

# **Prioritisation of projects for on-site heat decarbonisation**

## **Introduction**

The purpose of this report is to set out the methodology and results of the prioritisation of options for on-site heat decarbonisation within the City Corporation's corporate property estate.

## **Methodology**

Energy metering data for our corporate properties is recorded through our energy management database (currently Team Sigma) and utilised to regularly report on our energy and carbon emissions. Based on this data, we have identified 66 gas supplies at our corporate properties that supply gas to boilers/heaters for the purposes of supplying heating and/or hot water to the property/site. These in total account for 18,522 MWh per year of gas consumption.

We have assessed each of the 66 supplies through a sequence of questions to prioritise and short-list the most promising opportunities for heat supply decarbonisation projects, as set out in table 1 below:

- Heated site: does the site have a gas supply for the purpose of providing heating? Note this would exclude supplies which are purely for catering purposes.
- Live: is the site still live/occupied and within the City Corporation's corporate estate.
- Site certainty: is there any uncertainty over the future of the site, such as plans or potential plans for disposal/sale or redevelopment.
- On-site gas boilers: does the site have gas boilers, or is it supplied by a heat network or electric heating.
- Heat Network Option: is there a short-term opportunity for the site to be supplied by a heat network which should first be explored fully before considering on-site alternatives.
- No project underway: is there currently a project approved for decarbonising the on-site gas boiler plant?
- Gas plant at/near end-of-life: is the gas plant at/or approaching expected life expectancy of 20 years.

Further detail is provided in table 3 below.

Table 1. Summary of project evaluation

	Gas kWh for heating 2023/24	Count of sites/plant
All Corporate sites	18,522,764	70
Heated site?	18,522,764	66
Live?	18,522,764	63
Site certainty?	14,820,027	52
On-site gas boilers?	14,572,688	42
Heat Network Option?	11,383,285	40
No project underway?	9,825,303	35

Of the 35 gas boiler supplies where there is no current project underway to replace them, we prioritised these into high, medium and low considering the following additional criteria which is further described in the commentary included against each in table 3:

- Gas consumption: the higher the consumption of any one supply the more attractive the opportunity for carbon savings and it is likely to be a more cost-effective project.
- Further consideration of site plans
- Consideration of technical viability

Table 2 below summarises the priority projects

High priority:

- Mansion House
- Walbrook Wharf, Phase 2 Office
- Heathrow Animal Reception Centre (HARC): main building

Medium priority:

- City of London Freeman’s School: Philp House, supplying the main campus network
- City of London School (for Boys): main building
- Walbrook Wharf: Phase 3 depot offices
- London Metropolitan Archives

Table 2. Summary of project prioritisation

Priority	Gas kWh for heating 2023/24	Count of sites/plant
High (H)	1,640,603	3
Medium (M)	3,643,771	4
Low (L)	4,540,929	28

Table 3. Project evaluation detail

Site/building: plant	Heat ?	Live ?	Certainty ?	On-site gas boilers?	Heat Network option?	No project underway ?	At/ near end-of-life?	Gas kWh for heating 2023/24	Pri.	Reasoning
City of London Freeman's School: Communal Htg Sys	Y	Y	Y	Y	Y	Y	Y	1,038,655	M	High energy consumption and end-of-life plant. Solution needs to align with site redevelopment plans. Due to current uncertainty over plans this option has been deprioritised.
Animal Reception Centre : Main System	Y	Y	Y	Y	Y	Y	Y	289,643	H	Moderate energy consumption and end-of-life plant. Site suitable for Air Source Heat Pump solution, with potential for Solar PV to further support this.
Walbrook Wharf Cleansing Depot : Main Office	Y	Y	Y	Y	Y	Y	Y	188,978	H	Low energy consumption, but end-of-life plant. Site suitable for Air Source Heat Pump solution, with potential for Solar PV to further support this.
City of London Crematorium : Burial church	Y	Y	Y	Y	Y	Y	Y	115,199	L	Low energy consumption but plant is end-of-life. Carbon savings would be low and a low carbon solution is technically challenging for planning permission.

Site/building: plant	Heat ?	Live ?	Certainty ?	On-site gas boilers?	Heat Network option?	No project underway ?	At/ near end-of-life?	Gas kWh for heating 2023/24	Pri.	Reasoning
City of London Crematorium : Old Crematorium	Y	Y	Y	Y	Y	Y	Y	73,230	L	Low energy consumption but plant is nearing end-of-life. Carbon savings would be low and a low carbon solution is technically challenging for planning permission.
City of London Crematorium : Reserve Chapel	Y	Y	Y	Y	Y	Y	Y	25,033	L	Very low energy consumption. Carbon savings would be low
City of London boys School: Single Main System	Y	Y	Y	Y	Y	Y	N	1,441,208	M	High energy consumption, but not end-of-life plant. Solution needs to align with site redevelopment options.
Mansion House: Single Main System	Y	Y	Y	Y	Y	Y	N	1,161,981	H	High energy consumption, but not end-of-life plant. Very high energy consumption with site opportunity for new Air Source Heat Pumps to operate alongside existing gas plant to minimise disruption.
City of London Crematorium: New crematorium	Y	Y	Y	Y	Y	Y	N	1,150,358	L	Low energy consumption and plant not end-of-life. Carbon savings would be low.

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Walbrook Wharf Cleansing Depot: Depot	Y	Y	Y	Y	Y	Y	N	593,896	M	High energy consumption, but not end-of-life plant. Solution needs to align with potential site development plans.
Tower Bridge: South Side	Y	Y	Y	Y	Y	Y	N	577,238	L	High energy consumption, but not end-of-life plant. Significant challenges for locating plant.
London Metropolitan Archives: Single Main System	Y	Y	Y	Y	Y	Y	N	570,013	M	High energy consumption and some end-of-life plant (one of three boilers). Lease expires in 2035 and currently no approved medium/long term plan for the site.
City of London Freeman's School: Boarding/Music Block	Y	Y	Y	Y	Y	Y	N	421,955	L	Moderate energy consumption, but not end-of-life plant. Decarbonisation options best considered for the whole school campus via an extension of the Philip House communal system, rather than individual building solutions.
City of London Freeman's School: Main House	Y	Y	Y	Y	Y	Y	N	386,295	L	Moderate energy consumption, but not end-of-life plant. Decarbonisation options best considered for

Site/building: plant	Heat ?	Live ?	Certainty ?	On-site gas boilers?	Heat Network option?	No project underway ?	At/ near end-of-life?	Gas kWh for heating 2023/24	Pri.	Reasoning
										the whole school campus via an extension of the Philp House communal system, rather than individual building solutions.
Tower Bridge: North Side	Y	Y	Y	Y	Y	Y	N	360,789	L	Moderate energy consumption, but not end-of-life plant. Significant challenges for locating plant.
City of London Freemen's School: Swimming Pool	Y	Y	Y	Y	Y	Y	N	234,537	L	Low energy consumption and plant not end-of-life. Decarbonisation options best considered for the whole school campus via an extension of the Philp House communal system, rather than individual building solutions.
Open Spaces Hampstead Heath Leisure:The Lido	Y	Y	Y	Y	Y	Y	N	166,560	L	Low energy consumption and plant not end-of-life. Carbon savings would be low,
City of London Crematorium: Office	Y	Y	Y	Y	Y	Y	N	153,453	L	Low energy consumption and plant not end-of-life. Carbon savings would be low,
Open Spaces Parliament Hill: Nassington Rd Rooms &	Y	Y	Y	Y	Y	Y	N	146,072	L	Low energy consumption and plant not believed to be end-of-life. Carbon

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Track Map No 43										savings would be low,
City of London Freeman's School: Sports Hall	Y	Y	Y	Y	Y	Y	N	105,564	L	Low energy consumption and plant not end-of-life. Carbon savings would be low,
Ten Keats Grove: Ten Keats Grove	Y	Y	Y	Y	Y	Y	N	78,515	L	Low energy consumption and plant not believed to be end-of-life. Carbon savings would be low,
City of London boys School: Marvels Lane Sportsground	Y	Y	Y	Y	Y	Y	N	71,672	L	Low energy consumption and plant not believed to be end-of-life. Carbon savings would be low,
Open Spaces Highgate Wood:	Y	Y	Y	Y	Y	Y	N	64,526	L	Low energy consumption and plant not believed to be end-of-life. Carbon savings would be low,
Open Spaces Epping Forest: The View	Y	Y	Y	Y	Y	Y	N	63,354	L	Low energy consumption and plant not end-of-life. Carbon savings would be low,
Open Spaces Golders Hill & Extension: West Heath Avenue (Box inside gate) Map No 27	Y	Y	Y	Y	Y	Y	N	55,331	L	Low energy consumption and plant not believed to be end-of-life. Carbon savings would be low,
Open Spaces Parliament Hill: Staffyard Map No 44	Y	Y	Y	Y	Y	Y	N	49,576	L	Very low energy consumption. Carbon savings would be low,
Open Spaces Golders Hill & Extension: Hampstead	Y	Y	Y	Y	Y	Y	N	47,477	L	Very low energy consumption. Carbon



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Heath Extension (boiler room)Map No 28										savings would be low,
Open Spaces Heathfield House: Heathfield House (432)	Y	Y	Y	Y	Y	Y	N	34,634	L	Very low energy consumption. Carbon savings would be low,
Open Spaces West Ham Park: Main Office	Y	Y	Y	Y	Y	Y	N	33,880	L	Very low energy consumption. Carbon savings would be low,
Open Spaces Epping Forest: The Warren House	Y	Y	Y	Y	Y	Y	N	33,663	L	Very low energy consumption. Carbon savings would be low,
Keats House: Keats Grove	Y	Y	Y	Y	Y	Y	N	33,397	L	Very low energy consumption. Carbon savings would be low,
City of London Crematorium: Haywood Centre	Y	Y	Y	Y	Y	Y	N	28,542	L	Very low energy consumption. Carbon savings would be low,
Open Spaces East Heath & Kenwood: Kenwood Bothy/Office Map No 52	Y	Y	Y	Y	Y	Y	N	18,779	L	Very low energy consumption. Carbon savings would be low,
Open Spaces Epping Forest : Harrow Road Pavilion	Y	Y	Y	Y	Y	Y	N	11,300	L	Very low energy consumption. Carbon savings would be low,
City of London boys School : Tech Block	Y	Y	Y	Y	Y	N		1,441,208		
Animal Reception Centre : Fish Borders Building	Y	Y	Y	Y	Y	N		13,180		

Site/building: plant	Heat ?	Live ?	Certainty ?	On-site gas boilers?	Heat Network option?	No project underway ?	At/ near end-of-life?	Gas kWh for heating 2023/24	Pri.	Reasoning
Open Spaces Epping Forest : The Warren	Y	Y	Y	Y	Y	N		103,594		
Golden Lane Leisure Centre : Single Main System	Y	Y	Y	Y	N			629,859		
Tower Bridge : Bridgmasters House	Y	Y	Y	Y	N			577,238		
Central Criminal Court: New System	Y	Y	Y	Y	N			1,982,307		
City of London School For Girls:	Y	Y	Y	Y	N					
Barbican Arts Centre:	Y	Y	Y	N				0		
Barbican Ex. Halls:	Y	Y	Y	N				0		
GSMD - Silk St.:	Y	Y	Y	N				0		
GSMD - Milton Court:	Y	Y	Y	N				0		
GSMD - Sundial Court:	Y	Y	Y	N				0		
Guildhall Complex - Main Supply:	Y	Y	Y	N				0		
Guildhall Complex - GYE:	Y	Y	Y	N				0		
Grays Inn (4):	Y	Y	Y	N				247,339		
Rough Sleepers Assessment Centre:	Y	Y	Y	N				0		
Salisbury Square:	Y	Y	Y	N				0		
Guildhall Complex: Mayor's Court	Y	Y	N					185,497		
New Spitalfields Market (Landlords): Main Building	Y	Y	N					171,511		
Billingsgate Market:	Y	Y	N					1,174,303		

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London Central Market (Smithfield): 232 Office	Y	Y	N					15,184		
London Central Market (Smithfield): 230 Office	Y	Y	N					15,140		
London Central Market (Smithfield): 229 Office	Y	Y	N					61,706		
London Central Market (Smithfield): East Mkt NE HWS	Y	Y	N					65,872		
London Central Market (Smithfield): East Mkt SE HWS	Y	Y	N					45,037		
London Central Market (Smithfield): 230 & 202 on Grnd Fl	Y	Y	N					49,066		
Bishopsgate Police Station: Main Building	Y	Y	N					981,842		
21 New Street: Main Building	Y	Y	N					937,579		
Guildhall - Steam Generators:	Y	N						0		
Snowhill Police Station: Main Building	Y	N						0		
Wood Street Police Station:	Y	N						0		
Upper Thames Street Tunnel Lighting:	N							0		
London Wall Car Park:	N							0		

Site/building: plant	Heat ?	Live ?	Certainty ?	On-site gas boilers?	Heat Network option?	No project underway ?	At/near end-of-life?	Gas kWh for heating 2023/24	Pri.	Reasoning
Minorities Car Park:	N							0		
Tower Hill Coach & Car Park:	N							0		