WASTE TECHNICAL SEMINAR

MAYOR OF LONDON

AGENDA

1. Introduction
2. Calculating waste arisings
3. Waste imports & exports
4. Waste apportionment
5. Definitions

MAYOR OF LONDON

INTRODUCTION- MAYOR'S ROLE AND RESPONSIBILITIES FOR WASTE

- The Mayor is required under the GLA Act to produce a municipal waste management strategy - this is set out in the London Environment Strategy.

- The London Plan reflects the Mayor's Environment Strategy, aiming to help cut waste, boost recycling and support the City's transition to the circular economy.

- The Mayor is not a waste planning authority and therefore has limited powers to direct where waste is managed.

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INTRODUCTION CONTINUED...

- The Mayor has the power to direct a waste authority where activities are detrimental to implementing municipal waste provisions in the Environment Strategy.
- The Mayor's power of direction does not apply to businesses or private waste companies.
- The Mayor can ensure local authority waste plans, services, strategies and contracts are in general conformity with waste policies and proposals.
- The Mayor has planning powers with referable applications.
- The Mayor can use convening, leadership and advocacy to drive improvements and promote best practice.

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WASTE ARISINGS

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LONDON WASTE ARISINGS

Total of ~18.0Mt of waste produced in London in 2015

- Household waste: 3.1Mt (17%)
- Commercial & Industrial waste: 5.0Mt (28%)
- Construction, Demolition and Excavation waste: 9.7Mt (54%)

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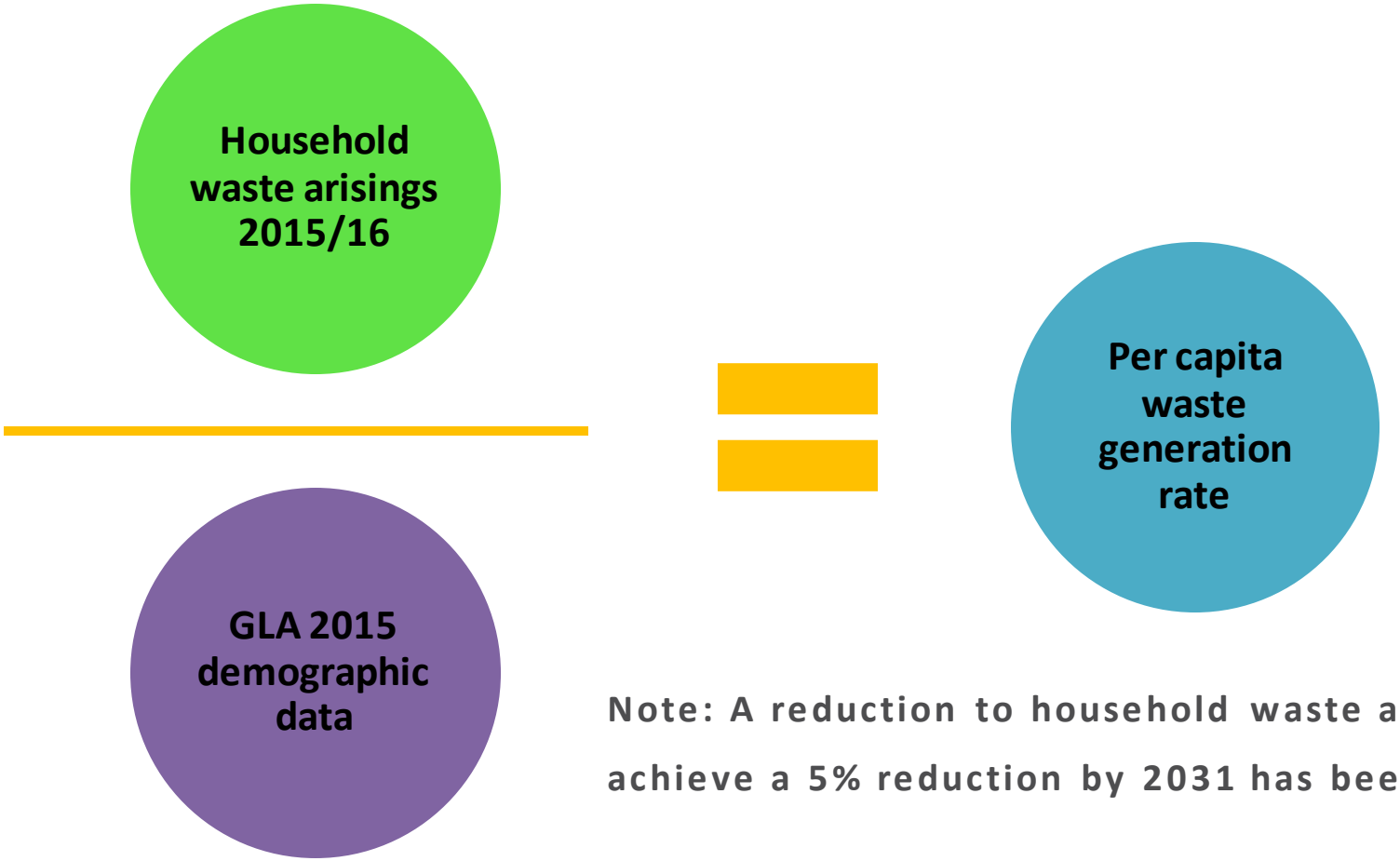
HOUSEHOLD WASTE ARISINGS



Note: A reduction to household waste arisings to achieve a 5% reduction by 2031 has been applied.

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HOUSEHOLD WASTE ARISINGS

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HOUSEHOLD WASTE ARISINGS

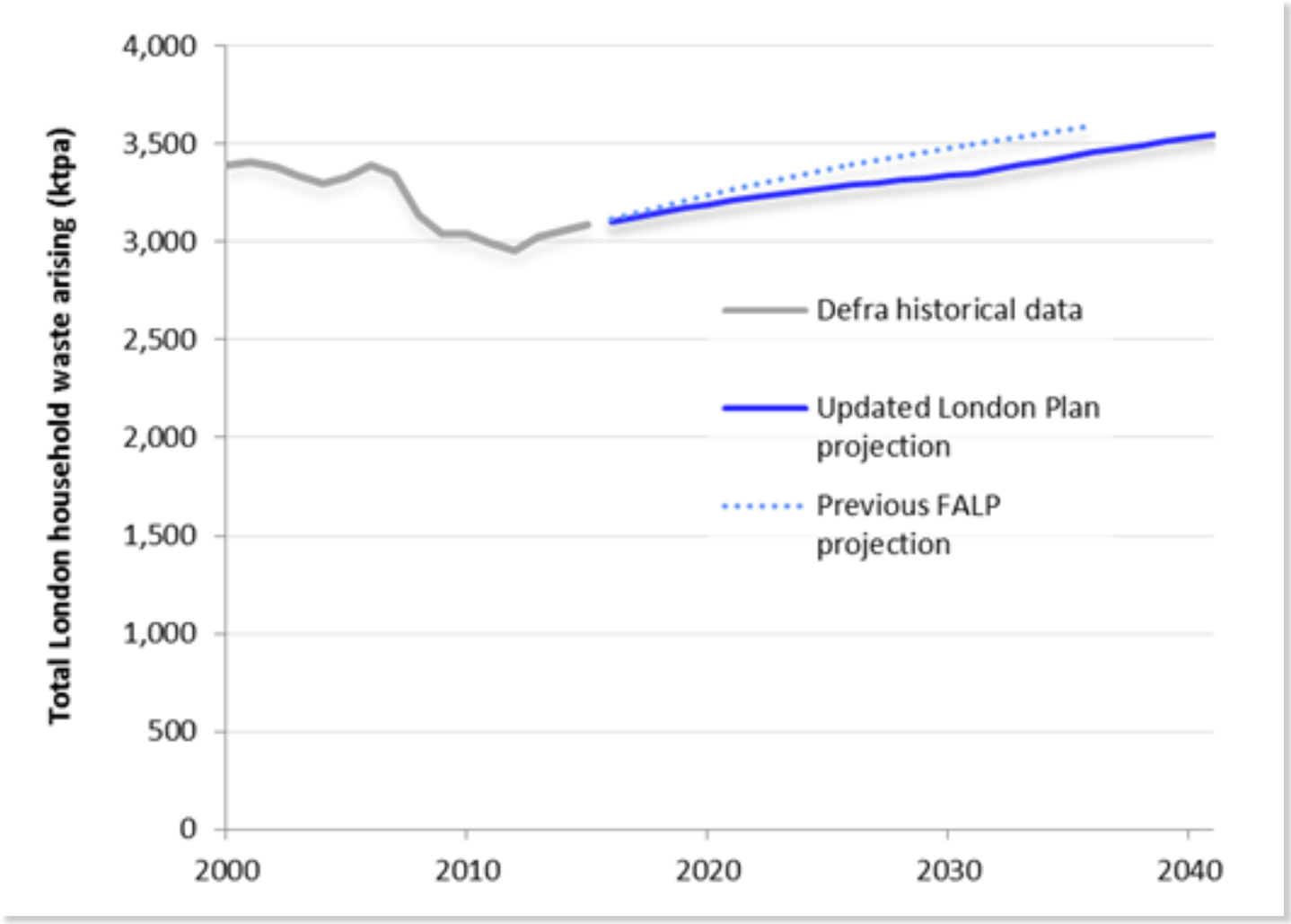

Figure 1: Projected household waste arisings (Figure 2.4 in Task 1 report)

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HOUSEHOLD WASTE ARISINGS

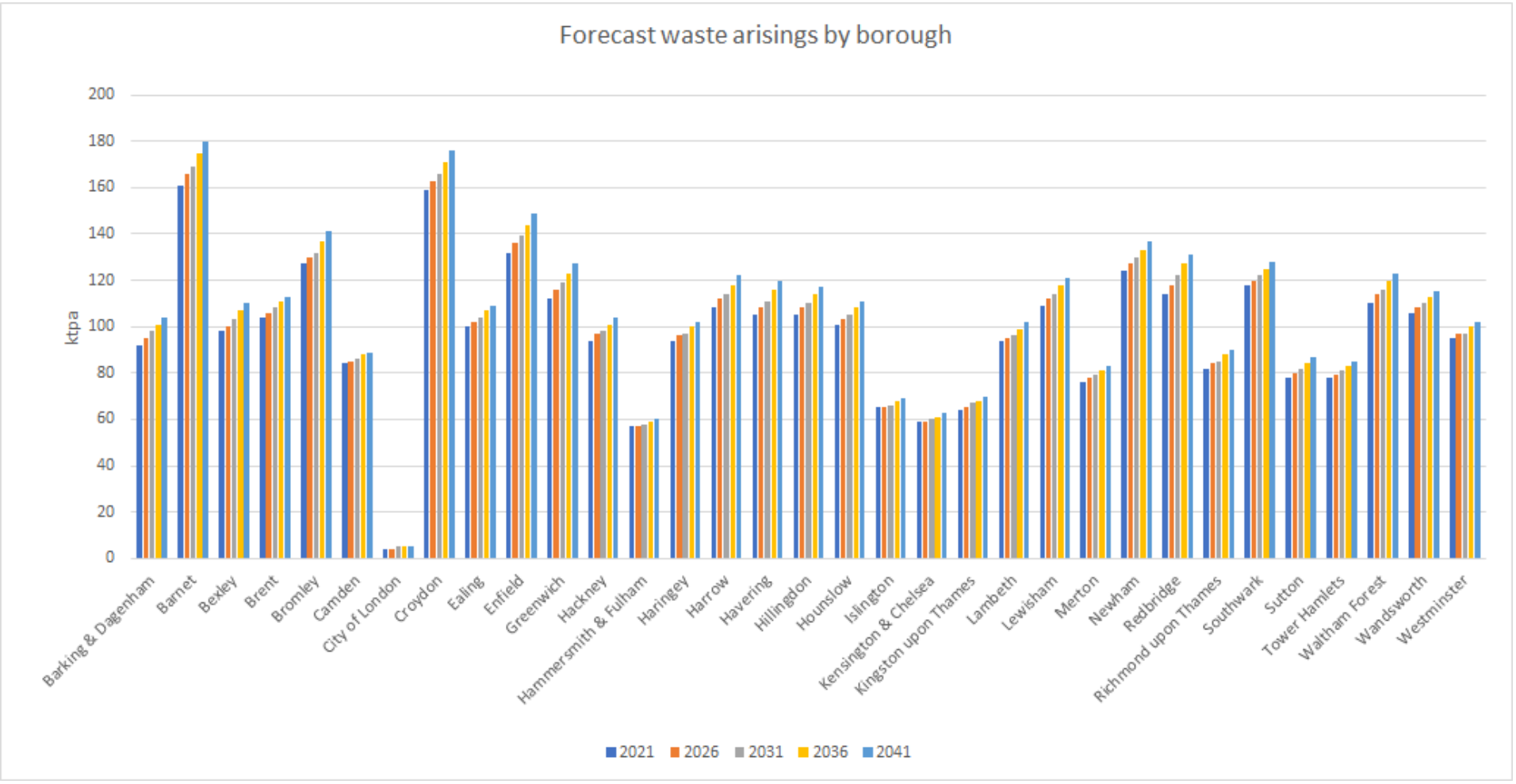

Figure 2: Forecast waste arisings by borough

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COMMERCIAL & INDUSTRIAL WASTE ARISINGS

COMMERCIAL & INDUSTRIAL WASTE ARISINGS

- Uses DEFRA 2009 Commercial and Industrial Waste arisings survey data.
- The data is collated into a set of common, simplified business sectors.
- Applies a reduction to commercial and industrial waste arisings to achieve a 5% reduction by 2031.

COMMERCIAL & INDUSTRIAL WASTE ARISINGS

Forecasted employment (per sector)

GLA forecasted employment per sector:

- Falling employment in industry (high waste per employee)
- Rising employment in commerce (relatively low waste per employee)
- Continuing shift from waste-intensive industry, to waste-light commerce
- Results in negligible 3% long term C&I waste growth to 2041
- … despite significant 21% growth in total numbers in employment over the same period.

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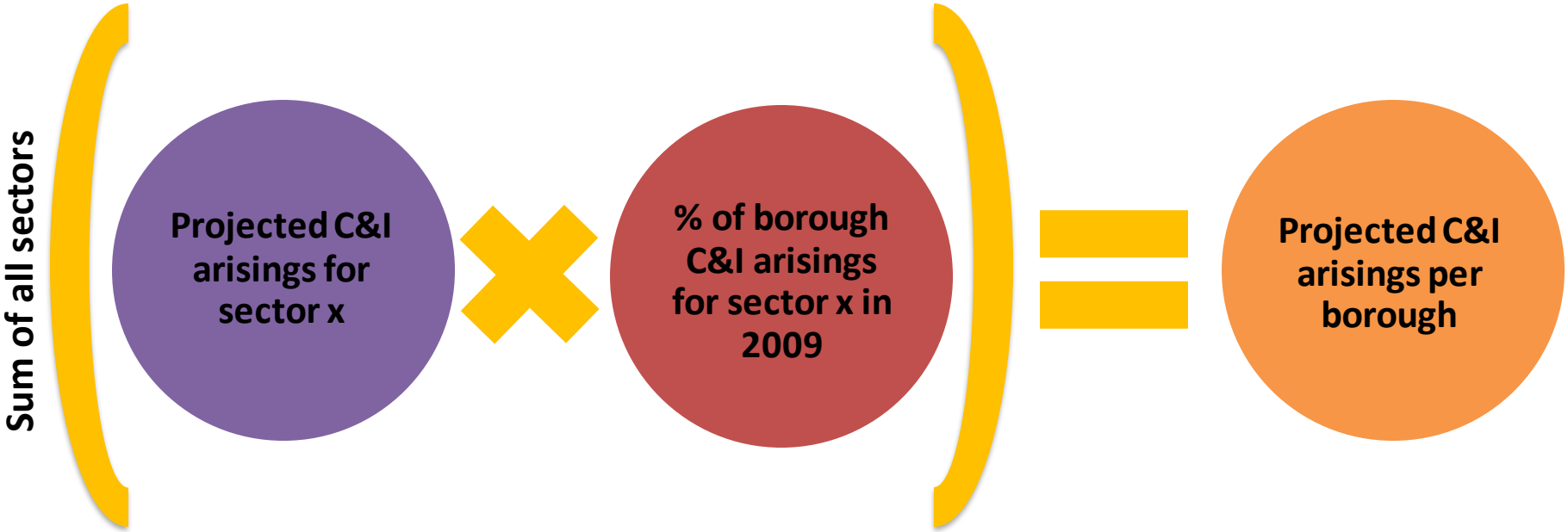
COMMERCIAL & INDUSTRIAL WASTE ARISINGS



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COMMERCIAL & INDUSTRIAL WASTE ARISINGS

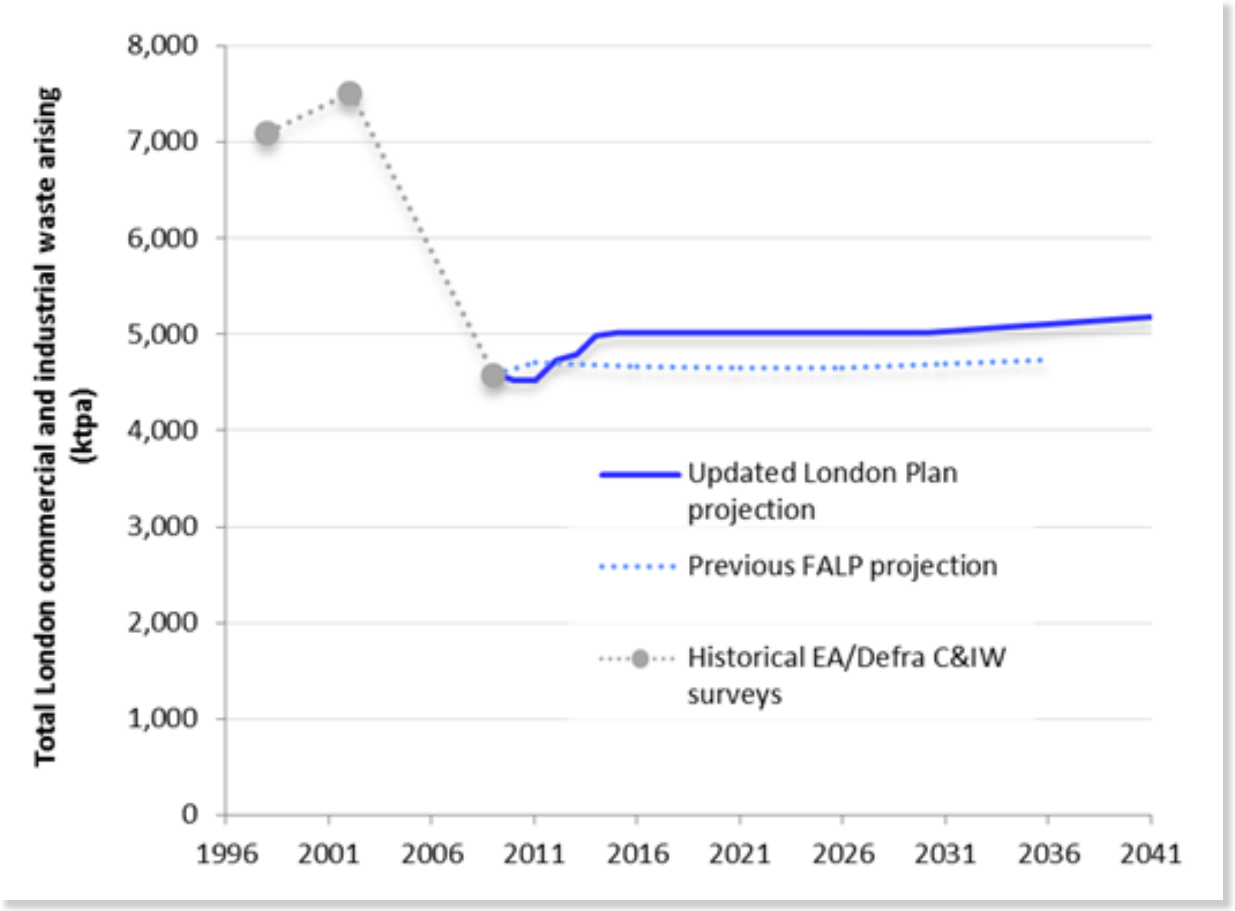

Figure 3: Projected commercial & industrial waste arisings (from Figure 3.1 of Task 1 report)

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COMMERCIAL & INDUSTRIAL WASTE ARISINGS

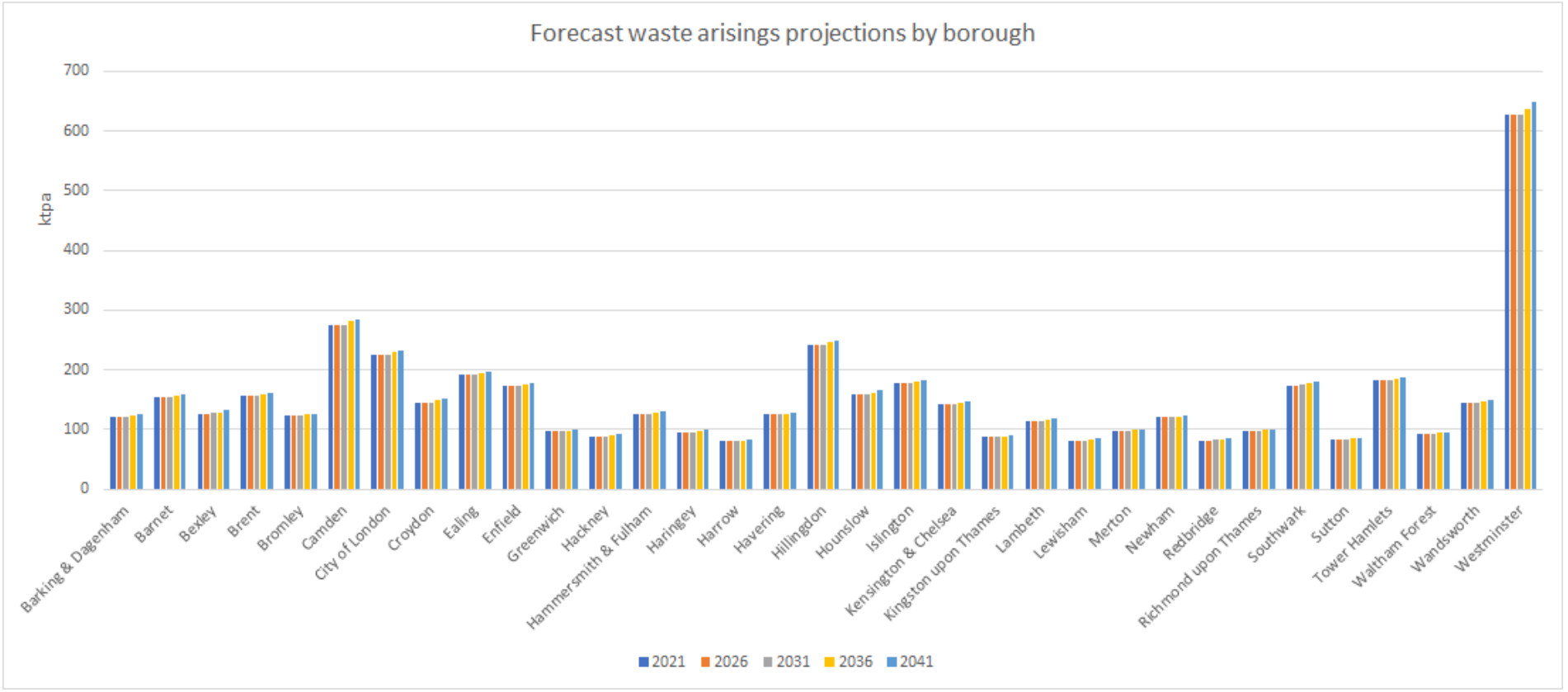

Figure 4: Forecast commercial and industrial waste arisings by borough

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CONSTRUCTION, DEMOLITION AND EXCAVATION WASTE ARISINGS

SLR reviewed a range of data sources, concluding that the **2015 Waste Data Interrogator** provided the best data source:

- increasingly being relied upon by waste planning authorities' in the absence of recent detailed survey data; and
- based on actual tonnages recorded as inputs to facilities rather than extrapolations.

CONSTRUCTION, DEMOLITION AND EXCAVATION WASTE ARISINGS

Limitations of the Waste Data Interrogator data:

- The estimate of waste arisings is contingent upon waste facility operators keeping accurate records of tonnages and types of waste received.
- The quantified tonnage is limited to waste processed via facilities operating under an environmental permit.

CONSTRUCTION, DEMOLITION AND EXCAVATION WASTE ARISINGS

CONSTRUCTION, DEMOLITION AND EXCAVATION WASTE ARISINGS

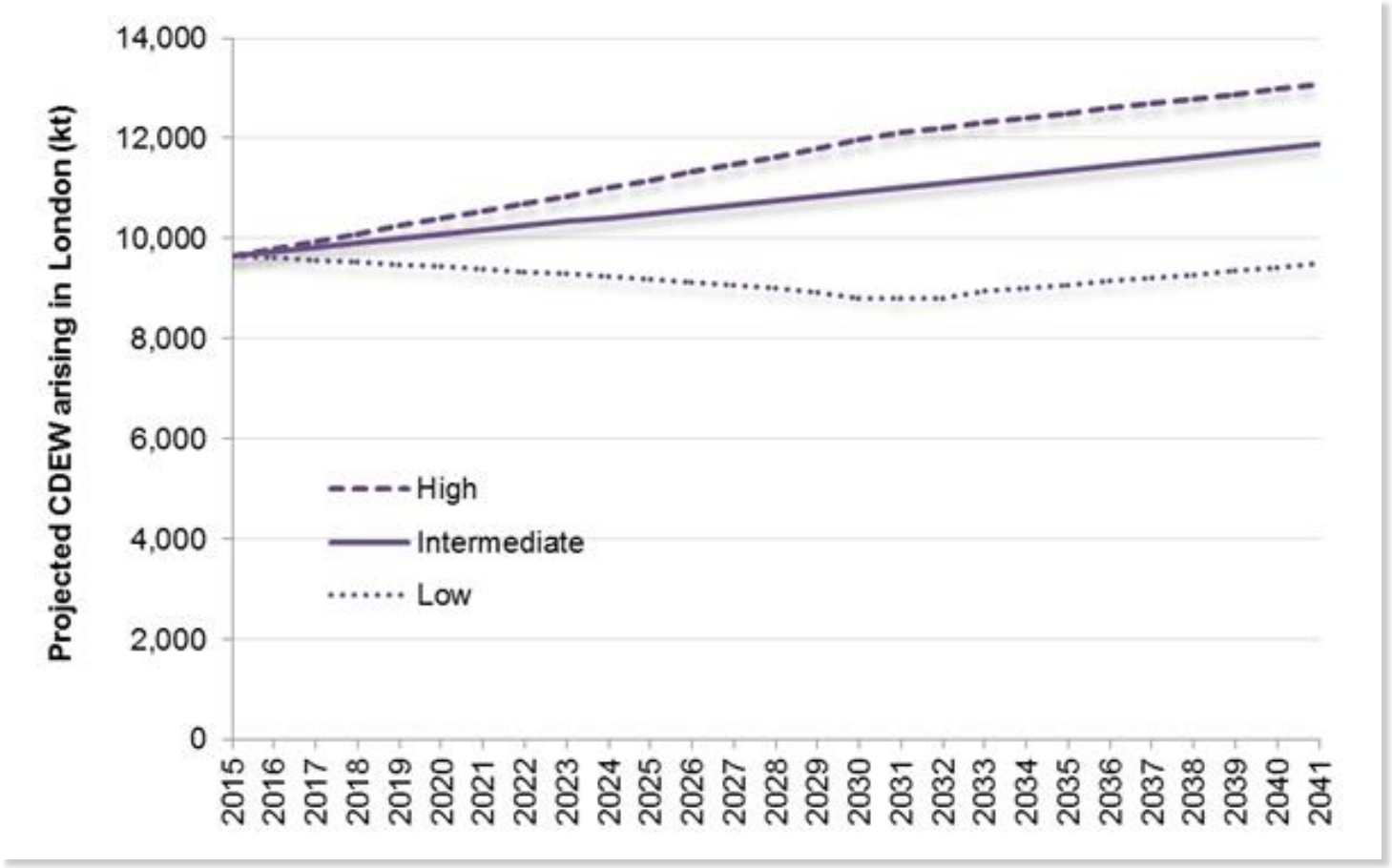

Figure 5: Projected CD&E waste arisings based on three scenarios (Figure 2.2, Task 2 report)

HAZARDOUS WASTE

Data sources

- Waste Data Interrogator
  - provides greater detail, including flows of hazardous waste via individual facilities
  - But does not capture data on hazardous waste accepted for incineration
- Hazardous Waste Interrogator
  - provides high level data on waste movements between local authority areas

Both can be used to determine comparable estimates of hazardous waste arisings.

HAZARDOUS WASTE

Table 1: WDA based estimate of hazardous waste generate in London (Hazardous Waste Interrogator 2015)

	Estimated London hazardous waste arising (kt)
Disposed of at sites in London	60
Disposed of at sites outside London	263
Total hazardous waste originating in London and recorded at permitted facilities	**324**

HAZARDOUS WASTE

HAZARDOUS WASTE

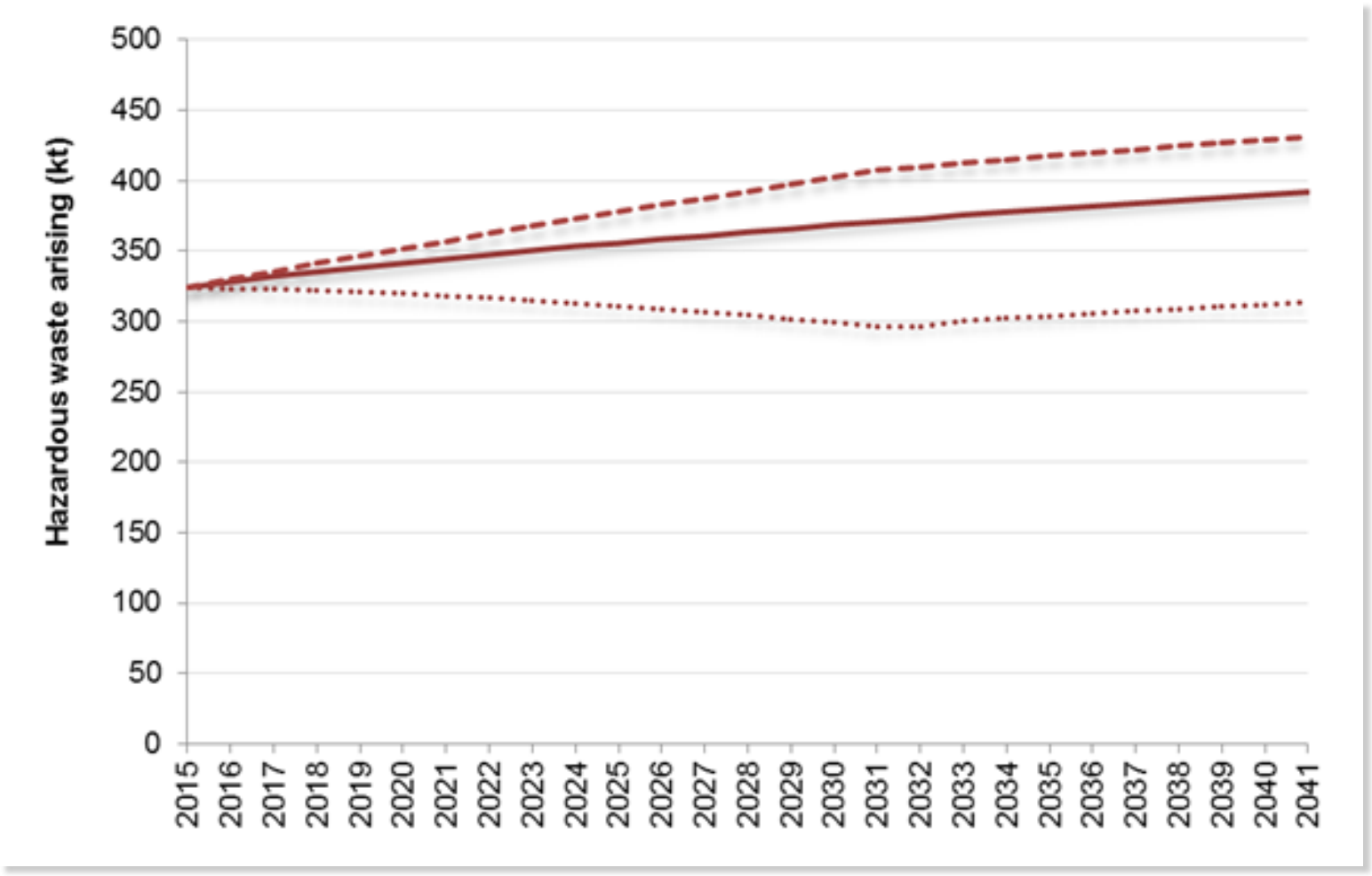

Figure 6: Projected Hazardous waste arisings based on three scenarios (Figure 3.1, Task 2 report)

WASTE IMPORTS & EXPORTS

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WASTE IMPORTS & EXPORTS

Waste Data Interrogator 2015 data was used to determine waste movements, as it specifies waste:

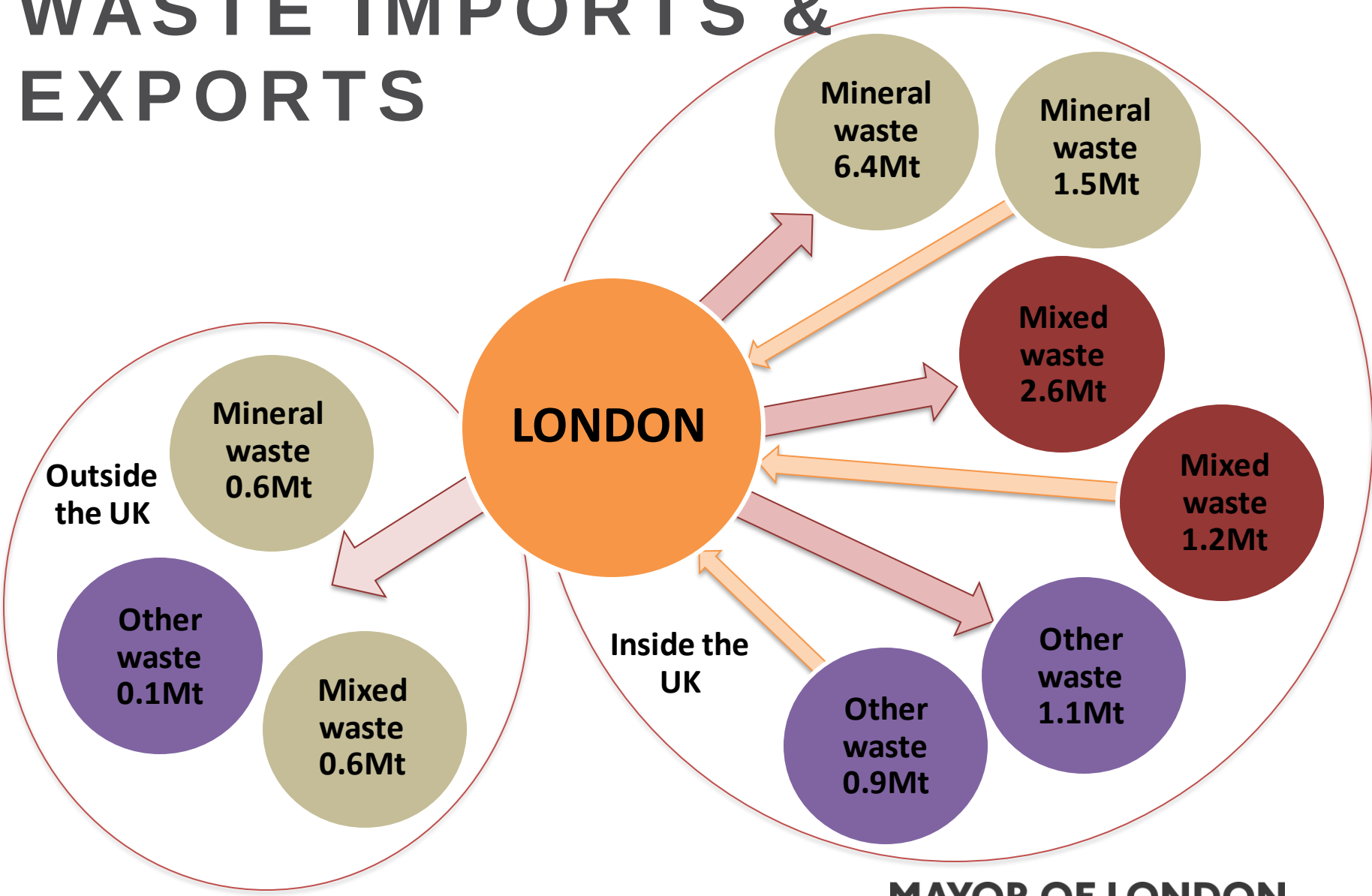
- tonnage
- type
- source point
- destination

WASTE IMPORTS & EXPORTS

Limitations of the Waste Data Interrogator data:

- reliant upon accurate reporting of waste movements from facility operators
- information on origin/destination of waste is not mandatory
- waste can be ‘double-counted’ as it moves between facilities
- inputs to incineration facilities are not included
- only captures data on waste flows via facilities operating under an Environmental Permit

WASTE IMPORTS & EXPORTS



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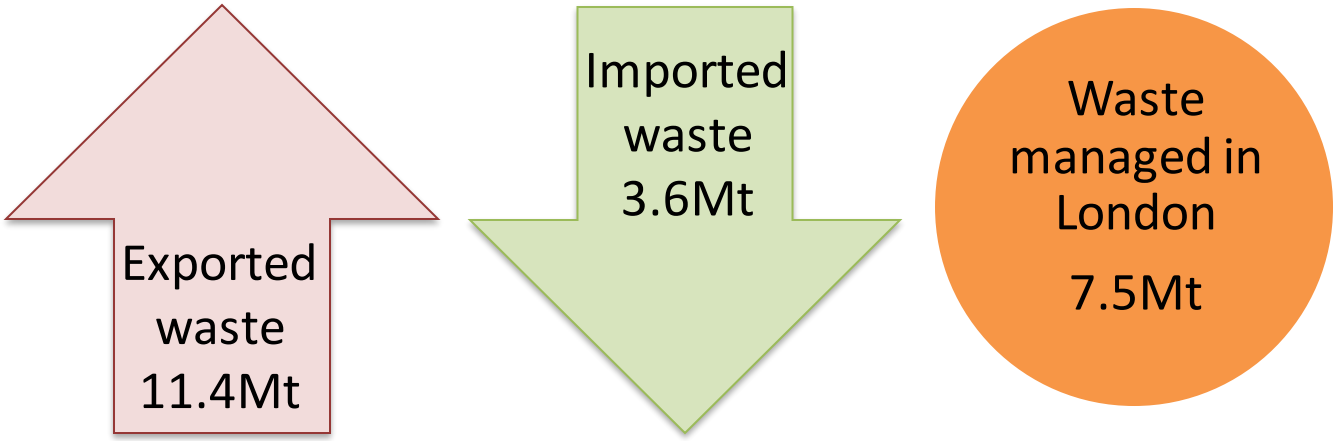
WASTE IMPORTS & EXPORTS

Table 1: Estimated Waste exports and imports within the UK inferred using the WDI, 2015 (kt)

	Exported from London	Imported to London
Transfer	750	1,156
Reuse	55	0
Recycling	615	1,255
Anaerobic digestion	22	0
Composting	55	25
Mechanical biological treatment	0	0
Other treatment	830	447
Landfill	5,356	452
Other	1,609	223
Incineration	785	72
Subtotal managed within the UK	**10,078**	**3,630**

WASTE IMPORTS & EXPORTS



= approximately 60% **net self-sufficiency** for waste in 2015

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WASTE APPORTIONMENT

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WASTE APPORTIONMENT

2006

- Nine criteria
- Ranked weightings
- Datasets

2018

- Seven criteria
- Consistent weighting per criteria
- Updated datasets

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WASTE APPORTIONMENT

Criteria	Reason for inclusion
1 - Identification of Theoretical surplus/Deficit in Each Borough	To identify those boroughs that have a greater potential surplus capacity for waste management
2 - Proximity to Waste Arisings	To highlight boroughs with surplus capacity, based on their proximity to those in deficit
3 - Proximity to Sustainable Transport Modes	To identify those boroughs with greater densities of sustainable transport modes
4 - Proximity to the Road Network	To highlight those boroughs where heavy goods vehicles have the potential to access the strategic road network more readily
5 – Ability to use Sustainable Transport Modes	To identify those boroughs with greater ability to use sustainable transport modes
6 - Historic Patterns of Historic Waste Management Capacity	To take into account existing waste contracts between boroughs
7 - Other Land Uses / Environmental Factors	To identify boroughs that are less constrained by environmental designations
8 - Flood Risk	To identify boroughs that are less constrained by flood risk
9 - Socio-Economic Factors	To identify those boroughs where waste facilities are likely to cause less significant adverse socio-economic impacts.

Table 1: Waste apportionment criteria - 2006

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WASTE APPORTIONMENT

Criteria	Reason for inclusion
1 – Theoretical capacity	To identify those boroughs that have a greater potential surplus capacity for waste management
2 - Waste Arisings (at 2021)	To highlight boroughs with surplus capacity, based on their proximity to those in deficit
3 - Sustainable Transport Modes	To identify those boroughs with greater densities of sustainable transport modes
4 - Road Network Capacity	To highlight those boroughs where heavy goods vehicles have the potential to access the strategic road network more readily
5 - Other Land Use/Environmental Factors	To identify boroughs that are less constrained by environmental designations
6 - Flood Risk	To identify boroughs that are less constrained by flood risk
7 - Socio-Economic Factors	To identify those boroughs where waste facilities are likely to cause less significant adverse socio-economic impacts.

Table 2: Waste apportionment criteria - 2018

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CRITERION 1 – THEORETICAL CAPACITY

2006

- Waste capacity grouped with waste arisings
- Conversion factor of 80,000t/Ha

2018

- Disaggregates capacity from arisings
- Conversion factor of 50,000t/Ha

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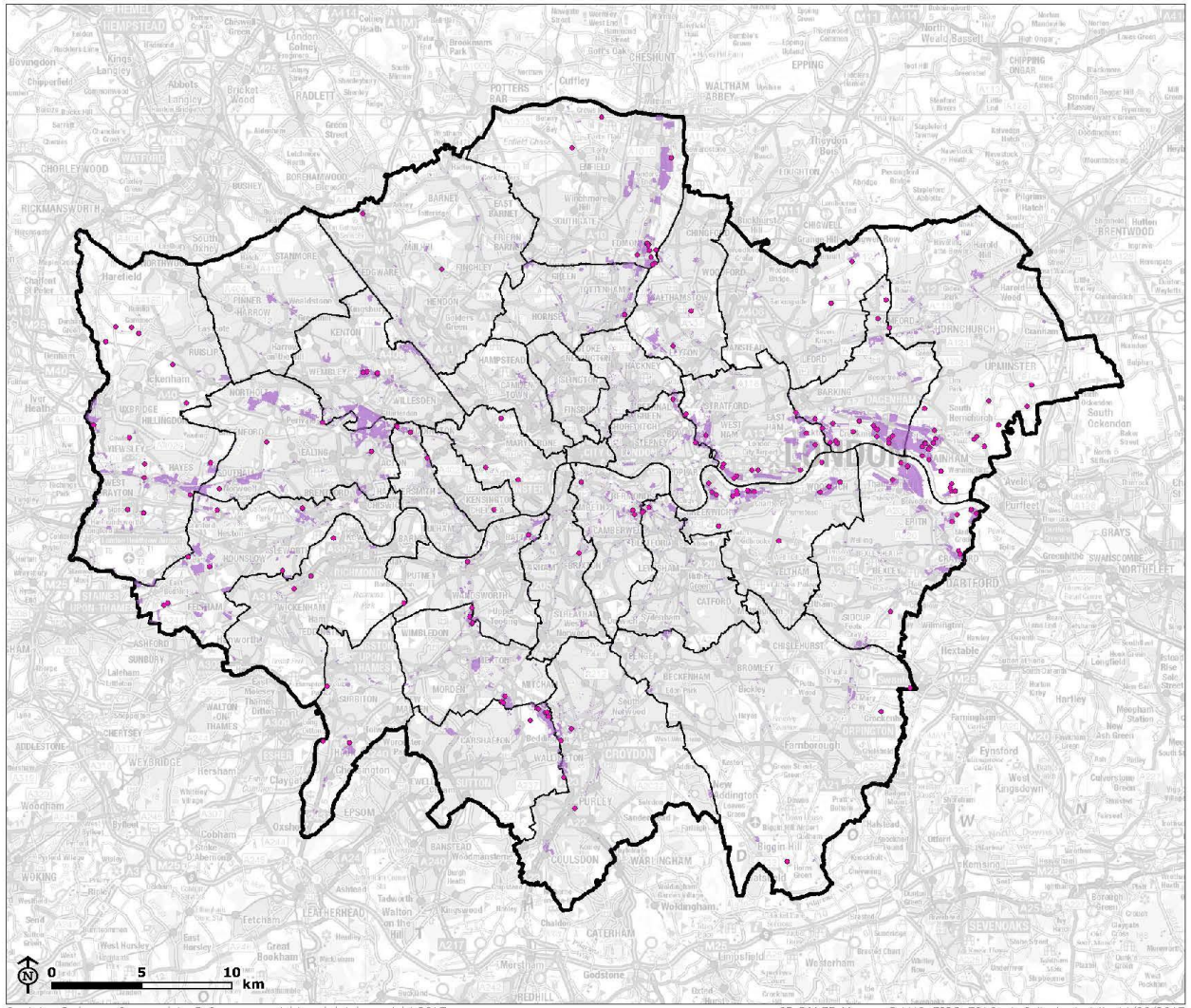
CRITERION 1 – THEORETICAL CAPACITY



London Plan Waste Forecasts and Apportionment

Figure 2: Criterion 1 factors

- Greater London
- Borough boundaries
- Existing waste sites
- Suitable industrial land

Source: GLA, Ordnance Survey

Map Scale @ A4: 1:300,000

LUC

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CRITERION 1 – THEORETICAL CAPACITY

Results

Highest apportionment percentages

- LB Bexley 8.4%
- LB Havering 8.0%
- LB Hounslow 7.5%

Lowest apportionment percentages

- City of London 0.0%
- City of Westminster 0.1%
- RB Hammersmith & Fulham 0.2%
- RB Kensington & Chelsea 0.2%

CRITERION 2 – WASTE ARISINGS (AT 2021)

2006

- Waste capacity grouped with waste arisings

2018

- Disaggregates capacity from arisings

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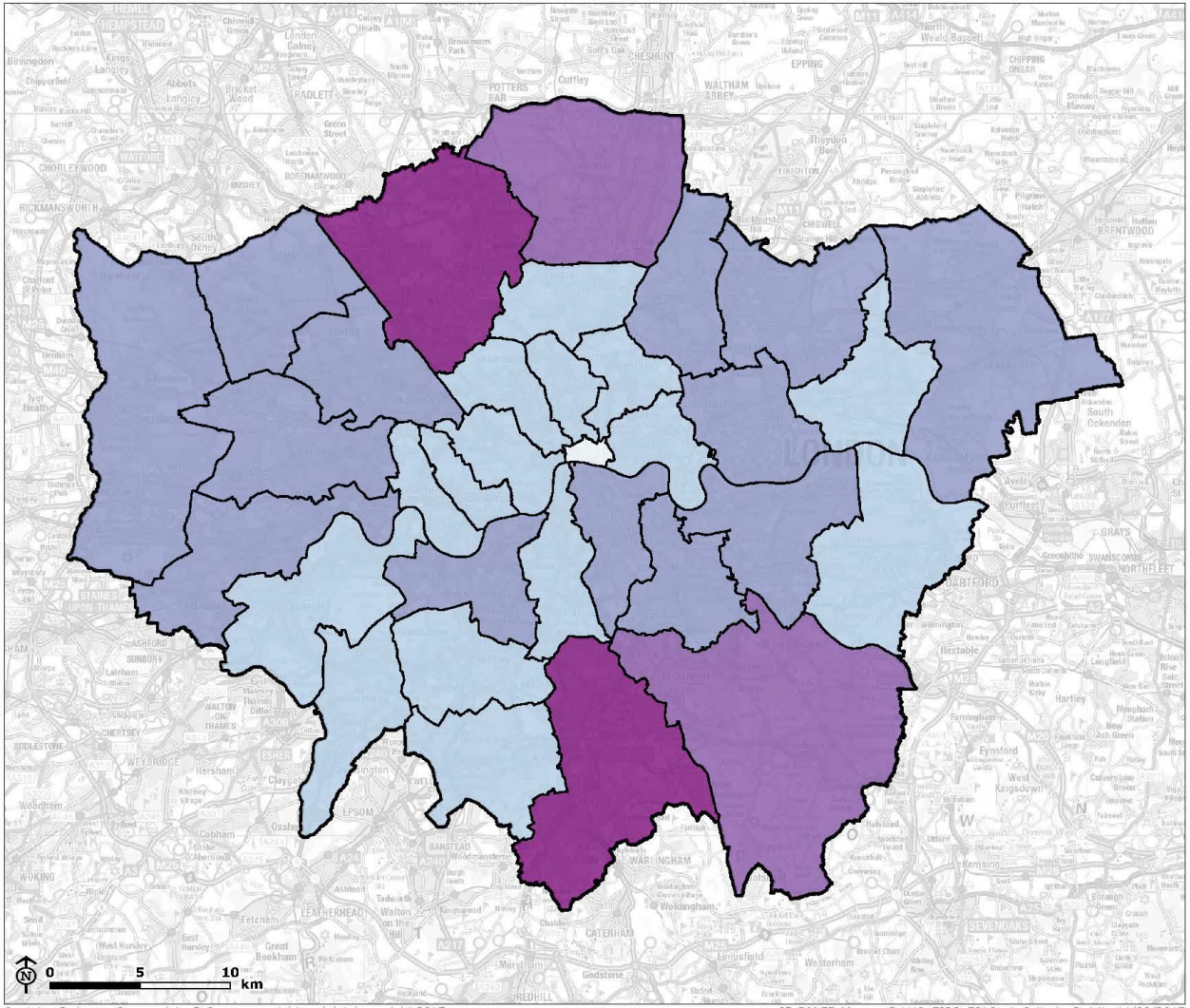
CRITERION 2 – WASTE ARISINGS (AT 2021)



London Plan Waste Forecasts and Apportionment

Figure 3: Criterion 2 household waste arisings (2021)

Greater London

Borough boundaries

Household waste arisings at 2021 (kt)

- 4 - 50
- 51 - 100
- 101 - 125
- 126 - 150
- 151 - 175

Source: SLR, Ordnance Survey

Map Scale @ A4: 1:300,000

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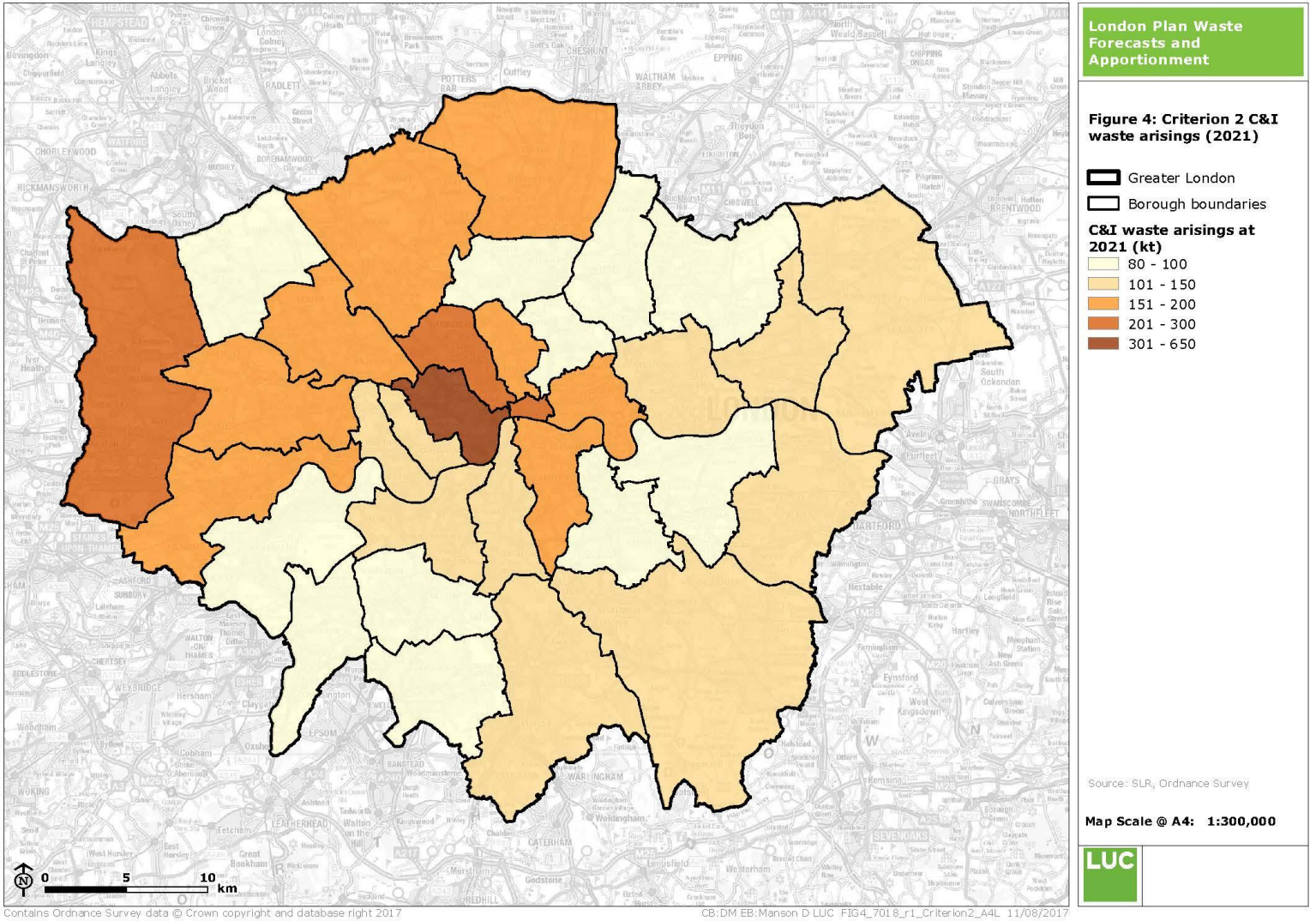
CRITERION 2 – WASTE ARISINGS (AT 2021)



CRITERION 2 – WASTE ARISINGS (AT 2021)

Results

Highest apportionment percentages

- City of Westminster 8.8%
- LB Camden 4.4%
- LB Hillingdon 4.2%

Lowest apportionment percentages

- Kingston upon Thames 1.8%
- LB Sutton 2.0%
- LB Merton 2.1%

CRITERION 3 – SUSTAINABLE TRANSPORT MODES

2006

- Calculated values for density of rail track and navigable waterways, and number of wharves

2018

- Evaluates ability to access to railheads & wharves – within 1km of a potential or existing waste site

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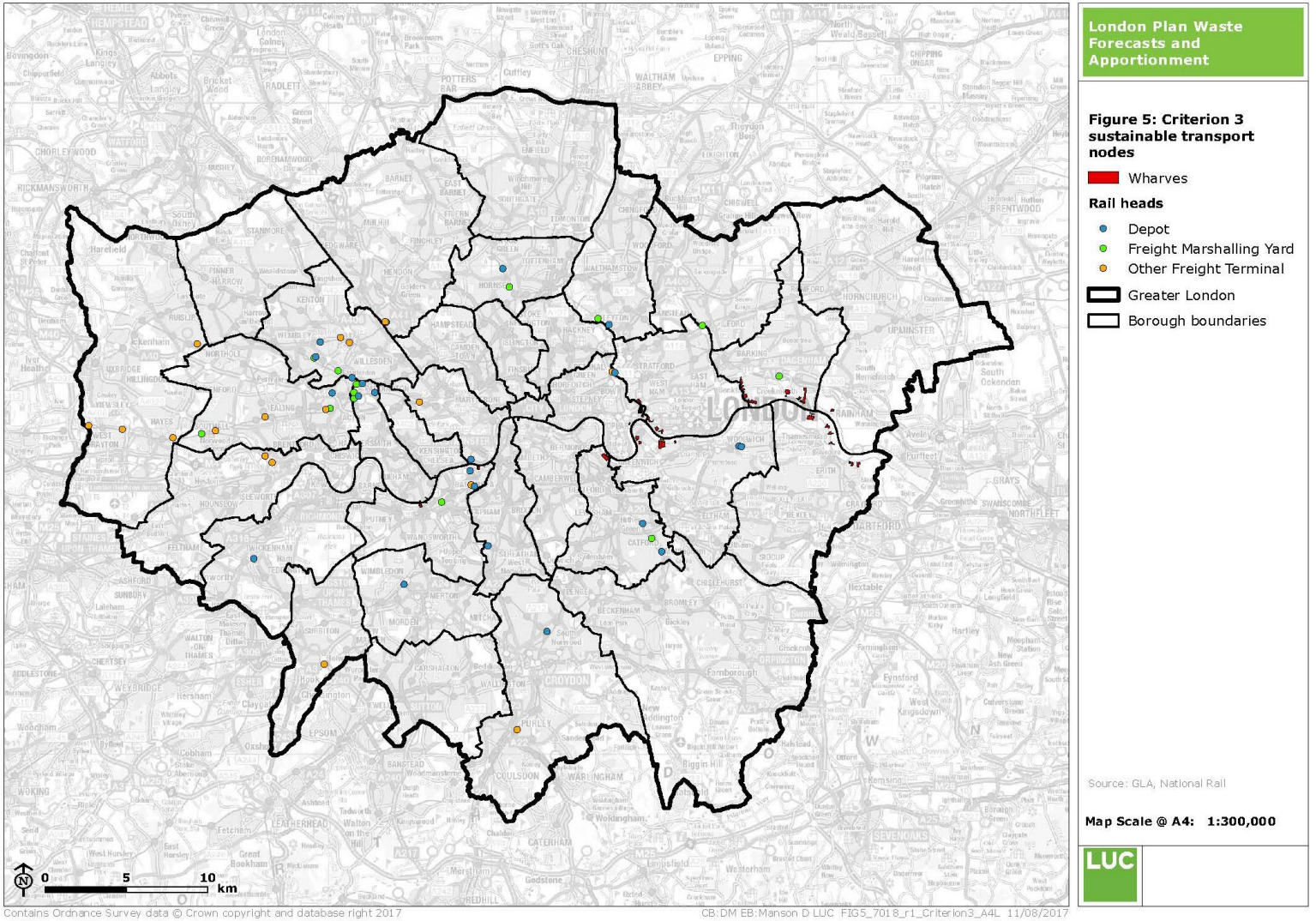
CRITERION 3 – SUSTAINABLE TRANSPORT MODES



CRITERION 3 – SUSTAINABLE TRANSPORT MODES

Results

Highest apportionment percentages

- LB Barking & Dagenham 13.7%
- RB Greenwich 10.7%
- LB Wandsworth 9.5%

Lowest apportionment percentages

- LB Southwark 0.0%
- LB Sutton 0.0%
- LB Redbridge 0.0%
- LB Islington 0.0%
- LB Harrow 0.0%
- LB Hackney 0.0%
- LB Enfield 0.0%
- LB Camden 0.0%
- LB Bromley 0.0%

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CRITERION 4 – ROAD NETWORK CAPACITY

2006

- Calculated the density of the strategic road network

2018

- Considered the average annual weekday day delay per kilometre – the 'network capacity'

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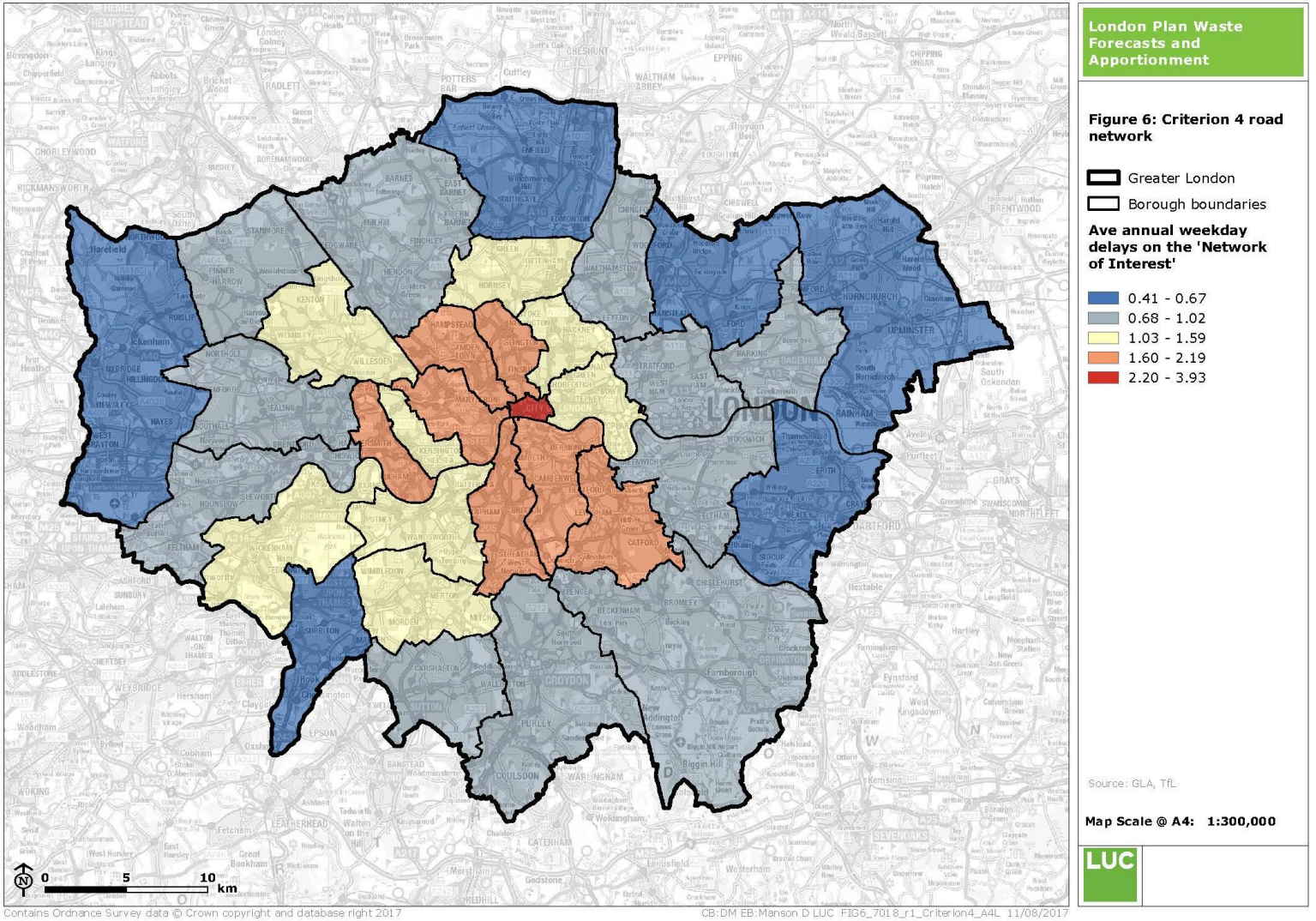
CRITERION 4 – ROAD NETWORK CAPACITY



CRITERION 4 – ROAD NETWORK CAPACITY

Results

Highest apportionment percentages

- LB Havering 3.9%
- LB Hillingdon 3.9%
- LB Bexley 3.8%

Lowest apportionment percentages

- City of London 0.1%
- LB Southwark 2.0%
- LB Camden 2.0%

CRITERION 5 – OTHER LAND USE/ENVIRONMENTAL FACTORS

2006

- Land not designated by environmental designations, including:
  - Green Belt
  - Metropolitan Open Land
  - Sites of Importance for Nature Conservation
  - Special Areas of Conservation
  - Special Protection Areas
  - Sites of Special Scientific Interest
  - Ramsar sites

2018

- Adds cultural heritage destinations to the list of constraints

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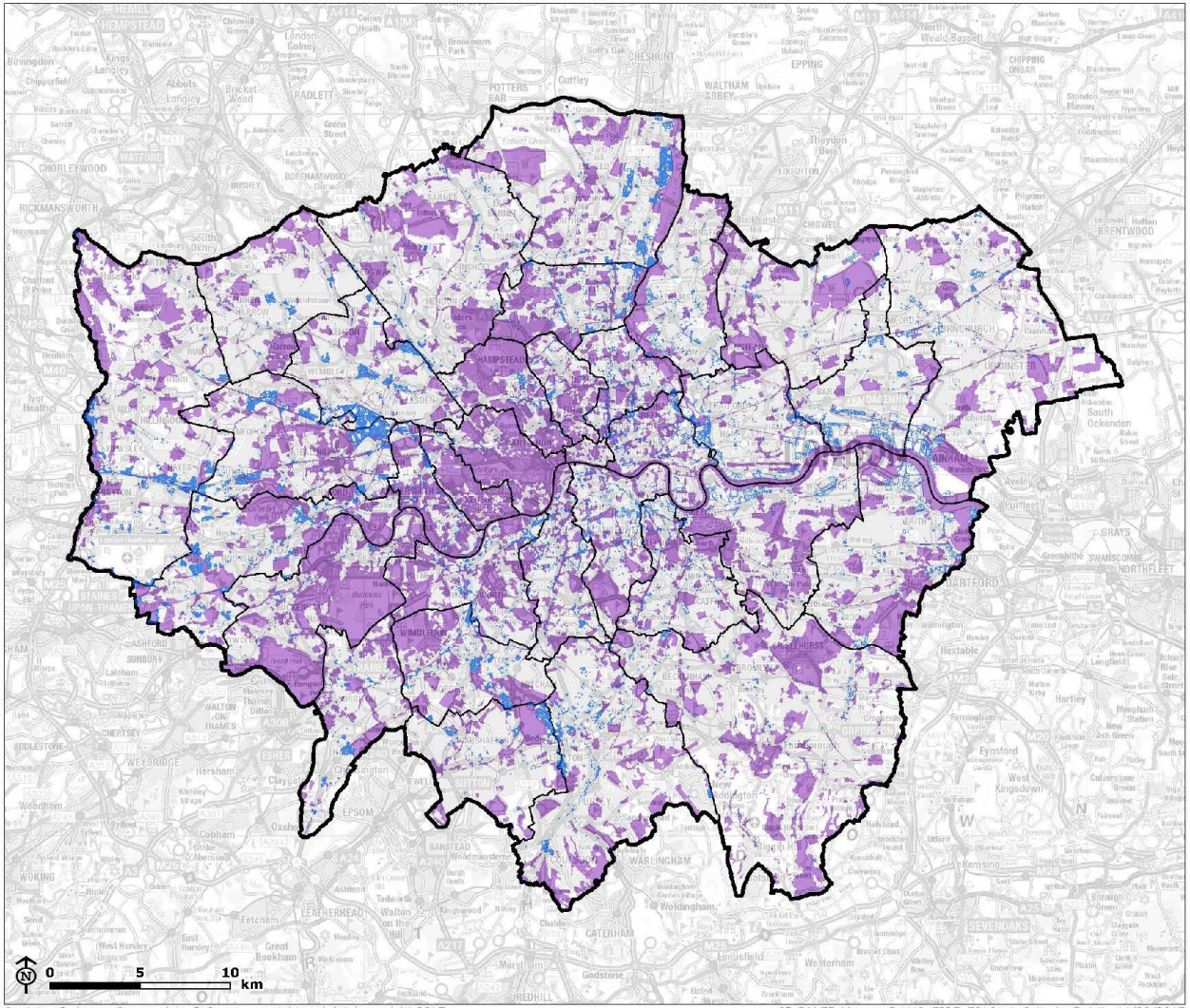
CRITERION 5 – OTHER LAND USE/ENVIRONMENTAL FACTORS



London Plan Waste Forecasts and Apportionment

Figure 7: Criterion 5 environmental, cultural heritage and planning

- Greater London
- Borough boundaries
- Suitable industrial land
- Combined environmental, cultural heritage and planning designations

Source: GIGL, Historic England, GLA, Natural England

Map Scale @ A4: 1:300,000

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CRITERION 5 – OTHER LAND USE/ENVIRONMENTAL FACTORS

Results

Highest apportionment percentages of total unconstrained land

- LB Ealing 8.8%
- LB Barking & Dagenham 8.7%
- LB Bexley 8.1%

Lowest apportionment percentages of total unconstrained land

- City of London 0.0%
- City of Westminster 0.1%
- RB Kensington & Chelsea 0.2%

CRITERION 6 – FLOOD RISK

2006

- Used a value based on the area of each borough outside of flood areas

2018

- Areas of flood zone with flood defences were excluded
- Only includes the areas that are both not at risk of flooding and suitable for future waste sites

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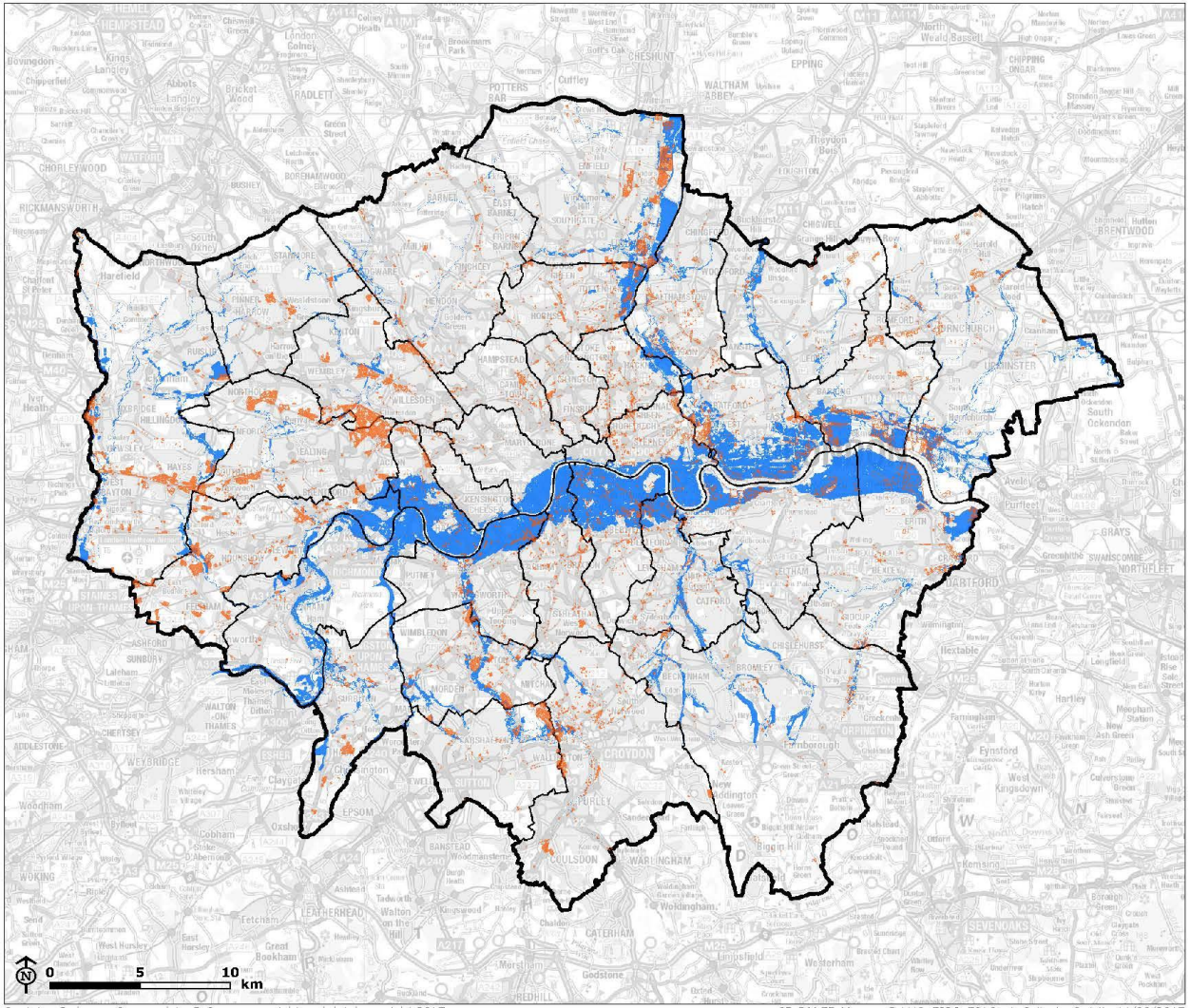
CRITERION 6 – FLOOD RISK



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London Plan Waste Forecasts and Apportionment

Figure 8: Criterion 6 flood risk

- Greater London
- Borough boundaries
- Suitable industrial land
- Flood risk zones 2 and 3 (excluding areas benefiting from barriers)

Source: GLA

Map Scale @ A4: 1:300,000

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CRITERION 6 – FLOOD RISK

Results

Highest apportionment percentages

- LB Ealing 11.9%
- LB Hounslow 8.8%
- LB Brent 8.4%
- LB Hillingdon 8.4%

Lowest apportionment percentages

- City of London 0.0%
- City of Westminster 0.1%
- RB Kensington & Chelsea 0.2%

CRITERION 7 – SOCIO-ECONOMIC FACTORS

To identify those boroughs where waste facilities are likely to cause less significant adverse socio-economic impacts

2006

- Assessed number of existing waste sites per borough
- and the borough deprivation ranking

2018

- Considers the level of deprivation in Lower Super Output Areas within 1km of areas mapped as being potentially suitable for waste sites

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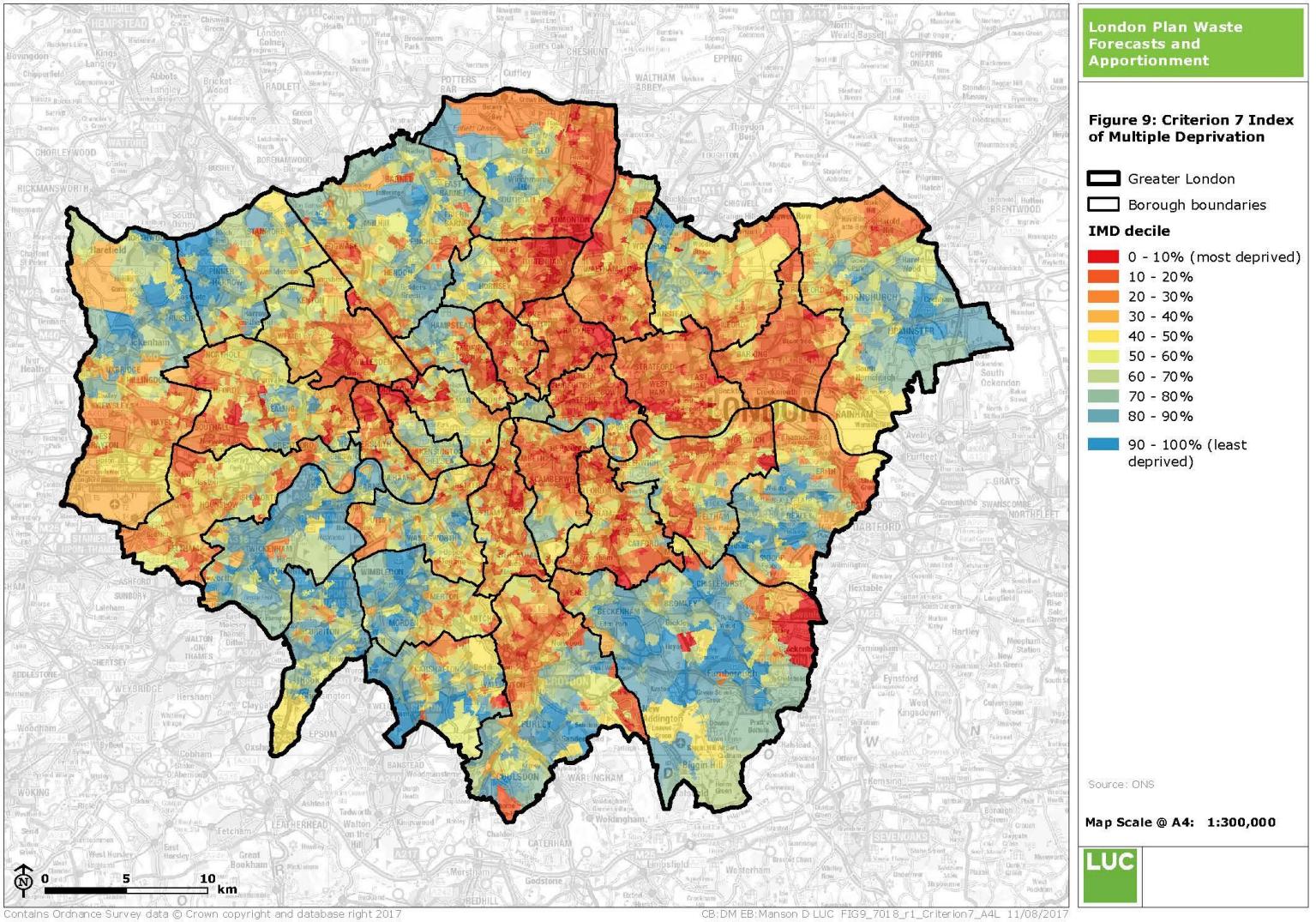
CRITERION 7 – SOCIO-ECONOMIC FACTORS



CRITERION 7 – SOCIO-ECONOMIC FACTORS

To identify those boroughs where waste facilities are likely to cause less significant adverse socio-economic impacts

Results

Highest apportionment percentages

- Kingston upon Thames 5.1%
- Richmond upon Thames 4.8%
- LB Sutton 4.4%

Lowest apportionment percentages

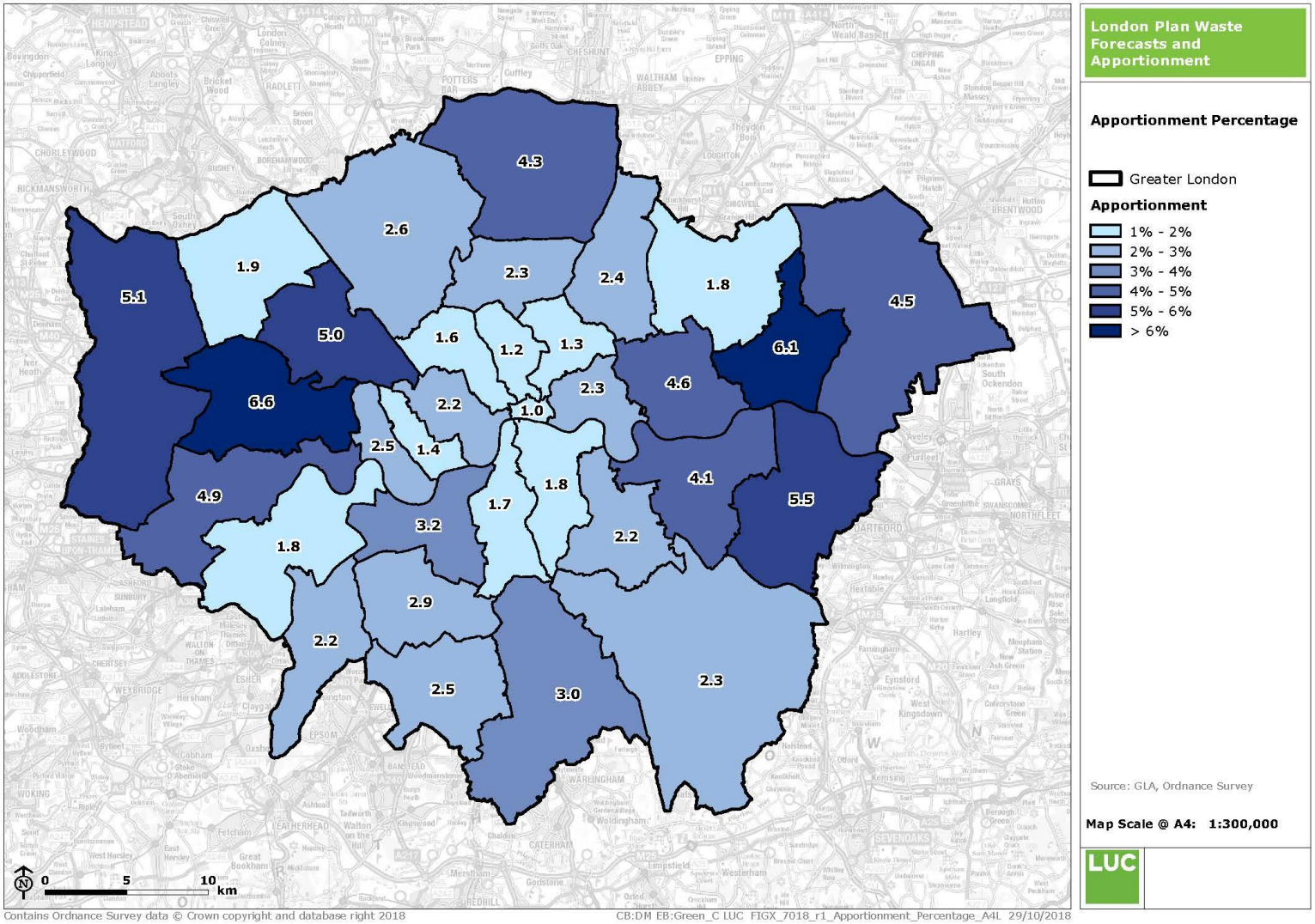
- LB Hackney 1.5%
- LB Newham 1.6%
- LB Barking & Dagenham 1.7%

WASTE APPORTIONMENT

Weighting of criteria

- It was determined that all criteria used in the apportionment methodology should be given equal weighting – 14.3%.
- Resulted a combined apportionment figure for each borough – or a percentage figure of how much of London's waste each borough is required to have capacity to manage.

WASTE APPORTIONMENT



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WASTE APPORTIONMENT

Final apportionment figures

Highest apportionment figures

- LB Ealing 6.6%
- LB Barking & Dagenham 6.1%
- LB Bexley 5.6%

Lowest apportionment figures

- City of London 1.0%
- LB Islington 1.2%
- LB Hackney 1.3%

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QUESTIONS

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DEFINITIONS

Household waste: Household waste includes waste from collection rounds of domestic properties, street cleansing and litter collection.

Commercial Waste: Waste arising from premises which are used wholly or mainly for trade, business, sport, recreation or entertainment.

Industrial Waste: Waste from any factory and any premises occupied by industry (excluding mines and quarries).

DEFINITIONS

Construction, Demolition & Excavation Waste:

This is waste arising from the excavation, construction, repair, maintenance and demolition of buildings and structures, including roads. It consists mostly of brick, concrete, hardcore, subsoil and topsoil, but it can contain quantities of timber, metal, plastics and occasionally special (hazardous) waste materials.

Hazardous Waste: Waste is generally considered hazardous if it (or the material or substances it contains) are harmful to humans or the environment.

DEFINITIONS

Waste data interrogator (WDI): A database of the quantities and types of waste treated by waste management facilities operating under an environmental permit, including import and export data.

Environmental permitted facilities: Businesses that require a permit to use, recycle, treat, store or dispose of waste or mining waste from the Environment Agency.

DEFINITIONS

Municipal solid waste: It includes all household waste, street litter, waste delivered to council recycling points, municipal parks and gardens wastes, council office waste, Civic Amenity waste, and some commercial waste from shops and smaller trading estates where local authorities have waste collection agreements in place. It can also include industrial waste collected by a waste collection authority with authorisation of the waste disposal authority. Waste under the control of local authorities or agents acting on their behalf is now better known as 'Local Authority Collected Waste'.

DEFINITIONS

Criteria - Each criterion is a separate factor or set of factors that affects the amount of waste each borough can be apportioned.

Waste apportionment - The percentage of the total waste arisings across Greater London each borough would be assigned to manage.

Weighting - A percentage value that represents how much each criterion is worth of the final apportionment.