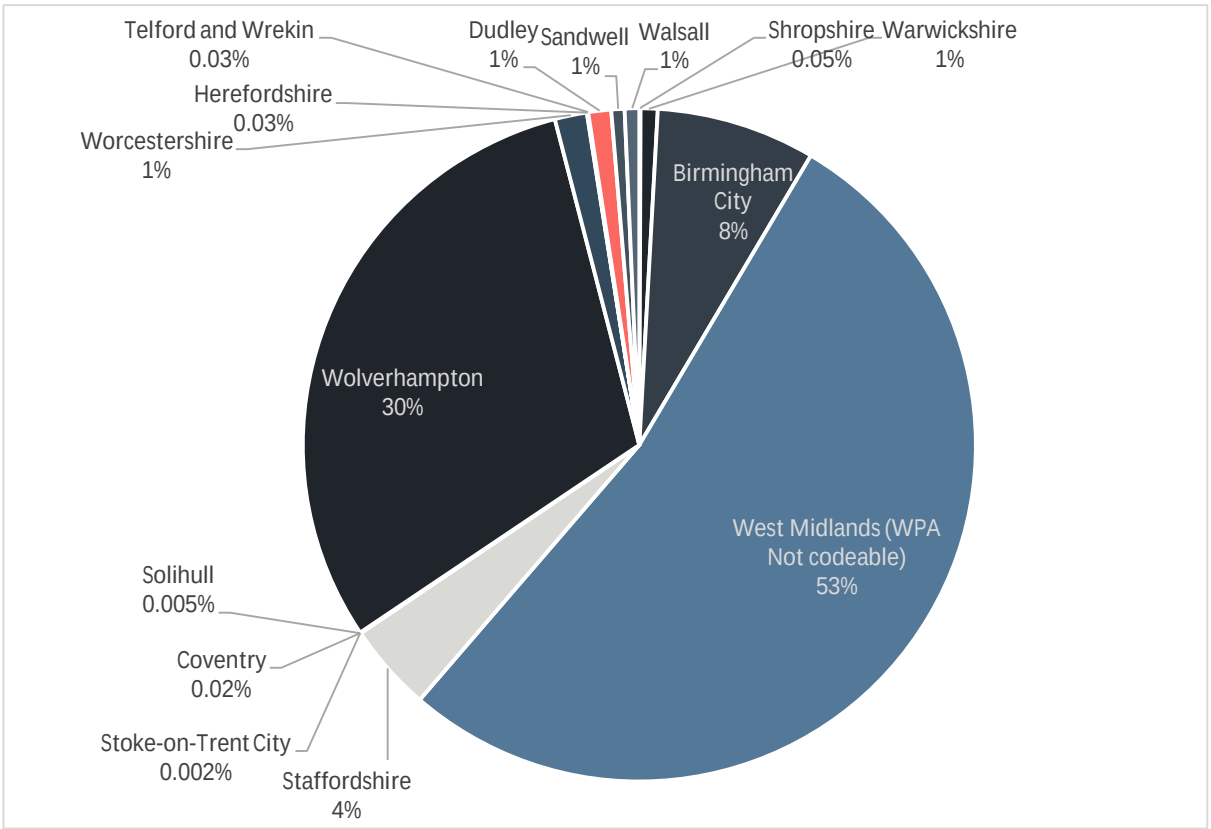
codeable waste in Table 2-1 (see paragraphs 2.2.3 and 2.2.4).
Source: Environment Agency Waste Data Interrogator (WDI) 2021, Welsh Waste Data Interrogator (WWDI) 2021.

2.8.5. Total imports into Wolverhampton permitted sites totalled just under 484,000 tonnes of which approximately 391,000 tonnes was non-hazardous and 92,000 tonnes was hazardous. Of this imported waste, approximately 116,000 tonnes originated within Wolverhampton as inter area transfer.

2.8.6. The import tonnages presented in **Table 2-8** relate to the baseline year, 2021, which differ from the "Net imports of waste" tonnages in **Table 3.5** and **Table 3.8**, which are based on 5-year average tonnages of waste received at permitted sites and incinerators in Wolverhampton 2017-2021. The tonnages in **Table 3.5** have been used as the 'baseline' import arising figures for the waste capacity projections, because the latter figures use 5-year average waste received tonnages rather than the tonnages of waste received in 2021.

2.8.7. The total imports into Wolverhampton originating from the West Midlands region (excluding the waste originating in Wolverhampton) was 265,000 tonnes, representing 53% of the total waste received in Wolverhampton. Approximately 201,000 tonnes of this total was origin West Midlands – WPA Not Codeable. **Figure 2-2** shows the Waste Received at Permitted Sites in Wolverhampton in 2021, 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 Wolverhampton in 2021: Waste Originating in the West Midlands Region (where known) by Origin WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2021

2.8.8. **Table 2-9** shows the origin/region of country and waste management by site category of waste received at permitted waste management facilities in Wolverhampton. Nearly 79% of waste received at these facilities originated within the West Midlands. A further breakdown of the waste can be found in **Appendix G** and it can be seen that under 53% of the waste received in Wolverhampton was coded as being from the West Midlands (WPA not codeable), a proportion of which is likely to have arisen within Wolverhampton as well as other West Midlands authorities. Approximately 30% of the waste received in Wolverhampton from the West Midlands was coded as being from Wolverhampton. Around 8% of the waste received in Wolverhampton was coded as being from Birmingham.

2.8.9. Outside of the West Midlands, the East Midlands and the South West were the two largest importers of waste into Wolverhampton; importing over 63,000 tonnes (13% of total waste). **Appendix G** provides a breakdown of waste imported in 2021 by Basic Waste Category and Region/ Country.

Table 2-9 - Origin Region/ Country and Waste Management by Site Category of Waste Received in Wolverhampton, 2021 (tonnes)

Origin Region/ Country	Incineration	MRS	Processing	Transfer	Treatment	Total	%
East Midlands	38,000	0	0	2,000	5,000	45,000	9.35%
East of England	0	0	0	0	4,000	4,000	0.88%
London	0	3,000	0	0	8,000	11,000	2.25%
North East	0	0	0	0	0	0	0.05%
North West	0	0	0	4,000	4,000	8,000	1.57%
South East	0	15	0	0	13,000	13,000	2.6%
South West	0	25	0	700	17,000	18,000	3.76%
West Midlands	74,000	50,000	12,000	196,000	49,000	380,000	78.67%
Yorks & Humber	0	0	0	60	250	300	0.07%
Scotland	0	25	0	0	0	25	0.01%
Wales	0	0	0	0	4,000	4,000	0.77%
Total	**112,000**	**54,000**	**12,000**	**203,000**	**103,000**	**484,000**	**100%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021
Note: Figures rounded to nearest 1,000 tonnes.
Totals may not sum due to rounding.

2.8.10. The cross-boundary movements in 2019, 2020 and 2021 are shown in **Appendix G**; they show a broadly similar pattern of inter- and intra- regional waste movements to that of 2021. With regards to imported waste, while just under 80% of the waste received at sites in Wolverhampton in 2021was from within the West Midlands, this was less than 70% in 2020, and 73% in 2019, illustrating the intra-regional 'self-sufficiency', although a 3-year time series of data is too short to tell whether this is an actual trend or just fluctuation.

2.8.11. **Table D11** (**Appendix D**) summarises Wolverhampton waste imports, by Site Category, including waste sent for incineration. Of the 484,000t of waste received at permitted sites in 2021, the biggest percentage (by tonnage) (43%) was received at Transfer sites, followed by Treatment sites (24%), incinerators (23%) and MRS (11%).

2.8.12. In 2021 more than 730,000 tonnes of waste originating in Wolverhampton were exported to permitted sites in England and Wales; 678,000 tonnes of this was non-hazardous and 52,000 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 2-10** shows the waste management by site category at destination region.

Table 2-10 - Destination region and waste management by site category of origin waste in Wolverhampton, 2021 (tonnes)

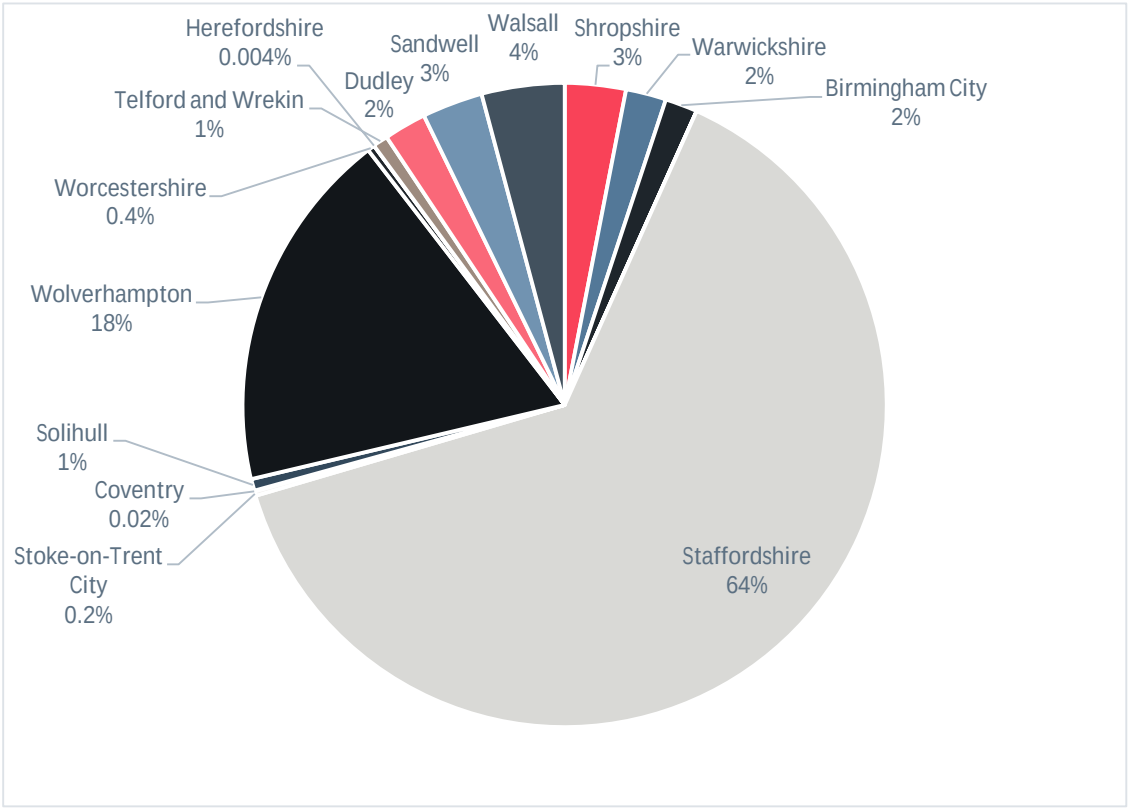
Destination	Incineration	Landfill	MRS	On/in Land	Transfer	Treatment	Total	%
East Midlands	0	5	2,000	0	1,000	27,000	30,000	4.1%
East of England	0	0	0	0	150	800	1,000	0.2%
London	0	0	0	0	0	7,000	7,000	1%
North East	0	30	0	0	2	500	1,000	0.1%
North West	0	0	4,000	0	150	20,000	24,000	3.4%
South East	0	0	0	0	20	3,000	3,000	0.5%
South West	0	0	0	0	30	2,000	2,000	0.4%
West Midlands	76,000	260,000	35,000	97,000	54,000	108,000	628,000	86.1%
Yorkshire & Humber	0	0	2,000	0	1,000	2,000	6,000	0.8%
Wales	0	0	350	0	350	26,000	27,000	3.7%
Total	**76,000**	**260,000**	**43,000**	**97,000**	**57,000**	**197,000**	**730,000**	**100%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2021
Note: Totals may not sum due to rounding.

2.8.14. 628,000 tonnes (~86%) of the waste was exported to facilities within the West Midlands. Of this, 30% (approx. 189 kt) was received at sites within the West Midlands metropolitan area (Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall, Wolverhampton) and 18% at sites in Wolverhampton. **Figure 2-3** shows the breakdown of waste received at permitted sites in the West Midlands, whose waste origin was Wolverhampton (the underlying data can be found in **Appendix G**).

2.8.15. The second largest export of waste to permitted sites from Wolverhampton was the East Midlands; they received just under 30,000 tonnes which represents 4 % of exported waste. The third largest export area in England was the North West, where permitted sites received over 24,000 tonnes of waste originating from Wolverhampton, representing 3.3% of exported waste. **Appendix G** provides a breakdown of waste exported in 2021 by Basic Waste Category and Region/ Country.

Figure 2-3 - Waste Received at Permitted Sites in the West Midlands in 2021 (tonnes), Waste Originating in Wolverhampton (where known) by Destination WPA



Source: Environment Agency Waste Data Interrogator (WDI) 2021

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. In 2021 200,000 tonnes of waste treated in facilities located in Wolverhampton were not allocated to any specific origin. This represents around 53% of all the waste recorded as originating in the West Midlands by tonnage where nearly all of this waste was non-hazardous. Some of the 200 kt waste will have almost certainly have arisen within

Wolverhampton but there is no way of knowing how much or how and where it was managed, so it cannot be accounted for within the total Wolverhampton export figures above.

2.8.17. **Table D11** (**Appendix D**) summarises the waste export from Wolverhampton, by Site Category, including waste sent for incineration. Of the 730,000 t of waste received at permitted sites in England and Wales, in 2021, the biggest percentage (by tonnage) (36%) was received at Landfill sites, followed by Treatment sites (26%), On/In Land sites (13%), incinerators (11%), Transfer sites (8%) and MRS (6%).

2.8.18. Of the 614,000 tonnes received at permitted sites in England and Wales and incinerators in England, outside of Wolverhampton, the biggest percentage (by tonnage) (42.5%) was received at Landfill sites, followed by Treatment sites (31.5%), On/In Land sites (15.5%), MRS (7%), Transfer sites (2.5%) and incinerators (1%).

2.8.19. A list of West Midlands sites outside Wolverhampton that received the largest tonnages of Wolverhampton waste during 2019 – 2021 can be found in **Appendix G**.

2.8.20. **Appendix G** also includes tables (G13-G15) showing the destination WPA of waste originating in Wolverhampton exported to the East Midlands 2019-2021. There has been some fluctuation in tonnages over these years with tonnages being the highest in 2020. A list of East Midlands sites that received the largest tonnages of waste from Wolverhampton during 2019 – 2021 can also be found in **Appendix G**. Some of the exports can be linked to local authority waste contracts.

2.8.21. As shown in **Table 2-8** and the data provided there are considerable movements of waste between Wolverhampton and the neighbouring local authorities; in 2021, 484,000 tonnes of waste was imported to permitted facilities within Wolverhampton and 614,000 tonnes of waste was exported from Wolverhampton to permitted facilities outside Wolverhampton. The overall picture is that around 80% of waste imported and exported from Wolverhampton stays within the West Midlands region and the only other regions that receive significant tonnages of Wolverhampton waste are the East Midlands and the North West. 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

2.8.22. As HWRCs serve a user-defined catchment, the origin of deposits cannot be recorded, and it may be likely that users outside Wolverhampton catchment area are depositing waste at Wolverhampton HWRCs and increase the waste arisings that Wolverhampton 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 Metropolitan Borough Council, with the latter contributing to the costs of operating one of its HWRCs (Anchor Lane) which was used by a large

number of Wolverhampton residents[11] (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[12]. 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.

2.8.23. There are a number of other initiatives that can be taken to limit the amount of non-catchment area waste received at Wolverhampton'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
- 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. A booking system can also control traffic management.

2.8.24. Notwithstanding the above, the use of the Wolverhampton HWRCs has now been restricted to Wolverhampton residents only, with proof of ID required to access the sites.

2.8.25. 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. However, in June 2023 Defra announced that charges for depositing 'Do It Yourself' (DIY) waste at HWRCs should be abolished to allow householders to dispose of their waste in a responsible manner and encourage recycling.

WASTE CRIME

2.8.26. Another concern for cross-border waste issues within Wolverhampton is waste crime and fly-tipping, as criminals do not recognise authority borders; the waste flows associated with this activity are hard to predict and plan for. In 2021/22 there were 3,067 incidents reported to the Authority, which is similar to the previous 2020/21 figure when there were 3,056 fly tipping incidents reported within Wolverhampton[13]. 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

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

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

[13] Fly-tipping incidents and actions taken, reported by local authorities in England 2012/13 – 2021/22, Defra

from building and demolition work, animal carcasses, vehicle parts and tyres. Hazardous wastes such as oil, asbestos sheeting and chemicals are also dumped illegally.

2.8.27. The benefits of reduced fly-tipping within Wolverhampton 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.

2.8.28. A partnership approach between the four Black Country 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 Wolverhampton to consider in trying to tackle fly-tipping. There are a number of other initiatives Wolverhampton as a whole can, and indeed do, 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, 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. Defra announced in early 2023 that grants totalling £775,000 would be given to help councils roll out a range of projects to tackle fly-tipping.

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 Wolverhampton to 2041/42 and beyond.

2.9.2. Housing and employment land demand are projected to increase as Wolverhampton 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 Authority 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 1,153 kilograms per household per year (kg/hh/yr) in 2006/07 to 974 kg/hh/yr in 2021/22 (a reduction of over 15%). This has been driven by a range of factors including, but not limited to, household income, increased resource efficiency (such as lightweighting[14]) 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.

[14] 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.

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 Wolverhampton was estimated to be c.484,000 tpa in 2021 (441,000 tpa when considering the 5-year average throughput as discussed in **Section 2.4**), in comparison to arisings of c.626,000 tonnes and imports of c.325,000 tonnes (c.1 mt in total). However, Wolverhampton is currently short of some types of capacity (e.g. landfill sites, 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 published their own Circular Economy Package[15] 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. If a national Deposit Return Scheme (DRS) is implemented within England, this will impact the tonnages of drinks containers (plastic, cans and glass) collected through kerbside waste services which needs to be considered, and the infrastructure that will need to be in place to deal with this stream.

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.

[15] 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 Wolverhampton Local Plan seeks to deliver significant development growth, which will increase the amount of waste produced requiring 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. The housing growth scenario used in the modelling for the purpose of this Study was the Wolverhampton Local Plan Issues and Preferred Options (Regulation 18) report which identifies sufficient land to deliver 10,307 homes between 2022 and 2042. Whilst the housing supply figures may change slightly at Regulation 19 stage, due to annual updates, unless changes are more significant, it is not considered they will have a notable impact on the waste projections in this report.

3.2.2. For the ten years beyond the plan period (2041/42 to 2051/52) 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

3.2.3. This accommodates current local housing need up to 2042. This equates to:

- Actual net completions of 1,929 dwellings 2020/21 to 2021/22;
- A 'supply' for 10,307 net additional dwellings for the rest of the plan period 2022/23 to 2041/42, which equates to an average (mean) of 515 dwellings per annum; and
- A further 'supply' for 5,150 net additional dwellings for the next 10 years beyond the plan period 2041/42 to 2051/52 (assumed to be the same as the plan period pro rata), which equates to an average (mean) of 515 dwellings per annum.

3.2.4. The total housing supply under the baseline scenario is therefore 12,236 net additional dwellings 2020/21-2041/42 and 17,386 net additional dwellings 2020/21 to 2051/52.

3.2.5.

3.2.6. **Table** 3-1 shows the 5-yearly cumulative totals for the Plan Period 2020 to 2042 and the 10 years beyond the Plan Period 2042 to 2052.

Table 3-1 - Housing Growth Scenarios (cumulative net housing need/growth (net dwellings) 2020 – 2052)

	Completions 2020 - 2022	Required 2022/23 - 2026/27	Required 2027/28 - 2031/32	Required 2032/33 – 2036/37	Required 2037/38 – 2041/42	Required 2042/43 – 2046/47	Required 2047/48 – 2051/52
Wolverhampton	1,929	4,607	7,286	9,964	12,236	14,811	17,386

Source: Wolverhampton Council

EMPLOYMENT GROWTH

3.2.7. 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)[16].

3.2.8. The October 2023 EDNA update states that there is a demand for 116ha of net additional employment land in Wolverhampton 2020-42. The minimum baseline supply is 64ha over that period, resulting in a shortfall of 52ha. Of this supply, 10ha is made up of completions 2020-22. Further supply is anticipated to come forward through unallocated 'windfall sites' which at a Black Country wide geography is estimated to provide some 77ha of net additional employment land. This figure has been subdivided to the individual districts proportionately, with the supply for Wolverhampton identified as being an additional 15.58 ha.

3.2.9. For the ten years beyond the plan period (2042/43 to 2051/52) no employment land demand or supply figures have been identified. A continuation of annual employment land allocation levels has been used for the purpose of this study.

3.2.10. The annualised employment land allocation within Wolverhampton, used within the Employment Growth Scenario, equates to:

- A total provision of 69.63 hectares for the period 2022/23 to 2041/42; and
- A further provision for 36.65 hectares for the period 2042/43 to 2051/52.

3.2.11. These provisions are shown in

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

3.2.12. **Table** 3-2, as 5-yearly cumulative totals.

3.2.13. Whilst the employment supply figures may change slightly due to annual updates, unless changes are more significant, it is not considered they will have a notable impact on the waste projections in this report.

Table 3-2 - Employment Growth Scenario (cumulative net employment need/growth (in hectares) 2020 – 2052)

	Completions 2020 - 2022	Required 2022/23 - 2026/27	Required 2027/28 - 2031/32	Required 2032/33 – 2036/37	Required 2037/38 – 2041/42	Required 2042/43 – 2046/47	Required 2047/48 – 2051/52
Wolverhampton	9.95	27.4	44.8	62.2	79.6	97.0	114.4

Source: Wolverhampton Council

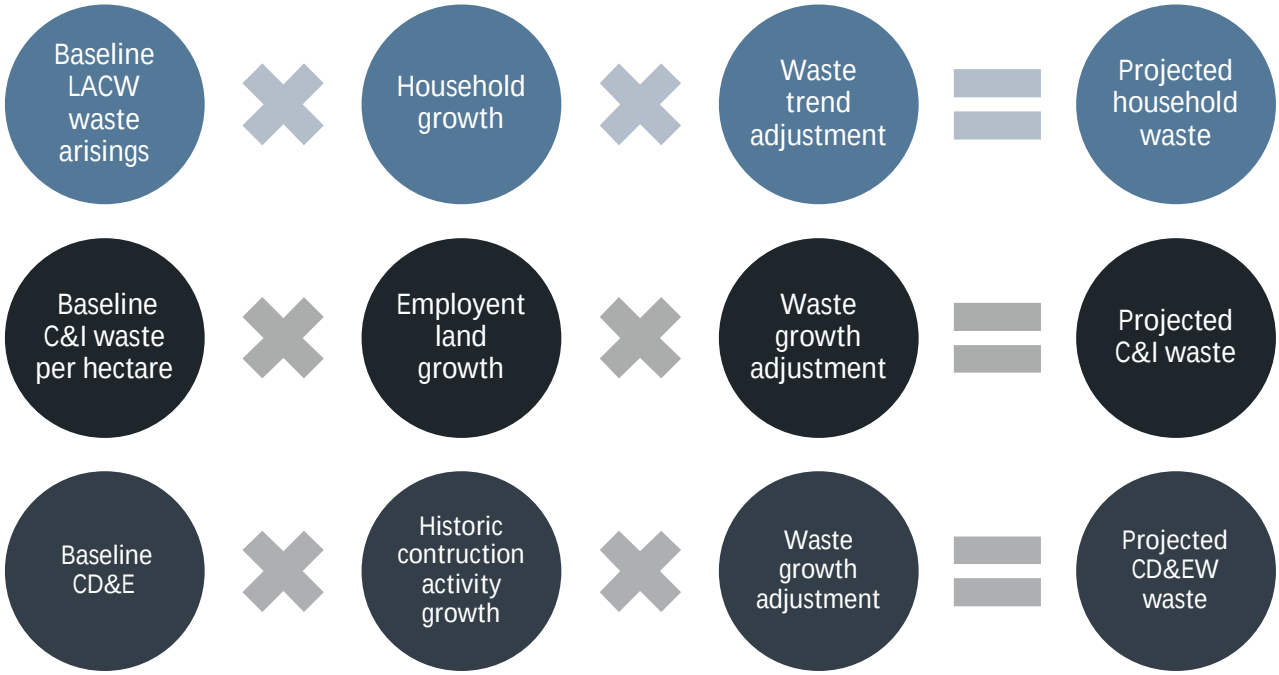
3.3 WASTE PROJECTIONS

3.3.1. The waste projections for Wolverhampton are a function of waste growth projections and waste management scenarios. These have been informed by Wolverhampton 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 3-1** provides an overview of the projection methodology for household, C&I and CD&E waste growth.

Figure 3-1 - 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; an index has been applied to account for the expected increases in the construction industry in Wolverhampton in the 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 previous discussions held with the BCP housing, employment and centre groups as outlined in the 2020 and 2022 Black Country Waste Study reports, a set of baseline and alternative scenarios was agreed for the household waste projections based on housing need, and the C&I waste growth projections based on employment land demand arising in Wolverhampton 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 **Table 3-3.**

Table 3-3 - Household waste per household reduction scenarios

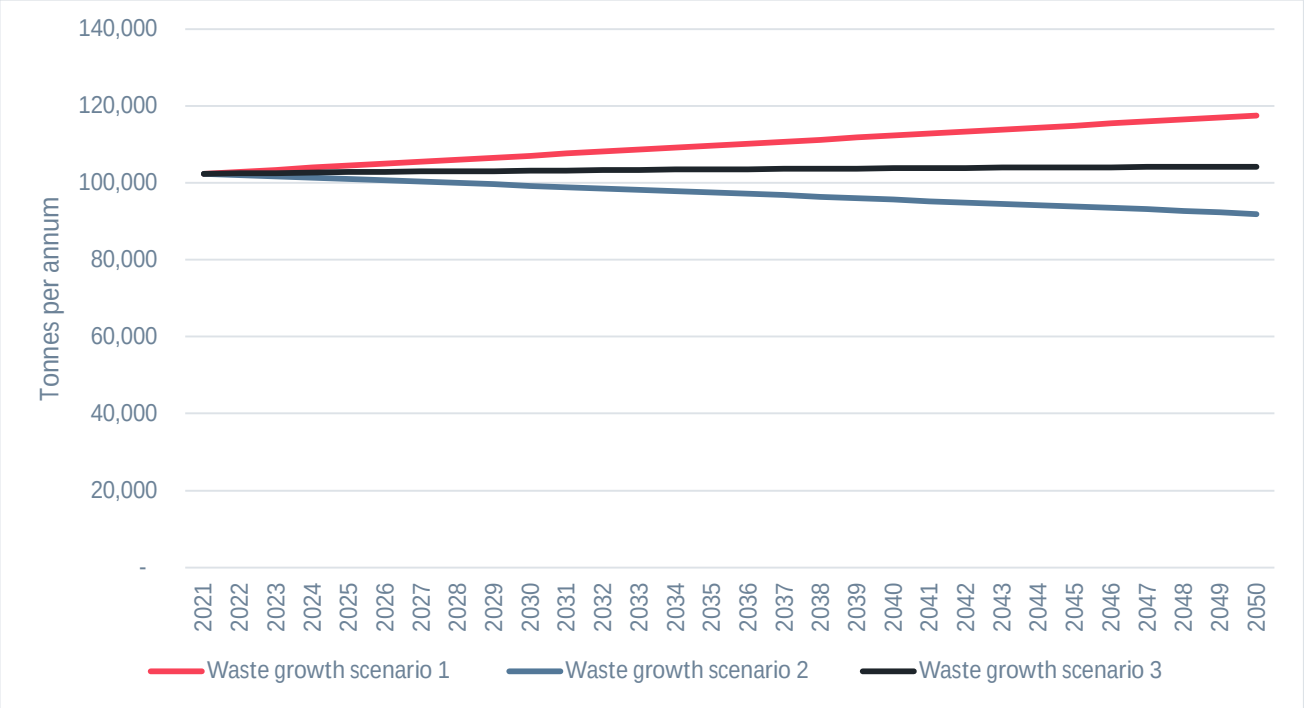
	Household waste growth
Scenario 1	No change in household waste per household: household waste per household stays at existing levels
Scenario 2	Higher reduction in waste per household: household waste per household decreases by the equivalent of 8.12% every ten years in line with the observed trend between 2011/12 and 2021/22[17];
Scenario 3	Lower reduction in waste per household: household waste per household decreases by the equivalent of 4.06% every ten years. This level of waste reduction is approximately half of the change observed between 2011/12 and 2021/22.

3.3.9.

[17] This study has used the household numbers from the Census data, for both 2011/12 and 2021/22 periods, as opposed to the ONS estimated household numbers used in previous studies. ONS advise the Census data is the best data source to use.

3.3.10. **Figure** 3-2 illustrates the impact of household waste per household scenarios on household waste growth projections.

Figure 3-2 - 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

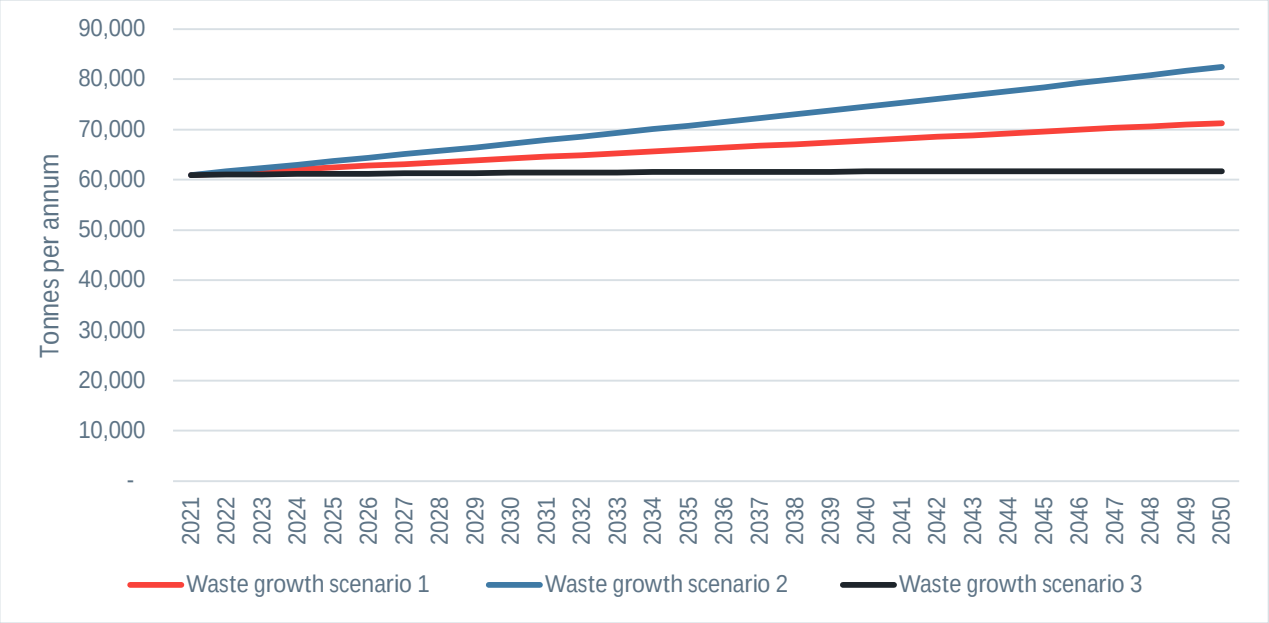
	C&I waste growth
Scenario 1	No change in C&I waste per hectare.
Scenario 2	Increase in C&I Waste Generated Per Ha of Employment Land in line with national trend, i.e. 0.5% increase every year.
Scenario 3	Reduction in C&I Waste Generated Per Ha of Employment Land, i.e. 0.5% reduction every year.

Note: England C&I arisings between 2017 and 2019 have been used to determine trends, in that C&I data from 2020 and 2021 showed a reduction in commercial waste, which would likely have been as a result of the pandemic and people working from home. The methodology used for England is based on 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.

3.3.13. **Figure** 3-3 illustrates the impact of C&I waste generation per hectare scenarios on C&I waste growth projections.

Figure 3-3 - C&I waste growth projections



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

- Household waste: Wolverhampton housing growth combined with the Lower reduction in household waste per household waste growth scenario. Under this scenario household waste increases by 1.3% (0.04% p.a.) between 2021 and 2052.
- C&I waste: employment land growth combined with an increase in C&I waste per hectare waste growth scenario. Under this scenario C&I waste increases by 36.6% (1.04% p.a.) between 2021 and 2052.

OTHER WASTE GROWTH

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

- CD&E: historic construction activity growth equivalent to an increase in construction activity (see paragraph 3.3.5). Under this scenario CD&E waste increases by approximately 179% (3.5% p.a.) between 2021 and 2052.
- Agricultural and hazardous waste streams were assumed to grow at the same rate as C&I waste and increase by 16% (0.5% p.a.) between 2021 and 2052.

IMPACT OF IMPORTS AND EXPORTS

3.3.16. **Table 3-5** shows that Wolverhampton currently imports approximately 441,000 tonnes of waste for management. Wolverhampton waste imports include waste originating in Wolverhampton received at sites in Wolverhampton. Of the 441,000 tonnes, just under 115,000 tonnes is waste which has originated within Wolverhampton. Wolverhampton net imports of waste for management were over 325,000 tonnes in 2021. The figures in **Table 3-5** are different to those in **Table 2-8** as the figures in Table 3-5 are based on 5-year average tonnages of waste received at permitted sites and

incinerators in Wolverhampton 2017-2021. Imports have been assumed to increase at the same rate as C&I waste and grow by 16% (0.5% p.a.) between 2021 and 2052.

Table 3-5 - Net imports of waste for management in Wolverhampton (tonnes), 2017-2021 average inputs, by Site Category*

	Recycling	Recovery	Transfer	Disposal	Total
Imports of waste for management	80,000	202,000	159,000	0	**441,000**
Wolverhampton waste imports	550	72,000	43,000	0	**116,000**
Net imports of waste for management	79,000	130,000	117,000	0	**325,000**

*Based on 5-year average WDI inputs at permitted facilities and incinerators in Wolverhampton, 2017-2021. Wolverhampton waste import tonnages are taken from the 2021 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 (51,000) + Treatment-recycling (29,000) = 80,000 tonnes
- Recovery: Incinerator (113,000) + Treatment-recovery (90,000) = 202,000 tonnes

3.3.18. The recycling and recovery of Wolverhampton waste imports for management in **Table 3-5** are broken down as follows:

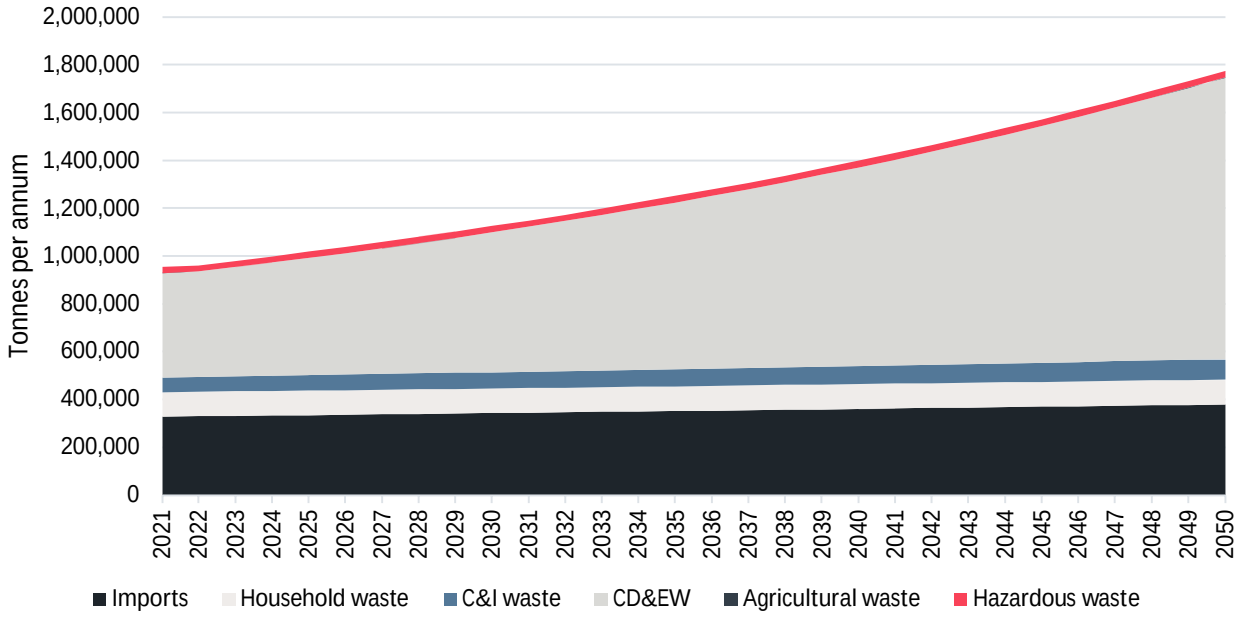
- Recycling: MRS (550) + Treatment-recycling (0) = 550 tonnes
- Recovery: Incinerator (72,000) + Treatment-recovery (65) = 72,000 tonnes

3.3.19. The recycling, recovery and transfer capacity figures in **Table 3-5** have been used as the 2021 'baseline' for the waste capacity projections in **Error! Reference source not found.**.

3.3.20.

3.3.21. **Figure** 3-4 presents the waste projections for Wolverhampton between 2021 and 2052. The projected waste growth tonnages over the plan period by waste stream, from baseline date (2021) to the end date (2042) and at five-yearly intervals in between, are shown in **Table 3-6**. The quantity of waste Wolverhampton is projected to manage, increases from just below 1 mt in 2021 to over 1.4 mt in 2042 (an increase of 49.8% or 2% p.a.). The underlying data tables for the waste growth projections up to 2051 are included within **Appendix H**.

Figure 3-4 - Wolverhampton 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	2021/22	2025/26	2030/31	2035/36	2041/42
Imports	325,000	332,000	340,000	349,000	360,000
Household	102,000	103,000	103,000	103,000	103,000
C & I	61,000	64,000	67,000	71,000	75,000
CD&E	438,000	491,000	585,000	697,000	860,000
Agricultural	100	100	100	100	100
Hazardous	25,000	26,000	26,000	27,000	28,000
Total	**952,000**	**1,015,000**	**1,122,000**	**1,247,000**	**1,426,000**

Figures may not sum due to rounding.

WASTE MANAGEMENT SCENARIOS

3.3.22. The waste management scenarios are presented in **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 2021/22 – 2041/42 (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 Wolverhampton. 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, WSP has assumed these to be as in **Table 3-7**.

3.3.25. The waste projections under each scenario over the Plan Period and the ten years beyond, up to 2052, 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 Wolverhampton may arise from the possible projects being realised.

3.4.4. There are no current proposals for new materials recycling facilities (MRFs) in Wolverhampton. It is expected that Wolverhampton 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.

3.4.5. There are no landfills within Wolverhampton and the existing landfill capacity will naturally diminish within the Black Country and the wider region over the plan period and therefore existing disposal capacity is a concern and will present a problem in the future.

3.4.6. There is uncertainty over the future of EfW in Wolverhampton, which has been in operation since 1998, after the existing contract ended in 2023. This is the main residual waste treatment facility for household waste and in June 2023 the Council procured a 2 year, plus 1 year plus 1 year extension of the contract. The Strategic direction and the future operation of the EfW plant will be reviewed once the 2-year, plus 1 year plus 1 year extension is in place. The Strategic review and detailed options appraisal will cover all waste disposal options for the Council to consider regarding the future long term waste disposal for the City. Although the retention of the EfW is not agreed at the time of writing, in projecting future capacity, it has been assumed the existing facility will be upgraded or replaced by a facility of an equivalent size.

3.4.7. There may be a potential reduction in capacity for Refuse Derived Fuel (RDF) exports in the EU, but in 2021 Wolverhampton did not export any RDF outside of the UK[18] making this less of a concern. Following the UK's departure from the EU, it may be that avenues to export this RDF will decrease but if the circular economy high recycling targets are implemented, it may be that RDF production decreases accordingly.

3.4.8. Capacity to treat contaminated soils will likely decrease as Dunton Environmental soil treatment 'hub' at Horsley Fields in Wolverhampton, a temporary facility, is believed to have closed at the end of 2022 due to expiration of its lease and regeneration plans in the area[19]. Between 2019 and 2021, the site processed on average over 70,000 tpa and had a permitted capacity of 200,000 tpa.

NEW CAPACITY

3.4.9. As previously outlined in **Table 2-7**, there are three energy recovery facilities under construction in the Black Country (Bloomfield Road Pyrolysis Plant in Dudley, Encyclis at Fryers Road in Walsall, and Kelvin Energy Recovery Facility being promoted by Enfinium) which have the potential to accept waste from Wolverhampton over the Plan Period; however, as these sites fall outside Wolverhampton, and would be subject to a procurement process, this external capacity has not been included in the capacity projections.

[18] Based on R01 codes (includes RDF) exported outside the UK from Wolverhampton (WDI – waste removed)

[19] 'Defining moment' in transformation of Wolverhampton's historic Canalside Quarter | Express & Star (expressandstar.com)

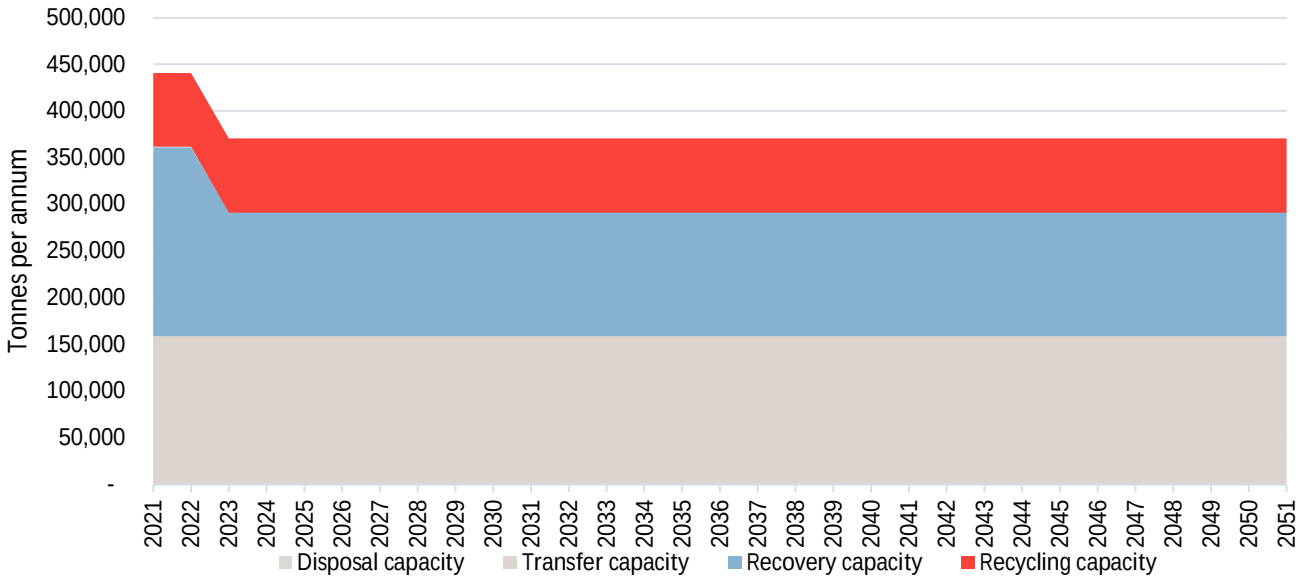
3.4.10. Two planned EfW NSIPs in Lincolnshire have potential to source waste from Wolverhampton because local arisings would be insufficient. However, these projects are still in planning or pre-planning stages. One of the facilities (Boston Alternative Energy Facility) intends to use sea transport to transport most of the feedstock and the other facility is believed to favour rail transport. Wolverhampton 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 Wolverhampton could access these facilities if they were, this capacity has not been included within the capacity projections.

3.4.11. The remaining infrastructure identified in **Table 2-7** is likely to have minimal impact on allocations within Wolverhampton 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

3.4.12. Total waste management capacity within Wolverhampton is projected to decrease over the plan period from 441,000 tonnes at the start of 2021 (see paragraphs 2.6.1 to 2.6.3 and **Table 2-8**) to just over 371,000 tonnes at the end of the Plan period, as shown in **Figure 3-5**. This reduction in waste management capacity is driven by decreasing recovery capacity as a temporary waste treatment facility is closed at the end of 2022. The capacity for Recycling and Transfer, based on the evidence reviewed on possible future changes, is not anticipated to increase or decrease over the plan period, but Recovery capacity decreases by approximately 70,000 tonnes (see paragraph 3.4.8). However, the future of some existing sites (in particular the Wolverhampton EfW) is uncertain. It is also difficult to predict where new Recycling, Recovery and Transfer facilities might come forward during the Plan Period, as this will be largely dependent on availability of suitable employment sites.

Figure 3-5 - Capacity projections by site category Waste growth projection methodology overview



3.4.13. The projected waste capacity over the plan period by site category, from baseline date (2021) to the end date (2042) and at five-yearly intervals in between, is shown in **Table 3-8**. The underlying data tables for the waste capacity projections up to 2051/52 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	2021/22	2025/26	2030/31	2035/36	2041/42
Recycling	79,000	79,000	79,000	79,000	79,000
Recovery	202,000	132,000	132,000	132,000	132,000
Transfer	159,000	159,000	159,000	159,000	159,000
Disposal	-	-	-	-	-
Total	**441,000**	**371,000**	**371,000**	**371,000**	**371,000**

Source (2021 data): Environment Agency Waste Data Interrogator (WDI) – 5-year average (mean) tonnages received 2017 – 2021. Figures may not sum due to rounding.

3.5 WASTE MANAGEMENT CAPACITY GAPS

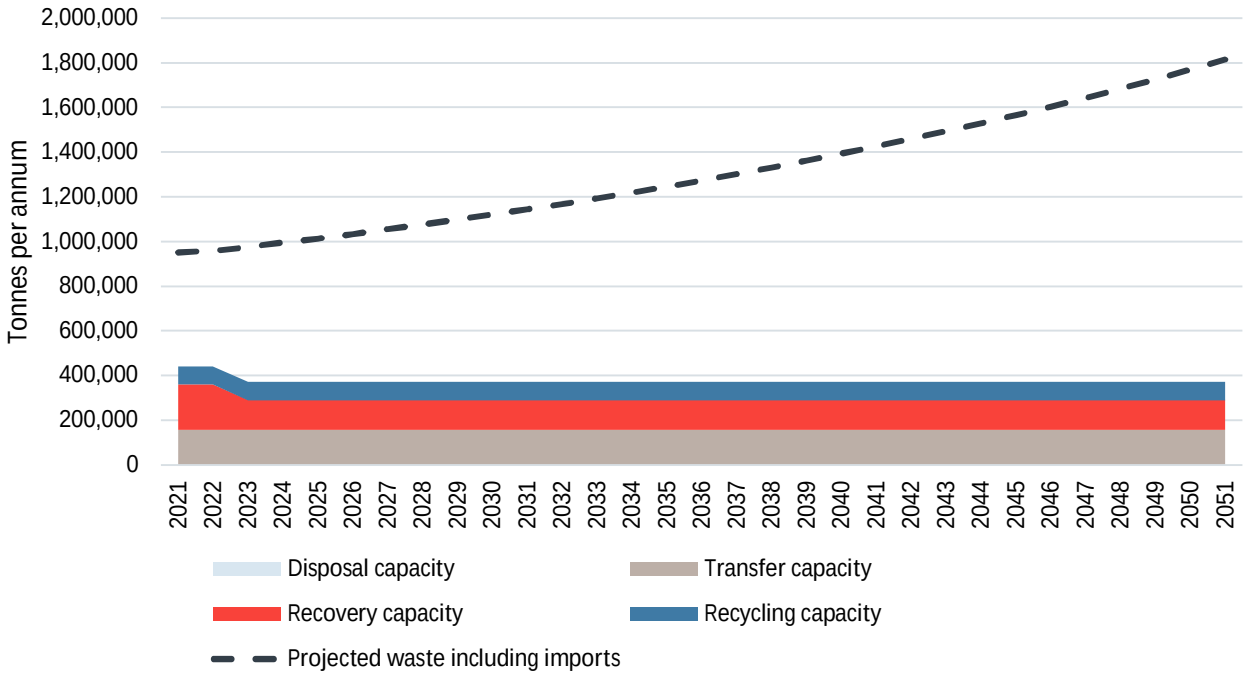
3.5.1. In order to determine future waste management capacity gaps, the waste projections developed in **Section 3.3** have been combined with the waste management capacity estimates adjusted to account for the expected changes to existing capacity and future capacity requirements.

TOTAL WASTE PROJECTED TO BE MANAGED IN WOLVERHAMPTON

3.5.2.

3.5.3. **Figure** 3-6 compares projected waste growth over the plan period to the total waste management capacity within Wolverhampton. It appears that there will not be sufficient waste management capacity in Wolverhampton to manage projected waste volumes during the plan period and beyond, 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 Wolverhampton has the right types of waste management to manage projected waste volumes.

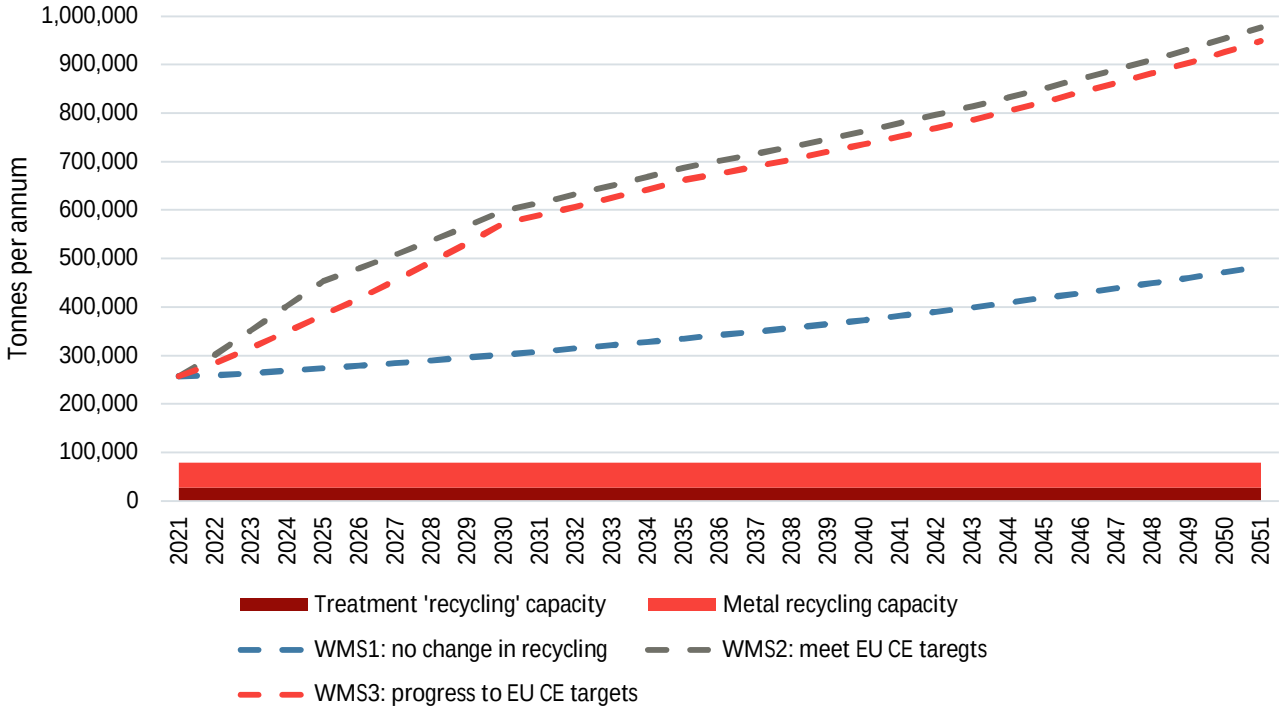
Figure 3-6 - Total waste projected to be managed against projected capacity by site category



REUSE, RECYCLING AND COMPOSTING PROJECTIONS

3.5.4. **Figure 3-7** compares the reuse, recycling and composting projections to recycling capacity estimates, by site type according to the waste management scenarios in **Table 3-7**.

Figure 3-7 - 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 725,000 tonnes, from 258,000 tonnes in 2021 to 978,000 tonnes in 2051/52. The majority of this increase is projected to be generated through increased recycling/composting of CD&E and imported waste with around 30,000 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 178,000 tpa under all options. At the end of the Plan Period, there is a capacity gap of 700,000 tpa under WMS2 option, 674,000 tpa under WMS3 option, and 303,000 tpa under option WMS1. Beyond the Plan Period, up to 2052, the capacity gap is exacerbated with a capacity gap of 900,000 tpa under WMS2 option, 870,000 tpa under WMS3 option, and 405,000 tpa under option WMS1.

3.5.7. More than half of the recycling capacity within Wolverhampton is at Metal Recycling Sites (MRS) (approximately 51,000 tonnes). 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.

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, Wolverhampton is currently reliant on MRFs outside the Authority area to manage nearly 22,000t of recycling from households[20]. Wolverhampton may continue to be able to access this external capacity from 2024 onwards however, external reprocessor or MRF capacity may not be able to meet all of Wolverhampton's needs for household recycling capacity in the 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.

3.5.8. 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 2017 – 2021 in the WDI shows that under a third 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 2-6**, although no tonnages of this waste type were received in 2021). 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.

[20] In 2021/22 Wolverhampton used Shotton in Flintshire, Wales. The Authority were in contract with Shotton until 31 March 2024.

3.5.9. It is a moot point whether physical treatment of inert CD&E waste is a 'recycling' or a 'recovery' operation, it is probably a bit of both[21]. 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)[22]. 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.

3.5.10. An evident capacity gap is that there is no composting capacity within Wolverhampton; there are no open windrow or In-Vessel Composting (IVC) facilities, and none are planned. The current open windrow capacity used by Wolverhampton to treat green waste is located outside of the Black Country[23]. As there are unlikely to be any locations in Wolverhampton with sufficient distance separation from 'sensitive receptors' to be able to provide them, Wolverhampton will continue to rely on composting capacity in other parts of the West Midlands to manage its green waste. Additional capacity may be required in future to manage increases in garden waste associated with housing growth.

3.5.11. It has been widely acknowledged[24] 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 (now termed Simpler Recycling), The Environment Act includes a requirement for separate collection of food waste from businesses by March 2025 and from households by March 2026. Currently there are no anaerobic digestion (AD) or IVC facilities for food waste in Wolverhampton. 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. It is likely that Wolverhampton will be able to access nearby capacity in the future, however, it will not be able to meet all of the Wolverhampton's needs for food waste treatment capacity in future. The introduction of separate food waste collections in Wolverhampton for household and C&I waste could generate between 10,000 - 30,000 tonnes for management by 2051/52.

RECOVERY PROJECTIONS

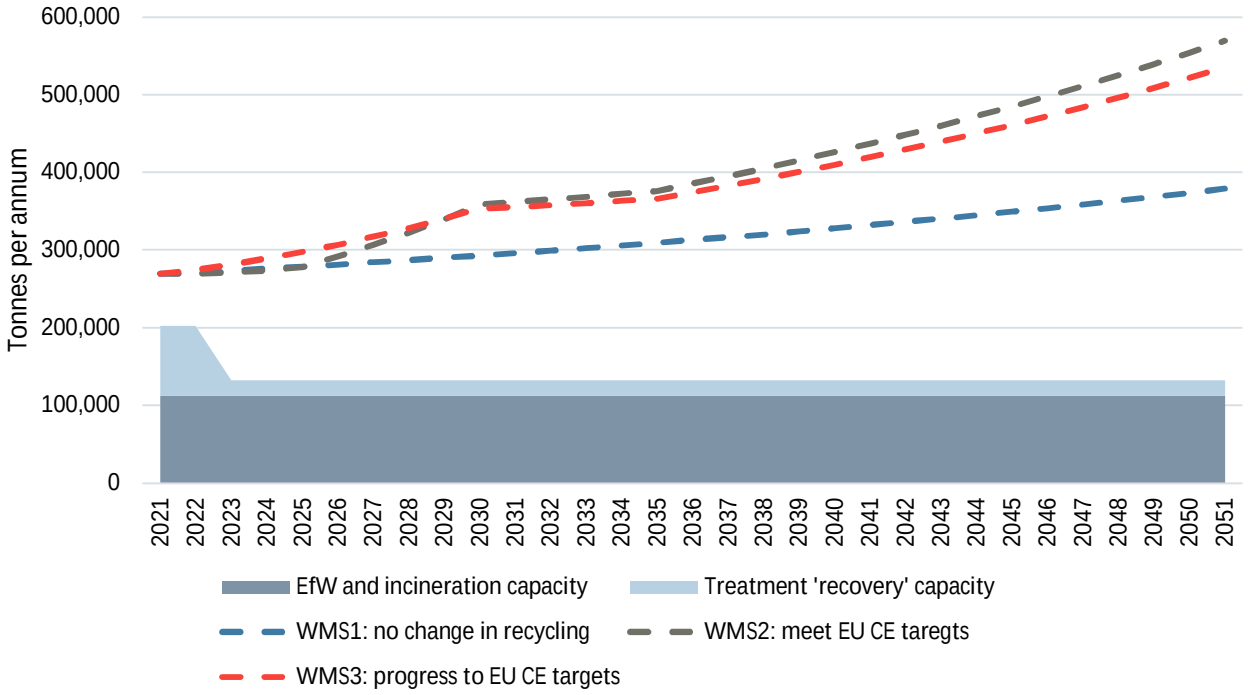
3.5.12. **Figure 3-8** compares the waste recovery projections to the recovery capacity estimates, by site type according to the waste management scenarios in **Table 3-7**.

[21] CIRIA Resource Efficiency Knowledgebase - The Efficient Use of Materials in Regeneration Projects, 13: Definitions
[22] Section 4 and Table 5, UK Statistics on Waste, 7 March 2019, Defra
[23] In Staffordshire
[24] For example, in the EU's Circular Economy Package and the Waste and Resources Strategy

3.5.13. Under the WMS3 option material produced requiring recovery is projected to increase by 265,000 tonnes, from 269,000 tonnes in 2021 to 535,000 tonnes in 2051/52. Similarly, the projected increase in recovery under WMS2 is of 300,000 tonnes, from 269,000 tonnes in 2021 to 570,000 tonnes in 2051/52. 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 67,000 tpa. From 2023, the capacity deficit increases further due to capacity going offline (see paragraph 3.4.8). At the end of the Plan Period, there is a capacity deficiency of 305,000 tpa under WMS2 option, 287,000 tpa under WMS3 option and to a lesser extent to 200,000 tpa under WMS1 option.

3.5.14. Beyond the Plan Period, up to 2051/52, as tonnages increase in line with growth trends, the capacity gap increases further, being 437,000 tpa under WMS2, 403,000 tpa under WMS3 and to 247,000 tpa under WMS1.

Figure 3-8 - Recovery waste management scenario projections against recovery and treatment capacity, by site category



3.5.15. As mentioned in paragraph 3.5.9, it is unclear whether physical treatment of inert CD&E waste is a 'recycling' or a 'recovery' operation.' 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.

3.5.16. There is a recovery sub-category of contaminated soil treatment in Wolverhampton and there is one site (Dunton Environmental in Wolverhampton), identified as Treatment – Recovery. The Dunton Environmental site was a temporary soil treatment hub operating under a temporary permission which ceased 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 Wolverhampton has sufficient treatment capacity for other hazardous waste treatment and this capacity is unlikely to change over the plan period.

3.5.17. The recovery and treatment of household waste is projected to decrease by over 28,000 tonnes in WMS2 to meet the 65% recycling target. This would make Wolverhampton less reliant on EfW capacity to manage its household waste however there would still be a requirement for over 33,000 tonnes of EfW to manage household waste in 2051/52. The future of the Wolverhampton EfW (as noted in Section 3.4.6) is uncertain.

TRANSFER PROJECTIONS

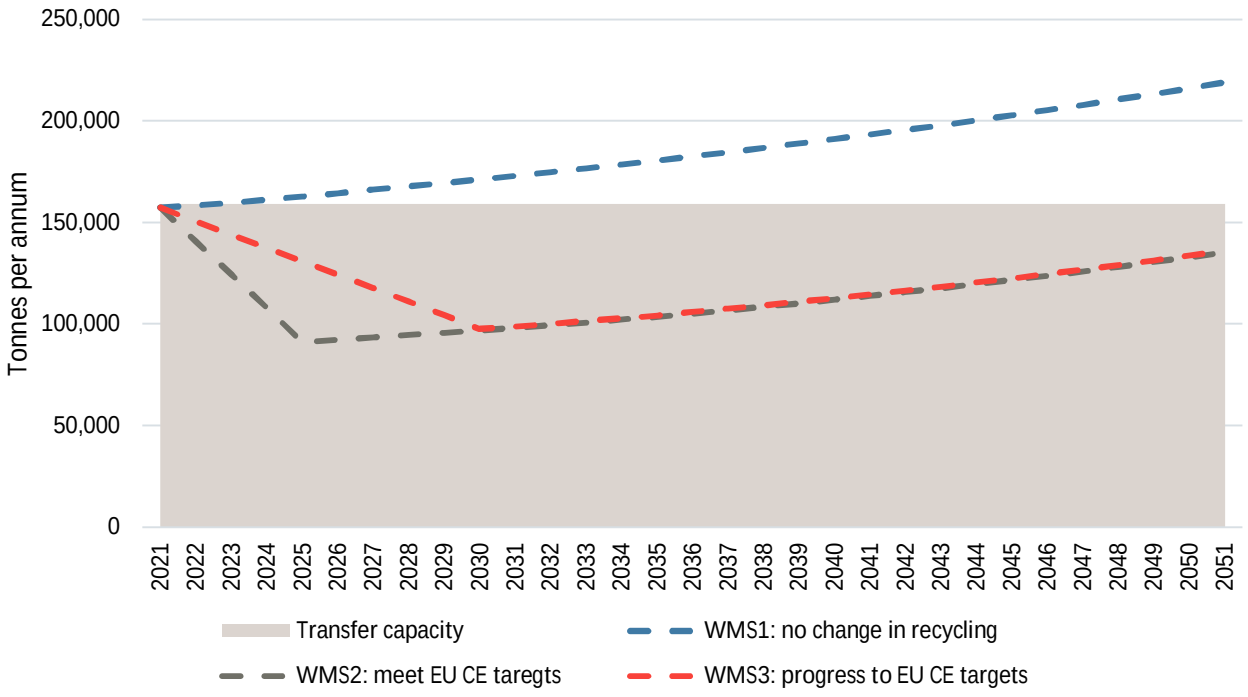
3.5.18. **Figure 3-9** compares the waste transfer projections to the waste transfer capacity estimates. Wolverhampton appears to have sufficient transfer capacity to manage its own arisings and imports over the plan period for the WMS2 and WMS3 options, with surplus requirements across the period and beyond as more waste is diverted for recycling to meet 2030 targets. There is however insufficient capacity from 2023 onwards under WMS1 option. This is largely linked to the imported waste tonnages and the transfer profile not changing under WMS1.

3.5.19. The decrease in waste transfer projections at the start of the plan period under WMS2 are related to a rise in waste (including imported 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 Wolverhampton will still be considerably utilised.

3.5.20. At the start of the Plan Period, Wolverhampton has a capacity surplus of nearly 2,000 tpa under all scenarios.

3.5.21. At the end of the Plan Period (2041/42), it is apparent that Wolverhampton will have insufficient transfer capacity across the WMS1 option, with a capacity deficit of 34,000 tpa. A capacity surplus of approx. 45,000 tpa is projected for the WMS2 and WMS3 options. Beyond the Plan Period, up to 2051/52, there is a capacity gap of 60,000 tpa under WMS1, and a surplus of 23,000 tpa under both WMS2 and WMS3.

Figure 3-9 - Transfer waste management scenario projections against transfer capacity

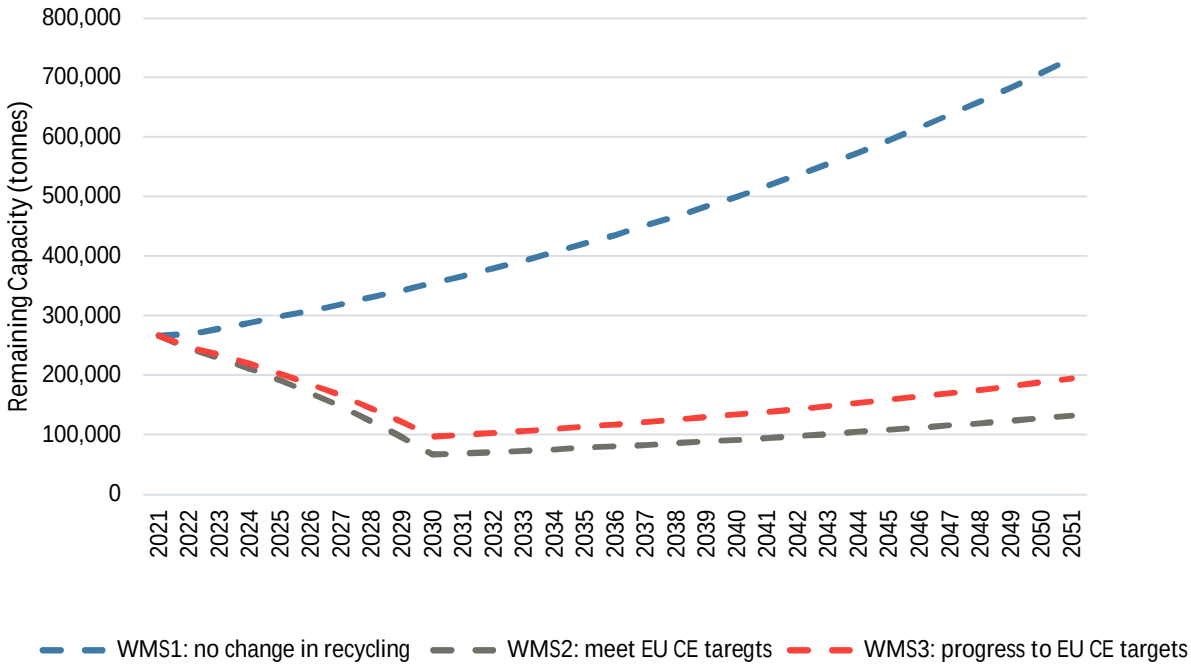


DISPOSAL PROJECTIONS

3.5.22. **Figure 3-10** compares the waste disposal projections to the waste management capacity for disposal, by site type. As there are no permitted landfill sites within Wolverhampton, and the capacity is zero the graph shows the annual waste arisings for disposal. The study has not considered the remaining void space of external Wolverhampton and wider West Midlands landfills; it is thought Wolverhampton 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.

3.5.23. Due to there being no landfill facilities within Wolverhampton, there is insufficient landfill capacity under all waste management scenario options. At the start of the Plan Period, there is a capacity gap of 267,000 tpa under all waste management scenario options. At the end of the Plan Period, there is a capacity deficiency of 518,000 tpa under WMS1, 139,000 tpa under WMS3, and 95,000 tpa under WMS2. By 2051/52 there will be a capacity gap of 733,000 tonnes to dispose of the waste under WMS1, 195,000 tonnes under WMS3, and 133,000 tonnes under WMS2. Under the WMS2 option and WMS3 option increasing recycling rates result in less waste going for disposal with a smaller gap in disposal capacity.

Figure 3-10 - Disposal waste management scenario projections against disposal capacity by site category



WOLVERHAMPTON'S WASTE CAPACITY GAPS

3.5.24. To summarise, the 'capacity gaps / surpluses' at the 'baseline' date (2021), as well as the likely gaps by the end of the Plan Period (2042) 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 2051/52 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	2021/22	2025/26	2030/31	2035/36	2041/42
Recycling:					
WMS1	-178,000	-195,000	-224,000	-256,000	-303,000
WMS2	-178,000	-375,000	-519,000	-609,000	-701,000
WMS3	-178,000	-304,000	-494,000	-583,000	-674,000
Recovery:					
WMS1	-67,000	-146,000	-161,000	-177,000	-200,000
WMS2	-67,000	-145,000	-226,000	-244,000	-305,000
WMS3	-67,000	-165,000	-221,000	-234,000	-287,000
Transfer:					
WMS1	2,000	-4,000	-12,000	-21,000	-34,000
WMS2	2,000	68,000	62,000	56,000	45,000
WMS3	2,000	28,000	62,000	55,000	45,000
Disposal:					
WMS1	-267,000	-299,000	-355,000	-421,000	-518,000
WMS2	-267,000	-192,000	-67,000	-78,000	-95,000
WMS3	-267,000	-203,000	-97,000	-114,000	-139,000

Figures may not sum due to rounding.

3.5.25. **Table 3-9** shows us that the ***waste management capacity gaps over the Plan Period are more apparent for disposal sites*** under all three options, in particular under WMS1 as more waste is sent for disposal. There are also insufficient ***recycling sites***, more so 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*** over all three options, in particular for WMS2. 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.

3.5.26. Housing growth will put pressure on existing household waste management capacity, and as this is largely managed outside Wolverhampton under current contractual arrangements this is an important focus going forward. Wolverhampton may also need to accommodate some of the waste capacity requirements of other waste planning authorities, although they are a net exporter of non-

hazardous waste, so pressure on an already saturated waste management infrastructure capacity is less of a concern in this aspect.

3.5.27. There are no options for residual waste disposal in Wolverhampton 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.

3.5.28. In order to achieve 'net self-sufficiency' Wolverhampton 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) to make up for the types of waste capacity it cannot accommodate because of being a largely built-up area (e.g. composting, AD, inert, non-hazardous and hazardous landfill).

4 PLANNING POLICY REVIEW AND RECOMMENDATIONS

4.1 PURPOSE OF THIS CHAPTER

4.1.1. In seeking to deliver significant development growth the Wolverhampton Local Plan will need to set out how any resulting increase in the amount of waste produced is to be managed as well as set out how any additional waste management capacity requirements can be met. This chapter seeks to review the Draft BCP waste policies and provides recommendations as to how these can be adapted for use in the Wolverhampton Local Plan.

4.2 DRAFT BCP WASTE POLICIES – REVIEW AND RECOMMENDATIONS

4.2.1. The Draft BCP (Regulation 18) contains five waste policies as follows:

- Policy W1 – Waste Infrastructure – Future Requirements;
- Policy W2 – Waste Sites;
- Policy W3 – Preferred Areas for New Waste Facilities;
- Policy W4 – Locational Considerations for New Waste Facilities; and
- Policy W5 – Resource Management and New Development.

4.2.2. Commentary and recommendations on each of the policies above is provided below.

4.2.3. Policy W1 sets out the overall strategy and principles for waste management and the types of waste development that will support this. It also identifies how much new waste management capacity is likely to be needed to support planned levels of housing and growth over the plan period, and to help the BCP strategic priority of meeting the Black Country's resource and infrastructure needs. It is recommended a similar policy is included in the Wolverhampton Local Plan.

4.2.4. Policy W2 seeks to safeguard and retain the capacity of existing waste facilities in order to maintain the existing waste management capacity and address the need of meeting the Black Country's resource and infrastructure needs. Given that Wolverhampton is a predominantly urban area, in order to support the planned levels of house and growth over the plan period whilst also meeting resource and infrastructure needs, it is important that existing waste management facilities are safeguarded to maintain existing waste management capacity. It is recommended that a similar policy is included in the Wolverhampton Local Plan.

4.2.5. Policy W3 sets out that the preferred areas for new waste management facilities are the allocated Local Employment Areas. The updated waste needs assessment for Wolverhampton (as detailed in Chapters 2 and 3 of this report) has identified an increased need for recycling capacity in order for Wolverhampton to achieve 'net self-sufficiency'. It is recommended that a similar policy is included in the Wolverhampton Local Plan and in addition, where appropriate, seek to agree a Duty to Cooperate with the other BCAs to account for the fact Wolverhampton is a net importer of waste.

4.2.6. It should be noted however, that policy protection in the Draft BCP for new and existing waste management facilities is provided not only by waste policies W2 and W3 but also through the Draft BCP employment policies Policy EMP1 (Providing for Economic Growth and Jobs) and Policy EMP3 (Local Employment Areas). Notably, 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. It is recommended therefore that the Wolverhampton Local Plan includes similar policies to EMP1 and EMP3.

4.2.7. Policy W4 sets out the locational considerations for new waste facilities. It steers waste management facilities towards the most suitable locations where they are likely to generate maximum benefits in terms of co-location, provide supporting infrastructure for other uses, and minimise potential harmful effects on the environment and local communities. It is recommended a similar policy is included in the Wolverhampton Local Plan.

4.2.8. Policy W5 sets out how managing material resources, including waste, should be dealt with in new development. It is recommended a similar policy is included in the Wolverhampton Local Plan.

Appendix A

GLOSSARY OF TERMS

Public

BIBLIOGRPAHY

As well as setting out the documents referred to in this report, the following sets out a bibliography of the key background documents which have informed the Black Country Waste Study Update 2023. 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 December 2023 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

Document Title	Web Link (where available)
National Planning Policy (NPP) for Waste (October 2014), CLG (N.B. to be reviewed following publication of "Our Waste, Our Resources" in December 2018, but this did not happen in 2019 and it remains to be seen when this will take place - see below)	https://www.gov.uk/government/publications/national-planning-policy-for-waste
National Policy Statements (NPS) for Nationally Significant Infrastructure Projects (NSIPs): • Renewable Energy (EN-3) (July 2011) • Waste Water (March 2012) Hazardous Waste (June 2013)	https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure https://www.gov.uk/government/publications/national-policy-statement-for-waste-water https://www.gov.uk/government/publications/hazardous-waste-national-policy-statement
The Clean Growth Strategy: Leading the Way to a Low Carbon Future (October 2017), HM Government	https://www.gov.uk/government/publications/clean-growth-strategy
Industrial Strategy White Paper - Industrial Strategy: Building a Britain Fit for the Future (November 2017), HM Government	https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future
Parliamentary Environmental Audit Committee: Chinese Waste Import Ban Inquiry (launched January 2018) [25]	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/

[25] 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)

Document Title	Web Link (where available)
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)[26]	http://ec.europa.eu/environment/waste/target_review.htm http://ec.europa.eu/environment/circular-economy/ https://www.letsrecycle.com/news/latest-news/european-parliament-approves-circular-economy-package/
Our Waste, Our Resources: A Strategy for England and Evidence Annex (December 2018), Defra	https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england
National Planning Policy Framework (NPPF) (February 2019), CLG – paragraph 4 and 3. Plan-Making paragraphs 15 – 27 [27]	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

[26] 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.

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

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

Document Title	Web Link (where available)
End of Waste Quality Protocols (Environment Agency) 2010 - 2016: Non-Packaging Plastics Recycled Gypsum from Waste Plasterboard Biodiesel Aggregate from Waste Steel Slag Processed Cullet from Flat Glass Tyre-Derived Rubber Materials Anaerobic Digestate Processed Fuel Oil (PFO) Bio-methane from Waste Aggregates from Inert Waste Poultry Litter Ash (PLA) Compost Pulverised Fuel Ash (PFA) and Furnace Bottom Ash (FBA)	https://www.gov.uk/government/collections/quality-protocols-end-of-waste-frameworks-for-waste-derived-products
Waste and Resources Action Programme (WRAP) online guidance: Food Waste Reduction Recycling and Reprocessing Sustainable Electricals Sustainable Textiles	http://www.wrap.org.uk/food-waste-reduction http://www.wrap.org.uk/collections-and-reprocessing http://www.wrap.org.uk/sustainable-electricals http://www.wrap.org.uk/sustainable-textiles
Construction Industry Research and Information Association (CIRIA) online guidance: Resource Efficiency Knowledgebase (developed by WRAP between 2002 and 2014) Regeneration and Contaminated Land	https://www.ciria.org/Resources/REK/Resource_Efficiency_Knowledgebase_.aspx https://www.ciria.org/CIRIA/Topics/Regeneration_and_contaminated_land/Topic_overviews/Regeneration_and_contaminated_land.aspx?hkey=42ca2967-93bc-468c-8d24-616472007e1f N.B. Need to register on the CIRIA website to access these documents
National Planning Practice Guidance (NPPG) – Waste ('living' guidance) CLG[28]	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

[28] 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)
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
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

Document Title	Web Link (where available)
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) [29]	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
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/

[29] 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)
Congestion, Capacity, Carbon: Priorities for National Infrastructure: Consultation on a National Infrastructure Assessment, Modelling Annex and Modelling Annex Data (October 2017), National Infrastructure Commission [30]	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/

[30] 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) [31]	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) [32]	https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/
The Packaging Recycling Obligations (July 2018), National Audit Office (NAO) [33]	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) [34]	https://www.gov.uk/cma-cases/european-metal-recycling-metal-waste-recycling-merger-inquiry

[31] 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.

[32] 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).

[33] 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.

[34] 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) [35]	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 [36]	https://www.gov.uk/government/publications/waste-management-data-for-england
The Tipping Point (March 2019), D S Smith [37]	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/

[35] 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.
[36] This is the latest summary of waste data for England by the Environment Agency on throughput at regulated sites.
[37] 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)
Royal Institution of Chartered Surveyors (RICS) UK Market Surveys: RICS UK Residential Market Surveys (monthly) RICS UK Commercial Market Surveys (quarterly) RICS UK Construction and Infrastructure Surveys (quarterly) RICS/ RAU UK Rural Land Market Surveys (half-yearly)	https://www.rics.org/uk/news-insight/research/market-surveys/
Development Plans for Waste	
West Midlands Metropolitan Area	
Black Country Core Strategy (2006 - 2026) (adopted February 2011)	http://blackcountrycorestrategy.dudley.gov.uk/
Black Country Core Strategy Review: Issues and Options Consultation Report (July 2017)	http://blackcountrycorestrategy.dudley.gov.uk/
Solihull Local Plan: Shaping a Sustainable Future (adopted December 2013)	http://www.solihull.gov.uk/resident/planning/appealsenforcement/planmaking/ldf/localplan
Solihull Local Plan Review: Draft Local Plan (December 2016) and Draft Local Plan Supplementary Consultation (January 2019) [38]	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

[38] 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)
Warwickshire Waste Core Strategy – Adopted Local Plan 2013 - 2028 (adopted July 2013)	Not currently available online – links on Warwickshire County Council website are all broken. Walsall MBC have a PDF of adopted plan and can provide it on request.
Shropshire Local Development Framework – Adopted Core Strategy (adopted February 2011)	https://shropshire.gov.uk/planning-policy/local-planning/core-strategy/
Shropshire Site Allocations and Management of Development (SAMDev) Plan 2006 – 2026 (adopted October 2015)	https://shropshire.gov.uk/planning-policy/local-planning/samdev-plan-2006-2026/the-plan/
Shropshire Local Plan Partial Review 2016 – 2036 N.B. The review is being carried out in stages – the third stage consultation on Preferred Sites ran until February 2019.	https://shropshire.gov.uk/planning-policy/local-planning/local-plan-partial-review-2016-2036/
Telford & Wrekin Local Plan 2011 – 2031 (adopted January 2018)	http://www.telford.gov.uk/info/20172/planning_policy_and_strategy/1229/telford_and_wrekin_local_plan_2011-2031
Herefordshire Minerals and Waste Local Plan (MWLP) – Draft Plan (January 2019)	https://www.herefordshire.gov.uk/consultations/article/10112/draft_minerals_and_waste_local_plan_consultation_2019
East Midlands	
Derby and Derbyshire Waste Local Plan (adopted March 2005)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/minerals-and-waste-planning-policy.aspx
Derby and Derbyshire Waste Plan (in preparation) (N.B. includes Derby City but does not include Peak District National Park)	https://www.derbyshire.gov.uk/environment/planning/planning-policy/minerals-waste-development-framework/waste-plan/waste-plan.aspx [39]
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/

[39] Link to Derbyshire Partnership Forum website is broken and there is currently nothing about the plan on the Derbyshire Partnership Forum website.

Document Title	Web Link (where available)
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) [40]	https://www.nottinghamcity.gov.uk/planning-and-building-control/planning-policy/the-local-plan-and-planning-policy/
Rutland Local Development Framework – Core Strategy (adopted July 2011)	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan/
Rutland Local Plan Review 2016 – 2036 – Consultation Draft Plan (July 2017), additional consultation published August 2019	https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/planning-policy/local-plan-review/
Black Country Local Plans – SADs and AAPs	
Sandwell Site Allocations and Delivery DPD (adopted December 2012)	http://www.sandwell.gov.uk/info/200275/planning_and_buildings/676/site_allocations_and_delivery_development_plan_document/1
Bilston Corridor Area Action Plan (AAP) including Bilston Neighbourhood Plan (adopted September 2014)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Stafford Road Corridor Area Action Plan (AAP) (adopted September 2014)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Wolverhampton City Centre Action Plan (AAP) (adopted September 2016)	https://www.wolverhampton.gov.uk/planning/planning-policies/area-action-plans-aaps
Dudley Borough Development Strategy (DBDS) DPD (adopted January 2017)	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/
Walsall Site Allocation Document (SAD) 2019 (adopted February 2019)	https://go.walsall.gov.uk/site_allocation_document

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

Document Title	Web Link (where available)
Walsall Town Centre Area Action Plan (AAP) 2019 (adopted February 2019)	https://go.walsall.gov.uk/walsall_town_centre_area_action_plan
Black Country Authorities' Monitoring Reports	
Dudley Authorities' Monitoring Reports (AMRs)	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/annual-monitoring-report
Sandwell Authorities' Monitoring Reports (AMRs)	http://www.sandwell.gov.uk/downloads/download/441/annual_monitoring_reports
Walsall Authorities' Monitoring Reports (AMRs)	https://go.walsall.gov.uk/environment/planning/planning_policy/local_plans/annual_monitoring_report
Wolverhampton Authorities' Monitoring Reports (AMRs)	http://www.wolverhampton.gov.uk/article/2406/Annual-Monitoring-Report
Black Country Plan	
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
The Regional Approach to Landfill Diversion Infrastructure (July 2009), DTZ and SLR for Advantage West Midlands	https://www.sustainabilitywestmidlands.org.uk/resources/west-midlands-waste-landfill-diversion-strategy/
West Midlands Commercial and Industrial Waste - Opportunities for Recycling and Recovery (May 2010), Waste and Resources Action Programme (WRAP)	http://www.wrap.org.uk/content/west-midlands-commercial-and-industrial-waste-%E2%80%93-opportunities-recycling-and-recovery
Black Country Core Strategy Waste Planning Study (May 2009), Atkins	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/f/
Black Country Core Strategy Waste Background Paper 2 and Appendices (February 2010), and Black Country Core Strategy Waste Monitoring Update (June 2010), Black Country Authorities	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/f/

Document Title	Web Link (where available)
West Midlands Renewable Energy Capacity Study (March 2011), SQW, Maslen Environmental and CO2 Sense for Advantage West Midlands	http://www.sqw.co.uk/files/7813/8694/8739/21.pdf N.B. Data Sheets for Black Country Authorities are not currently available online, but can be provided on request
Waste Planning and Management Trends in the West Midlands to 2011/12 (July 2013), West Midlands Resource Technical Advisory Body (RTAB)	https://www.westmidlandsiep.gov.uk/resources
Birmingham Waste Capacity Study 2010 (February 2010), Enviros Consulting Ltd and Birmingham Waste Capacity Study Update 2014 (June 2014), Jacobs	https://www.birmingham.gov.uk/downloads/download/388/waste_capacity_study_2010
Walsall Site Allocation, CIL Deliverability and Viability Study (September 2015), DTZ – Part 2 and Appendices 2a – 2c cover the employment land portfolio, and Part 3 and Appendix 3 consider potential waste sites	https://go.walsall.gov.uk/evidence#DeliveryViability
Waste Planning and Management Trends in the West Midlands to 2013/14 (November 2015), West Midlands Resource Technical Advisory Body (RTAB)	https://www.westmidlandsiep.gov.uk/resources
Environmental Evidence	
Black Country Strategic Flood Risk Assessment (SFRA) (February 2009), Jacobs	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/
Ford Brook Strategic Flood Risk Mapping: Final Report (July 2009), Halcrow Group Limited	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/
Black Country Water Cycle Study and Scoping Surface Water Management Plan (September 2009), Scott Wilson	http://blackcountrycorestrategy.dudley.gov.uk/t4/p1/c/
Black Country Historic Landscape Characterisation (2010), Wolverhampton City Council	http://archaeologydataservice.ac.uk/archives/view/blackcountry_hlc_2009/
Birmingham and Black Country Local Nature Partnership: State of the Environment Dashboard (September 2015)	https://www.bbcwildlife.org.uk/LNP
Urban Capacity Evidence	
Black Country Urban Capacity Review (December 2019), Black Country Authorities	https://blackcountryplan.dudley.gov.uk/t2/p4/t2p4c/
Employment Land / Economic Development Evidence	
Sandwell Employment Sites Identification Study Draft Report (June 2011), GVA	http://www.sandwell.gov.uk/downloads/file/3273/employment_sites_identification_study_-_draft_report

Document Title	Web Link (where available)
Black Country Strategic Economic Plan (SEP) (March 2014), Black Country Local Enterprise Partnership (LEP)	https://www.blackcountrylep.co.uk/about-us/plans-for-growth/strategic-economic-plan/
The Black Country and South Staffordshire Sub-Regional High Quality Employment Land Study: Stage 1 Report (November 2014) and 2014/15 Stage 2 Report (August 2015), Warwick Economics & Development Ltd (WECD)	https://www.sstaffs.gov.uk/planning/the-evidence-base.cfm
Walsall Site Allocation, CIL Deliverability and Viability Study (September 2015), DTZ – Part 2 and Appendices 2a – 2c consider potential employment sites	https://go.walsall.gov.uk/evidence#DeliveryViability
Residential and Employment Sites Viability Assessment for the Dudley Borough Development Strategy (October 2015), Dudley MBC	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/susapp/
Dudley Strategic Employment Land Review 2016, Dudley MBC	http://www.dudley.gov.uk/resident/planning/planning-policy/local-plan/devstrat/susapp/
Walsall Employment Land Review March 2016 (Updated April 2017), Walsall Council	https://go.walsall.gov.uk/evidence#LandForIndustry
West Midland Combined Authority Strategic Economic Plan (SEP): Making our Mark (June 2016), West Midlands Combined Authority	https://www.wmca.org.uk/what-we-do/strategy/
Black Country 2017 Strategic Economic Plan (SEP) (Draft as at March 2017), Black Country Local Enterprise Partnership (LEP)	https://www.blackcountrylep.co.uk/about-us/plans-for-growth/strategic-economic-plan/
Black Country Economic Development Needs Assessment (EDNA): Stage 2 Report (August 2021), Warwick Economics & Development Ltd (WECD)	https://blackcountryplan.dudley.gov.uk/t2/p4/t2p4b/
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

Document Title	Web Link (where available)
Black Country and South Staffordshire Strategic Housing Market Assessment Part 2 – Objectively Assessed Need for Affordable Housing (June 2017), HDH Planning and Development Ltd and Peter Brett Associates	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/?assetdet13950554=314260
Greater Birmingham Housing Market Area (HMA) Strategic Growth Study and Appendices (February 2018), G L Hearn and Wood	http://blackcountrycorestrategy.dudley.gov.uk/t2/p3/?assetdet13950554=314260
Town Centre Evidence	
Black Country Centres Study (November 2009), GCA Grimley	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
Wolverhampton City Centre Retail Update Study, Vols. 1 and 2 (December 2014), Hollis Vincent	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
West Bromwich Town Centre Health Check (June 2015), WYG	http://blackcountrycorestrategy.dudley.gov.uk/t2/p1/
Walsall Town Centre Demand Study & Development Sites Assessment (September 2015), DTZ	https://go.walsall.gov.uk/aap_evidence#Ddv
Walsall Local Centres Study (April 2017), Walsall Council	https://go.walsall.gov.uk/evidence#ShoppingServices
Transport Evidence	
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/
Midlands Connect Strategy: Powering the Midlands Engine (March 2017), Midlands Connect	https://www.midlandsconnect.uk/publications/
Midlands Connect: Freight (Narrative Report) (April 2017), Jacobs and Midlands Connect: Freight (Strategy Overview) (April 2017), Midlands Connect	https://www.midlandsconnect.uk/publications/

Document Title	Web Link (where available)
National Productivity Investment Fund (NPIF) bid: Walsall Economic Growth and Infrastructure Package (June 2017), Walsall Council [41]	https://www.tfwm.org.uk/strategy/freight-highways/ https://www.gov.uk/government/news/government-invests-350-million-improving-local-roads
West Midlands Rail Limited Single Network Vision – Version 1 June 2017, West Midlands Rail	http://www.westmidlandsrail.com/strategy/
Movement for Growth: 2026 Delivery Plan for Transport (September 2017), Transport for West Midlands	https://www.tfwm.org.uk/strategy/movement-for-growth/
West Midlands Transport Plan 2017-18, West Midlands Combined Authority and Transport for West Midlands	https://www.tfwm.org.uk/strategy/movement-for-growth/
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	

[41] 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)
Sustainability Appraisal of the Black Country Core Strategy – Scoping Report (February 2017) and Sustainability Appraisal of the Black Country Core Strategy Review 2016 – 2036: Issues and Options Report – Regulation 18 Report (June 2017), Lepus Consulting	http://blackcountrycorestrategy.dudley.gov.uk/t2/p4/
J15: Habitats Regulations Assessment of the Joint Black Country Core Strategy – Screening Report and Appendices (June 2010), UE Associates	https://blackcountryplan.dudley.gov.uk/t1/p1/
J16: Habitats Regulations Assessment of the Joint Black Country Core Strategy – Appropriate Assessment (June 2010), UE Associates	https://blackcountryplan.dudley.gov.uk/t1/p1/

Appendix B

WASTE DATA SOURCES

Public

Appendix B
Waste Data Sources

Table B.1 Current Waste Arisings

Waste source	Source(s)	Description / Limitations	Confidence
LACW	WasteDataFlow (WDF), 2018/19 WasteDataFlow (WDF), 2019/20 WasteDataFlow (WDF), 2020/21 WasteDataFlow (WDF), 2021/22	2018/19 data set used. 2019/20 data set used. 2020/21 data set used. 2021/22 data set used.	High
Commercial & Industrial waste (C&I)	Waste Data Interrogator (WDI) (excluding specific EWC Chapters), Waste Received 2018 Waste Data Interrogator (WDI) (excluding specific EWC Chapters), Waste Received 2019 Waste Data Interrogator (WDI) (excluding specific EWC Chapters), Waste Received 2020 Waste Data Interrogator (WDI) (excluding specific EWC Chapters), Waste Received 2021	C&I waste was estimated from WDI data on the origins of waste. See methodology below. WDI 'waste received' data only records details of waste received at permitted sites in England.	Medium

C&I methodology

C&I waste was estimated based on the waste received at permitted sites in 2018, 2019, 2020 and 2021 origin in Wolverhampton as well as 'West Midlands WPA Not Codeable' and 'West Midlands Estimated'. This included waste generated under the Basic Waste Categories (BWC): Household/Industrial/Commercial waste (Hhold/ Ind/ Com) and the Inert/ Construction and Demolition Waste (Inert/ C&D) BWC.

From the Hhold/ Ind/ Com BWC the following EWC codes were subtracted:

- Mine and Quarry Wastes (EWC 01)
- Agricultural Wastes (sub chapter of EWC 02)
- C&D wastes (EWC 17)
- Secondary/treatment wastes (EWC 19)
- Municipal Wastes (EWC 20)

The food processing sub-chapters of EWC 02 was included within the Hhold/ Ind/ Com waste estimate as well as including a percentage of the EWC 20 code to account for non-household C&I waste (i.e. wastes similar to household waste which have been generated by businesses); this was to better reflect these waste streams within the total estimate. Non household C&I estimate was a percentage of the respective EWC 20 code, based on reported NHH LACW figures (Wolverhampton 16%).

From the Inert/ C&D BWC the following EWC codes were subtracted:

- Mine and Quarry Wastes (EWC 01)
- Agricultural / Food Wastes (EWC 02)
- C&D Wastes (EWC 17)
- Secondary / Treatment Wastes (EWC 19)
- Municipal Wastes (EWC 20).

C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (535,990 tonnes) was apportioned to Wolverhampton based on NOMIS Business Counts Enterprises by Industry 2018: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2018 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.55%
Apportionment to Wolverhampton (tonnes)	19,028

C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (719,420 tonnes) was apportioned to Wolverhampton based on NOMIS Business Counts Enterprises by Industry 2019: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2019 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.44%
Apportionment to Wolverhampton (tonnes)	24,748

C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (630,637 tonnes) was apportioned to Wolverhampton based on NOMIS Business Counts Enterprises by Industry 2020: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2020 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.36%
Apportionment to Wolverhampton (tonnes)	21,189

C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (734,118 tonnes) was apportioned to Wolverhampton based on NOMIS Business Counts Enterprises by Industry 2021: Total Enterprises in Wolverhampton/ by WPA as % of Total Enterprises in the West Midlands.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2021 (tonnes)	**Wolverhampton**

Waste source	Source(s)	Description / Limitations	Confidence
	Apportionment to Wolverhampton % 3.52% Apportionment to Wolverhampton (tonnes) 25,849		
	Due to the limitations of the data source used, the estimates can only be regarded as an approximate indicator of C&I Waste arising in Wolverhampton. The WDI only records information on 'controlled' waste received at permitted waste sites regulated by the Environment Agency in the specified calendar year.		
Waste disposed of at exempt sites**	EA Waste Exemptions Register	All exemptions excluding ones used in CD&EW and agricultural waste estimate. There is limited data available on the waste exemptions register to estimate 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 this estimate is “very low”.	Very low
Exemptions methodology For all exemptions considered, the limit specified in the exemption description, where available, was used as a guideline to calculate likely waste arisings. It was assumed that waste arisings would be 10% of the maximum capacity allowed under the exemption. This could underestimate waste generated under the exemptions category but in the absence of any other data, and given the number of exemptions in Wolverhampton (~850), it was felt this was the most practicable way to calculate waste arisings.			
Construction, Demolition and Excavation waste (CD&EW)	WDI EWC Chapter 17 (Construction and Demolition Wastes) Waste Received 2018 Waste Received 2019 Waste Received 2020 Waste Received 2021	Waste recorded in the WDI as EWC Chapter 17 was classified as CD&EW.	Medium
	EA Waste Exemptions Register for U1 (Use of waste in construction) and U3 (Construction of entertainment or educational installations)	The waste deposited at exempt sites (for U1 and U3 exemptions) was estimated from the limited data available on the waste exemptions register. 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 this estimate is “very low”.	Very low
CD&EW methodology CD&E waste was estimated based on the waste received at permitted sites in 2018, 2019, 2020 and 2021 whose origin is Wolverhampton as well as 'West Midlands WPA Not Codeable' and 'West Midlands Estimated'). This included waste generated under the Basic Waste Categories (BWC): Household/Industrial/Commercial waste (Hhold/ Ind/ Com) and the Inert/ Construction and Demolition Waste (Inert/ C&D) BWC. From both of these BWC the following EWC codes were included: • Mine and Quarry Waste Only (EWC 01) • CD&EW Only (EWC 17)			

Waste source	Source(s)	Description / Limitations	Confidence

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (2,130,192 tonnes) was apportioned to Wolverhampton based on Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2018 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.67%
Apportionment to Wolverhampton (tonnes)	78,178

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (1,917,236 tonnes) was apportioned to Wolverhampton based on Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2019 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.67%
Apportionment to Wolverhampton (tonnes)	70,363

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (1,659,791 tonnes) was apportioned to Wolverhampton based on Wolverhampton Enterprises / Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2020 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	3.60%
Apportionment to Wolverhampton (tonnes)	59,752

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (1,690,710 tonnes) was apportioned to Wolverhampton based on Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Waste source	Source(s)	Description / Limitations	Confidence
CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2021 (tonnes)	**Wolverhampton**		
Apportionment to Wolverhampton %	3.76%		
Apportionment to Wolverhampton (tonnes)	63,646		
Agricultural waste	WDI EWC Chapter 2 (Agriculture and Food Processing Wastes), Waste Received 2018 Waste Received 2019 Waste Received 2020 Waste Received 2021	Waste recorded in the WDI as EWC Chapter 2 was classified as agricultural and food processing waste.	Medium
	EA Waste Exemptions Register for U10 (Spreading waste to benefit agricultural land), U11 (Spreading waste to benefit non-agricultural land), T24 (Anaerobic digestion at premises used for agriculture and burning resulting biogas) and T25 (Anaerobic digestion at premises not used for agriculture and burning resulting biogas)	The waste deposited at exempt sites (for U1 and U3 exemptions) was estimated from the limited data available on the waste exemptions register. 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 this estimate is “very low”.	Very low

Agricultural methodology

Agricultural waste was estimated based on the waste received at permitted sites in 2018, 2019, 2020 and 2021 whose origin is Wolverhampton as well as 'West Midlands WPA Not Codeable' and 'West Midlands Estimated'). This included waste generated under Household/Industrial/Commercial waste (Hhold/ Ind/ Com) BWC.

Agricultural waste was estimated based on the agricultural sub-category of EWC 02 (Agriculture - horticulture - aquaculture - forestry - hunting and fishing).

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (31,107 tonnes) was apportioned to Wolverhampton based on Agricultural Waste - NOMIS Business Counts 2018 Enterprises by Industry and Employment Size Band – Enterprises falling within SIC Codes 1 – 3 (Agriculture and Related Industries) in Wolverhampton as % of Enterprises falling within SIC Codes 1 – 3 in the West Midlands region, as below.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2018 (tonnes)	Wolverhampton

Waste source	Source(s)	Description / Limitations	Confidence

Apportionment to Wolverhampton %	0.08%
Apportionment to Wolverhampton (tonnes)	25

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (926 tonnes) was apportioned to Wolverhampton based on Agricultural Waste - NOMIS Business Counts 2019 Enterprises by Industry and Employment Size Band – Enterprises falling within SIC Codes 1 – 3 (Agriculture and Related Industries) in Wolverhampton as % of Enterprises falling within SIC Codes 1 – 3 in the West Midlands region, as below.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2019 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	0.08%
Apportionment to Wolverhampton (tonnes)	1

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (4,292 tonnes) was apportioned to Wolverhampton based on Agricultural Waste - NOMIS Business Counts 2020 Enterprises by Industry and Employment Size Band – Enterprises falling within SIC Codes 1 – 3 (Agriculture and Related Industries) in Wolverhampton as % of Enterprises falling within SIC Codes 1 – 3 in the West Midlands region, as below.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2020 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	0.08%
Apportionment to Wolverhampton (tonnes)	3

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (5,012 tonnes) was apportioned to Wolverhampton based on Agricultural Waste - NOMIS Business Counts 2021 Enterprises by Industry and Employment Size Band – Enterprises falling within SIC Codes 1 – 3 (Agriculture and Related Industries) in Wolverhampton as % of Enterprises falling within SIC Codes 1 – 3 in the West Midlands region, as below.

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2021 (tonnes)	**Wolverhampton**
Apportionment to Wolverhampton %	0.09%
Apportionment to Wolverhampton (tonnes)	4

Hazardous waste	Hazardous Waste Data Interrogator, Waste Received 2018 Waste Received 2019	Hazardous waste arisings were taken from the Hazardous Waste Data Interrogator.	High

Waste source	Source(s)	Description / Limitations	Confidence
	Waste Received 2020 Waste Received 2021		
Retailer take-back and Producer Compliance Scheme collections	EA National Packaging Waste Database: Public Batteries Report for the 2019 Compliance Period > table 3b Waste Portable Batteries collected by each Battery Compliance Scheme in 2019 Public Batteries Report for the 2020 Compliance Period > table 3b Waste Portable Batteries collected by each Battery Compliance Scheme in 2020 EA 'WEEE collected in the UK' Summary Report 2019_Quarter_1_-_4 tab 2020_Quarter_1_-_4 tab 2021_Quarter_1_-_4 tab	Total apportioned by Wolverhampton percentage of population (0.39% of UK population[1]). For WEEE and batteries retailer take-back and PCS collections will be calculated as difference between compliance data and quantity reported for household collections (WDF apportioned for Wolverhampton).	Medium
Low level radioactive waste (LLRW)	EA Radioactive Substances Register, UK radioactive waste inventory	The EA's Radioactive Substances Register provides data on producers of LLRW (see table below).	No estimate

Table B.2 Current Waste Management

	Source(s)	Confidence
LACW	Defra Local Authority Collected Waste Statistics, 2018/19 Defra Local Authority Collected Waste Statistics, 2019/20 Defra Local Authority Collected Waste Statistics, 2020/21 Defra Local Authority Collected Waste Statistics, 2021/22	High
C&I	Waste Data Interrogator (WDI) Waste Received 2018 Waste Data Interrogator (WDI) Waste Received 2019 Waste Data Interrogator (WDI) Waste Received 2020 Waste Data Interrogator (WDI) Waste Received 2021	Medium
CD&EW	WDI 2018 (EWC Chapter 17), Waste Received 2018 WDI 2019 (EWC Chapter 17), Waste Received 2019 WDI 2020 (EWC Chapter 17), Waste Received 2020 WDI 2020 (EWC Chapter 17), Waste Received 2021	Medium
Hazardous	Hazardous Waste Data Interrogator 2018 Hazardous Waste Data Interrogator 2019	High

[1] ONS 2021 MYE Wolverhampton Population – 264,036/ UK population – 67,026,292= 0.39%

	Source(s)	Confidence
	Hazardous Waste Data Interrogator 2020 Hazardous Waste Data Interrogator 2021	
Agricultural waste	WDI 2018 (EWC Chapter 2 sub-category), Waste Received 2018 WDI 2019 (EWC Chapter 2 sub-category), Waste Received 2019 WDI 2020 (EWC Chapter 2 sub-category), Waste Received 2020 WDI 2020 (EWC Chapter 2 sub-category), Waste Received 2021	Medium
Managed at exempt sites	EA Waste Exemptions Register	Very low

The management method of current waste arisings, apart from hazardous waste, aligned to the following four categories, ‘Re-use, recycling and composting’, ‘Recovery’, ‘Transfer’ and ‘Disposal’.

To categorise the range of facilities (permitted sites) that received waste from Wolverhampton in 2018, 2019, 2020 and 2021 the facilities were assigned a suitable category as shown in table B3. This approach was also used when looking at waste management of waste exported outside Wolverhampton.

Table B.3 Facility Type Categorisation

Facility Type	Waste Management Category
Anaerobic Digestion	Reuse, recycling and composting
Animal and Food Waste	Reuse, recycling and composting
Animal by-products incinerator	Recovery
Biological Treatment	Reuse, recycling and composting
Biomass	Recovery
CA Site	Transfer
Car Breaker	Reuse, recycling and composting
Chemical Treatment	Recovery
Clinical Waste Incinerator	Recovery
Clinical Waste Transfer	Transfer
Clinical Waste Transfer / Treatment	Transfer
Co-Incinerator	Recovery
Co-Incinerator (Haz)	Recovery
Combustion	Recovery
Composting	Reuse, recycling and composting
Construction	Recovery
Deposit of waste to land (recovery)	Recovery
EFW Incinerator	Recovery
Ferrous Metal re-processing	Recovery
Haz Waste Transfer	Transfer
Haz Waste Transfer / Treatment	Transfer
Hazardous Merchant LF	Disposal
Hazardous Restricted LF	Disposal
Hazardous Waste Incinerator	Recovery
Inert LF	Disposal

Facility Type	Waste Management Category
Inert Waste Transfer	Transfer
Inert Waste Transfer / Treatment	Transfer
In-House storage	Transfer
Material Recycling Facility	Reuse, recycling and composting
Metal Recycling	Reuse, recycling and composting
Municipal Waste Incinerator	Recovery
Non Haz (SNRHW) LF	Disposal
Non Haz Waste Transfer / Treatment	Recovery
Non Hazardous LF	Disposal
Non-Ferrous Metal reprocessing	Reuse, recycling and composting
Non-Haz Waste Transfer	Recovery
Non-Haz Waste Transfer / Treatment	Recovery
Organic Chemicals	Recovery
Paper and Pulp Reprocessing	Reuse, recycling and composting
Paper Recycling	Reuse, recycling and composting
Physical Treatment	Recovery
Physical-Chemical Treatment	Recovery
Recovery of Waste	Recovery
Restricted LF	Disposal
Storage - Metal Reprocessing	Transfer
Temporary storage installation	Transfer
Vehicle Depollution Facility	Reuse, recycling and composting
WEEE treatment facility	Reuse, recycling and composting

Table B.4 Existing Waste Management Capacity

Facility type	Source(s)	Limitations	Confidence
Landfill	EA data 'Remaining landfill capacity: England as at end 2021'	Capacity data is provided in cubic metres. Conversion factors used to convert volume into weight estimates.	Medium
Incineration (with and without energy recovery)	EA data and internal EfW database WDI 2019 WDI 2020 WDI 2021 From 2019 onwards the WDI includes incineration data and they are no longer reported separately.	EA data includes operational/under construction R1 facilities. An internal WSP database compiles information on planned and consented facilities. Capacity estimate reported by operators are generally the deigned capacity, but we have used 2018 reported throughput, i.e. operational capacity as opposed to permitted capacity.	Medium
Other Site Categories: MRS, Transfer, Treatment	WDI 2018 WDI 2019 WDI 2020 WDI 2021	WDI inputs, i.e. operational throughput, at specified facilities within Wolverhampton.	Medium

Notes

1. This is the underlying data used in Table 2.14 as the 'baseline' estimate of waste management capacity in Wolverhampton in 2021, and that 'waste received' at landfill sites and on/ in land sites has been omitted as these are temporary uses and landfill capacity is measured differently, i.e. cubic metres of void space rather than annual throughput in tonnes per annum.

Table B.5 Specialist Waste Management Capacity

Facility type	Source(s)	Limitations	Confidence
Agricultural waste	EA waste exemptions register, WRAP and ABDA AD databases	Agricultural waste capacity was estimated from information on the waste exemptions register (for T24, T25, U10 and U11 exemptions). There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Hazardous waste	2018 Hazardous Waste Data Interrogator 2019 Hazardous Waste Data Interrogator 2020 Hazardous Waste Data Interrogator 2021 Hazardous Waste Data Interrogator	Throughput capacity. The Hazardous WDI provides information on the fate of hazardous waste managed at permitted facilities in Wolverhampton.	Medium
Low level radioactive waste (LLRW)	Environment Agency	No publicly available information on facility capacities to treat LLRW	No estimate

Facility type	Source(s)	Limitations	Confidence
Construction waste exemptions	EA waste exemptions register	There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Disposal (D) exemptions	EA waste exemptions register	There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Storage (S) exemptions	EA waste exemptions register	There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Treatment (T) exemptions	EA waste exemptions register	There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Use (U) exemptions	EA waste exemptions register	There is limited data available on the waste exemptions register to estimate site capacity.	Very low
Wastewater treatment	Environment Agency 'Consented Discharges to Controlled Waters with Conditions' database (01/04/2022)' and the Black Country Water Cycle Study (May 2020), JBA Consulting	To obtain this information from the source data, it is necessary to cross-reference the DWF data in the 'Determinands' spreadsheet with the permit references in the 'Consents Active' spreadsheet	High
Wastewater sludge treatment	Anaerobic Digestion and Bioresources Association (ADBA) AD interactive map and database	The ADBA AD database was used to identify facilities managing sewage sludge in Wolverhampton. Member login used to access capacity data.	High
ELV recycling and depollution	2019 WDI 2020 WDI 2021 WDI	WDI inputs, i.e. operational throughput, at specified facilities within Wolverhampton. Double counting as already accounted for within 'MRS' of existing capacity table	Medium
WEEE treatment	2019 WDI 2020 WDI 2021 WDI	WDI inputs, i.e. operational throughput, at specified facilities within Wolverhampton. Double counting as already accounted for within 'Treatment' of existing capacity table.	Medium

Table B.6 Waste Infrastructure Projects relevant to the study area by Authority and by Type

Authority	Source(s)
Dudley	Dudley Council
Walsall	Walsall Council
Sandwell	Sandwell Council
Lincolnshire	BAEF: Royal Haskoning DHV, 2018, Boston Alternative Energy Facility BAEF – EIA Scoping Report Waste to jet fuel: North East Lincolnshire Council, 2018, Immingham site targeted for the UK's first commercial scale waste-to-jet-fuel plant
Shropshire	Shropshire Council, Authority's Monitoring Report 2019/20
Solihull	Naisbitt Resource Management, 2018, Solihull Metropolitan Borough Council, Waste Needs Assessment for Solihull
Staffordshire	Staffordshire County Council, Annual Monitoring Report 2019/2020
Warwickshire	Warwickshire County Council, Minerals and Waste Planning Applications Search (May 2022)
Worcestershire	Worcestershire County Council, Planning Application Search (May 2022)

Appendix C

C&I AND CD&E WASTE DATA

Public

Appendix C
C&I and CD&EW Data

The following tables shows the breakdown of data obtained from the WDI and how the total C&I arisings and CD&EW arisings for 2015-2021 were calculated. It should be read in conjunction with the methodology in appendix B. All figures have been rounded to the nearest tonne. Due to the limitations of the data source used, the estimates can only be regarded as an approximate indicator of C&I Waste arising and CD&EW arising in Wolverhampton. The WDI only records information on 'controlled' waste received at permitted waste sites regulated by the Environment Agency in the specified calendar year.

The Environment Agency 'Basic Waste Categories' are as follows: Hhold/ Ind/ Com = Household, Industrial and Commercial Waste, Inert/ C&D = Inert/ Construction and Demolition Waste. Hazardous Waste has been excluded from the estimate to avoid double-counting as this is regarded as a separate waste stream and actual data on Hazardous Waste Arisings is reported separately.

2021 C&I Waste Arisings

Table C.1 Waste Received at Permitted Waste Sites in England in 2021 – Origin Codeable to Wolverhampton: C&I Waste (tonnes)

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**234,148**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural Wastes (sub chapter of EWC 02)	-127
Minus C&D Wastes (EWC 17)	0
Minus Secondary / Treatment Wastes (EWC 19)	-78,923
Minus Municipal Wastes (EWC 20)	-141,752
Non-household C&I waste (% varies for each WPA)	21,797
Hhold/ Ind/ Com - Sub Total	**35,143**
Inert/ C&D - All	**430,123**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural / Food Wastes (EWC 02)	0

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Minus C&D Wastes (EWC 17)	-374,326
Minus Secondary / Treatment Wastes (EWC 19)	-27,198
Minus Municipal Wastes (EWC 20)	-28,598
Inert/ C&D - Sub Total	**1**
Grand Total	**35,143**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table C.2 Waste Received at Permitted Waste Sites in England in 2021 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': C&I Waste

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Hhold/ Ind/ Com Waste - All	**3,152,258**
Minus Mine and Quarry Wastes (EWC 01)	-258
Minus Agricultural Wastes (sub chapter of EWC 02)	-5,012
Minus CD&EW (EWC 17)	0
Minus Secondary Wastes (EWC 19)	-1,191,564
Minus Household Wastes (EWC20)	-1,389,414
Non-household C&I waste	150,449
Hhold/ Ind/ Com Waste - Sub Total	**716,459**
Inert/ C&D - All	**1,810,723**
Minus Mine and Quarry Wastes (EWC 01)	-117
Minus Agricultural Wastes (EWC 02)	0
Minus CD&EW (EWC 17)	-1,690,335
Minus Secondary Wastes (EWC 19)	-18,695
Minus Household Wastes (EWC20)	-83,916
Inert/ C&D - Sub Total	**17,660**

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Grand Total	**734,118**

Source: Environment Agency Waste Data Interrogator (WDI) 2021
Figures include Origin 'West Midlands Estimated' records from the 2021 WDI

Table C.3 Estimated C&I Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2021 - Apportionment to Wolverhampton

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2021 (tonnes)	Wolverhampton
734,118	
Apportionment to Wolverhampton %	3.52%
Apportionment to Wolverhampton (tonnes)	25,849

Source: Environment Agency Waste Data Interrogator (WDI) 2021, NOMIS Business Counts 2021, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, minus Agricultural (subchapter of EWC 02), C&D Waste (EWC 17), Secondary/ Treatment Wastes (EWC 19) and Municipal Wastes (EWC 20).

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2021: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

Table C.4 Summary - Estimated C&I Waste Arising in Wolverhampton in 2021 (tonnes)

C&I Waste Arisings - Source of Evidence	Estimated C&I Waste Arisings in 2021 (tonnes)
	Wolverhampton
C&I Waste Origin Codeable to Wolverhampton	35,143
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	25,849
Total	**60,993**

Environment Agency Waste Data Interrogator (WDI) 2021, NOMIS Business Counts 2021, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting such as C&I Waste managed in-house by businesses or waste re-used or recycled by businesses as part of an industrial process.

2021 CD&EW Waste Arisings

Table C.5 Waste Received at Permitted Waste Sites in England in 2021 – Origin Codeable to Wolverhampton: CD&EW (tonnes)

Basic Waste Category	Origin WPA - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**234,148**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com (EWC 01 and 17) - Sub Total	**0**
Inert/ C&D - All	**430,123**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	374,326
Inert/ C&D (EWC 01 and 17) - Sub Total	**374,326**
Grand Total	**374,326**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table C.6 Waste Received at Permitted Waste Sites in England in 2021 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': CD&EW

Basic Waste Category	Origin West Midlands WPA Not Codeable
Hhold/ Ind/ Com Waste - All	**3,152,258**
Mine and Quarry Waste Only (EWC 01)	258
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com Waste (EWC 01, 17) - Sub Total	**258**
Inert/ C&D - All	**1,810,723**
Mine and Quarry Waste Only (EWC 01)	117
CD&EW Only (EWC 17)	1,690,335
Inert/ C&D (EWC 01, 17) - Sub Total	**1,690,452**
Grand Total	**1,690,710**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table C.7 Estimated CD&EW Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2021 - Apportionment to Wolverhampton

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2021 (tonnes)	Wolverhampton
1,690,710	
Apportionment to Wolverhampton %	3.76%
Apportionment to Wolverhampton (tonnes)	63,646

Environment Agency Waste Data Interrogator (WDI) 2021, NOMIS Business Counts 2021, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, Mine and Quarry Waste (EWC 01) and CD&EW (EWC 17) Only.

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2021: Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Table C.8 Summary - Estimated CD&EW Arising in Wolverhampton in 2021 (tonnes)

CD&EW Waste Arisings - Source of Evidence	Estimated CD&EW Waste Arisings in 2021 (tonnes) Wolverhampton
CD&EW Origin Codeable to Wolverhampton	374,326
CD&EW Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	63,646
Total	**437,972**

Source: Environment Agency Waste Data Interrogator (WDI) 2021, NOMIS Business Counts 2021, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting, such as CD&EW managed on-site as part of land remediation, engineering or construction projects.

2020 C&I Waste Arisings

Table C.9 Waste Received at Permitted Waste Sites in England in 2020 – Origin Codeable to Wolverhampton: C&I Waste (tonnes)

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**278,541**
Minus Mine and Quarry Wastes (EWC 01)	-3
Minus Agricultural Wastes (sub chapter of EWC 02)	-577
Minus C&D Wastes (EWC 17)	0
Minus Secondary / Treatment Wastes (EWC 19)	-109,254
Minus Municipal Wastes (EWC 20)	-138,918
Non-household C&I waste (% varies for each WPA)	18,648
Hhold/ Ind/ Com - Sub Total	**48,437**
Inert/ C&D - All	**282,246**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural / Food Wastes (EWC 02)	0
Minus C&D Wastes (EWC 17)	-261,840
Minus Secondary / Treatment Wastes (EWC 19)	-20,081
Minus Municipal Wastes (EWC 20)	-267
Inert/ C&D - Sub Total	**59**
Grand Total	**48,496**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table C.10 Waste Received at Permitted Waste Sites in England in 2020 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': C&I Waste

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Hhold/ Ind/ Com Waste - All	**2,819,939**
Minus Mine and Quarry Wastes (EWC 01)	-270

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Minus Agricultural Wastes (sub chapter of EWC 02)	-4,292
Minus CD&EW (EWC 17)	0
Minus Secondary Wastes (EWC 19)	-1,022,857
Minus Household Wastes (EWC20)	-1,299,633
Non-household C&I waste	127,836
Hhold/ Ind/ Com Waste - Sub Total	**620,722**
Inert/ C&D - All	**1,756,881**
Minus Mine and Quarry Wastes (EWC 01)	-599
Minus Agricultural Wastes (EWC 02)	0
Minus CD&EW (EWC 17)	-1,658,921
Minus Secondary Wastes (EWC 19)	-14,534
Minus Household Wastes (EWC20)	-72,911
Inert/ C&D - Sub Total	**9,915**
Grand Total	**630,637**

Source: Environment Agency Waste Data Interrogator (WDI) 2020
Figures include Origin 'West Midlands Estimated' records from the 2020 WDI

Table C.11 Estimated C&I Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2020 - Apportionment to Wolverhampton

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2020 (tonnes)	Wolverhampton
630,637	
Apportionment to Wolverhampton %	3.36%
Apportionment to Wolverhampton (tonnes)	21,189

Source: Environment Agency Waste Data Interrogator (WDI) 2020, NOMIS Business Counts 2020, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, minus Agricultural (subchapter of EWC 02), C&D Waste (EWC 17), Secondary/ Treatment Wastes (EWC 19) and Municipal Wastes (EWC 20).

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2020: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

Table C.12 Summary - Estimated C&I Waste Arising in Wolverhampton in 2020 (tonnes)

C&I Waste Arisings - Source of Evidence	Estimated C&I Waste Arisings in 2020 by WPA (tonnes)
	Wolverhampton
C&I Waste Origin Codeable to Wolverhampton Authorities	48,496
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	21,189
Total	**69,685**

Environment Agency Waste Data Interrogator (WDI) 2020, NOMIS Business Counts 2020, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting such as C&I Waste managed in-house by businesses or waste re-used or recycled by businesses as part of an industrial process.

2020 CD&EW Waste Arisings

Table C.13 Waste Received at Permitted Waste Sites in England in 2020 – Origin Codeable to Wolverhampton: CD&EW (tonnes)

Basic Waste Category	Origin WPA - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**278,541**
Mine and Quarry Waste Only (EWC 01)	3
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com (EWC 01 and 17) - Sub Total	**3**
Inert/ C&D - All	**282,246**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	261,840
Inert/ C&D (EWC 01 and 17) - Sub Total	**261,840**
Grand Total	**261,843**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table C.14 Waste Received at Permitted Waste Sites in England in 2020 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': CD&EW

Basic Waste Category	Origin West Midlands WPA Not Codeable
Hhold/ Ind/ Com Waste - All	**2,819,939**
Mine and Quarry Waste Only (EWC 01)	270
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com Waste (EWC 01, 17) - Sub Total	**270**
Inert/ C&D - All	**1,756,881**
Mine and Quarry Waste Only (EWC 01)	599
CD&EW Only (EWC 17)	1,658,921
Inert/ C&D (EWC 01, 17) - Sub Total	**1,659,521**
Grand Total	**1,659,791**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table C.15 Estimated CD&EW Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2020 - Apportionment to Wolverhampton

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2020 (tonnes)	Wolverhampton
Hhold/ Ind/ Com Waste - All	**2,819,939**
Mine and Quarry Waste Only (EWC 01)	270
CD&EW Only (EWC 17)	0

Environment Agency Waste Data Interrogator (WDI) 2020, NOMIS Business Counts 2020, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, Mine and Quarry Waste (EWC 01) and CD&EW (EWC 17) Only.

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2020: Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Table C.16 Summary - Estimated CD&EW Arising in Wolverhampton in 2020 (tonnes)

CD&EW Waste Arisings - Source of Evidence	Estimated CD&EW Waste Arisings in 2020 (tonnes) Wolverhampton
CD&EW Origin Codeable to Wolverhampton	261,843
CD&EW Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	59,752
Total	**321,596**

Source: Environment Agency Waste Data Interrogator (WDI) 2020, NOMIS Business Counts 2020, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting, such as CD&EW managed on-site as part of land remediation, engineering or construction projects.

2019 C&I Waste Arisings

Table C.17 Waste Received at Permitted Waste Sites in England in 2019 – Origin Codeable to Wolverhampton: C&I Waste (tonnes)

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**255,927**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural Wastes (sub chapter of EWC 02)	-263
Minus C&D Wastes (EWC 17)	0
Minus Secondary / Treatment Wastes (EWC 19)	-81,460
Minus Municipal Wastes (EWC 20)	-145,233
Non-household C&I waste (% varies for each WPA)	23,668
Hhold/ Ind/ Com - Sub Total	**52,638**
Inert/ C&D - All	**239,751**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural / Food Wastes (EWC 02)	0
Minus C&D Wastes (EWC 17)	-239,597
Minus Secondary / Treatment Wastes (EWC 19)	0

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Minus Municipal Wastes (EWC 20)	-150
Inert/ C&D - Sub Total	**3**
Grand Total	**52,641**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Table C.18 Waste Received at Permitted Waste Sites in England in 2019 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': C&I Waste

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Hhold/ Ind/ Com Waste - All	**3,322,305**
Minus Mine and Quarry Wastes (EWC 01)	-596
Minus Agricultural Wastes (sub chapter of EWC 02)	-926
Minus CD&EW (EWC 17)	0
Minus Secondary Wastes (EWC 19)	-1,225,572
Minus Household Wastes (EWC20)	-1,567,792
Non-household C&I waste	177,010
Hhold/ Ind/ Com Waste - Sub Total	**704,430**
Inert/ C&D - All	**2,050,454**
Minus Mine and Quarry Wastes (EWC 01)	-257
Minus Agricultural Wastes (EWC 02)	0
Minus CD&EW (EWC 17)	-1,916,382
Minus Secondary Wastes (EWC 19)	-8,598
Minus Household Wastes (EWC20)	-110,226
Inert/ C&D - Sub Total	**14,990**
Grand Total	**719,420**

Source: Environment Agency Waste Data Interrogator (WDI) 2019
Figures include Origin 'West Midlands Estimated' records from the 2019 WDI

Table C.19 Estimated C&I Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2019 - Apportionment to Wolverhampton

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2019 (tonnes)	Wolverhampton
719,420	
Apportionment to Wolverhampton %	3.44%
Apportionment to Wolverhampton (tonnes)	24,748

Source: Environment Agency Waste Data Interrogator (WDI) 2019, NOMIS Business Counts 2019, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, minus Agricultural (subchapter of EWC 02), C&D Waste (EWC 17), Secondary/ Treatment Wastes (EWC 19) and Municipal Wastes (EWC 20).

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2019: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

Table C.20 Summary - Estimated C&I Waste Arising in Wolverhampton in 2019 (tonnes)

C&I Waste Arisings - Source of Evidence	Estimated C&I Waste Arisings in 2019 (tonnes)
	Wolverhampton
C&I Waste Origin Codeable to Wolverhampton	52,641
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	24,748
Total	**77,389**

Environment Agency Waste Data Interrogator (WDI) 2019, NOMIS Business Counts 2019, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting such as C&I Waste managed in-house by businesses or waste re-used or recycled by businesses as part of an industrial process.

2019 CD&EW Waste Arisings

Table C.21 Waste Received at Permitted Waste Sites in England in 2019 – Origin Codeable to Wolverhampton: CD&EW (tonnes)

Basic Waste Category	Origin WPA - Tonnes
	Wolverhampton
Hhold/ Ind/ Com Waste - All	**255,927**
Mine and Quarry Waste Only (EWC 01)	0

Basic Waste Category	Origin WPA - Tonnes Wolverhampton
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com (EWC 01 and 17) - Sub Total	**0**
Inert/ C&D - All	**239,751**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	239,597
Inert/ C&D (EWC 01 and 17) - Sub Total	**239,597**
Grand Total	**239,598**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Table C.22 Waste Received at Permitted Waste Sites in England in 2019 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': CD&EW

Basic Waste Category	Origin West Midlands WPA Not Codeable
Hhold/ Ind/ Com Waste - All	**3,322,305**
Mine and Quarry Waste Only (EWC 01)	596
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com Waste (EWC 01, 17) - Sub Total	**596**
Inert/ C&D - All	**2,050,454**
Mine and Quarry Waste Only (EWC 01)	257
CD&EW Only (EWC 17)	1,916,382
Inert/ C&D (EWC 01, 17) - Sub Total	**1,916,640**
Grand Total	**1,917,236**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Table C.23 Estimated CD&EW Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2019 - Apportionment to Wolverhampton

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2019 (tonnes)	Wolverhampton
1,917,236	

Apportionment to Wolverhampton %	3.67%
Apportionment to Wolverhampton (tonnes)	**70,363**

Environment Agency Waste Data Interrogator (WDI) 2019, NOMIS Business Counts 2019, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, Mine and Quarry Waste (EWC 01) and CD&EW (EWC 17) Only.

Apportionment is based on NOMIS Business Counts Enterprises by Industry 2019: Wolverhampton Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Table C.24 Summary - Estimated CD&EW Arising in Wolverhampton in 2019 (tonnes)

CD&EW Waste Arisings - Source of Evidence	Estimated CD&EW Waste Arisings in 2019 (tonnes) Wolverhampton
CD&EW Origin Codeable to Wolverhampton	239,598
CD&EW Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	70,363
Total	**309,960**

Source: Environment Agency Waste Data Interrogator (WDI) 2019, NOMIS Business Counts 2019, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting, such as CD&EW managed on-site as part of land remediation, engineering or construction projects.

2018 C&I Waste Arisings

Table C.25 Waste Received at Permitted Waste Sites in England in 2018 – Origin Codeable to Wolverhampton: C&I Waste (tonnes)

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**175,563**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural Wastes (sub chapter of EWC 02)	-80
Minus C&D Wastes (EWC 17)	0
Minus Secondary / Treatment Wastes (EWC 19)	-82,552
Minus Municipal Wastes (EWC 20)	-76,895
Non-household C&I waste (% varies for each WPA)	12,227
Hhold/ Ind/ Com - Sub Total	28,264
Inert/ C&D - All	**237,830**
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural / Food Wastes (EWC 02)	0
Minus C&D Wastes (EWC 17)	-226,918
Minus Secondary / Treatment Wastes (EWC 19)	-59
Minus Municipal Wastes (EWC 20)	-10,852
Inert/ C&D - Sub Total	0
Grand Total	**28,264**

Source: Environment Agency Waste Data Interrogator (WDI) 2018

Table C.26 Waste Received at Permitted Waste Sites in England in 2018 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': C&I Waste

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Hhold/ Ind/ Com Waste - All	**3,186,360**
Minus Mine and Quarry Wastes (EWC 01)	-562

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Minus Agricultural Wastes (sub chapter of EWC 02)	-31,107
Minus CD&EW (EWC 17)	0
Minus Secondary Wastes (EWC 19)	-1,501,786
Minus Household Wastes (EWC20)	-1,275,403
Non-household C&I waste	141,198
Hhold/ Ind/ Com Waste - Sub Total	**518,700**
Inert/ C&D - All	**2,260,973**
Minus Mine and Quarry Wastes (EWC 01)	-58
Minus Agricultural Wastes (EWC 02)	0
Minus CD&EW (EWC 17)	-2,129,572
Minus Secondary Wastes (EWC 19)	-8,607
Minus Household Wastes (EWC20)	-105,446
Inert/ C&D - Sub Total	17,290
Grand Total	**535,990**

Source: Environment Agency Waste Data Interrogator (WDI) 2018
Figures include Origin 'West Midlands Estimated' records from the 2018 WDI

Table C.27 Estimated C&I Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2018 - Apportionment to Wolverhampton

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2018 (tonnes)	Wolverhampton
535,990	
Apportionment to Wolverhampton %	3.55%
Apportionment to Wolverhampton (tonnes)	19,028

Source: Environment Agency Waste Data Interrogator (WDI) 2018, NOMIS Business Counts 2018, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, minus Agricultural (subchapter of EWC 02), C&D Waste (EWC 17), Secondary/ Treatment Wastes (EWC 19) and Municipal Wastes (EWC 20).

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2018: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

Table C.28 Summary - Estimated C&I Waste Arising in Wolverhampton in 2018 (tonnes)

C&I Waste Arisings - Source of Evidence	Estimated C&I Waste Arisings in 2018 (tonnes) Wolverhampton
C&I Waste Origin Codeable to Wolverhampton	28,264
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	19,028
Total	**47,291**

Environment Agency Waste Data Interrogator (WDI) 2018, NOMIS Business Counts 2018, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting such as C&I Waste managed in-house by businesses or waste re-used or recycled by businesses as part of an industrial process.

2018 CD&EW Waste Arisings

Table C.29 Waste Received at Permitted Waste Sites in England in 2018 – Origin Codeable to Wolverhampton: CD&EW (tonnes)

Basic Waste Category	Origin WPA - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	**175,563**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com (EWC 01 and 17) - Sub Total	**0**
Inert/ C&D - All	**237,830**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	226,918
Inert/ C&D (EWC 01 and 17) - Sub Total	**226,918**
Grand Total	**226,918**

Source: Environment Agency Waste Data Interrogator (WDI) 2018

Table C.30 Waste Received at Permitted Waste Sites in England in 2018 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': CD&EW

Basic Waste Category	Origin West Midlands WPA Not Codeable
Hhold/ Ind/ Com Waste - All	3,186,360
Mine and Quarry Waste Only (EWC 01)	562
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com Waste (EWC 01, 17) - Sub Total	**562**
Inert/ C&D - All	**2,260,973**
Mine and Quarry Waste Only (EWC 01)	58
CD&EW Only (EWC 17)	2,129,572
Inert/ C&D (EWC 01, 17) - Sub Total	**2,129,630**
Grand Total	**2,130,192**

Source: Environment Agency Waste Data Interrogator (WDI) 2018

Table C.31 Estimated CD&EW Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2018 - Apportionment to Wolverhampton

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2018 (tonnes)	Wolverhampton
2,130,192	
Apportionment to Wolverhampton %	3.67%
Apportionment to Wolverhampton (tonnes)	78,178

Environment Agency Waste Data Interrogator (WDI) 2018, NOMIS Business Counts 2018, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, Mine and Quarry Waste (EWC 01) and CD&EW (EWC 17) Only.

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2018: Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Table C.32 Summary - Estimated CD&EW Arising in Wolverhampton in 2018 (tonnes)

CD&EW Waste Arisings - Source of Evidence	Estimated CD&EW Waste Arisings in 2018 (tonnes) Wolverhampton
CD&EW Origin Codeable to Wolverhampton	226,918
CD&EW Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	78,178
Total	**305,096**

Source: Environment Agency Waste Data Interrogator (WDI) 2018, NOMIS Business Counts 2018, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting, such as CD&EW managed on-site as part of land remediation, engineering or construction projects.

2017 C&I Waste Arisings

Table C.33 Waste Received at Permitted Waste Sites in England in 2017 – Origin Codeable to Wolverhampton: C&I Waste (tonnes)

Basic Waste Category	Estimated C&I Waste - Tonnes Wolverhampton
Hhold/ Ind/ Com Waste - All	202,256
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural Wastes (sub chapter of EWC 02)	-457
Minus C&D Wastes (EWC 17)	0
Minus Secondary / Treatment Wastes (EWC 19)	-97,928
Minus Municipal Wastes (EWC 20)	-90,962
Non-household C&I waste (% varies for each WPA)	13,644
Hhold/ Ind/ Com - Sub Total	26,553
Inert/ C&D - All	266,047
Minus Mine and Quarry Wastes (EWC 01)	0
Minus Agricultural / Food Wastes (EWC 02)	0
Minus C&D Wastes (EWC 17)	-255,694
Minus Secondary / Treatment Wastes (EWC 19)	-1,527
Minus Municipal Wastes (EWC 20)	-8,824
Inert/ C&D - Sub Total	2
Grand Total	**26,556**

Source: Environment Agency Waste Data Interrogator (WDI) 2017

Table C.34 Waste Received at Permitted Waste Sites in England in 2017 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': C&I Waste

Basic Waste Category	C&I Waste Origin West Midlands Not Codeable/ Estimated - Tonnes
Hhold/ Ind/ Com Waste - All	**3,577,864**
Minus Mine and Quarry Wastes (EWC 01)	-51
Minus Agricultural Wastes (sub chapter of EWC 02)	-17,224
Minus CD&EW (EWC 17)	0
Minus Secondary Wastes (EWC 19)	-1,568,194
Minus Household Wastes (EWC20)	-1,504,920
Non-household C&I waste	165,541
Hhold/ Ind/ Com Waste - Sub Total	**653,016**
Inert/ C&D - All	**2,226,859**
Minus Mine and Quarry Wastes (EWC 01)	-67
Minus Agricultural Wastes (EWC 02)	0
Minus CD&EW (EWC 17)	-2,073,132
Minus Secondary Wastes (EWC 19)	-21,429
Minus Household Wastes (EWC20)	-98,282
Inert/ C&D - Sub Total	**33,949**
Grand Total	**686,965**

Source: Environment Agency Waste Data Interrogator (WDI) 2017
Figures include Origin 'West Midlands Estimated' records from the 2017 WDI

Table C.35 Estimated C&I Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2017 - Apportionment to Wolverhampton

West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2017 (tonnes)	Wolverhampton
686,965	
Apportionment to Wolverhampton %	3.58%
Apportionment to Wolverhampton (tonnes)	24,593

Source: Environment Agency Waste Data Interrogator (WDI) 2017, NOMIS Business Counts 2017, Enterprises by Industry
The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, minus Agricultural (subchapter of EWC 02), C&D Waste (EWC 17), Secondary/ Treatment Wastes (EWC 19), Municipal Wastes (EWC 20) and Inert Wastes (UKWS 21).

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2017: Total Enterprises in Wolverhampton as % of Total Enterprises in the West Midlands.

Table C.36 Summary - Estimated C&I Waste Arising in Wolverhampton in 2017 (tonnes)

C&I Waste Arisings - Source of Evidence	Estimated C&I Waste Arisings in 2017 (tonnes)
	Wolverhampton
C&I Waste Origin Codeable to Wolverhampton	26,556
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	24,593
Total	**51,149**

Environment Agency Waste Data Interrogator (WDI) 2017, NOMIS Business Counts 2017, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting such as C&I Waste managed in-house by businesses or waste re-used or recycled by businesses as part of an industrial process.

2017 CD&EW Waste Arisings

Table C.37 Waste Received at Permitted Waste Sites in England in 2017 – Origin Codeable to Wolverhampton: CD&EW (tonnes)

Basic Waste Category	Origin WPA - Tonnes
	Wolverhampton
Hhold/ Ind/ Com Waste - All	**202,256**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	0
Hhold/ Ind/ Com (EWC 01 and 17) - Sub Total	**0**
Inert/ C&D - All	**266,047**
Mine and Quarry Waste Only (EWC 01)	0
CD&EW Only (EWC 17)	255,694
Inert/ C&D (EWC 01 and 17) - Sub Total	**255,694**

Grand Total	**255,694**

Source: Environment Agency Waste Data Interrogator (WDI) 2017

Table C.38 Wast e Received at Permitted Waste Sites in England in 2017 – Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated': CD&EW

Basic Waste Category	Origin West Midlands WPA Not Codeable
Hhold/ Ind/ Com Waste - All	119
Mine and Quarry Waste Only (EWC 01)	51
CD&EW Only (EWC 17)	0
UKWS: Inert (EWC 21)	0
Hhold/ Ind/ Com Waste (EWC 01, 17, 21) - Sub Total	**51**
Inert/ C&D - All	**2,080,260**
Mine and Quarry Waste Only (EWC 01)	67
CD&EW Only (EWC 17)	2,073,132
UKWS: Inert (EWC 21)	2,000
Inert/ C&D (EWC 01, 17, 21) - Sub Total	**2,075,199**
Grand Total	**2,075,250**

Source: Environment Agency Waste Data Interrogator (WDI) 2017

Table C.39 Estimated CD&EW Waste Arising in the West Midlands, Origin Not Codeable/ Estimated in 2017 - Apportionment to Wolverhampton

CD&EW Waste Origin West Midlands WPA Not Codeable / Estimated in 2017 (tonnes)	Wolverhampton
2,075,250	
Apportionment to Wolverhampton %	3.98%
Apportionment to Wolverhampton (tonnes)	82,595

Environment Agency Waste Data Interrogator (WDI) 2017, NOMIS Business Counts 2017, Enterprises by Industry

The total figure is all waste Origin 'West Midlands WPA Not Codeable' and 'West Midlands Estimated' falling within the Hhold/ Ind/ Com and Inert/ C&D Basic Waste Categories, Mine and Quarry Waste (EWC 01), CD&EW (EWC 17) and UKWS Inert (EWC 21) Only.

Apportionment by Authority is based on NOMIS Business Counts Enterprises by Industry 2017: Wolverhampton Enterprises/ Enterprises by WPA falling within SIC Codes 39 - 43 (Construction

and Related Industries) as % of West Midlands Enterprises falling within SIC Codes 39 - 43 (Construction and Related Industries).

Table C.40 Summary - Estimated CD&EW Arising in Wolverhampton in 2017 (tonnes)

CD&EW Waste Arisings - Source of Evidence	Estimated CD&EW Waste Arisings in 2017 (tonnes) Wolverhampton
CD&EW Origin Codeable to Wolverhampton	255,694
CD&EW Origin West Midlands WPA Not Codeable/ West Midlands Estimated Apportioned to Wolverhampton	82,595
Total	**338,289**

Source: Environment Agency Waste Data Interrogator (WDI) 2017, NOMIS Business Counts 2017, Enterprises by Industry

The above estimates do not include waste managed under 'exemptions' from permitting, such as CD&EW managed on-site as part of land remediation, engineering or construction projects.

Appendix D

WASTE ARISINGS, MANAGEMENT & CAPACITY DATA TABLES

Public

Appendix D
Waste Arisings, Management & Capacity Data Tables

Table D.1 Current Waste Arisings, 2021 (tonnes)

Waste source		Wolverhampton
Local Authority Collected Waste (LACW)	Household	102,378
	Non-household	18,603
Commercial & Industrial waste (C&I)	Permitted sites	35,143
	West Midlands (WPA not codeable)	25,849
Construction, Demolition and Excavation waste (CD&E)	Permitted sites	374,326
	West Midlands (WPA not codeable)	63,646
	Exempt sites	465,096
Agricultural waste	Permitted sites	127
	West Midlands (WPA not codeable)	4
	Exempt sites	17,754
Waste managed at exempt sites*		664,841
Hazardous waste		25,059
Retailer take-back and Producer Compliance Scheme collections	Batteries	63
	WEEE	28
Low level radioactive waste (LLRW)		No publicly available information on LLRW quantities – see Appendix E for registered producers
Total waste arisings**		1,775,395

* excludes exemptions included in CD&E and agricultural waste estimates.
** Total excludes potential double counting between LACW non-household waste and that identified in the WDI as C&I waste (c.19 kt).

Table D.2 Current Waste Management, 2021

	Management method	LACW**	C&I waste	CD&E	Hazardous*	Agricultural waste	Total waste arisings
Wolverhampton	Reuse, recycling and composting	38,187 (37.3%)	13,071 (37.2%)	102,542 (27.4%)	0 (0%)	127 (100%)	153,927 (28.6%)
	Recovery and treatment	61,427 (60%)	12,958 (36.9%)	22,536 (6%)	14,500 (57.9%)	0 (0%)	111,421 (20.8%)
	Transfer	0 (0%)	8,795 (25%)	7,471 (2%)	8,026 (32%)	0 (0%)	24,293 (4.5%)
	Disposal	2,764 (2.7%)	319 (1%)	241,777 (64.6%)	2,532 (10.1%)	0 (0%)	247,393 (46.1%)
West Midlands (apportioned to Wolverhampton)	Reuse, recycling and composting		14,025 (54.3%)	11,093 (17.4%)		4 (88.8%)	25,121 (28.1%)
	Recovery and treatment		5,723 (22.1%)	21,438 (33.7%)		0.1 (1.5%)	27,161 (30.4%)
	Transfer		2,123 (8.2%)	13,477 (21.2%)		0.3 (8%)	15,601 (17.4%)
	Disposal		3,978 (15.4%)	17,638 (27.7%)		0.1 (1.8%)	21,616 (24.2%)
Wolverhampton total	Reuse, recycling and composting	38,187 (37.3%)	27,096 (44.4%)	113,634 (26%)	0 (0%)	131 (99.5%)	179,048 (28.6%)
	Recovery and treatment	61,427 (60%)	18,681 (30.6%)	43,974 (10%)	14,500 (57.9%)	0.1 (0.1%)	138,582 (22.1%)
	Transfer	0 (0%)	10,918 (18%)	20,949 (5%)	8,026 (32%)	0.4 (0.3%)	39,894 (6.4%)
	Disposal	2,764 (2.7%)	4,297 (7%)	259,415 (59%)	2,532 (10.1%)	0.1 (0.1%)	269,009 (42.9%)

Notes:
Totals may not sum due to rounding.
The table excludes waste manged at exempt sites (approx. 1.1mt).
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 2021/22 monitoring year rather than the 2021 calendar year
(***) Recovery and treatment for all areas includes energy recovery/ recovery of waste as ‘Refuse Derived Fuel’ (RDF).

Table D.3 Waste Received at Permitted Sites and Incinerators, 2021 (tonnes)

Facility type		Wolverhampton
Metal Recycling Sites (MRS)		53,654
Transfer		203,041
Treatment	Recycling	13,954
	Recovery	100,984
Incineration (with and without energy recovery)		111,938
Total		483,571

Table D.4 Existing Waste Management Capacity at LACW sites, 2021 (tonnes per annum)

Facility type		Site name	Wolverhampton
Incineration	EfW	Wolverhampton Waste to Energy Plant	111,938
Transfer	WTS	Crown Street Transfer Station	21,501
	HWRC	Anchor Lane HWRC	7,579
	HWRC	Shaw Road HWRC	10,024
Total			**151,042**

Table D.5 Specialist Waste Management Capacity, 2021 (tonnes per annum unless otherwise specified)

Facility type		Wolverhampton
Agricultural waste	Exempt Sites	18,834
Hazardous waste	Treatment	83,810
	Recovery	1,716
	Transfer	34,700
	Disposal*	37
	Other**	0

Facility type			Wolverhampton
Low level radioactive waste (LLRW)		No publicly available information on facility capacities to treat LLRW	
Construction waste exemptions		U1 and U3 exemptions	465,096
Disposal (D) exemptions		D1 to D8 exemptions	33,545
Storage (S) exemptions		S1 to S3 exemptions	156,000
Treatment (T) exemptions		T1 to T33 excluding T24 and T25 (Agricultural and food processing waste exemptions)	218,830
Use (U) exemptions		U2, U4 to U9 and U12 to U16 exemptions	256,466
Wastewater treatment	DWF (m3/d)***		48,000
Wastewater sludge treatment	Tonnes		73,000
ELV recycling and depollution			2,592
WEEE treatment			315

*Includes landfill and incineration without energy recovery
**Includes 'other' fate and rejected
***DWF (M3/d) = Daily Water Flow (cubic metres per day)

Table D.6 Wastewater Treatment Capacity in Wolverhampton - Load Entering Wolverhampton Wastewater Treatment Facilities (p.e.), 2012 - 2020

Treatment Facility	Authority	Permitted Maximum DWF (p.e.)2	Load Entering, UWWTP (p.e.), 2012	Load Entering, UWWTP (p.e.), 2014	Load Entering, UWWTP (p.e.), 2016	Load Entering, UWWTP (p.e.), 2018	Load Entering, UWWTP (p.e.), 2020
Wolverhampton South (Barnhurst)	Wolverhampton	170,000	145,559	155,532	146,888	144,829	152,388

Source: Waterbase – UWWTD: Urban Waste Water Treatment Directive – reported data Microsoft Access database file> T_UWWTPS sheet filtered by UKG35 and UKG34, 2014 and 2018,4 European Commission Urban Waste Water Website: United Kingdom - UWWTD Treatment Plants, Treatment map. 2020 data taken from EA Wastewater Treatment in England data (https://www.data.gov.uk/dataset/d7e2c57b-110a-462b-97a0-9833e7d26cc2/wastewater-treatment-in-england) as EEA no longer covering UK.
Notes
Notes
1. DWF = Daily Water Flow, p.e. = population equivalent.
2. Permitted Maximum DWF/ Load Entering at Ray Hall (Birmingham & Black Country No.2) is incorrectly referred to as Willenhall (Birmingham & Black Country No.3) in the T_UWWTPS spreadsheets and on the EC Urban Waste Water website, but is correctly referred to as Ray Hall in the T_Agglomerations spreadsheet, and it is clear from the interactive map on the EU Urban Waste Water website that the data relates to Ray Hall. The Willenhall facility had closed by 2014.
3. UWWTPS = Urban Waste Water Treatment Plants.

4. Permitted Maximum DWF / Load Entering is expressed by p.e. of the 'agglomeration' the wastewater treatment plant serves. This means the highest biochemical oxygen demand (BOD) load that enters the wastewater treatment plant, including any trade and tourist p.e.
5. Information published by the Environment Agency indicates that the p.e. may be calculated in the following way: the maximum average weekly load entering the treatment plant during the year, where 60g of BOD is equivalent to 1 person per day.

Table D.7 Wolverhampton Baseline Waste Capacity Estimate, 2021 (tonnes per annum)

Capacity Type	Wolverhampton
Recycling and Recovery (annual throughput capacity, tonnes per annum)	
Incinerator	*112,657*
MRS	*50,841*
Treatment - Recycling	*28,544*
Treatment - Recovery	*89,727*
Recycling and Recovery Total	281,769
Transfer (annual throughput capacity, tonnes per annum)	
Transfer	159,225
Landfill (void space in cubic metres (m3) and total capacity in tonnes)	
Inert Only – m^3	*0*
Inert Only – tonnes	*0*
Non-Haz – m^3	*0*
Non-Haz - tonnes	*0*
Hazardous – m^3	*0*
Hazardous – tonnes	*0*
Landfill Total – m^3	0
Landfill Total - tonnes	0

All figures rounded to the nearest 1,000 tonnes. Totals may not sum due to rounding. Includes capacity at permitted sites only.

Table D.8 Waste imports to and exports from Wolverhampton, 2021 (tonnes)

	Imports to Wolverhampton sites (inc. waste of Wolverhampton origin)	Exports to permitted sites in England and Wales (inc. sites in Wolverhampton)	Wolverhampton waste arisings received at sites within Wolverhampton	Net imports
Non-hazardous waste	391,258	677,994	114,509	-401,244
Hazardous waste	92,313	51,744	1,070	39,499
Total	483,571	729,738	115,578	-361,746

Figures rounded to the nearest tonne.
Source: Environment Agency Waste Data Interrogator (WDI), Natural Resource Wales Waste Data Interrogator (WWDI) 2021

Table D.9 Origin Region/ Country and Waste Management by Site Category of Waste Received in Wolverhampton, 2021 (tonnes)

Origin Region/ Country	Incineration	MRS	Processing	Transfer	Treatment	Total	%
East Midlands	38,343	1	0	2,161	4,723	45,228	9.35%
East of England	0	15	0	223	4,040	4,277	0.88%
London	0	3,151	0	0	7,751	10,902	2.25%
North East	0	5	0	0	225	230	0.05%
North West	0	7	0	4,032	3,573	7,612	1.57%
South East	0	13	0	0	12,637	12,650	2.62%
South West	0	25		685	17,474	18,183	3.76%
West Midlands	73,595	50,396	11,916	195,748	48,758	380,413	78.67%
Yorks & Humber	0	16	0	62	247	325	0.07%
Scotland	0	27	0	0	0	27	0.01%
Wales	0	0	0	131	3,595	3,726	0.77%
Total	111,938	53,654	11,916	203,041	103,021	483,571	100.00%

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table D.10 Summary of Wolverhampton Waste Imports/ Exports, 2021 (tonnes) by Site Category – Non-Hazardous and Hazardous Waste

Waste imports/exports	Incinerator	Landfill	MRS	Transfer	Treatment	On/in Land	Total
Imports - Waste Received in Wolverhampton	111,938	0	53,654	203,041	114,937	0	483,571
Imports - % by Site Category	**23.2**	**0**	**11.1**	**41.9**	**23.8**	**0**	**100**
Exports - Waste Originating in Wolverhampton	79,738	260,036	42,914	57,729	192,688	96,633	729,738
Exports - % by Site Category	**10.9**	**35.6**	**5.9**	**7.9**	**26.4**	**13.2**	**100**

Source: Tables 2.11 – 2.12 (Tables D8, D9 and D11).

Table D.11 Destination region and waste management by site category of origin waste Wolverhampton, 2021 (tonnes)

Destination	Incineration	Landfill	MRS	Transfer	Treatment	On/in Land	Total	%
East Midlands	0	5	1,523	1,486	26,605	0	29,729	4.07%
East of England	0	0	139	157	819	0	1,115	0.15%
London	0	0	3	0	6,770	0	6,773	0.93%
North East	0	27	73	2	573	0	675	0.09%
North West	0	344	4,309	166	19,615	0	24,434	3.35%
South East	10	2	46	24	3,395	0	3,476	0.48%
South West	0	0	27	29	2,391	0	2,447	0.34%
West Midlands	75,538	259,654	34,525	54,032	107,983	96,633	628,365	86.11%
Yorks & Humber	0	4	1,901	1,474	2,357	0	5,737	0.79%
Wales	0	0	367	360	26,260	0	26,987	3.7%
Total	75,547	260,036	42,914	57,729	196,879	96,633	729,738	100.00%

Treatment consists of “Treatment” and ‘Processing’.

Table D.12 Net imports of waste for management in Wolverhampton (tonnes), 2017-2021, average inputs, by Site Category

	Recycling	Recovery	Transfer	Disposal	Total
Imports of waste for management	79,835	202,384	159,225	0	440,994
Wolverhampton waste imports	547	72,471	42,561	0	115,578
Net imports of waste for management	**78,837**	**12,914**	**116,664**	**0**	**325,415**

Based on 5-year average WDI inputs at permitted facilities and incinerators in Wolverhampton, 2017-2021. Wolverhampton waste import tonnages are taken from the 2021 WDI.

Appendix E

LIST OF REGISTERED PRODUCERS OF LOW LEVEL RADIOACTIVE WASTE

Public

Appendix E
List of registered producers of Low Level Radioactive Wastes

Table E.1 List of registered producers of Low Level Radioactive Wastes

Name	Permit Number	Address
University of Wolverhampton	EB3696DW	Wulfruna Street, Wolverhampton, WV1 1LX
Royal Wolverhampton Hospitals NHS Trust	UB3991DU	New Cross Hospital, Wolverhampton Road, Wolverhampton, WV10 0QP

Appendix F

TRENDS IN ARISINGS 2017-2021

Public

Appendix F
Trends in Arisings 2017 - 2021

Table F.1 LACW Arisings

	2017			2018			2019			2020			2021		
Authority	Household	Non-household	Total	Household	Non-household	Total	Household	Non-household	Total	Household	Non-household	Total	Household	Non-household	Total
Wolverhampton	108,457	19,087	127,544	106,305	20,100	**126,405**	103,608	20,172	**123,780**	104,513	16,205	**120,718**	102,378	18,603	**120,981**

Source: Local Authority Collected Waste Statistics (LA regional spreadsheet for each respective year)

Table F.2 C&I Arisings

	2017			2018			2019			2020			2021		
Authority	C&I	C&I WMNC	Total	C&I	C&I WMNC	Total	C&I	C&I WMNC	Total	C&I	C&I WMNC	Total	C&I	C&I WMNC	Total
Wolverhampton	26,556	24,593	51,149	28,264	19,028	47,291	52,641	24,748	77,389	48,496	21,189	69,685	35,143	63,646	60,993

Source: 2017, 2018, 2019, 2020 and 2021 WDI and 2017, 2018, 2019, 2020 and 2021 Nomis business counts.
WMNC = West Midlands Non Codeable – Waste originating from the West Midlands with no given authority has been apportioned to Wolverhampton based on NOMIS business counts

Table F.3 CD&EW Arisings

	2017			2018			2019			2020			2021		
Authority	CD&EW	CD&EW WMNC	Total	CD&EW	CD&EW WMNC	Total	CD&EW	CD&EW WMNC	Total	CD&EW	CD&EW WMNC	Total	CD&EW	CD&EW WMNC	Total
Wolverhampton	255,694	82,595	338,289	226,918	78,178	**305,096**	239,598	70,363	309,960	261,843	59,752	**321,596**	374,326	63,646	437,972

Source: 2017, 2018, 2019, 2020 and 2021 WDI and 2017, 2018, 2019, 2020 and 2021 Nomis business counts.
WMNC = West Midlands Non Codeable – Waste originating from the West Midlands with no given authority has been apportioned to Wolverhampton based on NOMIS business counts

Table F.4 Hazardous Waste

Authority	**2017**	**2018**	**2019**	**2020**	**2021**
Wolverhampton	44,372	40,493	34,012	27,740	25,059

Source: 2017, 2018, 2019, 2020 and 2021 Hazardous Waste Data Interrogator

Table F.5 Agricultural Waste

	2017			2018			2019			2020			2021		
Authority	Agricultural	Agricultural WMNC	Total	Agricultural	Agricultural WMNC	Total	Agricultural	Agricultural WMNC	Total	Agricultural	Agricultural WMNC	Total	Agricultural	Agricultural WMNC	Total
Wolverhampton	457	14	471	80	25	105	263	1	264	577	3	580	127	4	131

Source: 2017, 2018, 2019, 2020 and 2021 WDI and 2017, 2018, 2019, 2020 and 2021 Nomis business counts.

Appendix G

WASTE IMPORTED AND EXPORTED BY BASIC WASTE CATERGORY AND REGION/COUNTRY, 2019-2021

Public

Appendix G
Waste Imported and Exported 2019 - 2021(tonnes) by Basic Waste Category and Region/Country

Notes on tables in this Appendix:

All figures in the tables have been rounded to the nearest tonne.

1. The Environment Agency 'Basic Waste Categories' are as follows: Hazardous (self-explanatory), Hhold/ Ind/ Com (= household waste and commercial and industrial (C&I) waste) and Inert/ C&D waste (= inert construction and demolition waste).
2. The total figures for each year by Site Category and Basic Waste Category may be slightly different due to rounding.

Imports

Origin Region/Country, Management and Type of Waste Received in Wolverhampton 2019 – 2021

Table G.1 Waste Received at permitted sites in Wolverhampton in 2021 by origin region and basic waste category (tonnes).

Origin Region	Basic Waste Category			Wolverhampton Total	% Total Waste Received
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	4,723	40,505	-	45,228	9.35%
East of England	4,054	223	-	**4,277**	0.88%
London	7,751	3,151	-	**10,902**	2.25%
North East	230	-	-	**230**	0.05%
North West	3,580	4,032	-	**7,612**	1.57%
South East	12,622	28	-	**12,650**	2.62%
South West	17,498	685	-	**18,183**	3.76%
West Midlands	37,989	189,524	152,900	**380,413**	78.67%
Yorks & Humber	263	62	-	**325**	0.07%
Northern Ireland	-	-	-	**-**	0.00%
Scotland	9	18	-	**27**	0.01%

Origin Region	Basic Waste Category			Wolverhampton Total	% Total Waste Received
	Hazardous	Hhold/Ind/Com	Inert/C+D		
Wales	3,595	131	-	**3,726**	0.77%
Outside UK	-	-	-	**-**	0.00%
TOTAL	**92,313**	**238,359**	**152,900**	**483,571**	**100%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table G.2 Waste Received at permitted sites in Wolverhampton in 2020 by origin region and basic waste category (tonnes).

Origin Region	Basic Waste Category			Wolverhampton Total	% Total Waste Received
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	8,412	43,360	-	51,772	11.79%
East of England	2,745	304	-	**3,049**	0.69%
London	14,163	2,957	-	**17,120**	3.90%
North East	1,702	1,219	-	**2,921**	0.67%
North West	4,382	17,133	-	**21,516**	4.90%
South East	15,783	79	-	**15,862**	3.61%
South West	9,150	207	-	**9,357**	2.13%
West Midlands	17,676	191,930	95,899	**305,505**	69.55%
Yorks & Humber	9,101	47	-	**9,148**	2.08%
Northern Ireland	-	-	-	**-**	0.00%
Scotland	2,646	22	-	**2,668**	0.61%
Wales	278	59	-	**337**	0.08%
Outside UK	-	-	-	**-**	0.00%
TOTAL	**86,037**	**257,318**	**95,899**	**439,254**	**100%**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table G.3 Waste Received at permitted sites in Wolverhampton in 2019 by origin region and basic waste category (tonnes).

Origin Region	Basic Waste Category			Wolverhampton Total	% Total Waste Received
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	2,302	43,823	-	46,125	10.04%
East of England	2,669	410	-	**3,080**	0.67%
London	10,044	2,820	-	**12,864**	2.80%
North East	370	3,873	-	**4,243**	0.92%
North West	4,238	8,086	-	**12,323**	2.68%
South East	11,448	280	-	**11,728**	2.55%
South West	10,697	185	-	**10,882**	2.37%
West Midlands	29,967	219,089	86,381	**335,438**	73.03%
Yorks & Humber	21,755	113	-	**21,868**	4.76%
Northern Ireland	3	-	-	**3**	0.00%
Scotland	53	33	-	**86**	0.02%
Wales	607	96	-	**703**	0.15%
Outside UK	-	-	-	**-**	0.00%
TOTAL	**94,154**	**278,808**	**86,381**	**459,343**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Origin WPA of Waste Originating in the West Midlands Received in Wolverhampton 2019 – 2021

Table G.4 Waste from the West Midlands Received in Wolverhampton by Origin WPA, 2021 (tonnes)

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	28,127	1,036	-	29,163	7.67%
Coventry	70	1	-	**71**	0.02%
Solihull	17	1	-	**17**	0.00%
Dudley	129	3,956	-	**4,085**	1.07%
Sandwell	187	2,334	-	**2,521**	0.66%
Walsall	297	2,306	-	2,602	0.68%
Wolverhampton	1,070	111,283	3,226	115,578	30.38%
Herefordshire	31	97	-	**128**	0.03%
Shropshire	93	84	-	**177**	0.05%
Telford & Wrekin	44	86	-	**130**	0.03%
Staffordshire	1,813	14,300	-	**16,113**	4.24%
Stoke-on-Trent	8	-	-	**8**	0.00%
Warwickshire	3,027	81	-	**3,108**	0.82%
Worcestershire	480	5,457	-	**5,937**	1.56%

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
West Midlands WPA Not Codeable/ Est'd	2,595	48,505	149,674	**200,773**	52.78%
TOTAL	**37,989**	**189,524**	**152,900**	**380,413**	**100.00%**
WMCA Area	**29,897**	**120,915**	**3,226**	**154,038**	**40.49%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table G.5 Waste from the West Midlands Received in Wolverhampton by Origin WPA, 2020 (tonnes)

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	5,480	1,645	-	7,125	2.33%
Coventry	60	2	-	**63**	0.02%
Solihull	37	1	-	**38**	0.01%
Dudley	425	2,229	-	**2,654**	0.87%
Sandwell	183	1,237	-	**1,419**	0.46%
Walsall	408	1,436	-	**1,845**	0.60%
Wolverhampton	937	110,484	3,157	**114,578**	37.50%
Herefordshire	26	92	-	**118**	0.04%

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Shropshire	195	364	-	**560**	0.18%
Telford & Wrekin	294	220	-	**513**	0.17%
Staffordshire	553	13,755	-	**14,307**	4.68%
Stoke-on-Trent	37	-	-	**37**	0.01%
Warwickshire	309	124	-	**433**	0.14%
Worcestershire	466	5,971	-	**6,437**	2.11%
West Midlands WPA Not Codeable/ Est'd	8,265	54,370	92,742	**155,377**	50.86%
TOTAL	**17,676**	**191,930**	**95,899**	**305,505**	**100.00%**
WMCA Area	**7,532**	**117,034**	**3,157**	**127,722**	**41.81%**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table G.6 Waste from the West Midlands Received in Wolverhampton by Origin WPA, 2019 (tonnes)

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	11,715	603	-	12,318	3.67%
Coventry	46	1	-	**46**	0.01%

Origin WPA	Waste Imported by Basic Waste Category (tonnes)			Total Waste Received from West Midlands - Tonnes	Total Waste Received from West Midlands - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Solihull	12	1	-	**12**	0.00%
Dudley	126	3,281	-	**3,407**	1.02%
Sandwell	169	1,597	-	**1,766**	0.53%
Walsall	233	55	-	**288**	0.09%
Wolverhampton	1,983	114,317	4,786	**121,087**	36.10%
Herefordshire	81	54	-	**135**	0.04%
Shropshire	1,273	18,313	-	**19,586**	5.84%
Telford & Wrekin	154	236	-	**390**	0.12%
Staffordshire	1,773	10,757	-	**12,530**	3.74%
Stoke-on-Trent	139	42	-	**181**	0.05%
Warwickshire	1,475	1,024	-	**2,499**	0.75%
Worcestershire	798	6,796	-	**7,595**	2.26%
West Midlands WPA Not Codeable/ Est'd	9,990	62,013	81,595	**153,598**	45.79%
TOTAL	**29,967**	**219,089**	**86,381**	**335,438**	**100.00%**
WMCA Area	**14,283**	**119,853**	**4,786**	**138,923**	**41.42%**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Exports

Destination Region / Country and Management of Waste Originating in Wolverhampton 2019 – 2021

Table G.7 Waste Received at permitted sites in England and Wales in 2021 (tonnes) – origin Wolverhampton by destination region and basic waste category

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	4,382	16,793	8,554	29,729	4.04%
East of England	193	909	13	**1,115**	0.15%
London	3	6,770	-	**6,773**	0.92%
North East	140	536	-	**675**	0.09%
North West	1,197	6,158	17,137	**24,492**	3.33%
South East	83	3,383	11	**3,476**	0.47%
South West	35	385	2,027	**2,447**	0.33%
Wales	776	22,055	4,156	**26,987**	3.67%
West Midlands	37,907	194,435	402,049	**634,392**	86.21%
Yorks & Humber	1,291	4,122	332	**5,744**	0.78%

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
TOTAL	**46,007**	**255,545**	**434,279**	**735,831**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2021

Table G.8 Waste Received at permitted sites in England and Wales in 2020 (tonnes) – origin Wolverhampton by destination region and basic waste category

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	6,324	30,355	658	37,337	5.96%
East of England	80	540	28	**648**	0.10%
London	10	8,993	-	**9,004**	1.44%
North East	106	876	-	**982**	0.16%
North West	1,066	2,078	17,166	**20,310**	3.24%
South East	143	2,869	-	**3,013**	0.48%
South West	281	1,134	5	**1,420**	0.23%
Wales	805	24,444	-	**25,249**	4.03%
West Midlands	20,079	225,821	259,846	**505,746**	80.79%

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
Yorks & Humber	841	5,149	3,446	**9,435**	1.51%
TOTAL	**40,781**	**302,985**	**282,246**	**626,013**	**97.94%**

Source: Environment Agency Waste Data Interrogator (WDI) 2020 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2020

Table G.9 Waste Received at permitted sites in England and Wales in 2019 (tonnes) – origin Wolverhampton by destination region and basic waste category

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
East Midlands	5,141	24,166	941	30,247	5.58%
East of England	301	752	-	**1,053**	0.19%
London	13	7,901	1	**7,914**	1.46%
North East	1,104	727	-	**1,831**	0.34%
North West	1,777	3,719	31	**5,527**	1.02%
South East	56	144	-	**200**	0.04%
South West	205	2,344	-	**2,549**	0.47%
Wales	801	19,927	-	**20,728**	3.83%

Destination Region	Basic Waste Category			Origin Wolverhampton - Destination Total	Origin Wolverhampton - Destination %
	Hazardous	Hhold/Ind/Com	Inert/C+D		
West Midlands	18,715	213,128	236,983	**468,826**	86.52%
Yorks & Humber	285	2,387	337	**3,009**	0.56%
TOTAL	**28,398**	**275,193**	**238,293**	**541,884**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2019 and Natural Resources Wales, Welsh Waste Data Interrogator (WWDI) 2019

Destination WPA of Waste Originating in Wolverhampton Exported within the West Midlands 2019 – 2021

Table G.10 Waste Originating in Wolverhampton Exported to the West Midlands by Destination WPA, 2021 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received in West Midlands Origin Codeable Wolverhampton - Tonnes	Total Waste Received in West Midlands Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	114	7,040	3,076	10,230	1.61%
Coventry	-	141	-	**141**	0.02%
Solihull	-	3,744	170	**3,914**	0.62%
Dudley	531	8,244	4,759	**13,534**	2.13%
Sandwell	3,197	1,571	14,553	**19,321**	3.05%
Walsall	14,674	6,265	5,438	**26,377**	4.16%
Wolverhampton	1,070	111,283	3,226	**115,578**	18.22%

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received in West Midlands Origin Codeable Wolverhampton - Tonnes	Total Waste Received in West Midlands Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Herefordshire	20	8	0	**28**	0.00%
Shropshire	15,820	3,102	560	**19,482**	3.07%
Telford & Wrekin	33	3,150	1,589	**4,773**	0.75%
Staffordshire	337	45,188	358,906	**404,431**	63.75%
Stoke-on-Trent	906	520	-	**1,427**	0.22%
Warwickshire	1,195	4,166	7,457	**12,818**	2.02%
Worcestershire	10	13	2,316	**2,338**	0.37%
TOTAL	**37,907**	**194,435**	**402,049**	**634,392**	**100.00%**
WMCA Area	**19,585**	**138,288**	**31,223**	**189,096**	**29.81%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table G.11 Waste Originating in Wolverhampton Exported to the West Midlands by Destination WPA, 2020 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received in West Midlands Origin Codeable Wolverhampton - Tonnes	Total Waste Received in West Midlands Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	244	11,175	661	12,080	2.39%
Coventry	-	13	-	**13**	0.00%

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received in West Midlands Origin Codeable Wolverhampton - Tonnes	Total Waste Received in West Midlands Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Solihull	-	5,914	23	**5,937**	1.17%
Dudley	402	7,124	5,600	**13,126**	2.60%
Sandwell	2,248	7,172	9,298	**18,718**	3.70%
Walsall	14,420	6,616	3,850	**24,887**	4.92%
Wolverhampton	937	110,484	3,157	**114,578**	22.66%
Herefordshire	30	49	53	**132**	0.03%
Shropshire	32	2,558	298	**2,888**	0.57%
Telford & Wrekin	33	3,146	695	**3,874**	0.77%
Staffordshire	521	55,890	229,433	**285,843**	56.52%
Stoke-on-Trent	405	188	-	**594**	0.12%
Warwickshire	722	15,490	4,379	**20,591**	4.07%
Worcestershire	84	1	2,399	**2,485**	0.49%
TOTAL	**20,079**	**225,821**	**259,846**	**505,746**	**100.00%**
WMCA Area	**18,252**	**148,500**	**22,589**	**189,340**	**37.44%**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table G.12 Waste Originating in Wolverhampton Exported to the West Midlands by Destination WPA, 2019 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received in West Midlands Origin Codeable Wolverhampton - Tonnes	Total Waste Received in West Midlands Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Birmingham	93	19,518	912	20,523	4.38%
Coventry	7	1,467	-	**1,475**	0.31%
Solihull	-	2,766	22	**2,788**	0.59%
Dudley	543	3,040	29,857	**33,440**	7.13%
Sandwell	1,915	12,861	695	**15,472**	3.30%
Walsall	9,520	3,585	1,792	**14,897**	3.18%
Wolverhampton	1,983	114,317	4,786	**121,087**	25.83%
Herefordshire	26	0	-	**26**	0.01%
Shropshire	23	1,711	-	**1,734**	0.37%
Telford & Wrekin	711	1,265	1,436	**3,412**	0.73%
Staffordshire	378	44,197	191,898	**236,474**	50.44%
Stoke-on-Trent	298	105	-	**403**	0.09%
Warwickshire	2,858	8,284	879	**12,021**	2.56%
Worcestershire	360	10	4,705	**5,075**	1.08%
TOTAL	**18,715**	**213,128**	**236,983**	**468,826**	**100.00%**

WMCA Area	**14,061**	**157,555**	**38,065**	**209,682**	**44.72%**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Notes on tables G10-12:

1. The figures in these tables relate to waste coded as Origin Wolverhampton only. However, the origin of waste is not always specified in the returns to the Environment Agency and this is not a requirement for waste permits. Consequently, around 5 million tonnes of the waste received at permitted sites in England in 2021 and 2020 and 5.5 million tonnes of the waste received in 2019 was recorded in the WDI as 'West Midlands WPA Not Codeable' or 'West Midlands Estimated.' Some of this will have almost certainly have arisen in Wolverhampton but we have no way of knowing how much or how and where it was managed.
2. The West Midlands sites outside Wolverhampton that received the largest tonnages of Wolverhampton waste during 2019 - 2021 were:
    - Dunton Recycling in Warwickshire received over 11,000 tonnes of Inert and Hhold/Ind/Com waste 2021, over 16,000 tonnes in 2020 and over 3,000 tonnes in 2019.
    - Saredon Hill Quarry (NRS Aggregates) in Staffordshire, which received over 236,000 tonnes of Inert/ C&D waste from Wolverhampton in 2021, nearly 150,000 tonnes in 2020, and nearly 99,000 tonnes in 2019.
    - Hollybush Farm and Wood Farm (Jack Moody) in Staffordshire, which together received nearly 62,000 tonnes of Hhold/ Ind/ Com and Inert/ C&D waste in 2021, nearly 80,000 tonnes in 2020 and over 70,000 tonnes in 2019.
    - Coven Composting (Veolia) in Staffordshire, received more than 14,000 tonnes of Hhold/ Ind/ Com waste from Wolverhampton in 2021, 2020, and 2019.
    - Campions Wood Quarry in Staffordshire received over 63,000 tonnes of inert/C+D in 2021 and over 3,000 tonnes in 2020.
    - Walleys Quarry Landfill site in Staffordshire received more than 11,000 tonnes of Hhold/Ind/Com waste from Wolverhampton in 2021 and nearly 6,000 tonnes in 2020.
    - Edwin Richards landfill site in Sandwell received more than 13,000 tonnes of inert/C+D waste in 2021, more than 9,000 tonnes in 2020 and less than 200 tonnes in 2019.
    - Skan 4x4 Ltd (MRS) in Shropshire received nearly 16,000 tonnes of Hazardous waste in 2021, but less than 50 tonnes in both 2020 and 2019.
    - Old Hattons Farm in Staffordshire (Severn Trent Water) treated more than 8,000 tonnes of Hhold/ Ind/ Com waste in 2021, 15,000 tonnes in 2020 and over 4,000 tonnes in 2019.

- The two Oak Farm Quarry landfills bordering Dudley and South Staffordshire received together more than 56,000 tonnes Hhold/ Ind/ Com and Inert/ C&D waste from Wolverhampton in 2019.
- Birmingham Bio Power (incinerator) received nearly 2,000 tonnes Hhold/ Ind/ Com waste (biomass) in 2021, nearly 3,000 tonnes in 2020 and over 13,000 tonnes in 2019.
- Rabone Lane MRS (Sims) in Sandwell received nearly 1,500 tonnes of Hhold/Ind/Com waste in 2021, nearly 7,000 tonnes in 2020 and over 12,000 tonnes in 2019.

Destination WPA of Waste Originating in Wolverhampton Exported to the East Midlands 2019 – 2021

Table G.13 Waste Originating in Wolverhampton Exported to the East Midlands by Destination WPA, 2021 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received Origin Codeable Wolverhampton - Tonnes	Total Waste Received Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Derby	6	4	-	9	0.03%
Derbyshire	822	12,456	701	**13,979**	47.02%
Leicester	49	470	-	**519**	1.75%
Leicestershire	25	920	3,477	**4,421**	14.87%
Lincolnshire	36	654	-	**691**	2.32%
Northamptonshire	3,269	758	-	**4,026**	13.54%
Nottingham	-	217	-	**217**	0.73%
Nottinghamshire	176	1,315	4,375	**5,866**	19.73%
Rutland	-	-	-	**-**	0.00%
TOTAL	**4,382**	**16,793**	**8,554**	**29,729**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2021

Table G.14 Waste Originating in Wolverhampton Exported to the East Midlands by Destination WPA, 2020 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received Origin Codeable Wolverhampton - Tonnes	Total Waste Received Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Derby	8	117	-	125	0.33%
Derbyshire	1,737	28,299	610	**30,646**	82.08%
Leicester	41	546	-	**587**	1.57%
Leicestershire	99	452	7	**559**	1.50%
Lincolnshire	5	239	-	**244**	0.65%
Northamptonshire	4,146	184	10	**4,339**	11.62%
Nottingham	-	464	-	**464**	1.24%
Nottinghamshire	288	54	31	**374**	1.00%
Rutland	-	-	-	**-**	0.00%
TOTAL	**6,324**	**30,355**	**658**	**37,337**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2020

Table G.15 Waste Originating in Wolverhampton Exported to the East Midlands by Destination WPA, 2019 (tonnes)

Destination WPA	Waste Exported by Basic Waste Category (tonnes)			Total Waste Received Origin Codeable Wolverhampton - Tonnes	Total Waste Received Origin Codeable Wolverhampton - %
	Hazardous	Hhold/ Ind/ Com	Inert/ C&D		
Derby	9	307	7	323	1.07%
Derbyshire	785	18,654	641	**20,080**	66.39%
Leicester	-	509	-	**509**	1.68%
Leicestershire	172	6	281	**459**	1.52%
Lincolnshire	6	46	-	**52**	0.17%
Northamptonshire	3,838	264	12	**4,114**	13.60%
Nottingham	0	6	-	**7**	0.02%
Nottinghamshire	330	4,372	-	**4,703**	15.55%
Rutland	-	-	-	**-**	0.00%
TOTAL	**5,141**	**24,166**	**941**	**30,247**	**100.00%**

Source: Environment Agency Waste Data Interrogator (WDI) 2019

Notes on Tables G13 – G15:

1. Waste exported from Wolverhampton to the East Midlands has varied between 2019 and 2021, with tonnages being higher in 2020. The East Midlands sites that received the largest tonnages of waste from Wolverhampton during 2019 – 2021 were:
    - The Midlands Urban Mine in Derbyshire received nearly 12,000 tonnes of Hhold/Ind/Com waste in 2021, more than 20,000 tonnes in 2020 and nearly 14,000 tonnes in 2019.
    - Cliffe Hill Quarry in Leicestershire received nearly 3,500 tonnes of Inert/C+D waste in 2021.

- Welbeck Colliery Waste Facility in Nottinghamshire received over 4,000 tonnes of Inert/C+D waste in 2021.
- East Northants Resource Management Facility (RMF) (Augean South) in Northamptonshire, which received more than 3,000 tonnes of Hazardous waste (mainly EWC 19: Waste and Water Treatment Wastes) from Wolverhampton in 2021, and around 4,000 tonnes in 2020 and 2019.
- Sapphire Specialised Fuel Plant in High Peak received 7,000 tonnes of Hhold/Ind/Com waste in 2020 and over 4,000 tonnes in 2019.

2. The waste from Wolverhampton exported to the East Northants RMF, was from 'incineration or pyrolysis of waste' suggesting that the authority had short-term contracts with this site for recovery of IBA (incinerator bottom ash).

Appendix H

WASTE GROWTH AND CAPACITY PROJECTIONS

Public

Appendix H
Waste Growth and Capacity Projections over the Plan Period and Beyond

Table H.1a Projected Waste Growth over the Plan Period by Waste Stream (2021 – 2041)

Waste Stream	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Imports	325,415	327,043	328,678	330,321	331,973	333,633	335,301	336,977	338,662	340,355	342,057	343,768	345,486	347,214	348,950	350,695	352,448	354,210	355,981	357,761	359,550
Household	102,378	102,462	102,541	102,617	102,689	102,756	102,819	102,879	102,934	102,985	103,032	103,093	103,150	103,203	103,252	103,297	103,339	103,376	103,410	103,439	103,465
C & I	60,992	61,656	62,326	63,000	63,680	64,365	65,055	65,750	66,451	67,157	67,869	68,586	69,308	70,036	70,770	71,509	72,254	73,004	73,760	74,522	75,289
CD&EW	437,972	441,826	457,585	473,906	490,809	508,315	526,446	545,223	564,669	584,810	605,669	627,271	649,645	672,816	696,814	721,667	747,407	774,066	801,675	830,269	859,882
Agricultural	131	132	133	133	134	135	135	136	137	137	138	139	140	140	141	142	142	143	144	145	145
Hazardous	25,059	25,184	25,310	25,436	25,563	25,691	25,820	25,949	26,079	26,209	26,340	26,472	26,604	26,737	26,871	27,005	27,140	27,276	27,412	27,549	27,687
Total	951,947	958,303	976,572	995,414	1,014,848	1,034,895	1,055,576	1,076,914	1,098,932	1,121,654	1,145,105	1,169,328	1,194,333	1,220,146	1,246,797	1,274,315	1,302,730	1,332,075	1,362,382	1,393,685	1,426,019

Table H.1b Projected Waste Growth beyond the Plan Period by Waste Stream (2042 – 2051)

Waste Stream	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Imports	361,348	363,155	364,970	366,795	368,629	370,472	372,325	374,186	376,057	377,938
Household	103,504	103,540	103,572	103,601	103,625	103,646	103,664	103,677	103,687	103,692
C & I	76,063	76,842	77,627	78,418	79,215	80,018	80,827	81,643	82,464	83,291
CD&EW	890,552	922,316	955,213	989,283	1,024,569	1,061,112	1,098,960	1,138,157	1,178,752	1,220,803
Agricultural	146	147	147	148	149	150	150	151	152	153
Hazardous	27,826	27,965	28,104	28,245	28,386	28,528	28,671	28,814	28,958	29,103
Total	1,459,439	1,493,965	1,529,635	1,566,491	1,604,574	1,643,927	1,684,597	1,726,628	1,770,070	1,814,980

Table H.2a Projected Waste Growth for WMS1, by Management Method, over the Plan Period (2021 – 2041)

Management Method	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Recycling	257,835	259,555	264,368	269,329	274,444	279,718	285,156	290,766	296,552	302,521	308,679	315,040	321,604	328,378	335,370	342,587	350,036	357,728	365,669	373,869	382,337
Recovery	269,468	270,836	273,401	276,026	278,712	281,462	284,277	287,160	290,113	293,139	296,239	299,429	302,698	306,051	309,491	313,019	316,640	320,356	324,171	328,088	332,111
Transfer	157,380	158,311	159,815	161,350	162,917	164,517	166,152	167,821	169,526	171,269	173,051	174,872	176,734	178,639	180,588	182,582	184,623	186,712	188,851	191,042	193,285
Disposal	267,265	269,601	278,988	288,709	298,775	309,198	319,991	331,167	342,741	354,725	367,136	379,988	393,296	407,078	421,349	436,127	451,431	467,280	483,691	500,686	518,286
Total	951,947	958,303	976,572	995,414	1,014,848	1,034,895	1,055,576	1,076,914	1,098,932	1,121,654	1,145,105	1,169,328	1,194,333	1,220,146	1,246,797	1,274,315	1,302,730	1,332,075	1,362,382	1,393,685	1,426,019

Table H.2b Projected Waste Growth for WMS1, by Management Method, beyond the Plan Period (2042 – 2051)

Management Method	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Recycling	391,089	400,128	409,464	419,108	429,071	439,364	449,999	460,988	472,343	484,079
Recovery	336,254	340,511	344,885	349,380	354,001	358,752	363,638	368,663	373,832	379,151
Transfer	195,584	197,940	200,354	202,829	205,367	207,970	210,639	213,378	216,189	219,073
Disposal	536,512	555,386	574,932	595,173	616,134	637,841	660,320	683,599	707,707	732,677
Total	1,459,439	1,493,965	1,529,635	1,566,491	1,604,574	1,643,927	1,684,597	1,726,628	1,770,070	1,814,980

Table H.3a Projected Waste Growth for WMS2, by Management Method, over the Plan Period (2021 – 2041)

Management Method	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Recycling	257,835	302,689	351,771	402,184	453,984	480,318	507,904	536,801	567,074	598,787	615,823	633,297	651,213	669,583	688,424	702,496	717,017	732,004	747,473	763,442	779,927
Recovery	269,468	269,421	271,335	274,119	277,822	291,639	306,552	322,621	339,907	358,472	361,588	364,929	368,498	372,303	376,356	385,634	395,225	405,138	415,387	425,982	436,936
Transfer	157,380	140,661	124,333	107,850	91,214	92,312	93,440	94,598	95,788	97,010	98,266	99,557	100,884	102,249	103,652	105,239	106,870	108,548	110,273	112,047	113,873
Disposal	267,265	245,532	229,134	211,261	191,828	170,625	147,679	122,893	96,163	67,384	69,428	71,545	73,738	76,011	78,365	80,946	83,619	86,385	89,249	92,214	95,283
Total	951,947	958,303	976,572	995,414	1,014,848	1,034,895	1,055,576	1,076,914	1,098,932	1,121,654	1,145,105	1,169,328	1,194,333	1,220,146	1,246,797	1,274,315	1,302,730	1,332,075	1,362,382	1,393,685	1,426,019

Table H.3b Projected Waste Growth for WMS2, by Management Method, beyond the Plan Period (2042 – 2051)

Management Method	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Recycling	796,960	814,547	832,707	851,461	870,830	890,837	911,502	932,849	954,904	977,694
Recovery	448,268	459,984	472,099	484,627	497,582	510,980	524,837	539,168	553,990	569,324
Transfer	115,751	117,684	119,674	121,721	123,830	126,001	128,236	130,539	132,911	135,354
Disposal	98,460	101,750	105,155	108,681	112,331	116,110	120,022	124,072	128,266	132,608
Total	1,459,439	1,493,965	1,529,635	1,566,491	1,604,574	1,643,927	1,684,597	1,726,628	1,770,070	1,814,980

Table H.4a Projected Waste Growth for WMS3, by Management Method, over the Plan Period (2021 – 2041)

Management Method	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Recycling	257,835	285,286	316,802	349,486	383,390	418,571	455,087	492,997	532,367	573,263	590,175	607,525	625,315	643,561	662,276	676,220	690,615	705,474	720,816	736,656	753,012
Recovery	269,468	274,560	281,499	289,185	297,658	306,962	317,141	328,243	340,316	353,414	355,595	357,966	360,527	363,285	366,248	374,396	382,811	391,505	400,486	409,764	419,352
Transfer	157,380	150,466	144,045	137,572	131,049	124,475	117,851	111,177	104,454	97,682	98,945	100,243	101,577	102,949	104,360	105,954	107,593	109,278	111,010	112,792	114,626
Disposal	267,265	247,990	234,226	219,171	202,751	184,887	165,498	144,497	121,795	97,296	100,390	103,594	106,914	110,352	113,913	117,745	121,712	125,818	130,070	134,472	139,030
Total	951,947	958,303	976,572	995,414	1,014,848	1,034,895	1,055,576	1,076,914	1,098,932	1,121,654	1,145,105	1,169,328	1,194,333	1,220,146	1,246,797	1,274,315	1,302,730	1,332,075	1,362,382	1,393,685	1,426,019

Table H.4b Projected Waste Growth for WMS3, by Management Method, beyond the Plan Period (2042 – 2051)

Management Method	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Recycling	769,914	787,370	805,398	824,020	843,257	863,130	883,661	904,874	926,793	949,447
Recovery	429,265	439,508	450,095	461,035	472,343	484,031	496,113	508,602	521,514	534,864
Transfer	116,512	118,453	120,450	122,506	124,622	126,801	129,045	131,355	133,735	136,187
Disposal	143,748	148,634	153,692	158,929	164,352	169,966	175,778	181,797	188,028	194,481
Total	1,459,439	1,493,965	1,529,635	1,566,491	1,604,574	1,643,927	1,684,597	1,726,628	1,770,070	1,814,980

Table H.5a Projected Waste Capacity over the Plan Period by Site Category (2021 – 2041)

Waste Stream	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Disposal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225
Recovery	202,384	202,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384
Recycling	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385
Total	440,994	440,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994

Table H.5b Projected Waste Capacity beyond the Plan Period by Site Category (2042 – 2051)

Waste Stream	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Disposal	-	-	-	-	-	-	-	-	-	-
Transfer	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225	159,225
Recovery	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384	132,384
Recycling	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385	79,385
Total	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994	370,994

Table H6a Projected Capacity Gaps/surpluses under each WMS over the Plan Period, by Site Category (2021 – 2041)

Site Category	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Recycling																					
WMS1	-178,450	-180,171	-184,983	-189,944	-195,059	-200,333	-205,772	-211,381	-217,167	-223,136	-229,295	-235,656	-242,220	-248,994	-255,985	-263,202	-270,652	-278,343	-286,284	-294,484	-302,952
WMS2	-178,450	-223,304	-272,386	-322,800	-374,600	-400,934	-428,519	-457,417	-487,689	-519,403	-536,439	-553,913	-571,828	-590,199	-609,040	-623,111	-637,632	-652,619	-668,089	-684,057	-700,543
WMS3	-178,450	-205,902	-237,418	-270,101	-304,006	-339,187	-375,702	-413,613	-452,983	-493,878	-510,791	-528,140	-545,931	-564,176	-582,891	-596,836	-611,230	-626,090	-641,431	-657,271	-673,628
Recovery																					
WMS1	-67,084	-68,452	-141,017	-143,642	-146,328	-149,078	-151,893	-154,776	-157,729	-160,754	-163,855	-167,044	-170,314	-173,667	-177,106	-180,635	-184,256	-187,972	-191,787	-195,704	-199,727
WMS2	-67,084	-67,037	-138,951	-141,734	-145,438	-159,255	-174,168	-190,237	-207,522	-226,088	-229,204	-232,545	-236,114	-239,919	-243,972	-253,250	-262,841	-272,754	-283,003	-293,598	-304,552
WMS3	-67,084	-72,175	-149,115	-156,801	-165,274	-174,577	-184,757	-195,858	-207,932	-221,029	-223,211	-225,582	-228,142	-230,900	-233,864	-242,012	-250,427	-259,120	-268,101	-277,380	-286,967
Transfer																					
WMS1	1,845	915	-590	-2,125	-3,692	-5,292	-6,926	-8,596	-10,301	-12,044	-13,826	-15,647	-17,509	-19,414	-21,363	-23,357	-25,398	-27,487	-29,626	-31,816	-34,060
WMS2	1,845	18,564	34,892	51,375	68,012	66,913	65,785	64,627	63,437	62,215	60,959	59,668	58,341	56,976	55,573	53,986	52,355	50,677	48,952	47,178	45,352
WMS3	1,845	8,759	15,180	21,653	28,176	34,750	41,374	48,048	54,771	61,543	60,280	58,982	57,648	56,276	54,865	53,271	51,632	49,947	48,215	46,433	44,599
Disposal																					
WMS1	-267,265	-269,601	-278,988	-288,709	-298,775	-309,198	-319,991	-331,167	-342,741	-354,725	-367,136	-379,988	-393,296	-407,078	-421,349	-436,127	-451,431	-467,280	-483,691	-500,686	-518,286
WMS2	-267,265	-245,532	-229,134	-211,261	-191,828	-170,625	-147,679	-122,893	-96,163	-67,384	-69,428	-71,545	-73,738	-76,011	-78,365	-80,946	-83,619	-86,385	-89,249	-92,214	-95,283
WMS3	-267,265	-247,990	-234,226	-219,171	-202,751	-184,887	-165,498	-144,497	-121,795	-97,296	-100,390	-103,594	-106,914	-110,352	-113,913	-117,745	-121,712	-125,818	-130,070	-134,472	-139,030

Table H6b Projected Capacity Gaps/surpluses under each WMS beyond the Plan Period, by Site Category (2042 – 2051)

Site Category	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051
Recycling										
WMS1	-311,704	-320,743	-330,079	-339,724	-349,687	-359,980	-370,615	-381,603	-392,958	-404,694
WMS2	-717,575	-735,162	-753,322	-772,077	-791,446	-811,452	-832,117	-853,465	-875,519	-898,309
WMS3	-690,530	-707,985	-726,014	-744,636	-763,872	-783,745	-804,276	-825,490	-847,409	-870,063
Recovery										
WMS1	-203,870	-208,127	-212,501	-216,996	-221,617	-226,368	-231,254	-236,279	-241,448	-246,767
WMS2	-315,884	-327,600	-339,715	-352,243	-365,198	-378,596	-392,452	-406,783	-421,606	-436,940
WMS3	-296,880	-307,124	-317,710	-328,651	-339,959	-351,647	-363,729	-376,218	-389,129	-402,480
Transfer										
WMS1	-36,359	-38,715	-41,129	-43,604	-46,142	-48,745	-51,414	-54,153	-56,963	-59,848
WMS2	43,474	41,541	39,552	37,504	35,395	33,224	30,989	28,686	26,314	23,871
WMS3	42,713	40,773	38,775	36,719	34,603	32,424	30,181	27,870	25,490	23,038
Disposal										
WMS1	-536,512	-555,386	-574,932	-595,173	-616,134	-637,841	-660,320	-683,599	-707,707	-732,677
WMS2	-98,460	-101,750	-105,155	-108,681	-112,331	-116,110	-120,022	-124,072	-128,266	-132,608
WMS3	-143,748	-148,634	-153,692	-158,929	-164,352	-169,966	-175,778	-181,797	-188,028	-194,481

Appendix I

WASTE MANAGEMENT SITES WITHIN WOLVERHAMPTON MANAGING MORE THAN 10,000 TPA

Public

Appendix I
Waste management sites within Wolverhampton managing more than 10,000 tpa

Explanation of Columns

IPPC

Not a field in the WDI, although in some cases Waste Permit references are the same as IPPC references. This field has been populated from the EA Public Register of installations.

Accredited Reprocessors - Accreditation Reference/ Classification

Not a field in the WDI as Accredited Reprocessors are not included. This field has been populated using information from the Register of Accredited Reprocessors.

Registered Exemptions

Not a field in the WDI, although some permitted sites also have Registered Exemptions. This field has been populated using information from the Waste Exemptions Register.

2021 Estimated Throughput Capacity (tpa)

The figures are estimates of operational throughput at each site in 2021.

Sources used to identify sites

- Environment Agency Waste Data Interrogator (WDI)
- Environmental Permitting Regulations Database
- Environment Agency Public Register
- Register of Accredited Reprocessors
- Planning permission

Table I.1 Waste management sites in Wolverhampton managing more than 10,000 tpa

Site Name	Operator	Waste Permit	IPPC	Accredited Reprocessor – Number / Classification	Registered Exemptions	Easting	Northing	Site Category	Facility Type	Permitted Capacity (tpa)	2021 Throughput Capacity (tonnes)
Bilston Copper Shaft Furnace EPR/BJ9843IH	Mueller Europe Limited	BJ9843IH				395760	296050	Processing	Non-Ferrous Metal reprocessing		11,916
G E S Recycling Ltd	G E S Recycling Limited	BB3338AL (401502)				391569	300690	MRS	Metal Recycling	75,000	12,701
H W R C Site Shaw Road	City Of Wolverhampton Council	FP3099CE (46119)				391505	300951	Transfer	CA Site	24,999	10,024
Horseley Field Waste Treatment Facility EPR/BP3331DD	Dunton Environmental Limited	BP3331DD				392320	298610	Treatment	Haz Waste Transfer / Treatment		86,916
J T W Metals Ltd	J T W METALS LIMITED	120264				393270	295508	MRS	Metal Recycling		24,325
Neachells Lane Transfer Station	Suez Recycling And Recovery U K Ltd	EB3708XH (42805)				394850	299226	Transfer	Non-Haz Waste Transfer	75,000	31,993

Site Name	Operator	Waste Permit	IPPC	Accredited Reprocessor – Number / Classification	Registered Exemptions	Easting	Northing	Site Category	Facility Type	Permitted Capacity (tpa)	2021 Throughput Capacity (tonnes)
Purbrook Rd T/s	S & B Waste Management & Recycling Limited	GP3897FG (42806)			WEX062847 (S2|T4|T6), WEX111371 (S2|S1|T10|T12|T5|T6)	393128	297897	Transfer	Haz Waste Transfer	25,000	28,622
Recycled Plastics (U K) Ltd	Recycled Plastics (U K) Limited	AB3802LK (400863)		ER182014130 (L, Plastic, R3)		392630	299000	Treatment	Physical Treatment	12,740	13,954
Recycling Transfer Station	City Of Wolverhampton Council	CB3832AS (103502)				391600	299880	Transfer	CA Site	74,999	21,501
Stitchacre Ltd	Mccauliffe Civil Engineering Limited	MP3792FB (40060)				395373	295880	Transfer	Non-Haz Waste Transfer	75,000	79,402
Wolverhampton EfW Facility EPR/AP3835SM	MES Environmental Limited	AP3835SM	AP3835SM			391660	299990	Incineration	Municipal Waste Incinerator	118,000	111,938

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