

Appendix 2 - Waste management capacity and land take requirement calculations

1.1 Waste management capacity

The waste management licensed capacity (as at March 2009) is detailed in Table 2.1.

Table 2.1 Existing Capacity across the West London Area by Facility Type

Facility Type	Number of Facilities	Annual Licensed Capacity (tonnes)	Annual Estimated Throughput (tonnes) ¹	Annual Estimated surplus Capacity (tonnes)
Transfer Facilities				
Household, Commercial and Industrial Waste Transfer Station	35	6,602,000	4,951,500	1,650,500
Clinical Waste Transfer Station	2	10,000	7,500	2,500
Transfer Station Taking Non Biodegradable Wastes	5	324,200	243,150	81,050
Special Waste Transfer Station	3	87,300	65,475	21,825
HCI Waste Transfer Station	1	75,000	56,250	18,750
Asbestos Waste Transfer Station	1	3,650	2,738	913
Waste Treatment/Management Facilities				
Metal Recycling Site (Mixed MRS)	1	75,000	56,250	18,750

¹ An assumption of 75% utilisation of licensed capacity for all categories of facility except Civic Amenity Sites²

Facility Type	Number of Facilities	Annual Licensed Capacity (tonnes)	Annual Estimated Throughput (tonnes) ¹	Annual Estimated surplus Capacity (tonnes)
Civic Amenity Site ²	3	345,000	172,500	57,500
Physical Treatment Facility	1	140,000	105,000	35,000
Metal Recycling Site (Vehicle Dismantlers)	9	116,000	87,000	29,000
Materials Recycling Facility	1	75,000	56,250	18,750
Composting Facility	3	125,000	93,750	31,250
Total	65	7,978,150	5,897,363	1,965,788
Total excluding Transfer Facilities	18	876,000	570,750	190,250
Total excluding transfer and Civic Amenity sites²	13	646,000	484,500	161,500

Note: All figures rounded

Source: Derived from Environment Agency data March 2009

² An assumption of 50% utilisation of licensed capacity of civic amenity sites has been applied

1.2 Land take requirement calculations based on 2008 London Plan

The updated existing capacity information has been used to calculate the capacity required for west London to meet apportionment. This is presented in Table 2.2.

The target years for 2010 and 2015 are taken from the London Plan 2008, and the remaining target years; 2021 and 2026 have been used to reflect the 10 year and 15 year review dates of the proposed West London Waste Plan and are aligned also with the London Plan 2009 revised figures.

Table 2.2 West London Waste Arisings capacity requirements for target years

	2010	2015	2021	2026
Total MSW and C&I arisings (London Plan 2008 figures)	2,216,000	2,373,000	2,628,000	2,869,000
Total Apportionment	1,620,000	2,146,000	2,567,229	2,807,312
Total existing capacity (75% of licensed capacity)	484,424	574,424	574,424	574,424
Additional capacity required to meet the apportionment targets	1,135,576	1,571,576	1,992,805	2,232,888

Note: The figures shown are only for Municipal Solid Waste and Commercial and Industrial waste, and are in tonnes per annum.

From 2015 the WLWA will send 90,000 tpa to the Lakeside EfW facility.

Source: Derived from the 2008 London Plan and Environment Agency, up to 2020, figures to 2026 are extrapolated.

Using Table 2.3 (taken from the London Plan Table 4A.7) it is possible to calculate an indicative number and type of facilities that would be required to meet west London's waste infrastructure requirements for meeting the apportionment.

Table 2.3 Land take required per facility

Facility type	Through put per facility (tonnes per year)	Land take per facility (ha)	Number of additional facilities required to meet apportionment in	
			2021	2026
Materials Recovery Facility	42,000	0.90	31	34
Composting	19,000	1.25	9	10
Mechanical Biological Treatment	125,000	1.75	3	3
Anaerobic Digestion	15,000	1.00	4	4
Gasification/Pyrolysis	114,000	2.25	2	2
Total			49	53

Source: Derived from 2008 London Plan – Throughput and land take of different types of facilities.

Note: Number of facilities, rounded to nearest whole number.

This can then be used to calculate the land take required to provide sufficient area for this number of facilities to meet the apportionment. Table 2.4 summaries the land take requirements at key stages of the life of the WLWP.

Table 2.4 Land take required across the life of the plan

Facility type	Land take required to meet apportionment in	
	2021 (ha)	2026 (ha)
Materials Recovery Facility	29	31
Composting	11	12
Mechanical Biological Treatment	5	5
Anaerobic Digestion	4	4
Gasification/Pyrolysis	4	4
Total	53	56

Note: Land take rounded to nearest whole number.

From Table 2.4 above, the identified number of facilities would require 53ha of land to be allocated across the six west London boroughs to meet the apportionment target for 2021. A further 3 ha of land will be required for west London to meet the apportionment in 2026. Potentially, land currently occupied by existing transfer stations could be re-allocated to be used for additional treatment capacity which could place a lesser burden on the authorities' to supply new sites.

1.3 Land area requirement calculations based on revised draft Replacement London Plan 2009

In 2009, the Mayor of London (the Mayor) recognised that the projected municipal solid waste and commercial & industrial waste arisings at borough level in the current 2008 London Plan needed updating. The Mayor published, for public consultation, new projected borough level arisings and apportionment targets for municipal solid waste and commercial & industrial waste in the form of a minor alteration to the Draft Replacement London Plan in December 2009³. In order to identify the implications of the revised figures the following calculations have been made using the new data demonstrated in Tables 2.5 to 2.7.

Table 2.5 West London Capacity Requirements for Target Years (revised draft Replacement London Plan figures, Dec 2009) including self-sufficiency targets

³ The London Plan Spatial Development Strategy for Greater London, Minor alteration to the consultation draft replacement London Plan Borough level waste arisings and apportionments, and corrections and clarifications, December 2009

	2011	2016	2021	2026
Total MSW and C&I arisings (London Plan figures)	2,082,997	2,082,711	2,092,270	2,110,935
Apportionment	1,399,132	1,593,145	1,799,320	2,018,719
Apportionment plus (self-sufficiency for London)	2,062,823	2,099,847	2,144,267	2,195,297
Total existing capacity (75% of licensed capacity)	484,424	574,424	574,424	574,424
Additional capacity required to meet the apportionment targets	914,708	1,108,721	1,224,896	1,444,295
Additional capacity required to meet the apportionment plus targets	1,578,399	1,525,423	1,569,844	1,620,873

Note: The figures shown are only for Municipal Solid Waste and Commercial and Industrial waste, and are in tonnes per annum.

The target years are taken from the revised draft Replacement London Plan, December 2009.

Table 2.6 Indicative number of facilities required to meet the 2009 draft Replacement London Plan
Proposed Waste Apportionment

Facility type	Through put per facility (tonnes per year)	Land take per facility (ha)	Number of additional facilities required to meet apportionment in	
			2021	2026
Materials Recovery Facility	42,000	0.90	19	22
Composting	19,000	1.25	5	6
Mechanical Biological Treatment	125,000	1.75	2	2
Anaerobic Digestion	15,000	1.00	2	3
Gasification/Pyrolysis	114,000	2.25	1	1
Total			29	34

Note: Number of facilities, round to nearest whole number.

Source: Land take derived from 2008 London Plan – Throughput and land take of different types of facilities.

Capacity figures calculated using the derived from revised draft London Plan 2009.

Table 2.7 Comparison of the indicative land take required to meet Apportionment

Facility type	Land take required to meet Adopted Plan Waste Apportionment in		Land take required to meet Replacement Plan Waste Apportionment in	
	2021 (ha)	2026 (ha)	2021 (ha)	2026 (ha)
Materials Recovery Facility	29	31	17	20
Composting	11	12	7	8
Mechanical Biological Treatment	5	5	3	3
Anaerobic Digestion	4	4	2	3
Gasification/Pyrolysis	4	4	2	3
Total	53	56	31	37

Note: Areas rounded to nearest hectare.

In summary the revised figures for west London assume that there will be a lower amount of waste than originally projected. This is reflected in the forecast land take requirements for west London. The 2008 London Plan figures identifies that 56 ha of additional land is required by 2026 compared with 37 ha required under the revised draft London Plan 2009 figures.