



Mayor of London

London Heat Map +

Heat Mapping Study - London
Borough of Harrow

REP-Harrow/01

Issue | 29 March 2012



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Appendix A

Populated Template and London Heat Map Heat Load Typologies

A1 Populated template

A2 London Heat Map Heat Load Typologies

Executive Summary

The aim of the London Heat Map and the Heat Map Reports is to identify opportunities for decentralised energy networks in London. This process is part of the Mayor of London's drive to deliver 25% of London's energy through decentralised energy (DE) by 2025.

Arup has been commissioned by the Greater London Authority to complete the London Heat Map and provide each of the Boroughs remaining from the DEMaP programme with a report outlining their potential opportunities for DE; the London Borough of Harrow is one such Borough.

The heat load and supply data used for the London Heat Map has been sourced by the London Borough of Harrow and supplemented by additional data retrieved through publically available central databases. From this, Arup have performed a high level mapping study to identify clusters where potential opportunities for decentralised energy networks may exist.

Within the London Borough of Harrow, one cluster exhibiting a particularly good level of opportunity has been identified. The Station Road Cluster, focussed around the Harrow Civic Centre and a potentially enabling residential development on part of the Kodak Factory site, coupled with the possibility of using waste heat from the factory's combined heat and power unit to feed a district heating network, gives an opportunity to significantly decarbonise the heating systems of those buildings served. Elsewhere in the borough a number of smaller-scale clusters have been identified with moderate levels of opportunity, as well as a cross-borough opportunity with the London Borough of Brent.

Further to the findings of the heat mapping study in the London Borough of Harrow, it is recommended that the Borough may also want to consider other decentralised energy interventions that may be better suited to its characterisation as a suburban region with energy loads relatively sparsely spread. These could include technologies such as solar thermal, biomass boilers or ground source heat pumps, but it is recommended that more analysis may be required to identify renewable and low carbon energy resource opportunities within the Borough.

1 Introduction

The London Heat Map was developed through the London Development Agency's (LDA) Decentralised Energy Master Planning (DEMaP) programme in 2009 – 2010 with the aim of providing information about heat loads in London to help identify opportunities for decentralised energy.

In November 2011, the Greater London Authority (GLA) commissioned Arup to complete the heat mapping exercise with the following tasks;

- to carry out heat mapping for the remaining ten London Boroughs and therefore provide a consistent London Heat Map
- to provide each of these remaining Boroughs with a report outlining potential opportunities for decentralised energy

This report outlines the potential opportunities for decentralised energy in the London Borough of Harrow. To compile it, Arup consultant engineers worked in partnership with the London Borough of Harrow to carry out the data collection and analysis to identify opportunities for decentralised energy.

This report sets out the methodology employed for the heat mapping process and presents the findings of potential decentralised energy opportunity within the London Borough of Harrow.

The data collected from the London Borough of Harrow has also been uploaded onto the online interactive GIS London Heat Map (www.londonheatmap.org.uk).

2 Background

Energy generated by centralised power stations and transmitted through the national grid can be highly inefficient and wasteful. One of the Mayor's top priorities for reducing London's CO₂ emissions is to reduce the capital's reliance on centralised power stations. This means increasing the use of local, low carbon energy supplies through decentralised energy systems.

In 2010, residential, commercial and public sector buildings represented over 40% of UK greenhouse gas emissions¹; reducing the carbon content of the heat and electricity supplied to these buildings is clearly a vital undertaking in efforts to mitigate climate change.

2.1 Decentralised Energy and District Heating

In broad terms, Decentralised Energy (DE) is the local or sub-regional supply of energy from a local source, known as the Energy Centre (EC), to local end users via a network. In the case of heat supply, the network is known as a District Heating (DH) network. The EC normally hosts one or more Combined Heat and Power (CHP) units as well as back-up boilers and thermal stores.

¹ Building Britain: The path to sustainable growth for the built environment (2012). Aldersgate Group.

CHP is the simultaneous generation of heat and power in a more efficient way than if the two forms of energy would have been produced separately. Heat is recovered from the power generation process and is typically supplied in the form of hot water.

DE will play a key role in developing a more sustainable, secure and cost-effective energy supply for London, and help target a number of important problems such as climate change and fuel poverty.

2.2 The history of heat mapping: DEMaP

The Mayor of London set a target to supply a quarter of London's energy from decentralised sources by 2025.

To this end, the DEMaP (Decentralised Energy Master Planning) programme was introduced by the London Development Agency² (LDA) in 2009. The LDA allocated nearly £5 million towards decentralised energy over four years from 2009, with additional support made available through the JESSICA (Joint European Support for Sustainable Investment in City Areas) fund to unlock the development of decentralised energy in London.

The DEMaP programme was developed to enable boroughs to identify opportunities for decentralised energy, and to develop the capacity to realise those opportunities. This was based on a trajectory of work packages, broken down into three phases, from initial capacity building through to feasibility study and project delivery. The heat mapping exercise was originally carried out during the first phase.

The London Heat Map was developed as part of DEMaP to help address the lack of information and certainty surrounding London's heat loads. It is intended to be used by policy and decision-makers to help identify opportunities for DE in their area and to develop new decentralised energy schemes and enable the market to make informed investment decisions without risking significant development costs.

The first round of heat mapping collected data from 23 London boroughs which was used to populate the London Heat Map (Figure 1).

² The functions of the London Development Agency are being folded in the Greater London Authority as a result of the government announcement in June 2010 that all Regional Development Agencies be abolished by March 2012.

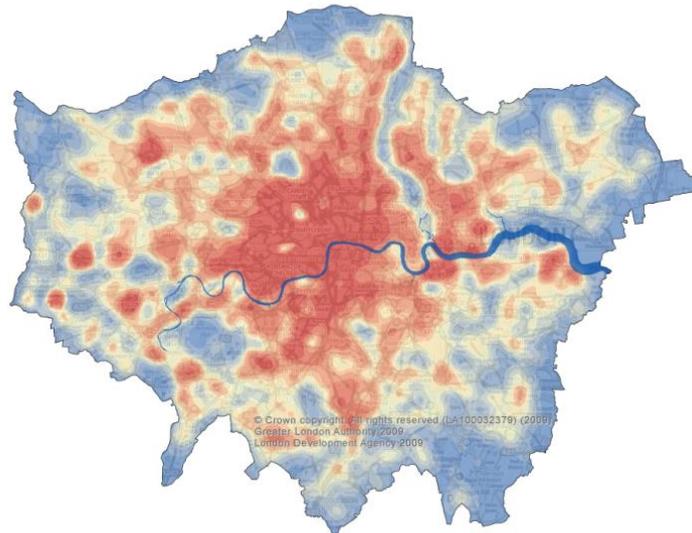


Figure 1: The London Heat Map, as viewable at www.londonheatmap.org.uk

The second round of heat mapping has been undertaken by the GLA in November 2011 and the remaining ten boroughs were invited to participate in order to complete the heat map for the entirety of the Greater London area.

The aims of the heat mapping exercise are:

- To identify potential opportunity areas for the development of decentralised energy networks across London, and
- To provide an evidence base for local authority and GLA planning policies requirements for connections to district heating networks.

The image below illustrates the status of Heat Mapping in London Boroughs. Those in red have completed Heat Mapping and the data results are available on the Heat Map website, along with a report of the opportunity area (www.londonheatmap.org.uk). Boroughs highlighted in yellow have provided data which was uploaded to the London Heat Map having completed independent data collection and mapping exercises. The Boroughs highlighted in blue are part of the final tranche of Heat Mapping currently underway.

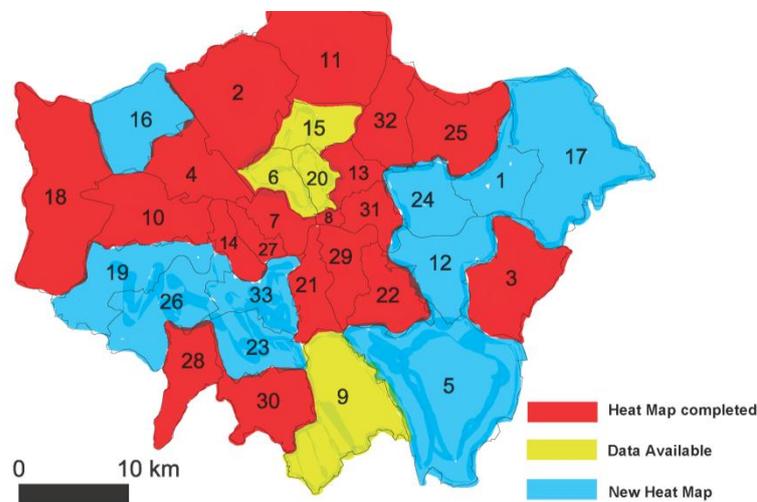


Figure 2: The Heat mapping status of London Boroughs.

Those remaining London Boroughs involved in the second round of Heat Map were:

1. London Borough of Barking and Dagenham
7. City of Westminster
5. London Borough of Bromley
12. London Borough of Greenwich
16. London Borough of Harrow
17. London Borough of Havering
19. London Borough of Hounslow
23. London Borough of Merton
24. London Borough of Newham
26. London Borough of Richmond upon Thames
33. London Borough of Wandsworth

3 Policy context

3.1 UK climate change agenda

The UK Government has responded to the climate change agenda with a range of climate change legislation, targets and actions to reduce carbon (GHG) emission, including:

- **Setting a national target of 80% reduction in annual GHG emissions compared to 1990 levels by 2050, with an interim target of 34% reduction by 2020**
- **Establishing the world's first national Climate Change Act to tackle the threat of climate change, and**
- **Introducing financial measures such as: the Renewables Obligation (RO); the Feed in Tariff (FIT); the Renewable Heat Incentive (RHI); and the Carbon Reduction Commitment (CRC).**

Legislation is intended to support the transition to a low carbon economy – an economy that minimises environmental impact, is sustainable and limits GHG emissions. The national government's agenda is being taken forward by all the local authorities in the UK.

3.2 London Plan

The London Plan 2011 sets out the spatial development strategy for London. Chapter 5 specifically addresses London's Response to Climate Change and sets out the following policy requirements:

Policy 5.2 – Minimising carbon emissions

This policy sets out a range of CO₂ emission targets for new developments which must be achieved through a hierarchy of:

- **Be lean: use less energy**
- **Be clean: supply energy efficiently**
- **Be green: use renewable energy**

Policy 5.5 – Decentralised energy networks

- **Strategic:** The Mayor expects 25 per cent of the heat and power used in London to be generated through the use of localised decentralised energy systems by 2025. In order to achieve this target the Mayor prioritises the development of decentralised heating and cooling networks at the development and area wide levels, including larger scale heat transmission networks.
- **LDF preparation:** Within LDFs boroughs should develop policies and proposals to identify and establish decentralised energy network opportunities. As a minimum boroughs should:
 - i. Identify opportunities for expanding existing networks and establishing new networks. Boroughs should use the London Heat Map tool and

consider any new developments, planned major infrastructure works and energy supply opportunities which may arise

- ii. Develop energy master plans for specific decentralised energy opportunities which identify:
 - major heat loads (including anchor heat loads, with particular reference to sites such as universities, hospitals and social housing)
 - major heat supply plant
 - possible opportunities to utilise energy from waste
 - possible heating and cooling network routes
 - implementation options for delivering feasible projects, considering issues of procurement, funding and risk and the role of the public sector.

4 Decentralised Energy in London

Following on from the successful DEMaP programme, the GLA is committed to further strategic development and support to deliver more DE schemes within London, through the Decentralised Energy for London programme. Set up with €3.3m in funding, 90% of which was secured from the European Investment Bank's ELENA facility, the Mayor's Decentralised Energy for London programme will provide boroughs and other project sponsors with technical, financial and commercial assistance to develop and bring DE projects to market.

London has been home to DH networks for a number of years, with schemes in Whitehall, Pimlico, Barkantine and the City of London, to name but a few, set to be joined by many more in the near future. There will be a growth in interconnections between existing schemes, and the potential development of a number of high-capacity strategic networks, notably SELCHP, the London Thames Gateway Heat Network, and the Upper Lee Valley Strategic Heat Network transporting industrial volumes of waste heat from power stations over long distances, which could allow for truly significant carbon savings.

Existing schemes and those planned for future development are shown in the London "Vision Map" below, or can be viewed in more detail on the London Heat Map's vision layer (www.londonheatmap.org.uk).

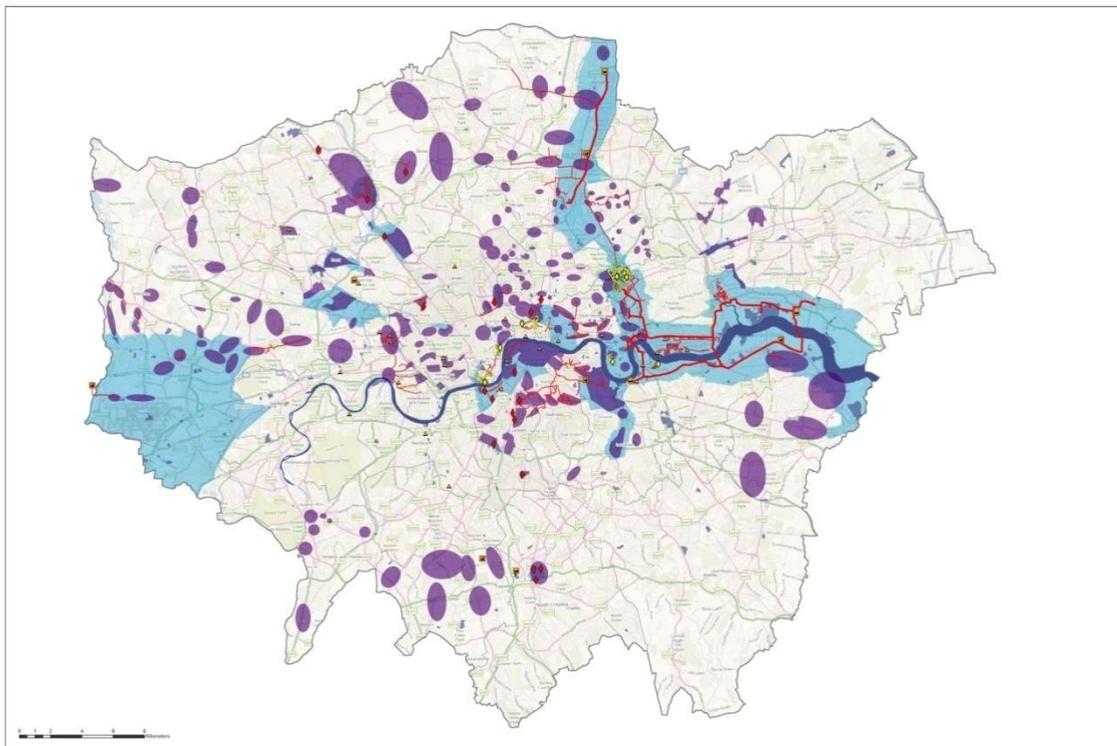


Figure 3: The Decentralised Energy for London "Vision Map" 2012

5 Methodology

The methodology for heat mapping was developed by Arup in conjunction with the LDA / GLA.

The heat mapping process identifies potential DE opportunities in each borough, and where relevant cross-borough opportunities. The process concludes with an implementation plan developed jointly with the London Borough of Harrow to identify how these opportunities could be progressed. The process consists of two main phases:

Phase 1: Data collection

This data collection should create a reliable database and identify:

- Major heat loads (existing and planned)
- Major heat supply plants (existing and planned)
- District Heating (DH) networks (existing and planned)

Phase 2: Identifying opportunities for potential DE schemes

This process includes the identification of ‘clusters’ of buildings and development areas that have the best potential for future DH networks and / or extending existing heat networks.

5.1 Phase 1: Data Collection

The aim of Phase 1 is to populate the London Heat Map with data points from which the analysis in Phase 2 can take place. These data points should identify existing and already planned heat loads, heat supply plants and district heating networks.

Some data points within the London Borough of Harrow already existed on the London Heat Map from the first round of heat mapping that took place under the DEMaP programme. The data for these points had been collected from central data bases such as the London Fire and Emergency Planning Authority (LFEPA) and the London Development Database 2004 (LDD).

To complete the dataset for the London Borough of Harrow, the borough was asked to source the data and verify that which was already in the London Heat Map. The following data locations were suggested to the borough to source the data:

- The former NI 185 register
- The Council’s Property Services
- Specific borough documents (such as Asset Management Plans)
- Members of the borough Local Strategic Partnership
- Council’s Planning Applications (for large scale applications)
- Council boiler replacement programme
- Private Landowners / Developers
- Other public sector bodies
- Display Energy Certificates (DEC)
- CRC Energy Efficiency data

The typologies used to define the heat loads in the London Heat Map are available in Appendix A.

An inception meeting was held in the Harrow Civic Offices on 12th January 2012 with representatives from the London Borough of Harrow. Andrew Baker, Head of Climate Change, Saeed Atlas, Senior Energy Officer, Matthew Paterson, LDF Planner, Stuart Twichen, Building Control Officer, Paul O'Callaghan, Housing Asset Manager attended the meeting. Following the meeting the London Borough of Harrow carried out the data gathering exercise for heat mapping.

The full data set provided is available in Appendix A.

5.2 Phase 2: Identifying opportunities for potential DH networks

The aim of Phase 2 is to use the populated London Heat Map to identify opportunities for potential DH networks both within the London Borough of Harrow, and across borough borders.

To do this, the following factors were considered to identify clusters of buildings with the potential to form a DH network:

- The **physical proximity and heat load density** of buildings. This is important to identify high level cluster opportunities and to identify the scale of infrastructure required to meet the demand.
- The presence of **existing anchor loads** which could be able to trigger a DE network. An anchor load is a heat load that is large, has a relatively constant load profile and is therefore suitable for a long-term heat supply or purchase contract. Anchor loads are important as they reduce the risk associated with securing connection of multiple heat loads.
- The presence of **heat load diversity** throughout the buildings identified. Diversity is important to balance the overall load profile of the DH network and make more efficient use of the heat generation source.
- The presence of **planned developments**. This is important for a number of reasons, firstly that the network/parts of the network can be built out as part of the development, reducing the disruption specifically associated with the DH network. Secondly those buildings within the development can be required to connect through their planning consent, securing heat demand. Finally, the avoided costs of installing individual heat supply plant per unit instead of smaller interface units with communal heat off-take can improve the economic and financial viability of new schemes, and often results in additional floorspace available to the developer.
- The presence of **publicly owned buildings**. Public organisations can have policy objectives which may make them more likely to connect to DH networks, such as carbon reduction commitments and tackling fuel poverty.

The identified clusters within the London Borough of Harrow were then visualised for this report using the London Heat Map data, along with the key reasons for their identification and the recommended next steps should the London Borough of Harrow wish to investigate the cluster opportunity further.

Where buildings within an identified cluster had no fuel consumption data, this has been calculated using recognised CIBSE heat consumption benchmarks for the building typology and the estimated gross internal floor area of the building. In cases where the floor area was also unavailable this has been approximated. The estimated capacity required for each cluster has then been calculated using the recognised average number of hours that heat is required in a year (2250hrs/year).

6 Cluster Analysis for the London Borough of Harrow

The clusters for the London Borough of Harrow have been identified and visualised on the map in Figure 4 through the methodology for Phases 1 and 2 of the heat mapping process. Six clusters have been identified. Each cluster is addressed in more detail in the following report sections.

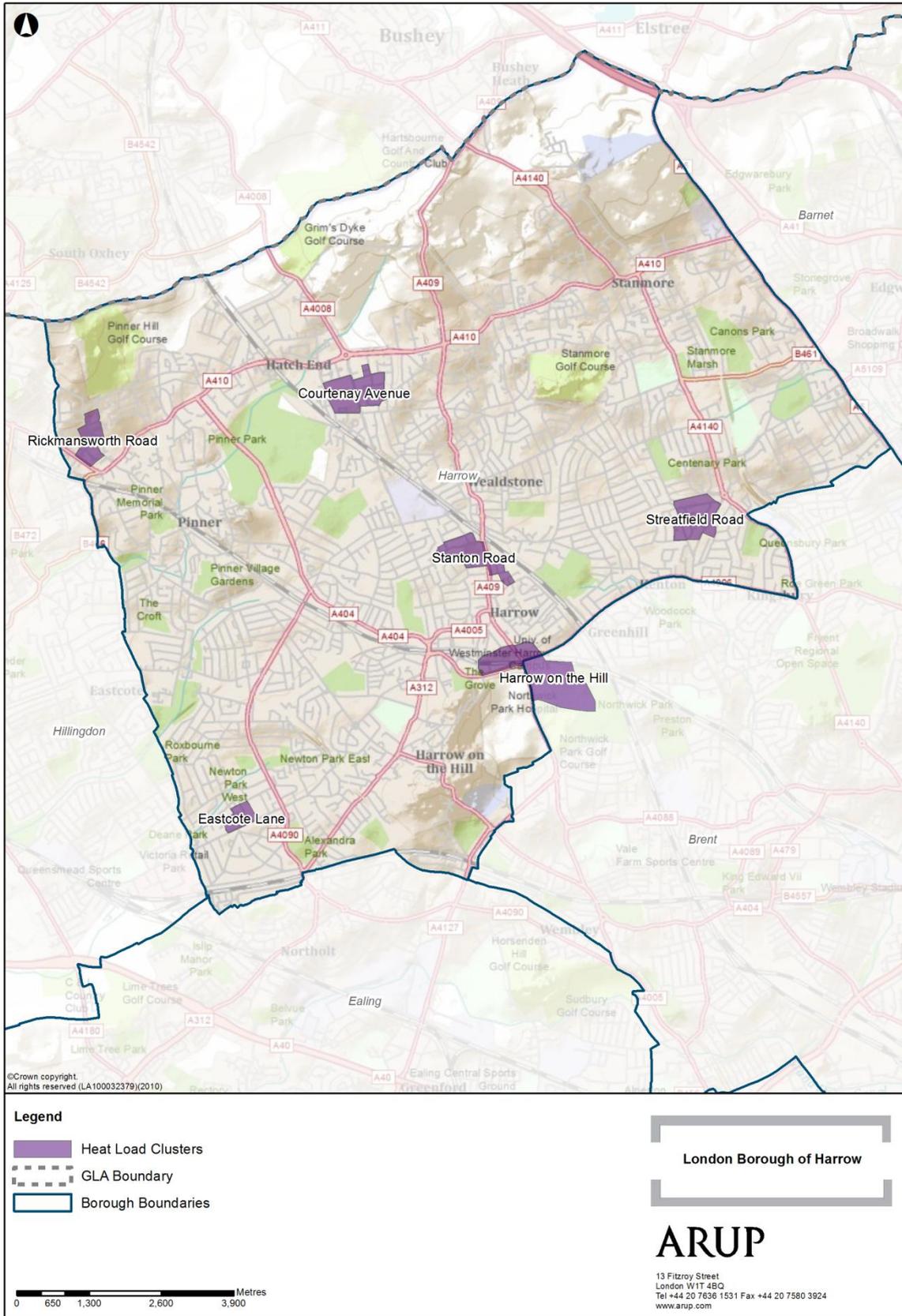


Figure 4: Identified heat clusters for the London Borough of Harrow

6.1 Heat Clusters within the London Borough of Harrow

Each of the clusters is described in more detail below. The descriptions are based on a desktop analysis of data provided by the borough and as such provide a high level indication of potential opportunities for DE schemes. It should be noted that site surveys were not carried out nor were any potential stakeholders contacted as part of this analysis. The cluster analysis represents potential opportunities that will require further feasibility and assessment before progressing to the next stage of development.

Six potential clusters have been identified within the London Borough of Harrow, with differing levels of opportunity. Overall, buildings of the kind suitable for a DE scheme are relatively dispersed within the Borough. Accordingly, some of the clusters have relatively low levels of demand and are deemed low opportunity. However in the case of the Station Road cluster levels of demand, diversity, and potential new developments are such that this is viewed as a medium-to-high opportunity.

6.1.1 Station Road

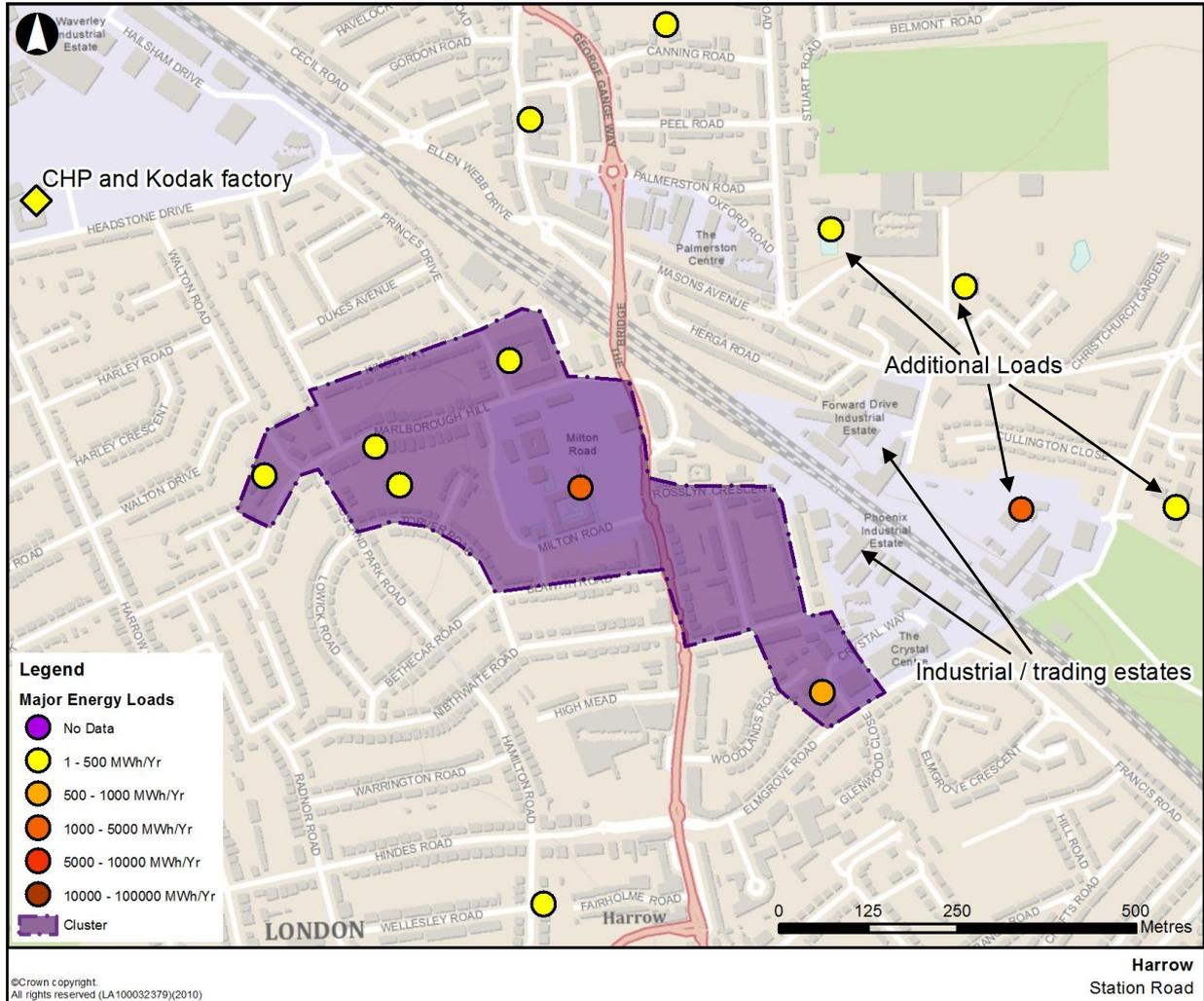


Figure 5: Station Road Heat Cluster

The Station Road Cluster is an interesting opportunity centred on the London Borough of Harrow’s Civic Centre, which is the clear potential anchor load at this time.

At present, only six buildings have been included in this cluster, representing relatively low annual fuel consumption, however a number of aspects external to the encircled cluster result in this being recommended for further investigation (as shown on Figure 5). These are: the CHP unit in the industrial estate (Kodak factory) to the north-west; the additional loads on the other side of the railway; the proximity of the potential Harrow-on-the-Hill Cluster; and the presence of other nearby industrial or trading estates. Desktop research also reveals a number of other buildings potentially suitable for a DE scheme in the vicinity of the Civic Centre which would benefit from further information gathering.

The Kodak factory site presents a potential opportunity for development of a DH network. It already contains a CHP unit of around 44 MW_{th} which is possibly currently oversized, as developments at the plant led to part of the site being shut

down in response to the changing market³. The cleared land is now scheduled for redevelopment, with a mix of up to 985 homes and associated community developments planned for construction over the next ten years, pending council approval⁴. This new development could serve as an anchor load for the cluster with an energy centre based around the factory's CHP unit, and developer contributions being secured to help fund the scheme. Based on this number of homes, an indicative benchmark value is given in Table 2. In the interim period up to this development's completion, the Civic Centre would serve as an appropriate anchor load, representing the largest existing consumption in the cluster.

On the north-east side of the railway four additional loads have been identified. These are not initially included in this cluster, as the presence of the railway could represent a significant (but not insurmountable) barrier to the expansion of any network in this direction.

As can be seen from Figure 5, the Harrow-on-the-Hill cluster (discussed in Section 6.2.1) is nearby. Depending on any future development of either cluster, a link between the two might be considered, linking the Station Road cluster to the considerable anchor load of the Northwick Park Hospital in the London Borough of Brent.

The industrial estates either side of the railway (see Figure 5) are highlighted, as it is possible they would yield further, more diverse typology heat demands on investigation which could be used to enhance the running of any CHP unit supplying this cluster.

Diversity in this cluster is relatively low, with the demand typology being primarily local government offices, with only a small school adding a different type to the mix. To enhance the potential viability of this cluster the identification of further loads of different typologies will probably be necessary, but as mentioned above there is a strong likelihood of additional suitable loads in the vicinity.

All the buildings currently identified in the cluster are local government-owned and as such present a good opportunity for the development of any DE scheme, as the stakeholder management process should be less complex.

Further steps:

- Investigate the status Civic Centre's thermal plant, and determine boiler-replacement schedules.
- Explore the vicinity (industrial estates, other nearby civic buildings, the other side of the railway) for additional public / private loads that have not yet been captured in this analysis to add diversity to the cluster. Such buildings could include the Leisure Centre, Central depot, or Elmgrove School.
- Investigate the potential for the Kodak factory site to incorporate DE as part of its development, and the possibility of securing developer contributions to further development of a DH network.

³ www.harrowview.info/websitefiles/ls047_dl_leaflet_final.pdf

⁴ <http://www.harrowobserver.co.uk/west-london-news/local-harrow-news/2012/01/03/brand-new-neighbourhood-on-kodak-site-will-create-hundreds-of-jobs-116451-30052538/>

- Engage with the Kodak factory and determine its interest in connecting to any DE scheme and selling any excess heat and electricity from its CHP, as well as the potential replacement schedule of its plant.

Table 1: Existing buildings in Station Road Cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Civic Centre	Local government	Local government estate	3,248
Watkins House	Local government	Local government estate	628
Marlborough F & M School	Local government	Education facilities	378
Churchill Place Community Ctr.	Local government	Local government estate	221
76 Marlborough Hill (Family Welfare)	Local government	Local government estate	136
74A Marlborough Hill (Wiseworks)	Local government	Local government estate	80
TOTAL Fuel Consumption			4,691 MWh/yr

Table 2: New developments in Station Road cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Kodak Factory site redevelopment	Unknown	Residential	3,198
TOTAL Fuel Consumption			3,198 MWh/yr

Table 3: Summary of existing and new developments in Station Road Cluster

Total Fuel Consumption	7,889 MWh/yr
Total Estimated Heat Demand	6,311 MWh/yr
Estimated Peak Heat Load	2.81 MW

6.1.2 Honeypot Lane Cluster

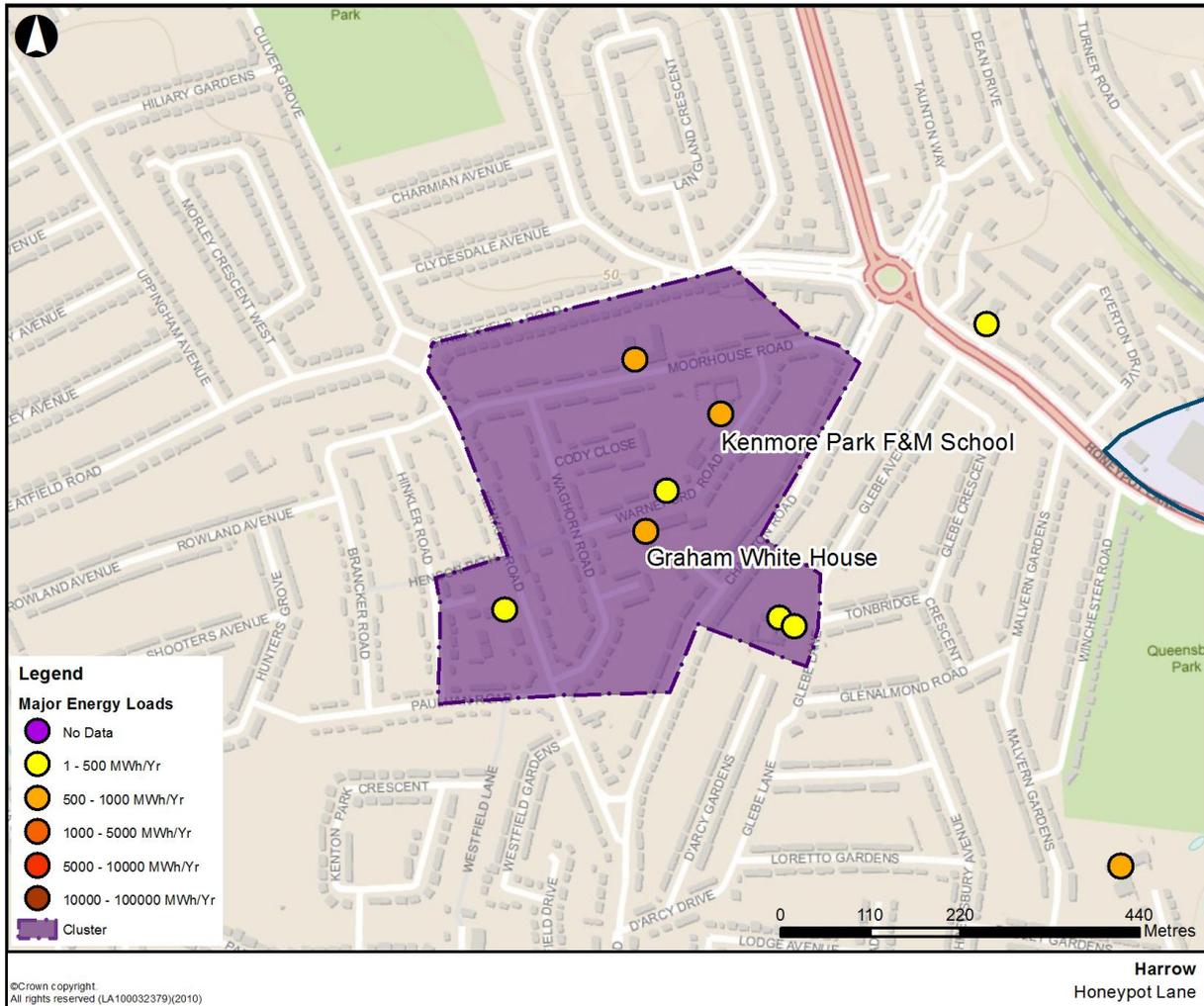


Figure 6: Honeypot Lane Heat Cluster

The Honeypot Lane cluster contains seven existing demands. As can be seen in Table 4, only three are of a considerable size, resulting in moderate total fuel consumption. This low total demand is offset somewhat by the loads being in relatively close proximity to one another.

Currently there are no clear anchor loads in the cluster, although the Kenmore Park F & M School, representing the largest demand, would be a likely candidate.

An overriding issue with this cluster is that the diversity is relatively low, with most of the buildings being educational or local government offices; this might impact the optimal running of any CHP engine in the scheme. In addition, desktop analysis reveals the buildings in the immediate vicinity to be medium-to-low density private residential. Whilst these would not be excluded outright from any potential scheme, it would likely prove difficult to gain significant buy-in to a scheme from them and so benefit from increased diversity of demand.

All the buildings identified in this cluster are local government-owned and as such should allow for a straightforward governance model were development to be taken forward.

Further steps:

- Engage with potential anchor loads, investigating plant-replacement dates and available space for a possible energy centre
- Explore the vicinity for additional public / private demand that has not yet been captured in this analysis.

Table 4: Existing buildings in Honeypot Lane cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Kenmore Park F & M School	Local government	Education facilities	844
Graham White House	Local government	Local government estate	627
Boothman house	Local government	Local government estate	616
Glebe F & M School	Local government	Education facilities	358
Kenmore NRC	Local government	Local government estate	148
Kenmore Park Community Ctr.	Local government	Local government estate	118
Kenton Learning Centre (Glebe)	Local government	Education facilities	14
TOTAL Fuel Consumption			2,725 MWh/yr

Table 5: Summary of existing and new developments in Honeypot Lane Cluster

Total Fuel Consumption	2,725 MWh/yr
Total Estimated Heat Demand	2,180 MWh/yr
Estimated Peak Heat Load	0.97 MW

6.1.3 Eastcote Lane Cluster

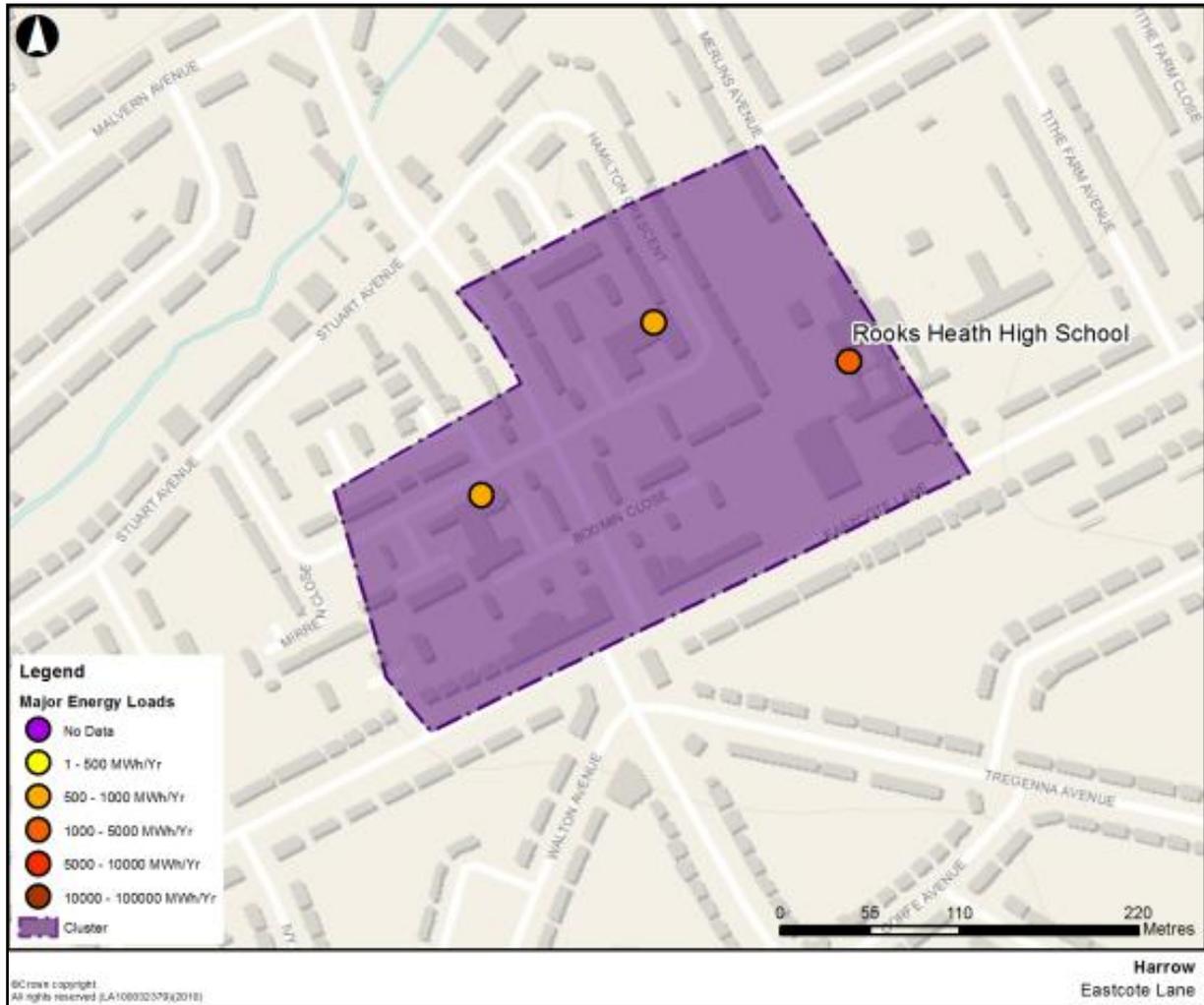


Figure 7: Eastcote Lane heat cluster

The Eastcote Lane cluster is very small, made up of only four nearby demands (only three are visible due to overlap), which presents the opportunity for a small network between these education facilities and local government offices.

The Rooks Heath High school would appear to be the key anchor load in this case; its considerable fuel consumption would indicate relatively large boiler rooms which could be used to house an energy centre for the cluster.

As with the Honeypot Lane cluster (Section 6.1.2), desktop analysis reveals low potential for the identification of nearby loads of different typologies to increase the diversity of the scheme; consideration will need to be given to this when evaluating feasibility.

There are few stakeholders involved in this cluster, and all are under local government influence. If the appetite exists, the scheme could be readily progressed through to the next stages.

Further steps:

- Engage with the potential anchor load (Rooks Heath High School), investigating plant-replacement dates and available space for a possible energy centre, as well as appetite for the formation of a DE scheme.
- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
- Avenues for further feasibility study: acquire monthly fuel bills from the various loads; give consideration to potential network routing.

Table 6: Existing buildings in Eastcote Lane cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Rooks Heath High School	Local government	Education facilities	1,577
Meadfield House	Local government	Local government estate	592
Cornell House	Local government	Local government estate	563
Heathland School	Local government	Education facilities	460
TOTAL Fuel Consumption			3,191 MWh/yr

Table 7: Summary of existing and new developments in Eastcote Lane Cluster

Total Fuel Consumption	3,191 MWh/yr
Total Estimated Heat Demand	2,553 MWh/yr
Estimated Peak Heat Load	1.13 MW

6.1.4 Rickmansworth Road Cluster

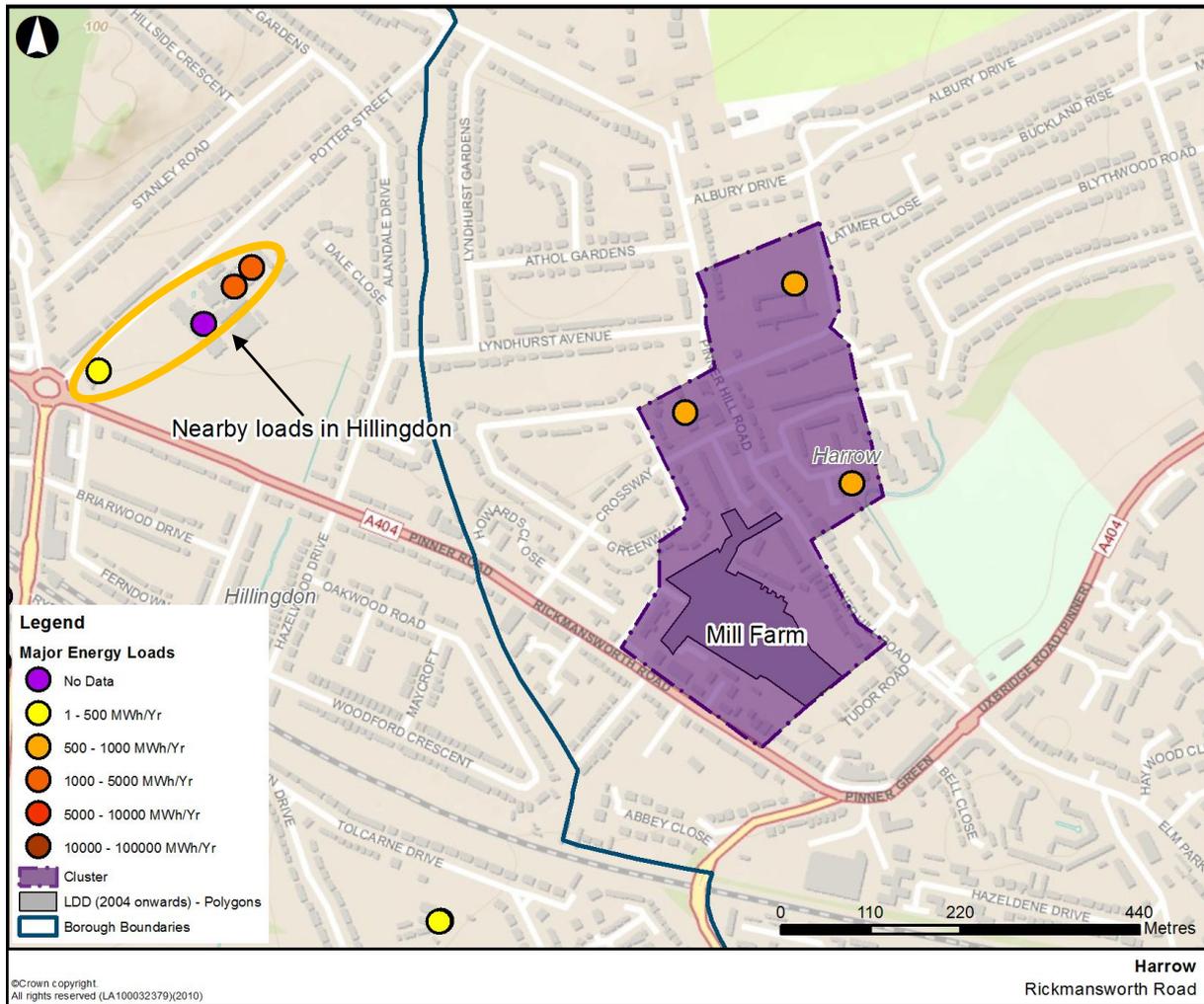


Figure 8: Rickmansworth Road Heat Cluster

The Rickmansworth Road Cluster is a small cluster that is likely of low opportunity, and is briefly presented here. Made up of four key loads, of a good level of diversity (educational, office, and residential), there might exist the potential for a small network between them, and there is also the possibility of some nearby loads in the London Borough of Hillingdon (see Figure 8) which could add further demand and diversity to the mix. It should be noted that the cross-borough nature of such a development would add extra complexity to the development of any eventual scheme. As overall scheme heat demand is relatively low, the cluster has not been stretched to include the cross-borough loads at this time, but some level of engagement between the boroughs to determine any potential might be warranted.

The polygon highlighted in Figure 8 is from the 2007 LDD database, and indicates the construction of 158 residential units on the Mill Farm Close site. Desktop analysis shows that these have been completed; hence they have been benchmarked for an indicative heat load. It is not known what heating system is installed in these buildings, but if the system was communal the boiler house might present a good location for a potential energy centre for the cluster.

Further steps:

- Determine the method of heating of the Mill Farm Close redevelopment, and investigate the potential for integration with any possible DE scheme
- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
- Engage with the London Borough of Hillingdon regarding the possibility of cross-borough collaboration and network development.

Table 8: Existing Buildings in Rickmansworth Road Cluster

Building Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Pinner Wood F & M School	Local government	Education facilities	816
Bedford House	Local government	Local government estate	505
Edwinware Court	Local government	Local government estate	619
TOTAL Fuel Consumption			1,939 MWh/yr

Table 9: New buildings in Rickmansworth Road cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Redevelopment of Mill Farm Close (understood to be complete)	Not available	Residential	513
TOTAL Fuel Consumption			513 MWh/yr

Table 10: Summary of existing and new developments in Rickmansworth Road Cluster

Total Fuel Consumption	2,452 MWh/yr
Total Estimated Heat Demand	1,961 MWh/yr
Estimated Peak Heat Load	0.87 MW

6.1.5 Courtenay Avenue Cluster

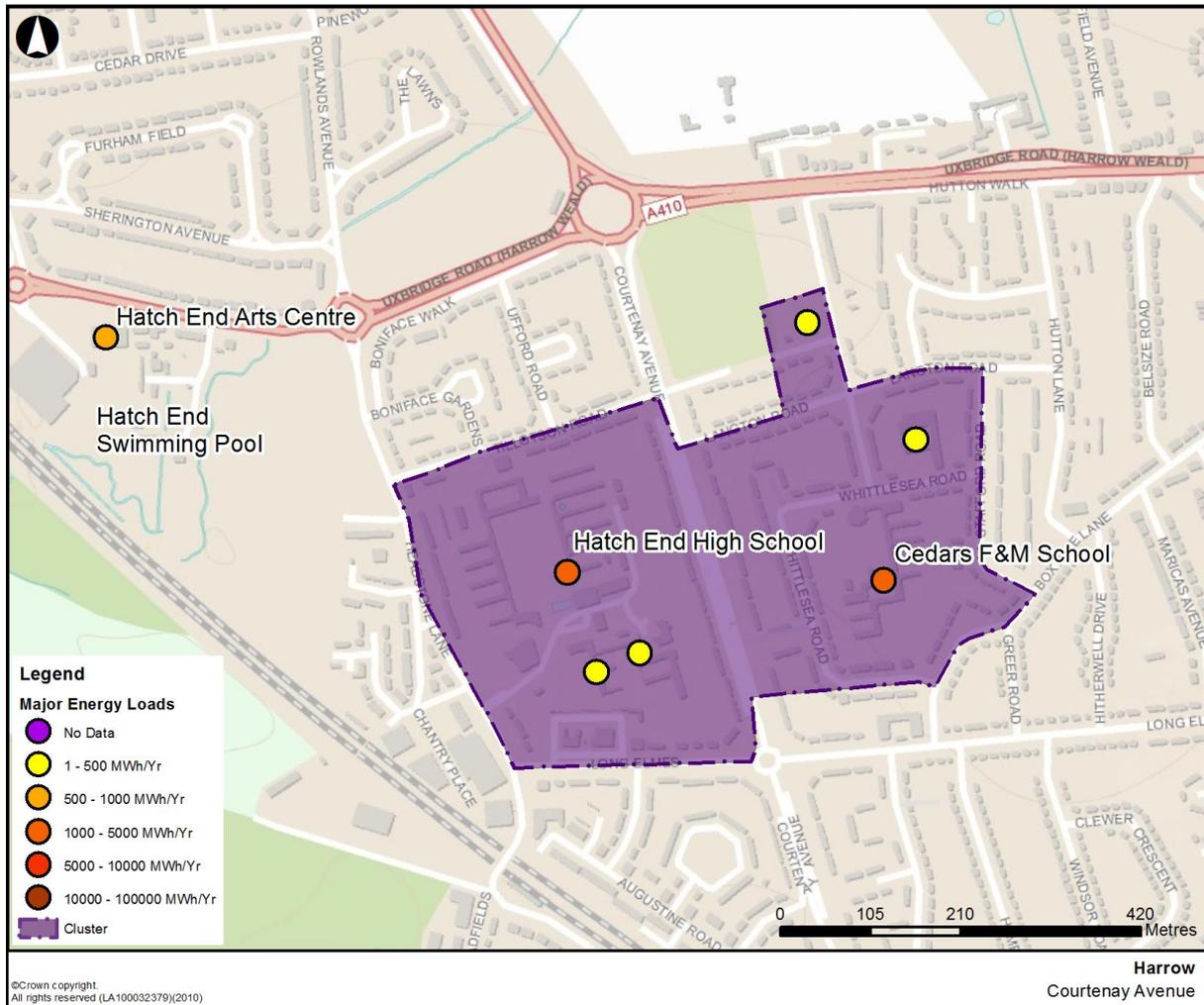


Figure 9: Courtenay Avenue Heat Cluster

The Courtenay Avenue cluster is characterised by two major heat loads on either side of Courtenay Avenue, the Hatch End High School in particular representing a clear potential anchor load with an annual fuel consumption of 3,285 MWh/yr.

The key heat demands are relatively close to one another, however it should be noted that particularly in the case of Cedars F & M School, they are somewhat surrounded by low-rise residential buildings, which could make future network routing challenging.

An issue in this cluster is diversity; with the exception of a small community centre all load typologies are educational, and so would likely lead to a high level of daily and seasonal demand variation which might not be suitable for a CHP engine to operate effectively. To further boost the cluster’s diversity, there exists the potential for linking to the Hatch End Arts Centre (see Figure 9). This has moderately high fuel consumption at 699 MWh/yr and is across 400 meters of sports fields, so connection of a heating network spur would not be as costly as when laying piping through suburban streets, for example. Similarly, the Hatch end Swimming Pool has been identified nearby the arts centre, and while there is

no consumption information available at this time, it is likely it provide further diversity, and possibly also an anchor load for the cluster.

As all buildings in this cluster are local government-owned, stakeholder engagement would likely be a less involved process than when dealing with a mix of private sector buildings. However, as mentioned earlier, any additional loads of different typologies joining the scheme could lead to favourable overall performance and economics.

Further steps:

- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
- Investigate the anchor load at Hatch End High School, investigating the status of boiler plant, replacement schedules and space for a potential energy centre.
- Give consideration to potential network routing; residential buildings surrounding the key loads might lead to unacceptable lengths of piping being required.

Table 11: Existing Buildings in Courtenay Avenue Heat Cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Hatch End High School	Local government	Education facilities	3,285
Cedars F & M School	Local government	Education facilities	1,293
Shaftesbury High School	Local government	Education facilities	473
Kingsley High School	Local government	Education facilities	438
St. Teresa's RC F & M School	Local government	Education facilities	434
Cedars Youth & Community Ctr.	Local government	Sport & Leisure facilities	107
Hatch End Arts Centre	Local government	Museums and Art Galleries	Unavailable
Hatch End Pool	Local government	Sport & Leisure facilities	Unavailable
TOTAL Fuel Consumption			6,031 MWh/yr

Table 12: Summary of existing and new developments in Courtenay Avenue Cluster

Total Fuel Consumption	6,031 MWh/yr
Total Estimated Heat Demand	4,825 MWh/yr
Estimated Peak Heat Load	2.14 MW

6.2 Cross-Borough opportunities

6.2.1 Harrow-Brent: Harrow-on-the-Hill

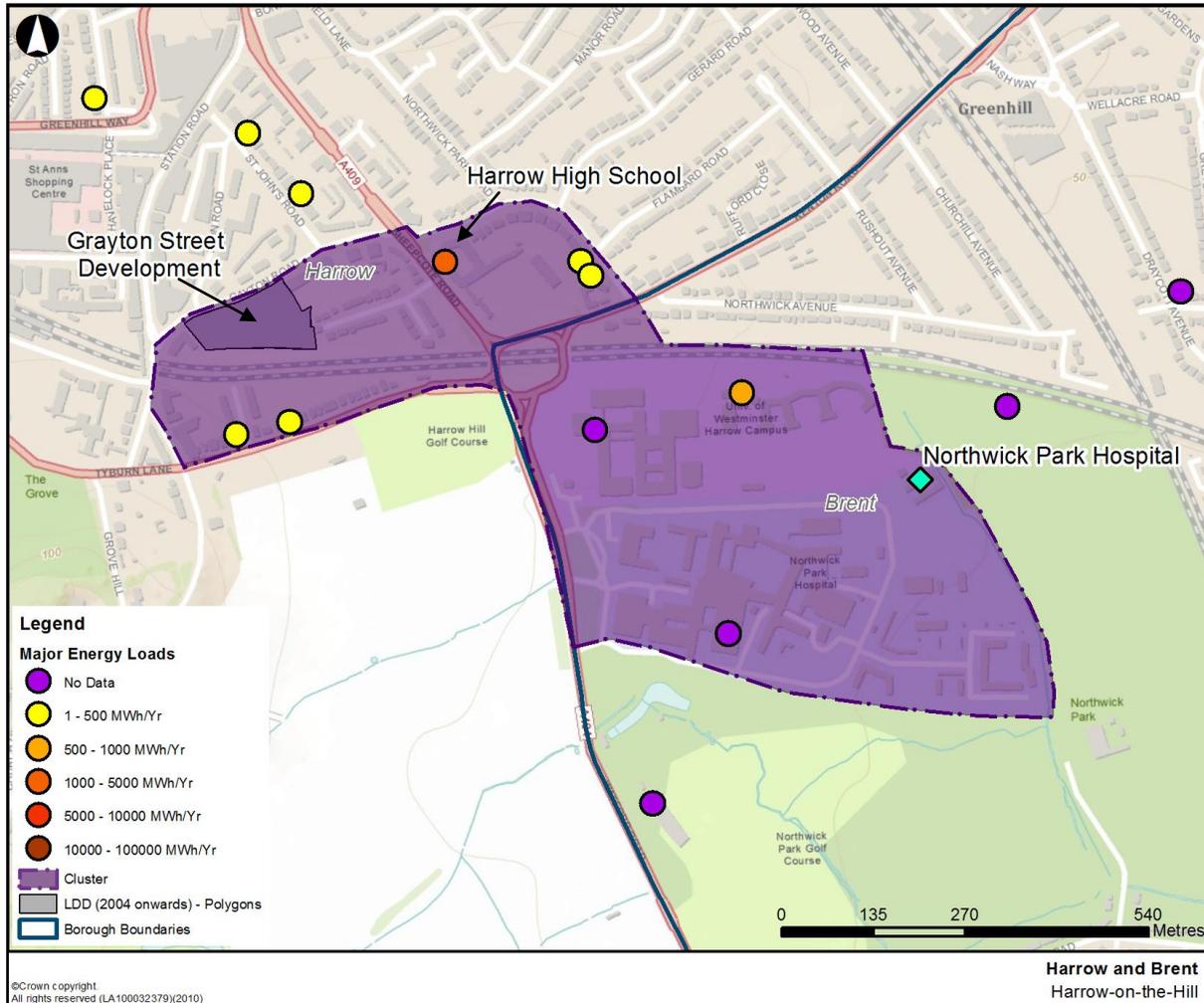


Figure 10: Harrow-Brent heat cluster, Harrow on the Hill

The heat mapping report undertaken for Brent (Ramboll, 2010) identified the Northwick Park Hospital area as a potential opportunity area:

"Northwick Park Hospital. This can be a small network linking Northwick Park Hospital with University of Westminster properties, energi fitness club, and adjacent residences. During a telephone conversation with the hospital, we were told over the phone that Northwick Park Hospital has 40-year old boilers and is keen to connect to a community scheme with the University of Westminster."

Should the Northwick cluster come forward, there are a number of potential connections in Harrow that could be considered. The most promising connection on the Harrow side is Harrow High School, with an annual thermal demand of 1.1GWh. The school is approximately 800 meters from the hospital site. The other buildings identified on the Harrow side of the boarder are all local government offices with relatively small heat demands.

There is a new development in this cluster, on Gayton Street to the west of the high school. Permission was granted for this development in 2009, though it is not

clear if construction has commenced or the development has been completed. Permission was granted for a total of 383 flats, with an estimated annual fuel demand of 2.3 GWh. If the flats have not yet been constructed there may be an opportunity to require that they connect to a developing network, or be constructed district-heating ready. Any requirement of this sort should be based on a viability assessment of connecting the development to the network.

Installing a connection between Harrow High School or the Gayton street development and a future network centred on the Northwick Park Hospital would require crossing the over-ground train line and London Underground Metropolitan line between Northwick Park and Harrow-on-the-Hill stations. Crossing underneath a major train line represents a significant barrier to a DH network, though there may be existing utilities crossing the line above ground, into which the heating mains could be integrated.

Other potential developments and loads identified by the London Borough of Harrow which could aid with the growth of this cluster are the nearby Dandara development on College Road, and the Greenhill FE college on Lowlands Road. At this stage fuel consumption data is not available for these points, and any further feasibility work would benefit from obtaining these numbers.

Should the cluster be developed further, the viability of crossing the train line should be investigated further. An assessment should also be made of the viability of negotiating the A404, A409 and A4006 in the centre of the cluster. Additional consideration could also be given to connecting to the potential Station Road cluster, connecting additional loads to the north of the cluster in the process.

Further steps specific to the London Borough of Harrow:

- Contact the London Borough of Brent to determine if the Northwick Park Hospital area is being developed as a DE opportunity.
- Determine the development state of Gayton Street and Dandara site (College Road)
- Consider the viability of the network crossing the train line and A-road barriers.
- Consider the financial viability of installing a connecting heat main in to Harrow from the Northwick Park Hospital.

Table 13: Existing Buildings in Harrow-Brent cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Harrow High School	Local government	Education facilities	1,107
<i>University Of Westminster Student Accommodation*</i>	<i>Not available</i>	<i>Private residential</i>	<i>564</i>
14-15 Kenton Road	Local government	Local government estate	130
82 Gayton Road Tutorial Service	Local government	Local government estate	85
7 Kenton Road	Local government	Local government estate	56
80 Gayton Road	Local government	Local government estate	50
<i>University Of Westminster*</i>	<i>Not available</i>	<i>Education facilities</i>	<i>Not available</i>
<i>Mortuary Northwick Park Hospital*</i>	<i>Not available</i>	<i>Other public buildings</i>	<i>Not available</i>
Greenhill FE College	Not available	Education facilities	Not available
TOTAL Fuel Consumption			1,994 MWh

*located in the London Borough of Brent

Table 14: New developments in Harrow-Brent cluster

Name	Ownership	Typology	Estimated Fuel Consumption (MWh/yr)
Gayton Road Development	Not available	Residential	2,332
Dandara (College Road) Development	Dandara	Residential	Not available
TOTAL Fuel Consumption			2,332 MWh

Table 15: Summary of Existing and New Developments in Harrow-Brent Cluster

Total Fuel Consumption	4,326 MWh/yr
Total Estimated Heat Demand	3,460 MWh/yr
Estimated Peak Heat Load	1.5 MW

Table 16: Potential heat supply points in the Harrow-Brent cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Northwick Park Hospital	Other public	Natural Gas	45,374
TOTAL Fuel Consumption			45,374 MWh

7 Implementation Plan

DE Opportunity Area	Opportunity	Constraints	Next Steps for delivering DE schemes
Station Road	Medium / High	Railway separates southern demands from potential ones in the north	<p>Investigate the status Civic Centre’s thermal plant, and determine boiler-replacement schedules.</p> <p>Explore the vicinity (industrial estates, other nearby civic buildings, the other side of the railway) for additional public / private loads that have not yet been captured in this analysis to add diversity to the cluster, e.g. Leisure Centre, Central depot and elmgrove Road school.</p> <p>Investigate the potential for the Kodak factory site to incorporate DE as part of its development, and the possibility of securing developer contributions to further development of a DH network.</p> <p>Engage with the Kodak factory and determine its interest in connecting to any DE scheme and selling any excess heat and electricity from its CHP, as well as the potential replacement schedule of its plant.</p>
Honeypot Lane	Low	Relatively low diversity Surrounding buildings likely unsuitable / impractical for connection to a DE scheme due to many private residential stakeholders	<p>Engage with potential anchor loads, investigating plant-replacement dates and available space for a possible energy centre</p> <p>Explore the vicinity for additional public / private demand that has not yet been captured in this analysis.</p>
Eastcote Lane	Medium	Relatively low diversity	<p>Engage with the potential anchor load (Rooks Heat High School), investigating plant-replacement dates and available space for a possible energy centre, as well as appetite for the formation of a DE scheme.</p> <p>Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.</p> <p>Avenues for further feasibility study: acquire monthly fuel bills from the various loads; give consideration to potential network routing.</p>
Rickmansworth Road	Low	Relatively low annual demand	<p>Determine the method of heating of the Mill Farm Close redevelopment, and investigate the potential for integration with any possible DE scheme</p> <p>Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.</p>

			Engage with the London Borough of Hillingdon regarding the possibility of cross-borough collaboration and network development.
Courtenay Avenue	Medium	Surrounding low-rise residential buildings may present difficulties for network routing. Relatively low diversity.	Explore the vicinity for additional public / private loads that have not yet been captured in this analysis. Investigate the anchor load at Hatch End High School, investigating the status of boiler plant, replacement schedules and space for a potential energy centre. Give consideration to potential network routing; residential buildings surrounding the key loads might lead to unacceptable lengths of piping being required.
Harrow-on-the-Hill	Low / Medium	Railway line, main road and borough border intersect the potential cluster.	Contact the London Borough of Brent to determine if the Northwick Park Hospital area is being developed as a DE opportunity Determine the development state of Gayton Street and Dandara site (College Road) Include Greenhill FE college, (Lowlands Road) Consider the viability of the network crossing the train line and A-road barriers Consider the financial viability of installing a connecting heat main in to Harrow from the Northwick Park Hospital.

8 Conclusions and Recommendations

Based on the data made available in this heat mapping exercise, it has been found that there are a number of heat load clusters that offer varying degrees of opportunity for the implementation of DE and DH schemes in the London Borough of Harrow. These are listed below in decreasing order of total fuel consumption (not necessarily a direct indication of opportunity or feasibility):

1. Station Road
2. Courtenay Avenue
3. Harrow-on-the-Hill
4. Eastcote Lane
5. Honeypot Lane
6. Rickmansworth Road

8.1 Opportunity areas

The Station Road cluster has been identified as having a good level of opportunity for the London Borough of Harrow. Centred around Harrow's Civic Centre, this moderately sized cluster is made up of a number of local government buildings, which on their own might not prove sufficient to initiate a DE scheme for the cluster. However, residential redevelopment of part of the nearby Kodak Factory site, as well as the presence of a (possibly) underused CHP engine, creates an attractive opportunity in this area should these developments be taken forward. It has also been noted that buildings of different load typologies, which would enhance the viability of any scheme, are likely to be found in the vicinity, and there is potential for expanding the cluster to the north-east, across the railway line.

Elsewhere in the borough a number of clusters of smaller scale, but not necessarily smaller opportunity, have been identified, where the main potential barrier to implementation is relatively low levels of diversity.

One cross-borough opportunity with the London Borough of Brent has been identified in the Harrow-on-the-Hill cluster. In this cluster, the Northwick Park Hospital in Brent (currently running a large CHP) is identified as the main anchor load, and any development of this cluster is likely to be led by the London Borough of Brent. A significant barrier to the development of this potential scheme into the London Borough of Harrow is the main railway line and roads that bisect the cluster.

8.2 Next steps

At this stage a general recommendation if taking any clusters forward for additional feasibility investigation work would be to acquire greater knowledge of other potential loads in the cluster areas. Whilst this study covered the whole borough and was necessarily high-level, having identified the higher opportunity areas it should now prove more resource efficient to find further information on additional potential loads within the clusters and in their immediate surroundings.

Clusters containing existing loads served by central boilers or community heating systems would benefit from investigation into the conditions of existing plant, and likely replacement dates.

Clusters with potential physical barriers to network build-out, such as railway lines or main roads would benefit from consideration being given to the feasibility of crossing these obstacles.

Where new developments are determined to impact the viability of any scheme, consideration could be given to requiring these to connect to any eventual DH network, or at least incorporating DH-readiness into their heating systems.

Further cluster-specific recommendations can be found in the Implementation Plan in Section 7.

8.3 Additional opportunities for DE

It should also be noted that there may be other potential opportunities in the borough that achieve the wider aims of decentralised energy schemes, namely; decarbonisation of the energy supply, reduced fuel poverty and increased security of supply.

To fully understand the potential for wider decentralised energy opportunities is outside the scope of this Heat Map report, which has specifically focused on the development of heat networks within the London Borough of Hounslow. A more detailed renewable and low carbon energy resource study would be required to identify and analyse the potential for any such programmes of work within the borough. These other programmes of work could include:

- Implementing other technological interventions such as solar thermal, small scale biomass boilers, ground source heat pumps, air source heat pumps, photovoltaic panels (PV) and appropriately sized wind turbines.
- Contributing to the decarbonisation of the national gas and electricity grids, perhaps through energy from waste mechanisms or other renewable resources.
- Identifying a suitable addition to any proposed Community Infrastructure Levy (CIL) that would allow the borough to fund carbon reduction infrastructure.
- Setting up a local carbon fund collected through the planning process to enable the borough to prioritise carbon reduction programmes.

Ultimately these programmes of work should help the London Borough of Harrow to meet the borough's Climate Change Strategy to reduce carbon emissions by 60% in line with the Mayor of London's carbon reduction commitment.

8.4 Concluding remarks

Opportunities for the development of large-scale DE schemes in the London Borough of Harrow are perhaps not as high as in some boroughs more in the centre of London. Despite this, at least one scheme with good prospects for development has been identified in the Station Road cluster, along with a number of smaller-scale opportunity areas around the borough. These schemes, should

they go forward, would allow the London Borough of Harrow to make good progress in achieving carbon reduction targets if implemented in synergy with a range of other low-carbon power generation options such as heat pumps or photovoltaic panels.

Appendix A

Populated Template and London
Heat Map Heat Load Typologies

A1 Populated template

A1.1 Major Heat Loads

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
517981	192291	Aylward F & M School	Pangbourne Drive, Stanmore, Middlesex	HA7 4RE	Local government	No	Education facilities	Individual boilers	Natural gas	1,261	-	5,152	-	-	-	-	233.03	2011				CRC Supplier statement	No		Harrow	Real	
515937	190307	Belmont F & M School	Hibbert Road, Harrow, Middlesex	HA3 7JT	Local government	No	Education facilities	Individual boilers	Natural gas	831	-	4,083	-	-	-	-	153.56	2011				CRC Supplier statement	No		Harrow	Real	
518662	190858	Camrose Primary School	St Davids Drive, Edgware, Middlesex	HA8 6JA	Local government	No	Education facilities	Individual boilers	Natural gas	373	-	2,623	-	-	-	-	68.91	2011				CRC Supplier statement	No		Harrow	Real	
511772	188116	Cannon Lane F & M School	Cannonbury Avenue, Pinner, Middlesex	HA5 1TS	Local government	No	Education facilities	Individual boilers	Natural gas	711	-	3,417	-	-	-	-	131.45	2011				CRC Supplier statement	No		Harrow	Real	
514306	190944	Cedars F & M School	Whittlesea Road, Harrow, Middlesex	HA3 6LS	Local government	No	Education facilities	Individual boilers	Natural gas	1,293	-	5,543	-	-	-	-	239.04	2011				CRC Supplier statement	No		Harrow	Real	
512864	185591	Earlsmead F & M School	Arundel Drive Harrow, Middlesex	HA2 8PW	Local government	No	Education facilities	Individual boilers	Natural gas	405	-	2,637	-	-	-	-	74.81	2011				CRC Supplier statement	No		Harrow	Real	
516339	189131	Elmgrove F & M School	Kenmore Avenue, Harrow, Middlesex	HA3 8LU	Local government	No	Education facilities	Individual boilers	Natural gas	418	-	3,940	-	-	-	-	77.25	2011				CRC Supplier statement	No		Harrow	Real	
518121	189480	Glebe F & M School	D'arcy Gardens Harrow, Middlesex	HA3 9JU	Local government	No	Education facilities	Individual boilers	Natural gas	358	-	2,507	-	-	-	-	66.16	2011				CRC Supplier statement	No		Harrow	Real	
513839	187189	Grange F & M School	Welbeck Road, Harrow, Middlesex	HA2 0RJ	Local government	No	Education facilities	Individual boilers	Natural gas	790	-	4,359	-	-	-	-	146.04	2011				CRC Supplier statement	No		Harrow	Real	
512522	191621	Grimsdyke F & M School	Sylvia Avenue Hatch End, Middlesex	HA5 4QE	Local government	No	Education facilities	Individual boilers	Natural gas	505	-	2,772	-	-	-	-	93.27	2011				CRC Supplier statement	No		Harrow	Real	
518049	189732	Kenmore Park F & M School	Moorhouse Road Kenton, Middlesex	HA3 9JA	Local government	No	Education facilities	Individual boilers	Natural gas	844	-	3,755	-	-	-	-	156.04	2011				CRC Supplier statement	No		Harrow	Real	
513062	188096	Longfield F & M School	Duke's Avenue, Harrow, Middlesex	HA2 7NZ	Local government	No	Education facilities	Individual boilers	Natural gas	754	-	3,444	-	-	-	-	139.46	2011				CRC Supplier	No		Harrow	Real	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
																						statement					
515060	189175	Marlborough F & M School	Marlborough Hill, Harrow, Middlesex	HA1 1UJ	Local government	No	Education facilities	Individual boilers	Natural gas	378	-	2,002	-	-	-	-	69.92	2011				CRC Supplier statement	No		Harrow	Estimated	
512050	187476	Moriah Jewish Day School	Cannon Lane, Pinner, Middlesex	HA5 1JF	Local government	No	Education facilities	Individual boilers	Natural gas	176	-	1,694	-	-	-	-	32.47	2011				CRC Supplier statement	No		Harrow	Estimated	
512724	186845	Newton Farm F & M School	Ravenswood Crescent Harrow, Middlesex	HA2 9JU	Local government	No	Education facilities	Individual boilers	Natural gas	224	-	1,435	-	-	-	-	41.49	2011				CRC Supplier statement	No		Harrow	Real	
515100	188475	Norbury F & M School	Welldon Crescent, Harrow, Middlesex	HA1 1QQ	Local government	No	Education facilities	Individual boilers	Natural gas	404	-	2,806	-	-	-	-	74.63	2011				CRC Supplier statement	No		Harrow	Real	
513756	189954	Pinner Park F & M School	Melbourne Avenue Pinner, Middlesex	HA5 5TL	Local government	No	Education facilities	Individual boilers	Natural gas	618	-	5,655	-	-	-	-	114.28	2011				CRC Supplier statement	No		Harrow	Real	
511186	190636	Pinner Wood F & M School	Latimer Gardens Pinner, Middlesex	HA5 3RA	Local government	No	Education facilities	Individual boilers	Natural gas	816	-	4,160	-	-	-	-	150.81	2011				CRC Supplier statement	No		Harrow	Real	
516813	189875	Priestmead F & M School	Hartford Avenue Harrow, Middlesex	HA3 8SZ	Local government	No	Education facilities	Individual boilers	Natural gas	535	-	4,559	-	-	-	-	98.94	2011				CRC Supplier statement	No		Harrow	Real	
512137	186828	Roxbourne F & M School	Torbay Road, Harrow, Middlesex	HA2 9QF	Local government	No	Education facilities	Individual boilers	Natural gas	689	-	3,861	-	-	-	-	127.41	2011				CRC Supplier statement	No		Harrow	Real	
514879	186902	Roxeth F & M School	Brickfields, Byron Hill Road, Harrow, Middlesex	HA2 0JA	Local government	No	Education facilities	Individual boilers	Natural gas	214	-	2,015	-	-	-	-	39.48	2011				CRC Supplier statement	No		Harrow	Estimated	
513041	186195	Heathland School	Eastcote Lane, Harrow, Middlesex	HA2 9AG	Local government	No	Education facilities	Individual boilers	Natural gas	460	-	3,509	-	-	-	-	85.03	2011				CRC Supplier statement	No		Harrow	Real	
515057	187619	St. Anselms RC Primary School	Roxborough Park, Harrow, Middlesex	HA1 3BE	Local government	No	Education facilities	Individual boilers	Natural gas	199	-	1,688	-	-	-	-	36.69	2011				CRC Supplier statement	No		Harrow	Estimated	
518540	189173	St. Bernadettes RC Primary School	Clifton Road, Harrow, Middlesex	HA3 9NS	Local government	No	Education facilities	Individual boilers	Natural gas	593	-	2,210	-	-	-	-	109.69	2011				CRC Supplier statement	No		Harrow	Real	
515744	186220	St. Georges Primary School	Sudbury Hill Harrow, Middlesex	HA1 3SB	Local government	No	Education facilities	Individual boilers	Natural gas	458	-	2,578	-	-	-	-	84.75	2011				CRC Supplier statement	No		Harrow	Real	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
513011	189028	St. John Fisher F & M School	Melrose Road, Pinne, Middlesex	HA5 5RA	Local government	No	Education facilities	Individual boilers	Natural gas	242	-	1,853	-	-	-	-	44.77	2011				CRC Supplier statement	No		Harrow	Real	
516480	192697	St. Johns Church of Eng School	Green Lane, Stanmore, Middlesex	HA7 3AD	Local government	No	Education facilities	Individual boilers	Natural gas	395	-	2,701	-	-	-	-	73.03	2011				CRC Supplier statement	No		Harrow	Real	
516360	190368	St. Josephs RC F & M School	Dobbin Close, Belmont Circle, Harrow, Middlesex	HA3 7LP	Local government	No	Education facilities	Individual boilers	Natural gas	251	-	2,455	-	-	-	-	46.40	2011				CRC Supplier statement	No		Harrow	Real	
514021	190858	St. Teresa's RC F & M School	Long Elms Harrow, Middlesex	HA3 6LE	Local government	No	Education facilities	Individual boilers	Natural gas	434	-	1,997	-	-	-	-	80.27	2011				CRC Supplier statement	No		Harrow	Real	
519215	190370	Stag Lane F & M School	Collier Drive, Edgeware, Middlesex	HA8 5RU	Local government	No	Education facilities	Individual boilers	Natural gas	428	-	4,166	-	-	-	-	79.05	2011				CRC Supplier statement	No		Harrow	Real	
517199	191102	Stanburn F & M School	Abercorn Road Stanmore, Middlesex	HA7 2PJ	Local government	No	Education facilities	Individual boilers	Natural gas	771	-	3,552	-	-	-	-	142.46	2011				CRC Supplier statement	No		Harrow	Real	
514091	188075	Vaughan F & M School	Vaughan Road, Harrow, Middlesex	HA1 4EL	Local government	No	Education facilities	Individual boilers	Natural gas	543	-	2,861	-	-	-	-	100.43	2011				CRC Supplier statement	No		Harrow	Real	
515633	191157	Weald F & M School	Robin Hood Drive, Harrow, Middlesex	HA3 7DH	Local government	No	Education facilities	Individual boilers	Natural gas	934	-	4,689	-	-	-	-	172.58	2011				CRC Supplier statement	No		Harrow	Real	
514119	185831	Welldon Park First School	Kingsley Road, Harrow, Middlesex	HA2 8LD	Local government	No	Education facilities	Individual boilers	Natural gas	190	-	1,303	-	-	-	-	35.07	2011				CRC Supplier statement	No		Harrow	Real	
514035	186012	Welldon Park Middle School	Wyvenhoe Road Harrow, Middlesex	HA2 8LS	Local government	No	Education facilities	Individual boilers	Natural gas	471	-	2,124	-	-	-	-	87.04	2011				CRC Supplier statement	No		Harrow	Real	
511769	189316	West Lodge F & M School	West End Lane Pinner, Middlesex	HA5 1AF	Local government	No	Education facilities	Individual boilers	Natural gas	368	-	3,451	-	-	-	-	68.03	2011				CRC Supplier statement	No		Harrow	Real	
517594	191238	Whitchurch F & M School	Wemborough Road, Stanmore, Middlesex	HA7 2EQ	Local government	No	Education facilities	Individual boilers	Natural gas	684	-	3,696	-	-	-	-	126.52	2011				CRC Supplier statement	No		Harrow	Real	
515030	190087	Whitefriars Sch. & Teachers Ctr	Whitefriars Avenue, Wealdstone, Harrow	HA3 5QD	Local government	No	Education facilities	Individual boilers	Natural gas	958	-	4,816	-	-	-	-	177.05	2011				CRC Supplier statement	No		Harrow	Real	
515551	192255	Bentley Wood High School	Bridges Road, Stanmore,	HA7 3NA	Local	No	Education	Individual	Natural gas	846	-	6,902	-	-	-	-		2011				CRC	No		Harrow	Real	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
			Middlesex		government		facilities	boilers									156.36					Supplier statement					
518708	190351	Canons High School	Shaldon Road, Edgware, Middlesex	HA8 6AN	Local government	No	Education facilities	Individual boilers	Natural gas	1,985	-	9,154	-	-	-	-	366.98		2011			CRC Supplier statement	No		Harrow	Real	
515974	188106	Harrow High School	Gayton Road, Harrow, Middlesex	HA1 2JG	Local government	No	Education facilities	Individual boilers	Natural gas	1,107	-	10,612	-	-	-	-	204.72		2011			CRC Supplier statement	No		Harrow	Real	
513936	190953	Hatch End High School	Headstone Lane, Harrow, Middlesex	HA3 6NR	Local government	No	Education facilities	Individual boilers	Natural gas	3,285	-	14,822	-	-	-	-	607.31		2011			CRC Supplier statement	No		Harrow	Real	
513351	189250	Nower Hill High School	George V Avenue, Pinner, Middlesex	HA5 5RP	Local government	No	Education facilities	Individual boilers	Natural gas	779	-	12,954	-	-	-	-	143.98		2011			CRC Supplier statement	No		Harrow	Real	
517685	190369	Park High School	Thistlecroft Gardens, Stanmore, Middlesex	HA7 1PL	Local government	No	Education facilities	Individual boilers	Natural gas	1,914	-	12,108	-	-	-	-	353.79		2011			CRC Supplier statement	No		Harrow	Real	
513041	186195	Rooks Heath High School	Eastcote Lane, Harrow, Middlesex	HA2 9AG	Local government	No	Education facilities	Individual boilers	Natural gas	1,577	-	10,886	-	-	-	-	291.51		2011			CRC Supplier statement	No		Harrow	Real	
515332	190273	Sacred Heart Language College	186 High Street, Wealdstone, Harrow, Middlesex	HA3 7AY	Local government	No	Education facilities	Individual boilers	Natural gas	698	-	7,189	-	-	-	-	129.05		2011			CRC Supplier statement	No		Harrow	Real	
514252	187342	Whitmore High School	Porlock Avenue, Harrow, Middlesex	HA2 0AD	Local government	Yes	Education facilities	Individual boilers	Natural gas	1,721	-	10,546	-	-	-	-	318.21		2011	2008	2010	CRC Supplier statement	No		Harrow	Real	
513083	186627	Alexandra School	Alexandra Avenue, Harrow, Middlesex	HA2 9DX	Local government	No	Education facilities	Individual boilers	Natural gas	198	-	1,317	-	-	-	-	36.52		2011			CRC Supplier statement	No		Harrow	Estimated	
514343	191109	Kingsley High School	Whittlesea Road Harrow, Middlesex	HA3 6ND	Local government	Yes	Education facilities	Individual boilers	Natural gas	438	-	2,595	-	-	-	-	80.95		2011			CRC Supplier statement	No		Harrow	Real	
518655	190935	New Woodlands School	Bransgrove Road, London	HA8 6JP	Local government	No	Education facilities	Individual boilers	Natural gas	443	-	2,642	-	-	-	-	81.83		2011			CRC Supplier statement	No		Harrow	Real	
513970	190835	Shaftesbury High School	Headstone Lane, Harrow, Middlesex	HA3 6LE	Local government	No	Education facilities	Individual boilers	Natural gas	473	-	2,718	-	-	-	-	87.47		2011			CRC Supplier statement	No		Harrow	Real	
512841	185152	1 Silverdale (Main building)	1-1A Silverdale Close, Northolt, Middlesex	UB5 4BL	Local government	No	Local government	Individual boilers	Natural gas	104	-	0	-	-	-	-	19.17		2011			CRC Supplier	No		Harrow	Real	13 October

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
							estate															statement					11 - Sold
516173	188107	80 Gayton Road	Harrow, Middlesex	HA1 2LS	Local government	No	Local government estate	Individual boilers	Natural gas	50	-	243	-	-	-	-	9.19	2011				CRC Supplier statement	No		Harrow	Estimated	7 Nov 11- Sold
516188	188086	82 Gayton Road Tutorial Service	82 Gayton Road, Harrow, Middlesex	HA1 2LS	Local government	No	Local government estate	Individual boilers	Natural gas	86	-	0	-	-	-	-	15.86	2011				CRC Supplier statement	No		Harrow	Estimated	7 Nov 11- Sold
514217	191247	Cedars Youth & Community Ctr.	Chicheley Gardens, Wealdstone, Harrow	HA3 6QH	Local government	No	Sport & Leisure facilities	Individual boilers	Natural gas	107	-	407	-	-	-	-	19.72	2011				CRC Supplier statement	No		Harrow	Real	It's run by Watford football club
518864	191207	Chandos Children Centre & Nursery	74-76-78 Chandos Crescent, Edgware, Middlesex	HA8 6HL	Local government	No	Education facilities	Individual boilers	Natural gas	4	-	0	-	-	-	-	0.73	2011				CRC Supplier statement	No		Harrow	Estimated	
515624	189813	Gange Day Nursery	68/82 Canning Road, Wealdstone, Harrow	HA3 7SN	Local government	No	Education facilities	Individual boilers	Natural gas	106	-	439	-	-	-	-	19.58	2011				CRC Supplier statement	No		Harrow	Estimated	
518376	189843	Haslam House - 304 Honeypot Lane	304 Honeypot Lane, Stanmore	HA7 1EU	Local government	No	Local government estate	Individual boilers	Natural gas	57	-	0	-	-	-	-	10.46	2011				CRC Supplier statement	No		Harrow	Estimated	
514569	186734	Hillview Nursery Centre	2 Grange Road, South Harrow, Harrow	HA2 0LW	Local government	No	Education facilities	Individual boilers	Natural gas	182	-	573	-	-	-	-	33.70	2011				CRC Supplier statement	No		Harrow	Estimated	
518139	189469	Kenton Learning Centre (Glebe)	Glebe Lane, Kenton, Middlesex	HA3 9LF	Local government	No	Education facilities	Individual boilers	Natural gas	14	-	0	-	-	-	-	2.57	2011				CRC Supplier statement	No		Harrow	Estimated	
512034	189470	Pinner Childrens Centre	Chapel Lane (Car Park), Pinner, Mansfield	HA5 1BA	Local government	No	Education facilities	Individual boilers	Natural gas	149	-	0	-	-	-	-	27.49	2011				CRC Supplier statement	No		Harrow	Estimated	
513664	188638	Pinner Road Social Services & Lib.	429-433 Pinner Road, Pinner, Middlesex	HA1 4HN	Local government	No	Education facilities	Individual boilers	Natural gas	298	-	1,130	-	-	-	-	55.06	2011				CRC Supplier statement	No		Harrow	Estimated	
516458	191996	Stanmore Park Childrens Ctr.	William Drive, Stanmore Park, Harrow,	HA7 4FZ	Local government	No	Education facilities	Individual boilers	Natural gas	57	-	0	-	-	-	-	10.59	2011				CRC Supplier statement	No		Harrow	Real	
519298	190208	Bob Lawrence Library	6-8 North Pde, Mollison Way, Edgware, Middlesex	HA8 5QH	Local government	No	Other public buildings	Individual boilers	Natural gas	44	-	294	-	-	-	-	8.14	2011				CRC Supplier statement	No		Harrow	Real	
515684	188298	Garden House Library	5 St Johns Road, Harrow	HA1 2EL	Local government	No	Other public buildings	Individual boilers	Natural gas	147	-	1,105	-	-	-	-	27.25	2011				CRC Supplier	No		Harrow	Estimated	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWh)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWh)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
																						statement					
514209	189642	Headstone Manor - Office	Headstone Manor Park, Pinner View, Harrow, Middlesex	HA2 6PX	Local government	No	Museums & Art Galleries	Individual boilers	Natural gas	2	-	0	-	-	-	-	0.44	2011				CRC Supplier statement	No		Harrow	Real	
517078	189550	Kenton Library	Kenton Lane, Kenton, Harrow, Middlesex	HA3 8UJ	Local government	No	Other public buildings	Individual boilers	Natural gas	27	-	508	-	-	-	-	5.05	2011				CRC Supplier statement	No		Harrow	Real	
512287	189315	Pinner Library	Marsh Road Pinner, Middlesex	HA5 5NQ	Local government	No	Other public buildings	Individual boilers	Natural gas	177	-	669	-	-	-	-	32.78	2011				CRC Supplier statement	No		Harrow	Estimated	
513047	187649	Rayners Lane Library	Imperial Drive Harrow, Middlesex	HA2 7HJ	Local government	No	Other public buildings	Individual boilers	Natural gas	55	-	913	-	-	-	-	10.25	2011				CRC Supplier statement	No		Harrow	Real	
514017	186139	Roxeth Library	Northolt Road, Harrow, Middlesex	HA2 8EQ	Local government	No	Other public buildings	Individual boilers	Natural gas	44	-	274	-	-	-	-	8.10	2011				CRC Supplier statement	No		Harrow	Real	
516985	192417	Stanmore Library	Stanmore Hill Stanmore, Middlesex	HA7 3BQ	Local government	No	Other public buildings	Individual boilers	Natural gas	197	-	811	-	-	-	-	36.48	2011				CRC Supplier statement	No		Harrow	Real	
515433	189679	Wealdstone Library	38-40 High Street, Wealdstone, Middlesex	HA3 7AE	Local government	No	Other public buildings	Individual boilers	Natural gas	281	-	0	-	-	-	-	51.92	2011				CRC Supplier statement	No		Harrow	Real	
513398	191229	Harrow Arts Centre	Uxbridge Road, Hatch End, Harrow	HA5 4EA	Local government	No	Museums & Art Galleries	Individual boilers	Natural gas	699	-	7,186	-	-	-	-	129.25	2011				CRC Supplier statement	No		Harrow	Real	
516122	189128	Central Depot	Forward Drive, Wealdstone, Harrow	HA3 8BR	Local government	No	Local government estate	Individual boilers	Natural gas	1,743	-	8,806	-	-	-	-	322.16	2011				CRC Supplier statement	No		Harrow	Real	
515504	189158	Civic Centre	Station Road Harrow, Middlesex	HA1 2UD	Local government	No	Local government estate	Individual boilers	Natural gas	3,248	-	26,076	-	-	-	-	600.44	2011				CRC Supplier statement	No		Harrow	Real	
514079	187129	1 Southdown Crescent	Harrow, Middlesex	HA2 0QT	Local government	No	Local government estate	Individual boilers	Natural gas	55	-	0	-	-	-	-	10.17	2011				CRC Supplier statement	No		Harrow	Real	
515745	187868	14-15 Kenton Road	Harrow, Middlesex	HA1 2BW	Local government	No	Local government estate	Individual boilers	Natural gas	130	-	406	-	-	-	-	24.04	2011				CRC Supplier statement	No		Harrow	Real	
515458	188349	15 Greenhill Road	Harrow, Middlesex	HA1 1LD	Local government	No	Local government estate	Individual boilers	Natural gas	90	-	163	-	-	-	-	16.56	2011				CRC Supplier statement	No		Harrow	Real	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
518987	191360	19 Buckingham Road	Edgware, Harrow	HA8 6LY	Local government	No	Local government estate	Individual boilers	Natural gas	124	-	691	-	-	-	-	22.97	2011				CRC Supplier statement	No		Harrow	Real	Sold- 9 Sep 11
516856	191849	4 Gordon Avenue (Harrow Consortium)	Stanmore, Middlesex	HA7 3QD	Local government	No	Local government estate	Individual boilers	Natural gas	214	-	0	-	-	-	-	39.62	2011				CRC Supplier statement	No		Harrow	Estimated	
515286	188411	56 Welldon Crescent	Harrow, Middlesex	HA1 1QT	Local government	No	Local government estate	Individual boilers	Natural gas	65	-	160	-	-	-	-	11.96	2011				CRC Supplier statement	No		Harrow	Real	
515452	188571	6 Welldon Crescent	Harrow, Middlesex	HA1 1QT	Local government	No	Local government estate	Individual boilers	Natural gas	72	-	176	-	-	-	-	13.33	2011				CRC Supplier statement	No		Harrow	Estimated	
515042	188004	62 Roxborough Park	Harrow, Middlesex	HA1 3AY	Local government	No	Local government estate	Individual boilers	Natural gas	104	-	0	-	-	-	-	19.28	2011				CRC Supplier statement	No		Harrow	Estimated	
515845	191591	64 Woodlands Drive	Stanmore, Middlesex	HA7 3PA	Local government	No	Local government estate	Individual boilers	Natural gas	24	-	96	-	-	-	-	4.35	2011				CRC Supplier statement	No		Harrow	Real	
515848	191585	66 Woodlands Drive	Stanmore, Middlesex	HA7 3PA	Local government	No	Local government estate	Individual boilers	Natural gas	21	-	96	-	-	-	-	3.91	2011				CRC Supplier statement	No		Harrow	Real	
515667	187850	7 Kenton Road	Harrow, Middlesex	HA1 2BL	Local government	No	Local government estate	Individual boilers	Natural gas	56	-	236	-	-	-	-	10.43	2011				CRC Supplier statement	No		Harrow	Real	
515250	189162	74A Marlborough Hill (Wiseworks)	Harrow, Middlesex	HA1 1TY	Local government	No	Local government estate	Individual boilers	Natural gas	80	-	397	-	-	-	-	14.76	2011				CRC Supplier statement	No		Harrow	Real	
515216	189216	76 Marlborough Hill (Family Welfare)	Harrow, Middlesex	HA1 1TY	Local government	No	Local government estate	Individual boilers	Natural gas	136	-	567	-	-	-	-	25.22	2011				CRC Supplier statement	No		Harrow	Real	
514599	187753	Atkins House	19 Marshall Close Harrow, Middlesex	HA1 4DH	Local government	No	Local government estate	Individual boilers	Natural gas	232	-	744	-	-	-	-	42.86	2011				CRC Supplier statement	No		Harrow	Real	
511257	190388	Bedford House	James Bedford Close, Pinner	HA5 3TD	Local government	No	Local government estate	Individual boilers	Natural gas	505	-	1,067	-	-	-	-	93.31	2011				CRC Supplier statement	No		Harrow	Real	
515275	191697	Bentley Day Centre	92 Uxbridge Road Harrow, Middlesex	HA3 6DH	Local government	No	Local government estate	Individual boilers	Natural gas	234	-	866	-	-	-	-	43.20	2011				CRC Supplier statement	No		Harrow	Estimated	
515855	189523	Byron Park NRC	Christchurch Avenue,	HA3 5BD	Local	Yes	Local	Individual	Natural gas	134	-	0	-	-	-	-		2011	2008	2009		CRC	No		Harrow	Real	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
			Harrow, Middlesex		government		government estate	boilers									24.75					Supplier statement					
514843	187590	Harrow Womens Centre	Andrews Close, Harrow, Middlesex	HA1 3GE	Local government	No	Other public buildings	Individual boilers	Natural gas	32	-	0	-	-	-	-	5.84	2011				CRC Supplier statement	No		Harrow	Estimated	
517784	189489	Kenmore NRC	Kenmore Road, Harrow, Middlesex	HA3 9EU	Local government	Yes	Local government estate	Individual boilers	Natural gas	148	-	0	-	-	-	-	27.44	2011	2008	2009		CRC Supplier statement	No		Harrow	Real	
512258	189084	Milmans Resource Centre	Grove Avenue Pinner, Middlesex	HA5 5PF	Local government	No	Local government estate	Individual boilers	Natural gas	249	-	1,516	-	-	-	-	45.99	2011				CRC Supplier statement	No		Harrow	Real	
516043	189443	The Bridge (Mental Health) Ctr.	Christchurch Avenue, Harrow, Middlesex	HA3 5BD	Local government	No	Local government estate	Individual boilers	Natural gas	153	-	805	-	-	-	-	28.29	2011				CRC Supplier statement	No		Harrow	Real	
512945	185181	The Firs	229 The Heights, Northolt	UB5 4BY	Local government	No	Local government estate	Individual boilers	Natural gas	74	-	197	-	-	-	-	13.63	2011				CRC Supplier statement	No		Harrow	Real	
514253	187950	Vaughan NRC	Wilson Gardens, Harrow	HA1 4EA	Local government	Yes	Local government estate	Individual boilers	Natural gas	102	-	1,236	-	-	-	-	18.85	2011	2008	2009		CRC Supplier statement	No		Harrow	Estimated	
514604	186707	Alma Court	Hornbuckle Close, Northolt Road, South Harrow	HA2 0YA	Local government	No	Local government estate	Individual boilers	Natural gas	496	-	0	-	-	-	-	91.69	2011				CRC Supplier statement	No		Harrow	Estimated	
514767	191143	Belmont Lodge	Blackwell Close, Harrow Weald, Middlesex	HA3 6JX	Local government	No	Local government estate	Individual boilers	Natural gas	543	-	0	-	-	-	-	100.34	2011				CRC Supplier statement	No		Harrow	Estimated	
517944	189799	Boothman house	63 Moorhouse Road, Harrow	HA3 9JE	Local government	No	Local government estate	Individual boilers	Natural gas	616	-	0	-	-	-	-	113.82	2011				CRC Supplier statement	No		Harrow	Estimated	
512921	186219	Cornell House	Hamilton Crescent, Harrow, Middlesex	HA2 9JY	Local government	No	Local government estate	Individual boilers	Natural gas	563	-	0	-	-	-	-	104.00	2011				CRC Supplier statement	No		Harrow	Estimated	
515919	192009	Cottesmore Estate	Waleran Close, Stanmore	HA7 3NZ	Local government	No	Local government estate	Individual boilers	Natural gas	511	-	0	-	-	-	-	94.47	2011				CRC Supplier statement	No		Harrow	Estimated	
515149	190520	Durrant Court	229 High Road, Harrow Weald, Middlesex, HA3 5EE	HA3 5EE	Local government	No	Local government estate	Individual boilers	Natural gas	565	-	0	-	-	-	-	104.43	2011				CRC Supplier statement	No		Harrow	Estimated	
511052	190476	Edwinware Court	Crossway, Pinner, Middlesex	HA5 3UJ	Local government	No	Local government	Individual boilers	Natural gas	619	-	0	-	-	-	-	114.37	2011				CRC Supplier	No		Harrow	Estimated	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWh)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWh)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
							estate															statement					
516374	190294	Goddard Court	Dobbin Close, Harrow, Middlesex	HA3 7LR	Local government	No	Local government estate	Individual boilers	Natural gas	513	-	0	-	-	-	-	94.80	2011				CRC Supplier statement	No		Harrow	Estimated	
517957	189587	Graham White House	16 Warnerford Road, Harrow, Middlesex	HA3 9HY	Local government	No	Local government estate	Individual boilers	Natural gas	627	-	0	-	-	-	-	115.89	2011				CRC Supplier statement	No		Harrow	Estimated	
514610	186762	Grange Court	31 Northolt Road, Harrow, Middlesex	HA2 0NR	Local government	No	Local government estate	Individual boilers	Natural gas	613	-	0	-	-	-	-	113.39	2011				CRC Supplier statement	No		Harrow	Estimated	
515542	190239	Harkett Court	Harrow, Middlesex	HA3 7EZ	Local government	No	Local government estate	Individual boilers	Natural gas	895	-	0	-	-	-	-	165.40	2011				CRC Supplier statement	No		Harrow	Estimated	
515447	190618	John Lamb Court	The Byeway, Harrow, Middlesex	HA3 7JJ	Local government	No	Local government estate	Individual boilers	Natural gas	554	-	0	-	-	-	-	102.46	2011				CRC Supplier statement	No		Harrow	Estimated	
512815	186112	Meadfield House	Off Kings Road, Harrow, Middlesex	HA2 9BD	Local government	No	Local government estate	Individual boilers	Natural gas	592	-	0	-	-	-	-	109.34	2011				CRC Supplier statement	No		Harrow	Estimated	
515688	191841	Sinclair House	67 Uxbridge Road, Stanmore, Middlesex	HA7 3NH	Local government	No	Local government estate	Individual boilers	Natural gas	358	-	0	-	-	-	-	66.12	2011				CRC Supplier statement	No		Harrow	Estimated	
515762	188208	Tapley Court	St John's Road, Harrow, Middlesex	HA1 2HZ	Local government	No	Local government estate	Individual boilers	Natural gas	411	-	0	-	-	-	-	75.93	2011				CRC Supplier statement	No		Harrow	Estimated	
515348	185689	Thomas Hewlett House	Hartington close, Harrow, Middlesex	HA1 3RJ	Local government	No	Local government estate	Individual boilers	Natural gas	900	-	0	-	-	-	-	166.46	2011				CRC Supplier statement	No		Harrow	Estimated	
515842	188869	Watkins House	50 Woodlands Road, Harrow, Middlesex	HA1 2RS	Local government	No	Local government estate	Individual boilers	Natural gas	628	-	0	-	-	-	-	116.04	2011				CRC Supplier statement	No		Harrow	Real	
518745	191196	William Allan House	61 Buckingham Road, Edgware, Middlesex	HA8 6NQ	Local government	No	Local government estate	Individual boilers	Natural gas	477	-	0	-	-	-	-	88.21	2011				CRC Supplier statement	No		Harrow	Estimated	
514895	192081	Harrow Weald Park/Brookshill	Brookshill, Harrow Weald, Middlesex	HA3 6RS	Local government	No	Local government estate	Individual boilers	Natural gas	580	-	0	-	-	-	-	107.23	2011				CRC Supplier statement	No		Harrow	Estimated	
511713	189948	Milmans Flats	38 Milman Road, Pinner	HA5 3LF	Local government	No	Local government estate	Individual boilers	Natural gas	183	-	0	-	-	-	-	33.74	2011				CRC Supplier statement	No		Harrow	Estimated	

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
515966	190781	Vernon Lodge (Owned by Harrow and Bills are paid by Genesis Housing Association)	Kenton Lane, Harrow Weald, Middlesex	HA3 7LH	Local government	No	Local government estate	Individual boilers	Natural gas	554	-	1,736	-	-	-	-	102.36	2011				CRC Supplier statement	No		Harrow	Estimated	
515404	189338	Churchill Place Community Ctr.	Barons Mead, Wealdstone, Harrow	HA1 1XY	Local government	No	Local government estate	Individual boilers	Natural gas	221	-	0	-	-	-	-	40.84	2011				CRC Supplier statement	No		Harrow	Real	
517983	189637	Kenmore Park Community Ctr.	Warneford Road, Kenton,	HA3 9JY	Local government	No	Local government estate	Individual boilers	Natural gas	118	-	411	-	-	-	-	21.87	2011				CRC Supplier statement	No		Harrow	Estimated	
512500	189066	Marsh Road Community Ctr.	Marsh Road, Harrow, Middlesex	HA5 5NS	Local government	No	Local government estate	Individual boilers	Natural gas	40	-	85	-	-	-	-	7.31	2011				CRC Supplier statement	No		Harrow	Estimated	
517066	192466	Anmer Lodge (Closed)	Coverdale Close, Stanmore Hill	HA7 3DH	Local government	No	Local government estate	Individual boilers	Natural gas	7	-	1,749	-	-	-	-	1.23	2011				CRC Supplier statement	No		Harrow	Estimated	Closed
515298	191963	Clamp Hill Cemetery	Stanmore, Middlesex	HA7 3JS	Local government	No	Other public buildings	Individual boilers	Natural gas	10	-	0	-	-	-	-	1.93	2011				CRC Supplier statement	No		Harrow	Real	

A1.2 Major Heat Supply Plants

OXS	OYS	Name	Plant Address	Postcode	Ownership	New development	Typology	Fuel source	Fuel consumption: all assets inc. CHP (MWh/yr)	Heat generation: all assets inc CHP (MWh/yr)	Installed thermal capacity: all assets inc. CHP (MWth)	Installed power: all assets inc CHP (MWe)	CO2 emissions (tCO2/yr)	Date of Construction	Year of data collection	Start date	Completion date	Data source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
514740	189564	KODAK LTD	-	-	-	-	CHP sites	-	-	-	17.25	43.96	-	-	-	-	-	-	No		Harrow		

A2 London Heat Map Heat Load Typologies

The London Heat Map categorises heat loads in accordance with the previous DEMaP database provided by the LDA.

The London Heat Map's categories are listed below:

- [Residential] Multi-Address buildings (>49 per building)
- Sport & Leisure Facilities
- Prisons
- Hotels (>99 units or 4,999m²)
- Educational Facilities
- Police Stations
- Fire Stations
- NHS
- Museums and art galleries
- Central government estate
- Local government estate
- Religious Buildings
- Private residential units (>149 units or 9,999m²)
- Private commercial units (>9,999m²)
- Social Housing Estate
- Other Public Buildings

Buildings with small loads have not been included in this categorisation. This is because their thermal demand is considered big enough to influence the potential of identifying a district heat network opportunity.