

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	2018/19 data set used. 2019/20 data set used. 2020/21 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	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
<p>C&I methodology</p> <p>C&I waste was estimated based on the waste received at permitted sites in 2018, 2019 and 2020 whose origin is Dudley, Sandwell, Walsall and Wolverhampton 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.</p> <p>From the Hhold/ Ind/ Com BWC the following EWC codes were subtracted:</p> <ul style="list-style-type: none"> • 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) <p>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 (Dudley 11%, Sandwell 9%, Walsall 9%, Wolverhampton 16%).</p> <p>From the Inert/ C&D BWC the following EWC codes were subtracted:</p> <ul style="list-style-type: none"> • 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). 			

Waste source	Source(s)	Description / Limitations				Confidence
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (535,990 tonnes) was apportioned to Black Country Authorities based on NOMIS Business Counts Enterprises by Industry 2018: Total Enterprises in the Black Country/ by WPA as % of Total Enterprises in the West Midlands.						
West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2018 (tonnes)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country	
Apportionment to Black Country %	4.47%	4.13%	3.54%	3.55%	15.69%	
Apportionment to Black Country (tonnes)	23,959	22,136	18,974	19,028	84,097	
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (719,420 tonnes) was apportioned to Black Country Authorities based on NOMIS Business Counts Enterprises by Industry 2019: Total Enterprises in the Black Country/ by WPA as % of Total Enterprises in the West Midlands.						
West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2019 (tonnes)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country	
Apportionment to Black Country %	4.51%	4.15%	3.58%	3.44%	15.68%	
Apportionment to Black Country (tonnes)	32,446	29,856	25,755	24,748	112,805	
C&I Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (630,637 tonnes) was apportioned to Black Country Authorities based on NOMIS Business Counts Enterprises by Industry 2020: Total Enterprises in the Black Country/ by WPA as % of Total Enterprises in the West Midlands.						
West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2020 (tonnes)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country	
Apportionment to Black Country %	4.48%	4.10%	3.54%	3.36%	15.48%	
Apportionment to Black Country (tonnes)	28,253	25,856	22,325	21,189	97,623	
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 the Black Country. 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						

Waste source	Source(s)	Description / Limitations	Confidence
absence of any other data, and given the number of exemptions in the Black Country (> 1000), 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 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 and 2020 whose origin is Dudley, Sandwell, Walsall and 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)

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (2,130,192 tonnes) was apportioned to Black Country Authorities based on Black Country 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)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Apportionment to Black Country %	5.91%	3.88%	4.45%	3.67%	17.91%
Apportionment to Black Country (tonnes)	125,894	82,651	94,794	78,178	381,517

CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (1,917,236 tonnes) was apportioned to Black Country Authorities based on Black Country 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)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Apportionment to Black Country %	5.91%	3.88%	4.45%	3.67%	17.91%
Apportionment to Black Country (tonnes)	113,309	74,389	85,317	70,363	343,377

Waste source	Source(s)	Description / Limitations	Confidence
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CD&EW Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (1,659,791 tonnes) was apportioned to Black Country Authorities based on Black Country 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)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Apportionment to Black Country %	5.96%	4.02%	4.48%	3.60%	18.06%
Apportionment to Black Country (tonnes)	98,924	66,724	74,359	59,752	299,758

Agricultural waste

WDI EWC Chapter 2 (Agriculture and Food Processing Wastes), Waste Received 2018
Waste Received 2019
Waste Received 2020

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 and 2020 whose origin is Dudley, Sandwell, Walsall and 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 Black Country Authorities 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 the Black Country as % of Enterprises falling within SIC Codes 1 – 3 in the West Midlands region, as below.

Waste source	Source(s)	Description / Limitations				Confidence
West Midlands Not Codeable Waste - Estimated C&I Waste Arising in 2018 (tonnes)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country	
Apportionment to Black Country %	0.20%	0.04%	0.28%	0.08%	0.60%	
Apportionment to Black Country (tonnes)	62	12	87	25	187	

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (926 tonnes) was apportioned to Black Country Authorities 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 the Black Country 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)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Apportionment to Black Country %	0.20%	0.08%	0.32%	0.08%	0.68%
Apportionment to Black Country (tonnes)	2	1	3	1	6

Agricultural Waste Origin West Midlands WPA Not Codeable/ West Midlands Estimated (4,292 tonnes) was apportioned to Black Country Authorities 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 the Black Country 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)	Dudley	Sandwell	Walsall	Wolverhampton	Black Country
Apportionment to Black Country %	0.24%	0.04%	0.32%	0.08%	0.68%
Apportionment to Black Country (tonnes)	10	2	14	3	29

Hazardous waste	Hazardous Waste Data Interrogator, Waste Received 2018 Waste Received 2019 Waste Received 2020	Hazardous waste arisings were taken from the Hazardous Waste Data Interrogator.	High
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	Total apportioned by Black Country percentage of population (1.8% 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 the Black Country).	Medium

¹ ONS 2019 MYE Black Country Population - 1,193,390 / UK population – 66,796,800 = 1.8%

Waste source	Source(s)	Description / Limitations	Confidence
	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		
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	High
C&I	Waste Data Interrogator (WDI) Waste Received 2018 Waste Data Interrogator (WDI) Waste Received 2019 Waste Data Interrogator (WDI) Waste Received 2020	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	Medium
Hazardous	Hazardous Waste Data Interrogator 2018 Hazardous Waste Data Interrogator 2019 Hazardous Waste Data Interrogator 2020	High
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	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 Dudley, Sandwell, Walsall and Wolverhampton in 2018, 2019 and 2020 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 of the Black Country.

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

Facility Type	Waste Management Category
Inert LF	Disposal
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 2017'	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 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 Wood 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 inputs, i.e. operational throughput, at specified facilities within the Black Country.	Medium

Notes

1. This is the underlying data used in Table 2.14 as the 'baseline' estimate of waste management capacity in the Black Country in 2019, 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.
2. The 2019 and 2020 WDI 'waste received' data has been adjusted to remove waste received at two sites outside the Black Country which are incorrectly coded to Wolverhampton in the WDI (Aqua Force in Staffordshire and Swancote Farm in Shropshire). The Transfer figures for Sandwell and Walsall have also been adjusted to take account of another coding error in the WDI whereby Network Rail, Bescot Sidings in Sandwell is incorrectly coded to Walsall.

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	Throughput capacity. The Hazardous WDI provides information on the fate of hazardous waste managed at permitted facilities in the Black Country.	Medium

Facility type	Source(s)	Limitations	Confidence
Low level radioactive waste (LLRW)	Environment Agency	No publicly available information on facility capacities to treat LLRW	No estimate
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 the Black Country. Member login used to access capacity data.	High
ELV recycling and depollution	2019 WDI 2020 WDI	WDI inputs, i.e. operational throughput, at specified facilities within the Black Country. Double counting as already accounted for within 'MRS' of existing capacity table	Medium
WEEE treatment	2019 WDI 2020 WDI	WDI inputs, i.e. operational throughput, at specified facilities within the Black Country. 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

Authority	Source(s)
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)
