

Mayor of London

London Heat Map +

Heat Mapping Study - London
Borough of Hounslow

REP-Hounslow/01

Issue | 29 March 2012

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 218639-00

Document Verification

ARUP

Job title		London Heat Map +		Job number	
				218639-00	
Document title		Heat Mapping Study - London Borough of Hounslow		File reference	
Document ref		REP-Hounslow/01			
Revision	Date	Filename	Hounslow_Heat_Map_Report_2012-03-06-Draft 1 TH.docx		
Draft 1	6 Mar 2012	Description	First draft – put in cluster analysis and RE:FIT information		
			Prepared by	Checked by	Approved by
		Name	Thomas Hurst	Lewis Stevens	Paula Kirk
		Signature			
Draft 2	12 Mar 2012	Filename	Hounslow_Heat_Map_Report_2012-03-12-Draft 2 TH.docx		
		Description	Update of heat consumption / thermal demand tables		
			Prepared by	Checked by	Approved by
		Name	Thomas Hurst	Lewis Stevens	Paula Kirk
		Signature			
Draft 3	23 Mar 2012	Filename	Hounslow_Heat_Map_Report_Draft_2_23.03.12 TH.docx		
		Description	Incorporation of previously confidential building typologies, comments and input from LB Hounslow		
			Prepared by	Checked by	Approved by
		Name	Thomas Hurst	Lewis Stevens	Paula Kirk
		Signature			
Issue	29 Mar 2012	Filename	Hounslow_Heat_Map_Report_Issue_29.03.12.docx		
		Description	Final Revision for Issue to London Borough of Hounslow and upload to London Heat Map		
			Prepared by	Checked by	Approved by
		Name	Thomas Hurst	Lewis Stevens	Paula Kirk
		Signature			
<div style="text-align: right;"> Issue Document Verification with Document <input checked="" type="checkbox"/> </div>					

Contents

	Page
Executive Summary	1
1 Introduction	2
2 Background	3
2.1 Decentralised Energy and District Heating	3
2.2 The history of heat mapping: DEMaP	3
3 Policy context	6
3.1 UK climate change agenda	6
3.2 London Plan	6
3.3 Borough policy	7
4 Decentralised Energy in London	9
5 Methodology	10
5.1 Phase 1: Data Collection	10
5.2 Phase 2: Identifying opportunities for potential DH networks	11
6 Cluster Analysis for the London Borough of Hounslow	13
6.1 Heat Clusters within the London Borough of Hounslow	15
6.2 Cross-Borough opportunities	36
7 Implementation Plan	39
8 Conclusions and Recommendations	41
8.1 Opportunity areas	41
8.2 Borough priorities	41
8.3 Next steps	42
8.4 Additional opportunities for DE	42
8.5 Concluding remarks	43

Appendices

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 Hounslow is one such Borough.

The heat load and supply data used for the London Heat Map has been sourced by the London Borough of Hounslow 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 Hounslow at least two clusters with the opportunity for the development of significant DE schemes have been identified; these being in the Hounslow Town Centre and Brentford areas. A cluster with cross-borough potential with the London Borough of Richmond-Upon-Thames has also been identified, which could harness waste heat from the soon-to-expand Combined Heat and Power (CHP) plant at the Mogden Sewage Works near Isleworth. In total, seven clusters of varying levels of opportunity are identified and discussed, with recommendations for the next steps in delivering these schemes highlighted in an Implementation Plan developed in collaboration with the London Borough of Hounslow.

Following on from these identified opportunities, the London Borough of Hounslow have assigned "High" priorities for the Hounslow Town Centre and Brentford clusters, having taken into account heat loads, council priorities and scheme feasibilities.

Further to the findings of the heat mapping study in the London Borough of Hounslow, it is recommended that the Borough also 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 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.

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 London 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 Hounslow and should be read alongside the Borough's evidence base for Carbon Reduction Policies¹. To compile it, Arup consultant engineers worked in partnership with the London Borough of Hounslow 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 Hounslow.

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

A section on the opportunities within the Borough for implementing public building retrofit through the GLA's RE:FIT programme is also included in this report.

¹ Evidence Base for Carbon Reduction Policies (February 2010) - http://www.hounslow.gov.uk/evidence_base_carbon_reduction_policies.pdf

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 emissions²; 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.

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

In 2009 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 Agency³ (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.

² Building Britain: The path to sustainable growth for the built environment (2012). Aldersgate Group.

³ 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.

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).

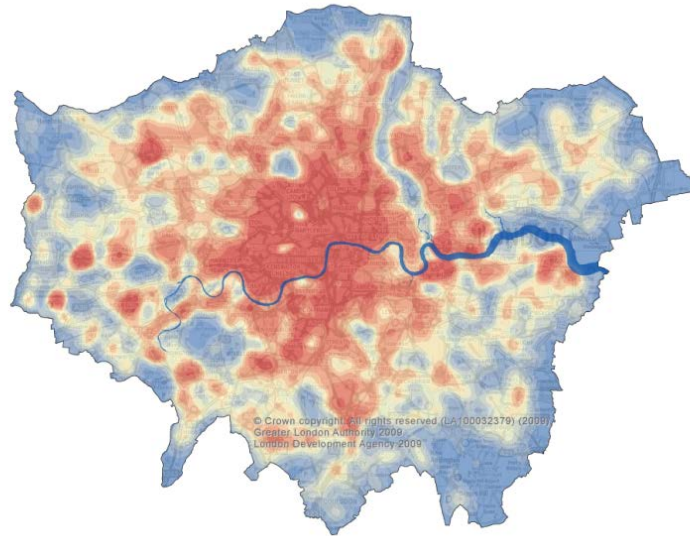


Figure 1: The London Heat Map, as viewable at www.londonheatmap.org.uk

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.

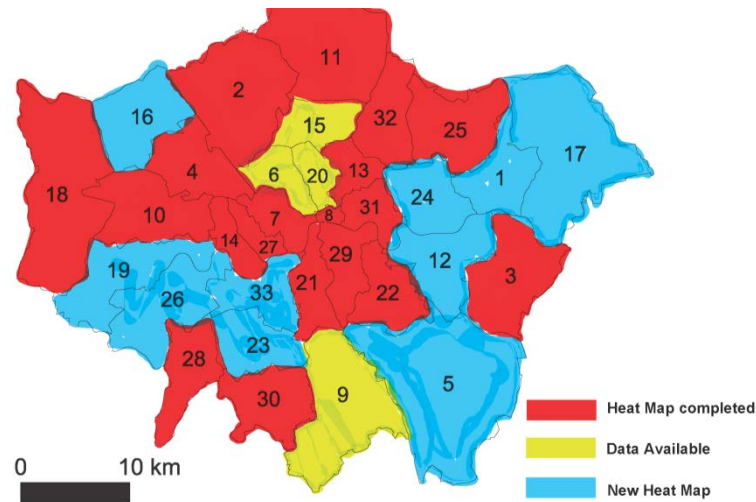


Figure 2: The Heat mapping status of London Boroughs.

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

1. London Borough of Barking and Dagenham
5. London Borough of Bromley
7. City of Westminster
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.

3.3 Borough policy

Local planning policy for the London Borough of Hounslow is contained within the 'Development Plan'. The Development Plan for the Borough comprises of the saved policies in the Council's Unitary Development Plan (UDP)⁴, Employment Development Plan Document (EDPD)⁵, Brentford Area Action Plan (BAAP)⁶ and the London Plan.

Work has commenced on the borough's Core Strategy, with consultation on the Core Strategy 'Preferred Strategy'⁷ undertaken in July – October 2011. This Heat Mapping Study will provide the evidence that identifies and supports opportunities for decentralised energy in the Borough, which may be identified and implemented through the Core Strategy and associated documents. This study also supports the aspirations to create a town centre wide decentralised energy network in Hounslow Town Centre (Draft Hounslow Town Centre Supplementary Planning Document, February 2012)⁸.

The borough's social housing is managed by Hounslow Homes ALMO (Arms Length Management Organisation). Hounslow Homes' vision is to play a key role in contributing to a vibrant, inclusive, safe and a sustainable modern London borough. The socially, environmentally and financially responsible management of energy and carbon emissions from both the properties that Hounslow Homes manage and the operations that they deliver is fundamental to achieving the vision of a sustainable borough.

Hounslow Homes aspire to be a low carbon ALMO by reducing their carbon emissions, and are motivated by the desire to minimise Hounslow's impact on global warming.

⁴ London Borough of Hounslow Unitary Development Plan (December 2003):
http://www.hounslow.gov.uk/index/environment_and_planning/planning_policy/udp/udp_download.htm

⁵ London Borough of Hounslow Employment Development Plan Document (November 2008):
<http://www.hounslow.gov.uk/employmentdpd.pdf>

⁶ London Borough of Hounslow, Brentford Area Action Plan (January 2009):
<http://www.hounslow.gov.uk/baap.pdf>

⁷ London Borough of Hounslow Core Strategy – Preferred Strategy (July 2011):
http://www.hounslow.gov.uk/core_strategy_jul11.pdf

⁸ Hounslow Town Centre Master plan (February 2012):
http://www.hounslow.gov.uk/hounslow_masterplan_feb2012.pdf

Hounslow Homes aim to adopt an approach to domestic energy and carbon management which demonstrates their commitment to reducing energy demand, improving efficiency and exploring new energy opportunities for the properties that they manage. Hounslow Homes also have an aspiration to ensure that all their residents can afford to heat their homes. By embracing the need to undertake eco-retrofits, connect to decentralised energy networks, install renewable / low carbon energy sources, tackle fuel poverty and deliver affordable warmth. Hounslow Homes has a clear focus to provide warm, comfortable and affordable homes. Tenants will be financially better off and have improved health. The homes will be easier to let and have increased asset value and lower management and maintenance costs.

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).

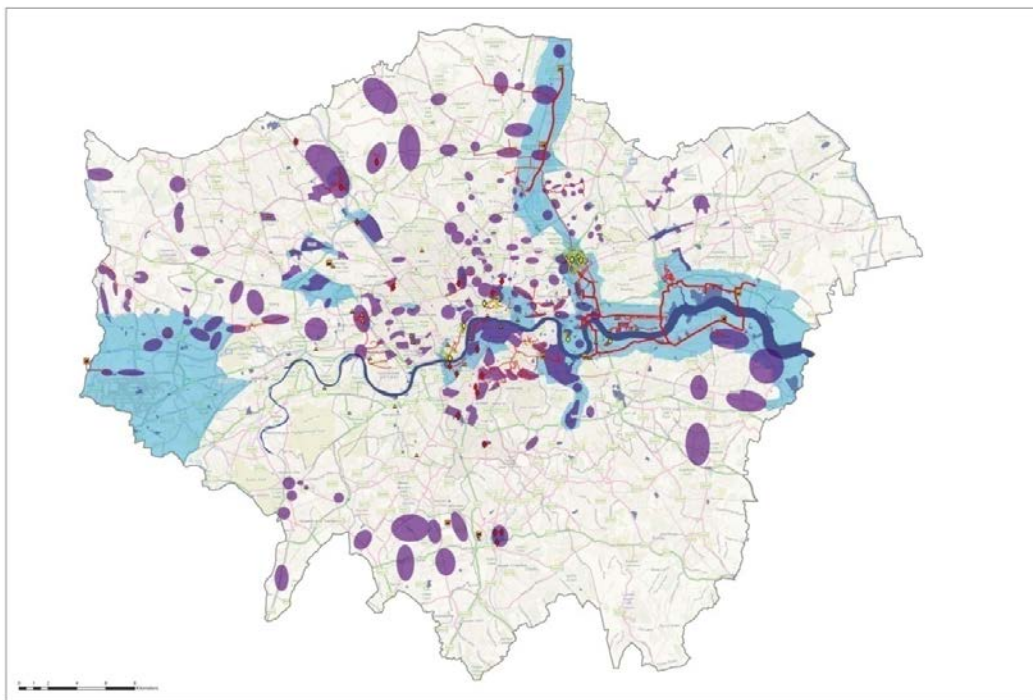


Figure 3: The Decentralised Energy for London "Vision Map" 2012

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 Hounslow 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 Hounslow 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 Hounslow, 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 Hounslow Civic Centre on 27th January 2012 with representatives from the London Borough of Hounslow. Ajit Bansal, Environmental Strategy Officer; Laura Shellard, Energy Efficiency Officer (Private Sector Housing); and Rory Prendergast, Environmental Advisor attended this meeting. Following the meeting, the London Borough of Hounslow 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 Hounslow, 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 a smaller interface unit with communal heat off-take can improve the economic and financial viability of new schemes, and often results in additional floor space available to the developer.
- The presence of **publically 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.

Having a cluster of buildings which are characterised by as many of the above factors as possible is considered essential for a more efficient and cost effective DH network.

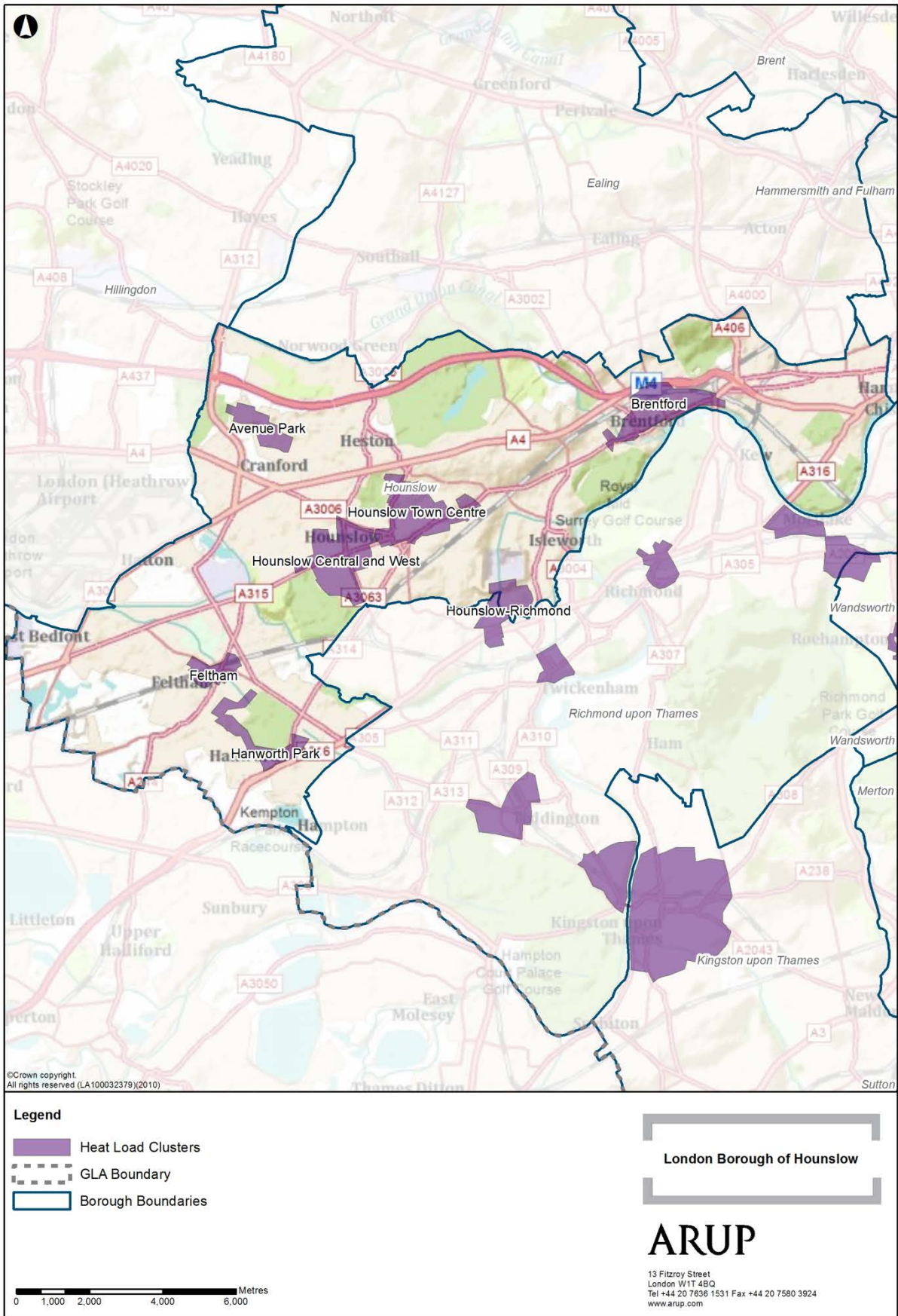
The identified clusters within the London Borough of Hounslow were then visualised for this report using the London Heat Map data, along with the key

reasons for their identification and the recommended next steps should the London Borough of Hounslow wish to investigate the cluster opportunity further.

Where buildings within an identified cluster had no fuel consumption data, this has been calculated using recognised industry heat consumption benchmarks for the building typology and the 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 Hounslow

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



© Arup

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

6.1 Heat Clusters within the London Borough of Hounslow

The main data source for the London Borough of Hounslow was fuel consumption taken from meter readings for local government-operated housing estates and corporate council buildings (this includes: civic centre, town halls, community halls, schools, leisure centre, libraries etc).

As a result, the majority of the clusters identified are based around those housing estates and corporate council buildings with data, taking into account other information where available.

In general, the social housing estates present good opportunities for connection to a DH network, as the majority are served by communal boilers, meaning individual users may avoid changes inside their flats. Similarly, the corporate council buildings are served by central boilers and so offer good potential for connection to DH networks.

Each of the clusters is described in more detail below. The descriptions are based on a desk top 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.

6.1.1 Central and West Hounslow Cluster

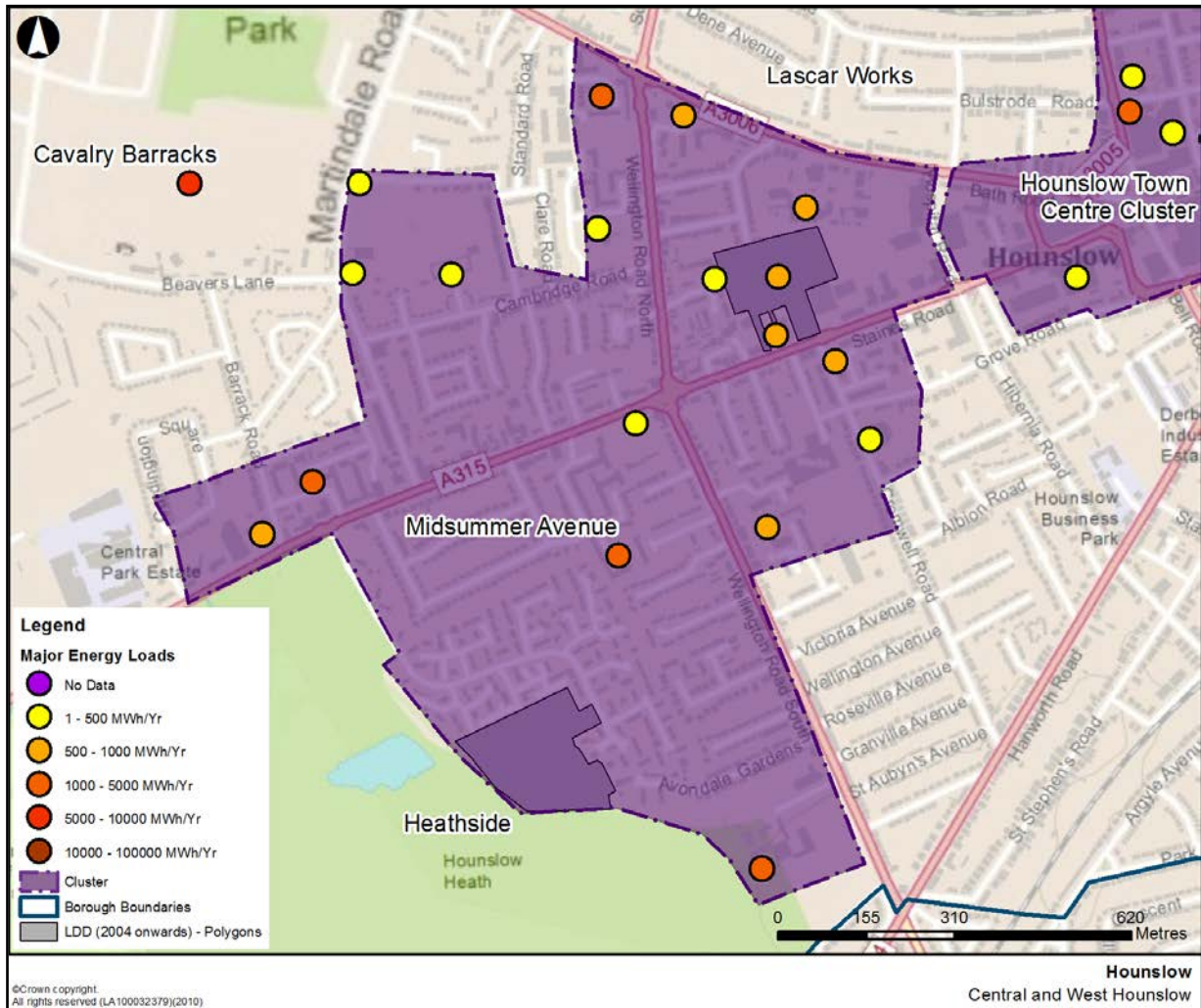


Figure 5: Central and West Hounslow Heat Cluster (left)

The Central and West Hounslow cluster concerns seventeen existing loads and two new developments. As can be seen in Figure 5, while some of these loads are close to one another, particularly in the north-east of the cluster, overall they are relatively spread out giving a lower density. The considerable total fuel consumption of this cluster (see Table 1) goes some way to compensating for this. Further potential for this cluster comes from the adjacent Hounslow Town Centre Cluster (discussed in Section 6.1.2).

New developments are sourced from the London Development Database (GLA), already represented on the London Heat Map. Desktop research has determined that the private development at Heathside, Vickers Way, Hounslow, is now complete. Planning permission for the Lascar Works Site has been granted by Hounslow Council and construction has started with over half the housing development now complete (proposed completion 2012/13). Annual fuel consumption for both these developments has been benchmarked. Additionally, the potential Cavalry Barracks site development (UDP Site H4, as per the London Strategic Housing Land Availability Assessment and Housing Capacity Study (SHLAA/HCS), 2009) has an identified capacity of 931 units, which could add a

further significant fuel consumption of around 5,668 MWh/yr to the scheme if it was linked with this cluster, and could contribute funds to its development.

At this stage the boiler house at Maitland Close, representing the largest annual consumption for the cluster, might be an appropriate location for the energy centre for any eventual network within this cluster. Another option could be the boiler house at Midsummer Avenue Estate, as this is somewhat more central to the cluster. All residential buildings have been identified as using central boilers, which would likely make them all appropriate for connection to a DH network, depending on the age of plant.

As mentioned previously, this cluster has a high annual fuel consumption, and the identified load typologies represent a good level of diversity, with a mix of mainly residential and educational typologies meaning that a large CHP engine (in the range of 6.5 MW_{th}, see Table 2) could be utilised, giving the potential for favourable economics.

The nearby Hounslow Town Centre Cluster, which is currently identified by the Hounslow Town Centre Master Plan (February 2012)⁹ as suitable for a DH network development, presents opportunities for both clusters. If both clusters were to be built out, there would be the potential for inter-connection at some point in time to enhance overall scheme economics and reliability; this could be allowed for with appropriately future-proofed network design. Alternatively, should only one of the two clusters be taken forward, depending on economics it could be appropriate to harness some of the nearby loads identified in the adjacent cluster.

Further steps:

- Engage with potential anchor loads, determining plant-replacement dates for all communally heated estates
- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis to add further demand and diversity to the cluster

⁹ Hounslow Town Centre Master plan (February 2012):
http://www.hounslow.gov.uk/hounslow_masterplan_feb2012.pdf

Table 1: Existing buildings in Central and West Hounslow Cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Maitland Close Estate And Cooper House	Other public	Social Housing Estate	3,170
Tivoli Road	Other public	Social Housing Estate	2,826
Midsummer Avenue	Other public	Social Housing Estate	2,366
The Heathland School	Local government	Education facilities	2,061
St Marks Catholic School	Local government	Education facilities	967
Heathside (Former Metropolitan Police Riot Training Centre)*	Not Available	Residential	954
Boswood Court	Other public	Social Housing Estate	814
Lascar Works Site ⁺	Private	Social Housing Estate	731
Sycamore Court	Other public	Social Housing Estate	629
Shalimar Hotel	Private	Hotels (> 99 units or 4,999 m ²)	590
Heath Court	Other public	Social Housing Estate	552
Frogley House	Other public	Social Housing Estate	516
Old Farm Close	Other public	Social Housing Estate	499
Hounslow Education Centre	Local government	Education facilities	460
St Michael And St Martin RC Primary	Local government	Education facilities	370
Hounslow Heath Infant And Nursery	Local government	Education facilities	338
Grove Road Primary	Local government	Education facilities	258
Hounslow Heath Junior	Local government	Education facilities	246
Wellington Day Centre	Local government	Local government estate	34
TOTAL Fuel Consumption			18,381 MWh/yr

*Benchmarked based on industry standards;

⁺ Development under construction, benchmarked based on industry standards

Table 2: Summary of loads for Central and West Hounslow Cluster

Total Fuel Consumption	18,381 MWh/yr
Total Estimated Heat Demand	18,704 MWh/yr
Estimated Peak Heat Load	6.54 MW

6.1.2 Hounslow Town Centre Cluster

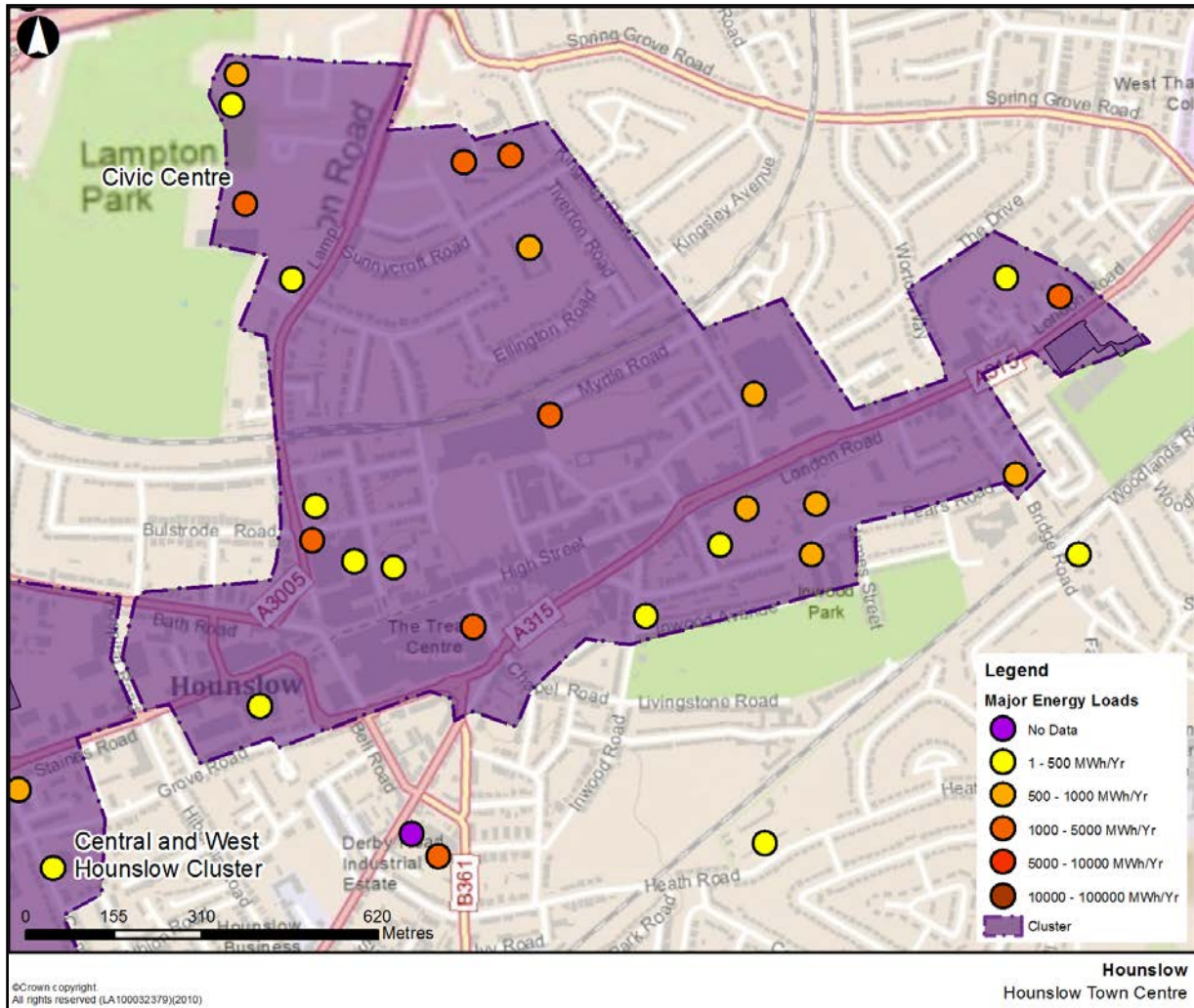


Figure 6: Hounslow Town Centre Heat Cluster

6.1.2.1 Hounslow Town Centre Heat Cluster

The London Borough of Hounslow has recently published a master plan for Hounslow Town Centre which includes a vision for a DE scheme. This scheme is described in more details in Section 6.1.2.2 below. Arup independently identified this cluster using the standardised heat mapping process used for the London Heat Map, which is described below. A comparative review of both analyses is provided in Section 6.1.2.3.

The Hounslow Town Centre Cluster contains 21 existing buildings and four buildings in various stages of planning, which have been benchmarked. As can be seen from Table 3, whilst some of the loads in the cluster are quite spread apart, they combine to give a high total annual fuel consumption. Diversity in the cluster is very good, with nearly all possible building typologies represented; the estimated total heat load of just under 8 MW_{th} would allow for a significantly sized CHP engine to serve this cluster.

The clear potential anchor load at this time is the Civic Centre, with annual fuel consumption of over 4,000 MWh. Its central boiler house could possibly be used

as the energy centre for the scheme, however if it the whole cluster were indeed to be incorporated, it is possible that a dedicated, standalone building might be required due to the size.

In terms of ownership, the majority of buildings are under some form of public influence, which could allow for greater simplicity in managing stakeholders in the development of any eventual scheme.

The new developments outlined in Table 4 are quite spread out around the cluster, and are not insignificant in their contribution to the total cluster heat load. If these progress through the planning stages there exists the potential to secure developer contributions to assist with the build-out of any DH network, and a requirement to connect to the scheme could be incorporated as well.

As highlighted in Section 6.1.1, the Central and West Hounslow cluster is very nearby to this cluster, and would have the potential for inter-connection or the donation of additional loads to this scheme if either were to go ahead, which could go some way to improving scheme economics.

6.1.2.2 Hounslow Town Centre Master Plan

The previous section serves to confirm the potential of the Town Centre Cluster as an area suitable for the development of a DE scheme. As described in the adopted Hounslow Town Centre Master Plan (February 2012)¹⁰, the existing energy evidence base for the Core Strategy has found that the town centre area (representing a slightly smaller sub-area of the cluster defined above) is appropriate for a possible combined cooling, heat and power scheme, with likely development phasing having already been considered.

A strategy for the implementation of DE networks in the Town Centre Cluster (as outlined in Figure 7) has been developed, containing the following key principles (verbatim):

- 1. A town centre wide decentralised energy network should be created, with new developments either implementing or contributing towards the implementation of the infrastructure.*
- 2. The delivery of the network should be phased to provide a decentralised source for all major developments.*
- 3. Energy centres serving major developments should be provided as part of development proposals in accordance with the locations indicated in the master plan*
- 4. Energy centres should be sized to allow the connection of existing nearby buildings.*
- 5. Energy centres should be sized to serve the 'anchor' development with additional space future proofed to allow the connection of planned future development.*
- 6. Where development does not directly provide a new energy centre, but will be supplied by it, a contribution should be made towards the necessary infrastructure and costs of connection costs.*

¹⁰ Hounslow Town Centre Master plan (February 2012):
http://www.hounslow.gov.uk/hounslow_masterplan_feb2012.pdf

7. *All applications for major development in the town centre should demonstrate where and how the infrastructure will be provided for connection to the town centre network, including connecting pipe work.*

Further information about this potential scheme is given in the Evidence Base for Carbon Reduction Policies¹¹, published February 2010. This previous study delineated clusters within central Hounslow slightly differently from this report, referring to the area of Hounslow Central and West, which covers parts of both Hounslow Town Centre and the Central and West Hounslow clusters identified in this report. Also, the methodology focussed primarily on new regeneration areas only, while this study takes some note of existing stock. Nevertheless, the heat demand estimated for the cluster (at around 9 MWh/yr) is of the same order as that found in this report, which serves to confirm the potential of this region of the London Borough of Hounslow for the implementation of DE schemes.

The Evidence Base highlights that there are few strategic issues relevant to the development of DE schemes in the area, but points out that it is an Air Quality Management Area, with a number of listed buildings.



Figure 7: The Hounslow Town Centre Cluster according to the Hounslow Town Centre Masterplan (adopted February 2012)¹².

¹¹ Evidence Base for Carbon Reduction Policies, London Borough of Hounslow (February 2010)
http://www.hounslow.gov.uk/evidence_base_carbon_reduction_policies.pdf

¹² Hounslow Town Centre Master plan (February 2012):
http://www.hounslow.gov.uk/hounslow_masterplan_feb2012.pdf

6.1.2.3 Review of Hounslow Town Centre Cluster

The Hounslow Town Centre Cluster, whether considering that outlined in Section 6.1.2.1 or the sub-section in the Hounslow Town Centre Masterplan presents a good opportunity for some level of implementation of a DE scheme, particularly if the nearby loads in the Central and West Hounslow cluster are kept in mind.

Further steps are presented below. At this point these are relatively generic, with the intention of further boosting the potential of this scheme. As evidenced by the Masterplan, the opportunity for this cluster is already high.

Further steps:

- Investigate the likely potential anchor load (civic centre) for the opportunity to site an energy centre here; determine plant age and replacement dates.
- Explore the vicinity for additional public / private demand that has not yet been captured in this analysis.
- For new developments, consider further the planning powers in place to secure developer contributions towards any scheme, and the potential to require future buildings to connect to such a scheme.

Table 3: Existing buildings in Hounslow Town Centre cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Civic Centre	Local government	Local government estate	4,130
Hounslow Manor School	Local government	Education facilities	1,868
Hounslow Library (The Treaty Centre)	Local government	Local government estate	1,471
Star Road (1-27) And Derwent Lodge	Other public	Social Housing Estate	1,420
Continental Hotel*	Private	Hotels (> 99 units or 4,999 m ²)	1,304
Brookwood (1) (1-55, 2-74)	Other public	Social Housing Estate	1,176
Westgate House, London Road	Unknown	Residential	1,157
Brookwood (2) 57-109, Odd 76-146	Other public	Social Housing Estate	1,006
Bridge Road Depot	Local government	Local government estate	856
Hyde House	Other public	Social Housing Estate	838
Lampton School	Local government	Education facilities	728
Hounslow Town Primary	Local government	Education facilities	565
Alexandra Junior	Local government	Education facilities	559
Everglades	Other public	Social Housing Estate	321
Hounslow Police Station, Metropolitan Police*	Other public	Police stations	307*
Golds Gym*	Private	Sport & Leisure facilities	271
Spring Grove Primary	Local government	Education facilities	221
Council Offices Adjacent To The Civic Centre	Local government	Local government estate	152
The Spot - Hounslow Child And Family Centre Aka Nantly House Under 8's Centre	Local government	Education facilities	129
Lampton Sports	Local government	Sport & Leisure facilities	112
Montague Hall	Local government	Local government estate	100
TOTAL Fuel Consumption			18,691 MWh/yr

* Benchmarked based on industry standards;

Table 4: New developments in Hounslow Town Centre cluster

Name	Typology	Approval Stage	Estimated Fuel Consumption (MWh)
Hotel, Lampton Road (Erection of a part 3 storey part 6 storey building comprising 2 hotels one of 128 rooms and the other 60 rooms with associated parking)	Hotels	Permission on the LDD	1,551
UDP Site M23 - Hounslow Bus Garage (113 Units)	Residential	Allocation	688
UDP Site M26 - Site Extended To Include High Street Frontage (100 units)	Residential	Allocation	609
UDP Site M6 - 20 To 28 (77 units)	Residential	Allocation	469
TOTAL Fuel Consumption			3,317 MWh/yr

Table 5: Summary of Existing and New Developments for Hounslow Town Centre Cluster

Total Fuel Consumption	22,008 MWh/yr
Total Estimated Heat Demand	17,606 MWh/yr
Estimated Peak Heat Load	7.83 MW

6.1.3 Feltham Cluster

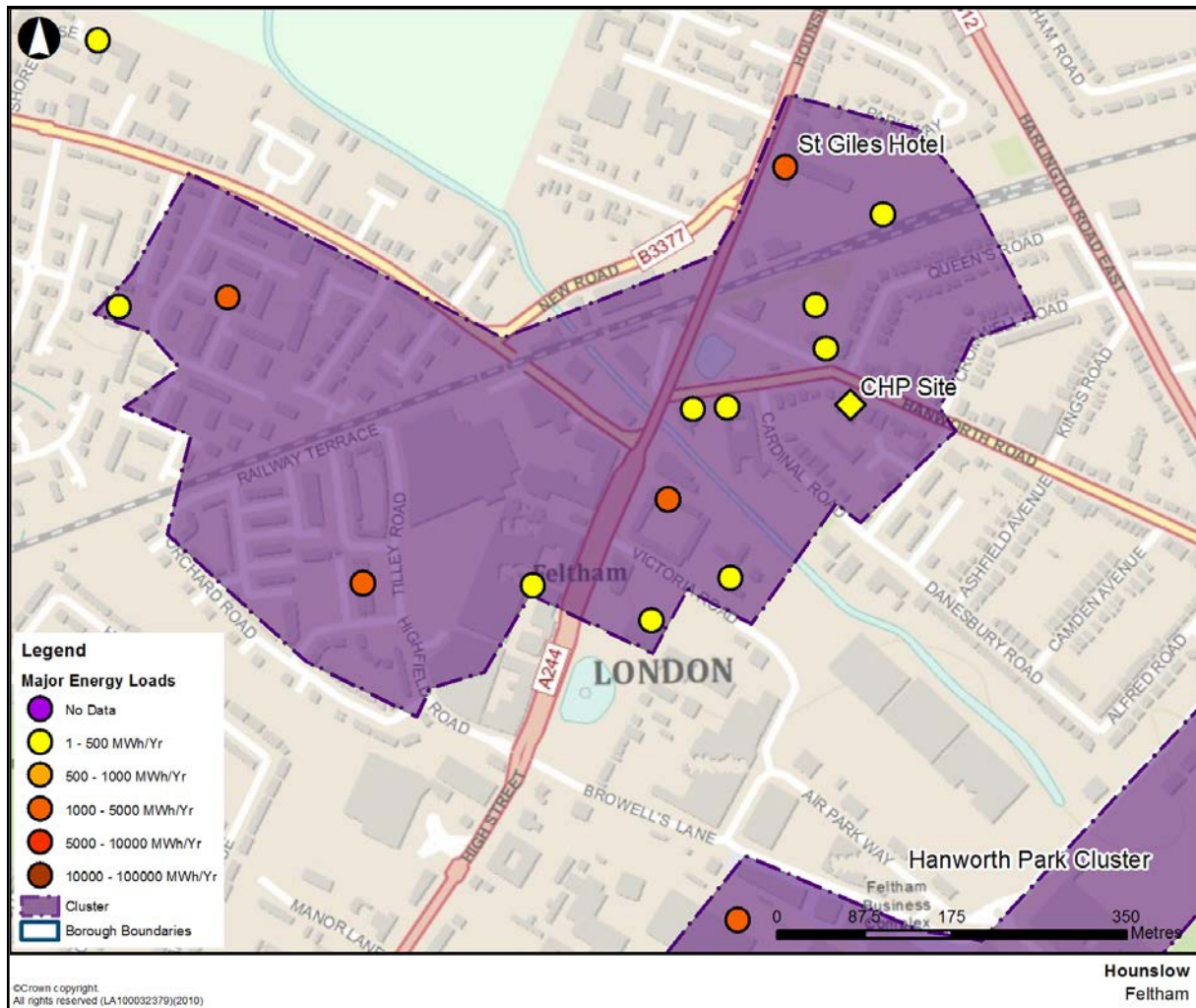


Figure 8: Feltham Heat Cluster

The Feltham cluster is made up of twelve buildings, with a good mix of educational, local government estate, and communally-heated residential estate building typologies. This cluster includes one known new development, which has been benchmarked.

Whilst there is a good level of diversity in this cluster, a potential issue is that it is very much dominated by the three social housing estates and the hotel (which make up 90% of the total cluster fuel consumption, see Table 6); diversity benefits might not be as high, and it is unclear at this stage how complimentary the two dominant typologies would be.

No obvious anchor load exists, however the boiler house at the St Giles Hotel (representing the largest consumption) could be a possible location. Another option could be the existing CHP site (see Figure 8), where an installed thermal capacity of 90 kW_{th} (relatively small) is available; this could perhaps be expanded to serve any future network. At this stage, nothing further is known about the status of this CHP; further investigation is recommended for assessing this cluster.

Two main potential physical barriers exist in this cluster, which should be taken into account when considering priorities. The railway and the A244 (Hounslow

Road) together might act in such a way that development of any heat network is restricted. This issue is beyond the scope of this investigation, but any feasibility assessment for this cluster would likely need to take these barriers into account.

Described further in the next section (Section 6.1.4), there exists the potential for linking this cluster with the nearby Hanworth Park cluster to the south (see Figure 8). If the railway through Feltham does emerge as inappropriate for a network crossing, then the demands south of the railway could still potentially be connected with the Hanworth Park cluster.

Further steps:

- Engage with potential anchor loads, determining plant-replacement dates for all communally heated estates and the St Giles Hotel
- Investigate the possibility of the CHP site being used or expanded for any future network development in the cluster
- Explore the vicinity for additional public / private demand that has not yet been captured in this analysis.
- Give consideration to the feasibility of any potential network crossing the railway in particular

Table 6: Existing buildings in Feltham cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
St. Giles Hotel	Private	Hotels (> 99 units or 4,999 m ²)	4,969*
Southern Avenue	Other public	Social Housing Estate	3,164
Highfields	Other public	Social Housing Estate	2,839
New Chapel Square	Other public	Social Housing Estate	2,276
St Lawrence Rc Primary	Local government	Education facilities	379
Cardinal Road Infant And Nuser	Local government	Education facilities	358
St. Catherine's House	Local government	Local government estate	202
Ashmead Depot	Local government	Local government estate	199
Feltham Local Office - Social Services	Local government	Local government estate	196
The Longford Centre	Local government	Local government estate	61
Victoria School	Local government	Education facilities	54
Feltham North Childrens Centre Aka Alf King Centre	Local government	Education facilities	32
TOTAL Fuel Consumption			14,729 MWh/yr

Table 7: New developments in Feltham cluster

Name	Typology	Approval Stage	Estimated Fuel
------	----------	----------------	----------------

			Consumption (MWh)
UDP M24 - Land South Of Astronaut House (35 units)	Residential	Allocation	213
TOTAL Fuel Consumption			213 MWh/yr

- Benchmarked based on industry standards;

Table 8: Summary of Existing and New Developments for Feltham Cluster

Total Fuel Consumption	14,942 MWh/yr
Total Estimated Heat Demand	11,954 MWh/yr
Estimated Peak Heat Load	5.31 MW

6.1.4 Hanworth Park Cluster

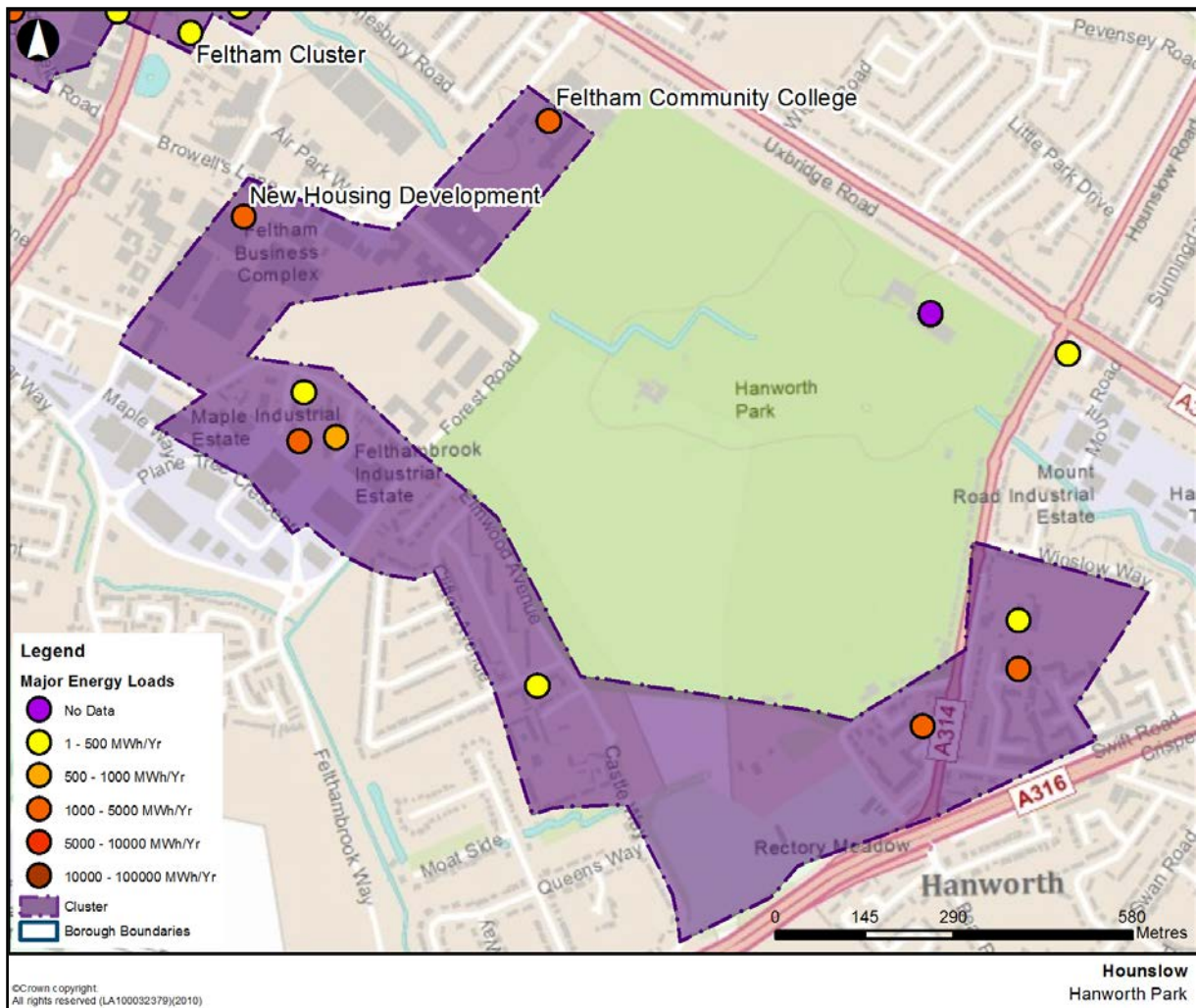


Figure 9: Hanworth Park heat cluster

The Hanworth Park cluster is characterised by a long string of potential loads. Six existing social housing estates make up the cluster, along with two educational facilities and a planned residential development (See Figure 9). Whilst the distance between the furthest two points is relatively large, the greatest separation between any two points is just over 600m, which would not be unreasonable if sufficient demand could be secured within this cluster. Additionally, there exists the possibility for routing the network through Hanworth Park for a relatively low-cost dig when compared to suburban roads, however further work would be required to assess if this is feasible with all stakeholders as Hanworth Park is also a Site of Importance for Nature Conservation (SINC). Depending on additional heat demands identified in the vicinity, this cluster could present an opportunity; it is noted that the cluster is surrounded on three sides by industrial and trading estates, which could add extra demand and diversity.

If further investigation deems the entire connection of this cluster to be unviable, a possible mini-cluster consisting of the new housing development site, the three existing housing estates in the north and Feltham Community College could be considered.

No obvious anchor load exists, however the boiler house at the Oriol estate (representing the largest consumption) would be a possible location.

The interesting opportunity for this cluster comes with the potential new development (UDP Site M1, as per SHLAA/HCS); where up to 412 residential units could be constructed. This possible development could contribute funding towards any eventual scheme, as well as house an energy centre for the cluster. In addition, it can be noted that the Feltham cluster is not very far from the development site; depending on the nature of the development, it could be a logical step to link these two clusters together via a heat network.

Further steps:

- Gain further clarity on the new development at UDP site M1, investigating the possibility for using a CHP unit for potential connection to a heat network, and investigate the possibility of obtaining developer contributions towards any DE scheme.
- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis, particularly in the industrial estates.

Table 9: Existing buildings in Hanworth Park cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Oriol Estate	Other public	Social Housing Estate	3,876
The Hollands	Other public	Social Housing Estate	1,840
Feltham Community College	Local Government Estate	Education Facilities	1,518
Sandalwood Road (no.2) 59-79, 76-102	Other public	Social Housing Estate	1,138
Pinewood Road (1-29, 2-38)	Other public	Social Housing Estate	609
Oriel Primary	Local Government Estate	Education Facilities	467
Sandalwood Road (no.1) 1-57, 2-74	Other public	Social Housing Estate	451
Rectory Court	Other public	Social Housing Estate	170
TOTAL Fuel Consumption			10,069 MWh/yr

Table 10: New developments in Hanworth Park cluster

Name	Typology	Approval Stage (SHLAA/HCS)	Estimated Fuel Consumption (MWh)
UDP Site M1, Browells Lane (412 units)	Residential	Allocation	2,508
TOTAL Fuel Consumption			2,508 MWh/yr

Table 11: Summary of Existing and New Developments in Hanworth Park Cluster

Total Fuel Consumption	12,577 MWh/yr
Total Estimated Heat Demand	10,060 MWh/yr
Estimated Peak Heat Load	4.47 MW

6.1.5 Cranford Cluster

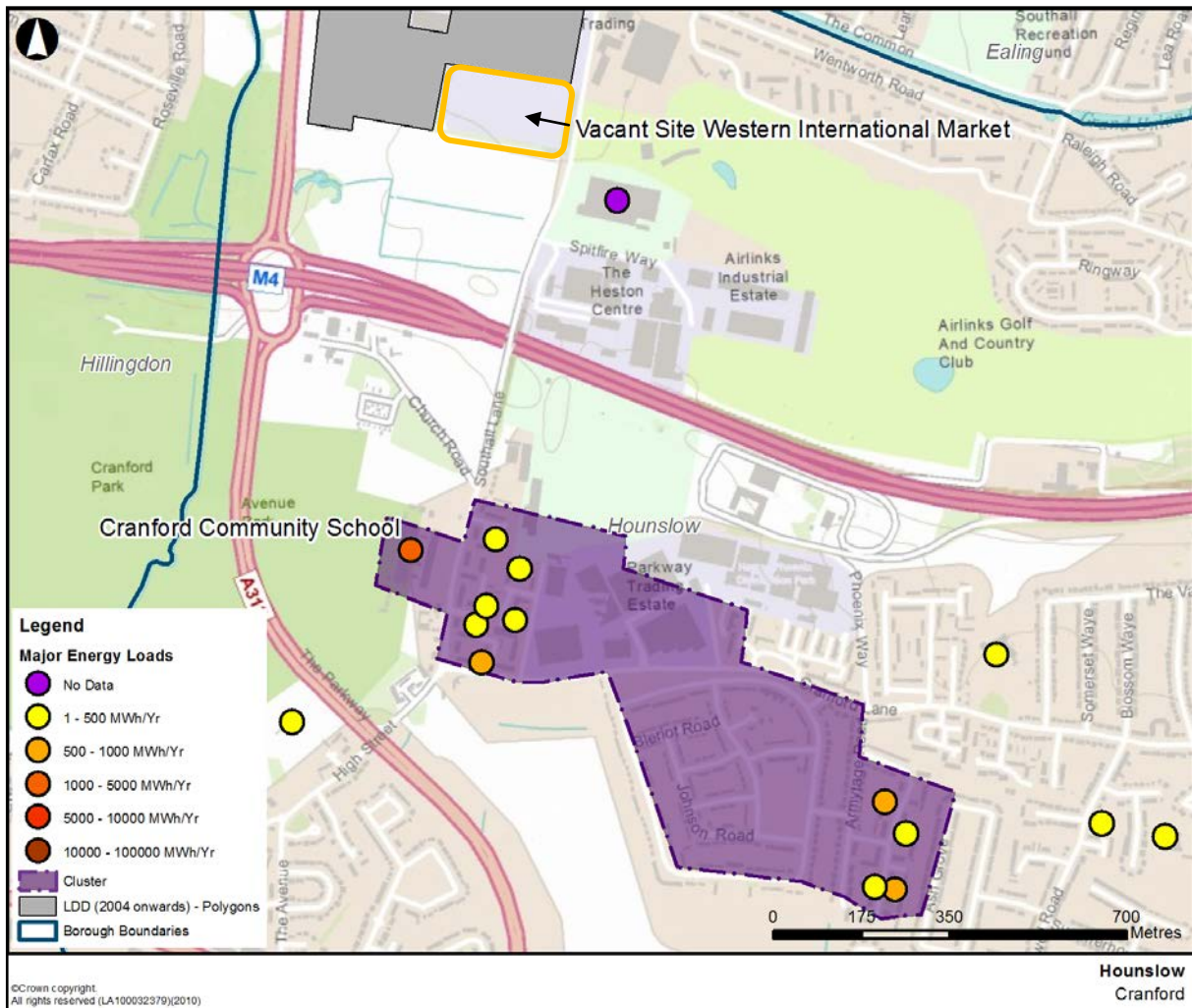


Figure 10: Cranford Heat Cluster

The Cranford cluster is made up of eleven social housing demand sites and a school. The demands are densely clustered in the East and West sides of the cluster (See Figure 10, above), but there is a lack of identified loads in the middle. The two mini-clusters are separated by approximately 800m. High level desktop analysis reveals some low density residential usage in this area, as well as a number of relatively large trading estates to the North. There is no new development information for this cluster. If further analysis deemed the gap between the two mini-clusters to be too large, the potential might exist for linking the community estates on the west of the cluster with the school for a smaller heat network.

At this stage the clear potential anchor load for this cluster would be the Cranford Community School, which is the greatest heat demand and could have a plant room suitable for an energy centre. Load diversity is very low, pending additional information. No new developments have been identified in this cluster. Connecting these loads together with a DH network is a possibility, as they are served by central boilers, but more information would be required about additional demand in the area to make up suitable levels of demand and diversity to justify network construction.

A further opportunity for heat supply to this cluster exists in the potential waste management site (as allocated in the Draft proposed submission plan in the West London Waste Development Plan (WLWDP), November 2011) at the vacant portion of the Western International Market (See Figure 10). At this stage it is undecided what waste technologies would be used here, but if some form of incineration was employed, there could be the potential for heat off-take and supply to the Cranford Cluster. The main difficulty here, however, would be routing DH piping across the M4 motorway.

Further steps:

- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
- Engage with the school to determine possible plant replacement dates and suitability for a DH scheme.

Table 12: Existing Buildings in Cranford Cluster

Building Name	Typology	Ownership	Fuel Consumption (MWh/yr)
Cranford Community School	Education Facilities	Local Government	3,370
Cranford Lane (269-347)	Other public	Social Housing Estate	597
Norman Crescent, flats 25-55 Odd	Other public	Social Housing Estate	593
Norman Crescent, flats 134-192 Even	Other public	Social Housing Estate	505
Redwood flats 46-81	Other public	Social Housing Estate	493
Norman Crescent, flats 141-199 Odd	Other public	Social Housing Estate	465
Redwood flats 87-112	Other public	Social Housing Estate	451
Norman Crescent, flats 56-106 Even	Other public	Social Housing Estate	445
Norman Crescent, flats 81-139 Odd	Other public	Social Housing Estate	437
Redwood flats 14-39	Other public	Social Housing Estate	407
Redwood flats 113-138	Other public	Social Housing Estate	398
Crane Lodge Road (1-43)	Other public	Social Housing Estate	254
TOTAL Fuel Consumption			8,415 MWh/yr

Table 13: Summary of Existing and New Developments in Cranford Cluster

Total Fuel Consumption	8,415 MWh/yr
Total Estimated Heat Demand	6,732 MWh/yr
Estimated Peak Heat Load	2.99 MW

6.1.6 Brentford Cluster

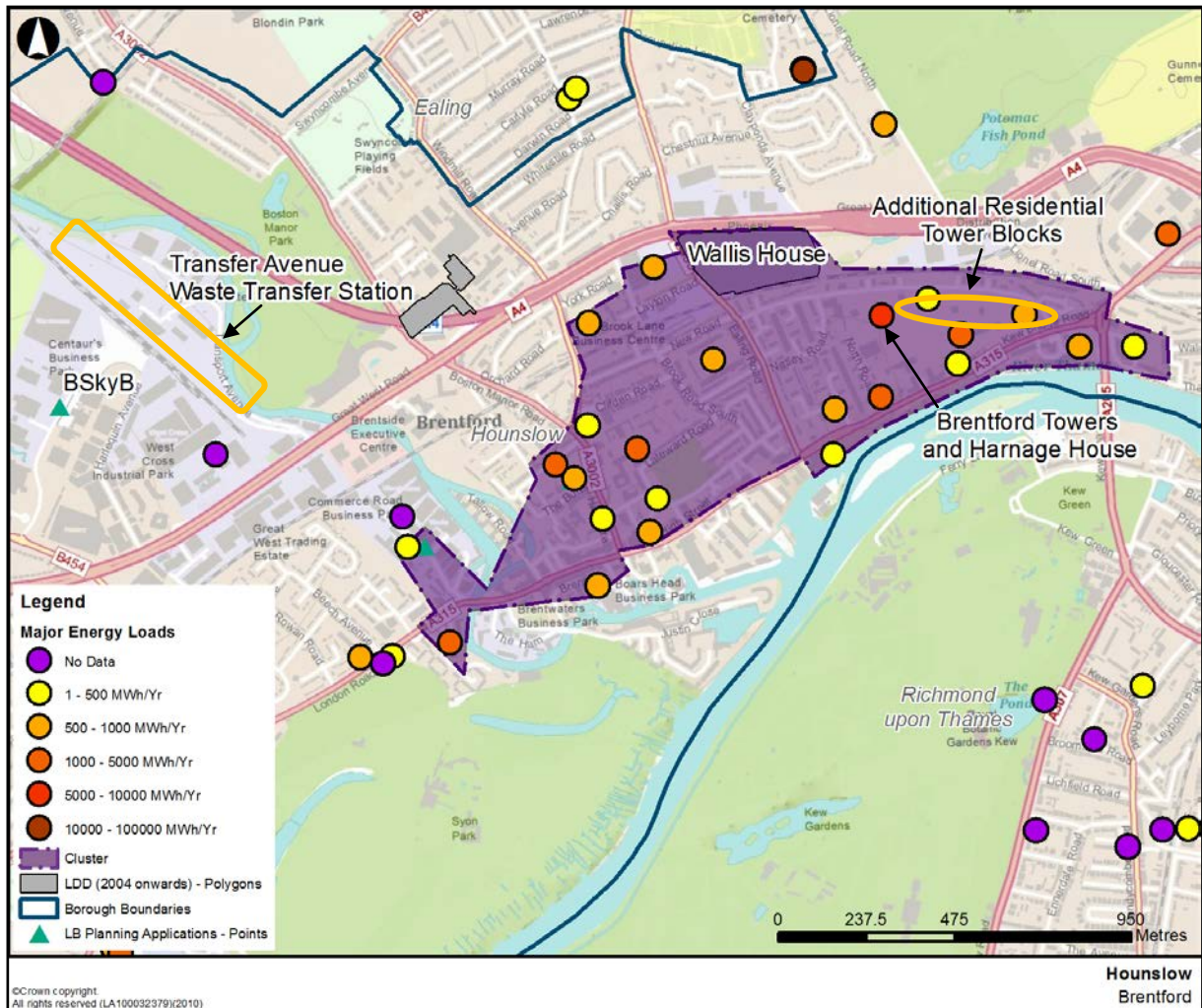


Figure 11: Brentford Heat Cluster

The Brentford cluster is made up of fifteen existing buildings, and a number of potential developments as identified in the Brentford Area Action Plan¹³ (BAAP), where additional information on further developments can be found. The Wallis house development was under construction in 2008 and is now complete; annual consumption for this site was benchmarked based on the number of residential units available from the LDD database. Hence, whilst this development is presented in Table 15 below as “planned”, it is actually considered to be an existing heat load for the purpose of this analysis. A potential opportunity for this cluster is the presence of the BSKyB Osterley Biomass CHP unit, which has the potential to supply low-carbon heat and electricity to the scheme, but it is noted this is quite a long distance from the centre of the cluster.

This cluster has more demand diversity than the others so far identified in Hounslow, with a hotel, cultural, and educational building typologies adding to the mix, so would likely allow for optimum operation of a CHP engine. As this area of the borough is more built-up than the others so far discussed, it is likely

¹³ Brentford Area Action Plan, January 2009 <http://www.hounslow.gov.uk/baap.pdf>

that additional research here would yield a number of other potential demands to add to the cluster's density and diversity.

At this point, Brentford Towers and Harnage House, as well as the other apartment blocks in this site (not visible on the heat map) would appear to be good anchor loads, as they are the largest in the cluster, being made up of a number of high-rise social housing units. Data provided by the borough indicates that these towers are served by communal boilers. Notably, desktop research reveals these to be part of a group of six towers of around 22 stories each (See Figure 11). While data is not available for all these towers, if they have similar characteristics to Brentford Towers and Harnage House then this site might present a very good opportunity for a DE scheme as they could readily be adapted for connection to a DH network. Determining existing plant lifetimes, replacement dates, and plant room sizes will be useful to further evaluate this opportunity.

All social housing estates in the existing buildings have been identified as using communal boilers, and hence is likely to be suitable for connection to a DE scheme.

The Wallis House development, whilst likely to be of appreciable demand, is on the other side of a railway line, which might present a barrier to connection to any eventual heat network; further study would be required to determine the feasibility of any crossing.

To the north-west of the cluster (see Figure 11) the presence of a biomass CHP unit at the BSKyB offices presents a very good opportunity for the scheme. The Evidence Base¹⁴ highlights that it has a potential energy yield of 10 GWh/yr in waste heat (a little under half the Brentford cluster's total consumption), with the potential revenue for BSKyB a strong financial incentive for selling to a growth area network. One potential barrier for this development would be the distance between BSKyB and the centre of the Brentford cluster; piping would have to cover approximately two kilometres, and cross the A4 and a railway line, which could prove restrictive.

As with the Cranford Cluster (Section 6.1.5), the November 2011 draft WLWDP identifies the Transfer Avenue Waste Transfer Station (see Figure 11) as having potential for some form of DE. Should any heat supply facility be developed here, the Brentford Cluster could prove a suitable source of demand. However, as with the BSKyB source, the required distance of heat piping might present a barrier.

Further steps:

- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
- Engage with BSKyB on the opportunity for connecting its CHP unit to any eventual scheme.
- For the council estate towers along Green Dragon Lane, determine plant age and replacement schedules.
- Investigate the feasibility and appetite for network crossings of the rail line for connection to the Wallis House development.

¹⁴ Evidence Base for Carbon Reduction Policies, London Borough of Hounslow (February 2010)
http://www.hounslow.gov.uk/evidence_base_carbon_reduction_policies.pdf

Table 14: Existing Buildings in Brentford Heat Cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Brentford Towers And Harnage House	Other public	Social Housing Estate	6,315
Brentford School For Girls	Local government	Education facilities	2,444
Brent Lea (120-171) And Danehurst	Other public	Social Housing Estate	2,239
Travelodge Hotels Ltd*	Private	Hotels (> 99 units or 4,999 m2)	1,700
Kew Bridge Road And Thameside Centre*	Private	Social Housing Estate	1,000
Lambert Lodge	Other public	Social Housing Estate	749
Griffin Court	Other public	Social Housing Estate	726
Kew Bridge Steam Museum*	Private	Museums & Art Galleries	613
Watermans Arts Centre*	Private	Museums & Art Galleries	345
The Maltings	Other public	Social Housing Estate	314
St Paul's Ce Primary	Local government	Education facilities	228
Brentford Library (Boston Manor Road)	Local government	Local government estate	169
The Musical Museum*	Private	Museums & Art Galleries	159
Brentford Day Nusery (Half Acre)	Local government	Education facilities	103
TOTAL Fuel Consumption			17,104 MWh/yr

*Benchmarked based on industry standards;

Table 15: New developments in Brentford cluster

Name	Typology	Approval Stage (SHLAA/HCS)	Estimated Fuel Consumption (MWh/yr)
Wallis House/Great West Quarter Great West Road, TW8 9BD	Mixed Use	Approval	2,214*
BAAP Site M4 - Kew Bridge Pumping Station And Thames Water Land	Residential		2,149
Commerce Road	Mixed Use		889
Brentford Waterside (BAAP Proposal Site M8)	Residential		779
BAAP Site M3 - Kew Bridge Site	Residential		761
Brentford Football And Sports Club Ltd, Griffin Park Braemar Road, Brentford, TW8 0NT	Residential	Approval	724
BAAP Site M1 - Alfa Laval	Residential		524
BAAP Site M7 - Somerfield Stores	Residential		2149
BAAP Site M4 - Kew Bridge Pumping Station And Thames Water Land	Residential		889
TOTAL Fuel Consumption			11,078 MWh/yr

*Satellite map analysis indicates that this development is complete. The figure 2,214 MWh/yr is for residential units in the site only, as GIFA is not available to benchmark the gallery and health club that are known to be on this site.

Table 16: Summary of Existing and New Developments in Brentford Cluster

Total Fuel Consumption	28,182 MWh/yr
Total Estimated Heat Demand	22,546 MWh/yr
Estimated Peak Heat Load	10.02 MW

6.2 Cross-Borough opportunities

6.2.1 Isleworth / Twickenham

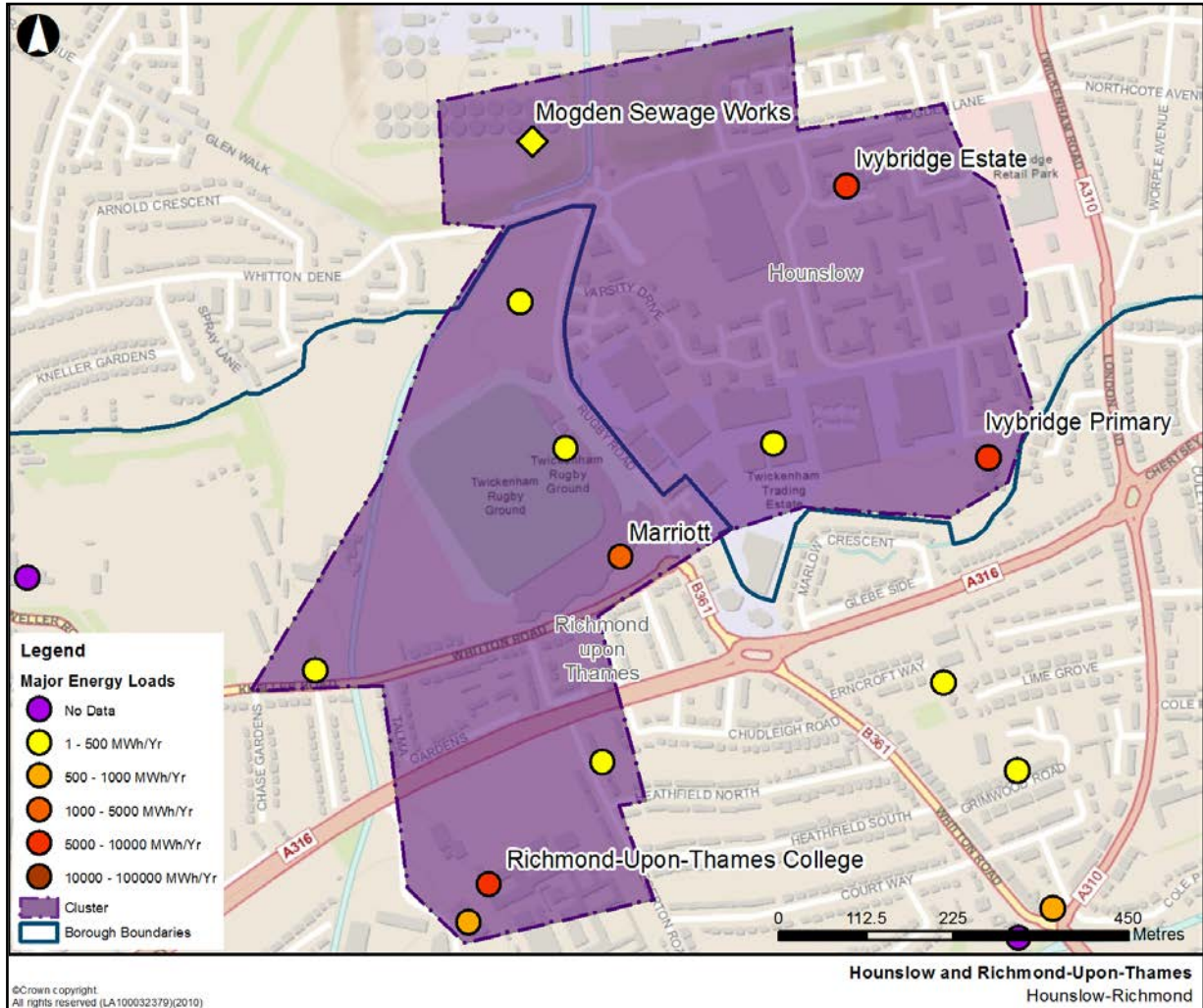


Figure 12: Isleworth / Twickenham heat cluster

The Isleworth / Twickenham cluster is a medium-sized cluster made up of nine demands, with some level of cross-borough opportunity with the London Borough of Richmond-Upon-Thames. The key opportunity for this cluster, either as a borough-only or cross-borough scheme is the Mogden Sewage Works (see Figure 12), which currently has a CHP unit installed that is due to increase in capacity.

On the Hounslow side, the considerable demands of Ivybridge Primary and the Ivybridge Estate, which is served by communal boilers, presents an attractive prospect for connection to a DH scheme. The London United Busways Ltd site brings some diversity to the scheme, and it is likely that additional research would yield further loads in the trading estate that it is located in.

The cross-borough opportunity is viewed as moderate; indicated on the LDD as a new development, the Twickenham Stadium development is now complete. As they were recently constructed, it is unlikely that building owners would desire connection to any eventual scheme requiring them to replace new plant, but the opportunity exists. The possibility does exist to extend south, capturing the load of

Richmond-upon-Thames College. In addition, the area in Richmond-upon-Thames further to the south towards Teddington is under investigation by the London Borough of Richmond-upon-Thames, as reported in the Twickenham Campus Low Carbon Energy Options Study¹⁵, and it is noted that potential residential developments at the former Gregg's Bakery site and north of Twickenham Rugby Stadium could further expand the scheme.

The key opportunity for this network is in the CHP site at the Mogden Sewage Works (as identified on Figure 12). As identified in the Evidence Base for Carbon Reduction Policies¹⁶, the existing CHP plant at the site is due to increase in capacity in line with extensions to the site, to a predicted rating of 12 MW_{th}¹⁷. The Evidence Base estimates there could be circa 400 kW_{th} of spare capacity, with a caveat that it would most likely vary significantly throughout the year. As it is, this potential spare capacity could be used to feed this cluster, although the Evidence Base also considers exporting it to meet relatively low heat demands in Isleworth. The existing CHP site could also form the basis of an energy centre for the cluster, and depending on the appetite of the sewage works, could be expanded upon further in capacity to meet loads further south in the London Borough of Richmond-upon-Thames.

Given the location of the key supply plant, it is likely that the London Borough of Hounslow would be appropriate as the leader of this scheme, although at the moment the identified loads are well-split between either borough. Some early engagement between boroughs to consider this opportunity is advised.

Further steps specific to the London Borough of Hounslow:

- Engage with Mogden Sewage Works to identify issues in expansion, further heat off-take; determine age of plant and likely replacement dates.
- Investigate the vicinity (predominantly on the Hounslow side) for additional potential heat loads.
- Determine state of boiler house in Ivybridge estate.
- Engage with the London Borough of Richmond-Upon-Thames, investigating appetites for development of the scheme, and further potential developments in the vicinity.

¹⁵ White Young Green Twickenham Campus Low Carbon Energy Options Study (2009)
<http://cabnet.richmond.gov.uk/mgConvert2PDF.aspx?ID=18606>

¹⁶ Evidence Base for Carbon Reduction Policies, London Borough of Hounslow (February 2010)
http://www.hounslow.gov.uk/evidence_base_carbon_reduction_policies.pdf

¹⁷ The Evidence Base actually states 12kW_{th} rather than MW_{th}; this is viewed as an error, given that the spare capacity is estimated at 400kW_{th}.

Table 17: Existing Buildings in Isleworth / Twickenham cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Ivybridge Primary	Local Government	Education Facilities	8,349
Ivybridge Estate	Other public	Social Housing Estate	7,430
Richmond-Upon-Thames College	Private	Education Facilities	6,047
Twickenham Marriott Hotel	Private	Hotels (> 99 units or 4,999 m ²)	4,290*
Cannon Health Club (now Nuffield Fitness)	Private	Sport & Leisure Facilities	792
Twickenham Stadium / Rugby Football Union (RFU) Site	Private	Multi-address Buildings	493
London United Busways Ltd	Private	Private commercial (> 9,999 m ²)	480
Chase Bridge Primary School	Local Government	Education Facilities	388
Museum of Rugby Twickenham	Private	Museums & Art Galleries	149*
Egerton Road No 26 / Respite Services	Local Government	Local Government Estate	60
TOTAL Fuel Consumption			28,478 MWh/yr



Loads in the London Borough of Richmond-Upon-Thames

*Benchmarked based on industry standards

Table 18: Summary of Existing and New Developments in Isleworth / Twickenham Cluster

Total Fuel Consumption	28,478 MWh/yr
Total Estimated Heat Demand	22,782 MWh/yr
Estimated Peak Heat Load	10.13 MW

7 Implementation Plan

The Implementation Plan has been developed jointly by Arup and the London Borough of Hounslow to identify the priority, potential constraints and next steps for delivering each DE cluster identified through the Heat Mapping process.

DE Opportunity Area	Priority* (Low/Medium/High)	Constraints	Next Steps for delivering DE schemes
Central and West Hounslow	Medium	Relatively spread out loads in the west of the cluster.	Engage with potential anchor loads (e.g. Maitland Close), determining plant-replacement dates for all communally heated estates. Explore the vicinity for additional public / private loads that have not yet been captured in this analysis to add diversity to the cluster.
Hounslow Town Centre	High	A315, A316, A3006 run through the cluster, possibly presenting barriers to network development	Investigate the likely potential anchor load (civic centre) for the opportunity to site an energy centre here; determine plant age and replacement dates. Explore the vicinity for additional public / private demand that has not yet been captured in this analysis. For new developments, consider further the planning powers in place to secure developer contributions towards any scheme, and the potential to require future buildings to connect to such a scheme.
Feltham	Low / Medium	Railway and large A-road running through the cluster. Diversity; while there are various building typologies in the cluster, it is dominated by the hotel and housing estates.	Engage with potential anchor loads, determining plant-replacement dates for all communally heated estates and the St Giles Hotel. Investigate the possibility of the CHP site being used or expanded for any future network development in the cluster. Explore the vicinity for additional public / private demand that has not yet been captured in this analysis. Give consideration to the feasibility of any potential network crossing the railway.
Hanworth Park	Low	Long distance for potential network to connect all loads.	Gain further clarity on the new development at UDP site M1, investigating the possibility for using a CHP unit for potential

		Lack of diversity.	connection to a heat network, and investigate the possibility of obtaining developer contributions towards any DE scheme. Explore the vicinity for additional public / private loads that have not yet been captured in this analysis.
Cranford	Low	Long distance for interconnection of the two mini-clusters within this main cluster. Lack of diversity.	Explore the vicinity for additional public / private loads that have not yet been captured in this analysis. Engage with the school to determine possible plant replacement dates and suitability for a DH scheme
Brentford	High	Railway line potentially cuts off connection to northern loads, and link to BSKyB CHP unit.	Explore the vicinity for additional public / private loads that have not yet been captured in this analysis. Engage with BSKyB on the opportunity for connecting its CHP unit to any eventual scheme. For the council estate towers along Green Dragon Lane, determine plant age and replacement schedules. Consider the feasibility and appetite for network crossings of the rail line for connection to the Wallis House development.
Isleworth / Twickenham	Low / Medium	New buildings on Richmond-Upon-Thames side are already complete, with relatively new plant.	Engage with Mogden Sewage Works to identify issues in expansion, further heat off-take; determine age of plant and likely replacement dates. Investigate the vicinity (predominantly on the Hounslow side) for additional potential heat loads. Determine state of boiler house in Ivybridge estate. Engage with the London Borough of Richmond-Upon-Thames, investigating appetites for development of the scheme, and further potential developments in the vicinity.

*Cluster implementation priorities have been allocated by the London Borough of Hounslow by assessing the estimated heat loads, council priorities and the feasibility of the scheme.

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 Hounslow. These are highlighted, and further steps are briefly discussed below.

8.1 Opportunity areas

Two clusters with good levels of opportunity were identified around the centre of Hounslow; the Central and West Hounslow and Hounslow Town Centre clusters. These combine high levels of annual fuel consumption with a good level of diversity, and some new developments which could serve to enable any future growth of DE schemes in the area. Notably, the February 2012 Hounslow Town Centre Master Plan has already identified the area as suitable for DE development, and any future scheme could choose to make use of one or both clusters, or an amalgamation of the two, depending on the findings of any further feasibility study.

The Brentford Cluster has been identified, both in this report and the Brentford Area Action Plan, as having good potential for the development of DE. As this is a relatively built-up area of the borough, there has been found to be a high level of annual fuel consumption, as well as good density and diversity of demand. While it is not yet clear if network routing would be feasible, the potential exists for heat off-take and supply to the cluster from the BSkyB CHP and the potential waste transfer station development to the west of the cluster.

Another two clusters, with perhaps slightly lower levels of opportunity, are the Feltham and Hanworth Park Clusters. While these do not exhibit levels of demand density as high as those described above, their estimated load levels are in the range of 5 MW_{th}, which would still represent significant schemes. Furthermore, pending additional investigation, the potential to join these two areas together might exist.

The identified Cranford Cluster, whilst having relatively low annual fuel consumption, might have the potential for a mini-DE network within its western sub-cluster, although currently this is dominated by residential and educational load typologies.

An interesting cross-borough opportunity with the London Borough of Richmond-Upon-Thames has been identified. The Isleworth / Twickenham Cluster has the potential to source heat from the expanding CHP centre at the Mogden Sewage Works and supply a number of high residential and educational loads near to the borough border. Should cross-borough collaboration prove infeasible, the loads on the London Borough of Hounslow side of the cluster could still be high enough to justify a DH network in this area.

8.2 Borough priorities

In line with the technical opportunities for each cluster identified in this study, the London Borough of Hounslow has assessed the borough priority based on council

priorities and scheme feasibilities. The Brentford and Hounslow Town Centre clusters have been assigned “High” priorities for further progression, while the Central and West Hounslow cluster has been given a “Medium” priority.

8.3 Next steps

At this stage a general recommendation before 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 high-opportunity areas it should now prove more resource efficient to find additional 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.

8.4 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 Hounslow to meet the Mayor of London's carbon reduction commitment of 60% by 2025.

8.5 Concluding remarks

Compared to some of the more central boroughs in the GLA, the London Borough of Hounslow could perhaps be thought of as less dense in population, heat demand, and hence opportunities for DE. This study has found, however, that there are a number of potential areas where the borough contains sufficient levels of heat demand, density, and diversity to justify the development of DH networks around CHP, so delivering carbon emissions savings to the borough, and the potential to reduce instances of fuel poverty for its residents. Particularly for the Hounslow Town Centre and Brentford clusters, the opportunity exists for DE schemes of significant magnitudes that would serve as an example to other areas both within London and the entire United Kingdom should they be realised.

Appendix A

Populated Template and London
Heat Map Heat Load typologies

A1 Populated Template

A1.1.1 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 (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
511680	173295	De Brome Building (Leased by West Thames College: Feltham Skills Centre)	77 Boundaries Road, Feltham, Middlesex	TW13 5DT	Local government	No	Education facilities	Central Boilers	Natural gas	244.79	-	4,116	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510809	173330	Feltham North Childrens Centre aka Alf King Centre	7 Hanworth Road	TTW13 5AF	Local government	No	Education facilities	Central Boilers	Natural gas	32.40	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511481	175793	Beavers Childrens Children	c/o Surestart, The Hub, Salisbury Road, Hounslow	TW4 7NW	Local government	No	Education facilities	Central Boilers	Natural gas	157.97	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
508821	173234	Bedfont Childrens Centre	Fairholme Primary School, Peacock Avenue, Bedfont	TW14 8ET	Local government	No	Education facilities	Central Boilers	Natural gas	12.36	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
517646	177512	Brentford Day Nusery (Half Acre)	Brentford	TW8 8BH	Local government	No	Education facilities	Central Boilers	Natural gas	102.63	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509664	172324	Feltham Hill Childrens Centre	Feltham Hill Junior, Infant and Nursery, Bedfont Road, Feltham	TW13 4LZ	Local government	No	Education facilities	Central Boilers	Natural gas	167.50	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512213	175652	Hounslow Education Centre	Martindale Road, Hounslow	TW4 7HE	Local government	No	Education facilities	Central Boilers	Natural gas	460.18	-	2,000	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
515798	176712	Woodbridge Educational Service	24 Wood Lane, Isleworth	TW7 5ED	Local government	No	Education facilities	Central Boilers	Natural gas	163.81	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516059	175596	Redlees Centre Under Fives	Redlees Park, Worton Road, Isleworth, Middlesex	TW7 6ER	Local government	No	Education facilities	Central Boilers	Natural gas	46.11	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513572	175839	The Spot - Hounslow Child and Family Centre aka Nantly House Under 8's Centre	33 Lampton Road, Hounslow, TW3 1JG	TW3 1JG	Local government	No	Education facilities	Central Boilers	Natural gas	128.92	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516993	177141	Acton Lodge Resource Centre - Brentford Care Centre	84 London Road, Brentford	TW8 8JJ	Local government	No	Local government estate	Central Boilers	Natural gas	518.15	-	1,571	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520551	178308	Chiswick Offices Social Services	Ashburnham House, Horticultural Place off Heathfield Terrace, Chiswick, London	W4 4BY	Local government	No	Local government estate	Central Boilers	Natural gas	44.97	-	670	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512399	177317	Berkeley Centre - CTPLD	27 Cranford Lane, Heston	TW5 9EP	Local government	No	Local government estate	Central Boilers	Natural gas	25.85	-	319	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520601	178645	Chiswick Day Care Centre	Bridge Street, London	W4 5UF	Local	No	Local	Central	Natural gas	204.90	-	726	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
					government		government estate	Boilers																			
520814	178686	Clifton Gardens Elderley Persons Home (aka Chiswick Resource Centre	59 Clifton Gardens, off Belmont Road, Chiswick, London	W4 5TZ	Local government	No	Local government estate	Central Boilers	Natural gas	551.03	-	1,736	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
517079	177143	Drop in Centre - Canal House aka Cherry Tree House	97 London Road, Brentford, Middlesex	TW8 8JQ	Local government	No	Local government estate	Central Boilers	Natural gas	235.70	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509956	172166	Feltham Dene	Spring Road	TW13 7JB	Local government	No	Local government estate	Central Boilers	Natural gas	213.69	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510819	173287	Feltham Local Office - Social Services	13 Hanworth Road, Feltham, Middlesex	TW13 5AF	Local government	No	Local government estate	Central Boilers	Natural gas	195.93	-	621	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512105	177151	Heston Day Support Service	36 Springwell Road, Hounslow	TW5 9EJ	Local government	No	Local government estate	Central Boilers	Natural gas	51.42	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512474	176823	Heston House	Vicarage Farm Road, Hounslow	TW5 0AH	Local government	No	Local government estate	Central Boilers	Natural gas	1075.10	-	2,845	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512824	177543	Heston Local Office	-	-	Local government	No	Local government estate	Central Boilers	Natural gas	215.71	-	685	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512835	177530	Heston Resource Centre - Acorn Centre	New Heston Road, Hounslow	TW5 0LW	Local government	No	Local government estate	Central Boilers	Natural gas	121.27	-	267	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516185	175638	Isleworth Centre (Ground and First Floor)	146 Twickenham Road, Isleworth	TW7 7DJ	Local government	No	Local government estate	Central Boilers	Natural gas	184.99	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514287	175770	School Road Centre - Number 10 Project	10 School Road, Hounslow	TW3 1QZ	Local government	No	Local government estate	Central Boilers	Natural gas	13.31	-	645	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510727	174094	Two Bridges Resource Centre	2A Marriott Close, Feltham	TW14 9PZ	Local government	No	Local government estate	Central Boilers	Natural gas	123.81	-	482	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514808	175894	Bridge Road Depot	Pears Road, Hounslow	TW3 1SQ	Local government	No	Local government estate	Central Boilers	Natural gas	856.45	-	5,121	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513449	176371	Civic Centre	Lampton Road, Hounslow	TW3 4DN	Local government	No	Local government	Central Boilers	Natural gas	4130.20	-	24,528	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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																				
513531	176239	Council Offices adjacent to the Civic Centre	88 Lampton Road, Hounslow	TW3 4DN	Local government	No	Local government estate	Central Boilers	Natural gas	152.49	-	1,057	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512816	177547	Heston Local Area Office	41 New Heston Road, Hounslow	TW5 0LW	Local government	No	Local government estate	Central Boilers	Natural gas	63.05	-	685	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
519171	178280	Brentford Fountain	658 Chiswick High Road, Brentford	TW8 0HJ	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	2202.96	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520517	178341	Chiswick Town Hall	Heathfield Terrace, Turnham Green, Chiswick	W4 4JN	Local government	No	Local government estate	Central Boilers	Natural gas	211.86	-	2,492	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511849	172556	Hanworth Air Park Leisure Centre	Uxbridge Road, Hanworth	TW13 5EG	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	2882.20	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510796	173718	Feltham Assembly Hall	Feltham Park, Hounslow Road, Feltham	TW14 9DN	Local government	No	Local government estate	Central Boilers	Natural gas	74.31	-	1,137	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512880	177638	Heston Pool	New Heston Road, Hounslow	TW5 0LW	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	2386.32	-	2,173	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512882	177541	Heston Village Hall	New Heston Road, Hounslow	TW5 0LW	Local government	No	Local government estate	Central Boilers	Natural gas	286.50	-	240	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516394	175752	Isleworth Public Hall	South Street, Isleworth	TW7 7BG	Local government	No	Local government estate	Central Boilers	Natural gas	95.58	-	632	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516070	175501	Isleworth Rec Club	Twickenham Road, Isleworth	TW7 7EU	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	1983.39	-	3,626	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513425	176546	Lampton Sports	Lampton Avenue, Hounslow	TW3 4EP	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	111.93	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513641	175742	Montague Hall	Montague Road, Hounslow	TW3 1LD	Local government	No	Local government estate	Central Boilers	Natural gas	99.52	-	537	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
521230	177327	New Chiswick Pool	Edensor Road, Chiswick	W4 2RG	Local government	No	Sport & Leisure facilities	Central Boilers	Natural gas	2466.28	-	1,033	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
509530	173557	Southville Community Centre	Southville Road, Bedfont, Feltham	TW14 8AP	Local government	No	Local government estate	Central Boilers	Natural gas	35.14	-	634	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512698	175230	Wellington Day Centre	292 Staines Road, Hounslow	TW4 5BA	Local government	No	Local government estate	Central Boilers	Natural gas	33.63	-	400	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510111	173329	Ashmead Depot	Ashmead Road, Feltham	TW14 9NN	Local government	No	Local government estate	Central Boilers	Natural gas	198.72	-	852	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
518524	178106	Cornish House	Green Dragon Lane, Hounslow	TW8	Local government	No	Local government estate	Central Boilers	Natural gas	2.10	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511133	176211	Hounslow West Depot	75 Great South West Road	TW4 9NH	Local government	No	Local government estate	Central Boilers	Natural gas	198.20	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
515864	174056	Langdale Community Centre	240 Summerwood Road, Isleworth	TW7 7QN	Local government	No	Local government estate	Central Boilers	Natural gas	91.68	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510686	173226	St. Catherines House	2 Hanworth Road, Feltham	TW13 5AB	Local government	No	Local government estate	Central Boilers	Natural gas	202.47	-	1,550	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
508872	173716	Bedfont Library	Staines Road, Bedfont	TW14 8DB	Local government	No	Local government estate	Central Boilers	Natural gas	97.95	-	465	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
517605	177763	Brentford Library (Boston Manor Road)	Boston Manor Road	TW8 8DW	Local government	No	Local government estate	Central Boilers	Natural gas	169.47	-	612	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520819	178405	Chiswick Library	Dukes Avenue	W4 2AB	Local government	No	Local government estate	Central Boilers	Natural gas	222.28	-	1,546	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510761	176670	Cranford Library	Bath Road	TW5 9TL	Local government	No	Local government estate	Central Boilers	Natural gas	93.10	-	1,993	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
519052	179247	Gunnorsbury Park Museum	Popes Lane, London	W3 8LQ	Local government	No	Museums & Art Galleries	Central Boilers	Natural gas	305.27	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
519137	179293	Gunnorsbury Park	Popes Lane, London	W3 8LQ	Local government	No	Museums & Art Galleries	Central Boilers	Natural gas	320.08	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512071.75	172492	Hanworth Library	Uxbridge Road, Hanworth	TW13 5EG	Local government	No	Local government estate	Central Boilers	Natural gas	122.49	-	679	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
513850	175627	Hounslow Library (The Treaty Centre)	Centre Space, Treaty Centre, High Street, Hounslow	TW3 1ES	Local government	No	Local government estate	Central Boilers	Natural gas	1471.01	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514956	177228	Osterley Library	St Mary's Crescent	TW7 4NB	Local government	No	Local government estate	Central Boilers	Natural gas	66.21	-	361	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510526	173050	The Longford Centre	Tilley Road, Feltham, Middlesex	TW13 4BH	Local government	No	Local government estate	Central Boilers	Natural gas	60.86	-	2,014	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510185	174768	Urban Farm (Continental Landscapes)	Faggs Road, Feltham	TW14 0LZ	Local government	No	Local government estate	Central Boilers	Natural gas	0.31	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513950	176295	Alexandra Junior	Denbigh Road, Hounslow	TW3 4DU	Local government	No	Education facilities	Central Boilers	Natural gas	559.26	-	2,383	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512929	177231	Andrew Ewing Primary (aka Westbrook Primary)	Westbrook Road, Heston, Hounslow	TW5 0NB	Local government	No	Education facilities	Central Boilers	Natural gas	243.38	-	2,270	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511171	175731	Beavers Community Primary	Arundel Road, Hounslow	TW4 6HR	Local government	No	Education facilities	Central Boilers	Natural gas	607.41	-	3,701	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509105	174367	Bedfont Primary	Hatton Road, East Bedfont	TW14 9QZ	Local government	No	Education facilities	Central Boilers	Natural gas	685.63	-	5,339	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520690	178592	Belmont Primary (aka Belmont Nusery School)	Belmont Road, Chiswick	W4 5UL	Local government	No	Education facilities	Central Boilers	Natural gas	481.90	-	3,014	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511896	177485	Berkeley Primary	Cranford Lane, Heston	TW5 9HQ	Local government	No	Education facilities	Central Boilers	Natural gas	434.95	-	2,753	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
517740	177701	Brentford School for Girls	5 Boston Manor Road, Brentford	TW8 0PG	Local government	No	Education facilities	Central Boilers	Natural gas	2443.98	-	9,522	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510720	173228	Cardinal Road Infant and Nusery	Cardinal Road, Feltham	TW13 5AL	Local government	No	Education facilities	Central Boilers	Natural gas	357.91	-	2,256	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
521132.6	177286.6	Cavendish Primary	Edensor Road, Chiswick	W4 2RG	Local government	No	Education facilities	Central Boilers	Natural gas	333.57	-	1,978	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514364.9	175244.5	Chatsworth Primary School	Heath Road, Hounslow	TW3 2NW	Local government	No	Education facilities	Central Boilers	Natural gas	397.59	-	3,063	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520956	177309	Chiswick Community School	Burlington Lane, Chiswick	W4 3UN	Local government	No	Education facilities	Central Boilers	Natural gas	2741.18	-	12,026	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512522.5	172595.9	Crane Infants and Nusery School	Norman Avenue, Hanworth	TW13 5LN	Local government	No	Education facilities	Central Boilers	Natural gas	18.84	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512522.5	172595.9	Crane Park Primary	Norman Avenue, Hanworth	TW13 5LN	Local government	No	Education facilities	Central Boilers	Natural gas	1094.97	-	4,702	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510734	177692	Cranford Community School	High Street, Cranford	TW5 9PD	Local government	No	Education facilities	Central Boilers	Natural gas	3370.00	-	12,220	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
510603	176235	Cranford Junior	Berkeley Avenue, Cranford	TW4 6LB	Local government	No	Education facilities	Central Boilers	Natural gas	553.09	-	3,721	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509447	172812	Edward Pauling Primary	Redford Close, Feltham	TW13 4TQ	Local government	No	Education facilities	Central Boilers	Natural gas	347.46	-	2,948	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
508821	173233	Fairholme Primary	Peacock Avenue, Bedfont	TW14 8ET	Local government	No	Education facilities	Central Boilers	Natural gas	726.08	-	4,070	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511227	172871	Feltham Community College	Browells Lane, Feltham	TW13 7EF	Local government	No	Education facilities	Central Boilers	Natural gas	1518.52	-	15,269	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509695	172161	Feltham Hill Junior	Ashford Road, Feltham	TW13 4QP	Local government	No	Education facilities	Central Boilers	Natural gas	473.97	-	2,588	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509664	172324	Feltham Hill Infant and Nusery	Bedfont Road, Feltham	TW13 4LZ	Local government	No	Education facilities	Central Boilers	Natural gas	215.42	-	1,706	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512117	171047	Forge Lane Primary	Forge Lane, Hanworth	TW13 6UN	Local government	No	Education facilities	Central Boilers	Natural gas	374.34	-	2,601	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
520136	177596	Grove Park Primary	Nightingale Close, Chiswick	W4 3JN	Local government	No	Education facilities	Central Boilers	Natural gas	298.91	-	1,848	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513110	175201	Grove Road Primary	Cromwell Road, Hounslow	TW3 3QQ	Local government	No	Education facilities	Central Boilers	Natural gas	258.02	-	1,726	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513320	177345	Heston Community School	Heston Road, Heston	TW5 0QR	Local government	No	Education facilities	Central Boilers	Natural gas	2334.67	-	11,354	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513308	177431	Heston Community Sports Hall	Hounslow, Middlesex	TW5 0QZ	Local government	No	Education facilities	Central Boilers	Natural gas	319.78	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512200	175494	Hounslow Heath Infant and Nusery	Martindale Road, Hounslow	TW4 7HE	Local government	No	Education facilities	Central Boilers	Natural gas	338.06	-	2,335	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512374	175491	Hounslow Heath Junior	Selwyn Close, Cambridge Road, Hounslow	TW4 7BD	Local government	No	Education facilities	Central Boilers	Natural gas	246.22	-	2,448	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513987	176000	Hounslow Manor School	Prince Regent Road, Hounslow	TW3 1NE	Local government	No	Education facilities	Central Boilers	Natural gas	1868.13	-	10,727	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514456	175843	Hounslow Town Primary	Pears Road, Hounslow	TW3 1SR	Local government	No	Education facilities	Central Boilers	Natural gas	565.48	-	2,759	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
515308	176984	Isleworth and Syon School	Ridgeway Road, Isleworth	TW7 5LJ	Local government	No	Education facilities	Central Boilers	Natural gas	1017.00	-	9,141	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516139	176282	Isleworth Town Primary	Twickenham Road, Isleworth	TW7 6AB	Local government	No	Education facilities	Central Boilers	Natural gas	270.84	-	2,048	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
515922	174346	Ivybridge Primary	Summerwood Road, Isleworth	TW7 7QB	Local government	No	Education facilities	Central Boilers	Natural gas	8349.01	-	4,070	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513434	176600	Lampton School	Lampton Avenue, Hounslow	TW3 4EP	Local government	No	Education facilities	Central Boilers	Natural gas	728.25	-	10,996	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511658	171082	Lindon Bennett School	Main Street, Feltham	TW13 6ST	Local government	No	Education facilities	Central Boilers	Natural gas	546.31	-	1,683	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
518405	178577	Lionel Primary	Lionel Road North, Brentford	TW8 9QT	Local government	No	Education facilities	Central Boilers	Natural gas	845.70	-	2,828	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509803	173813	Longford Community School	Tachbrook Road, Feltham	TW14 9PE	Local government	No	Education facilities	Central Boilers	Natural gas	3238.07	-	16,816	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509157	174531	Marjory Kinnon School	Hatton Road, Bedfont, Feltham, Middlesex	TW14 9QZ	Local government	No	Education facilities	Central Boilers	Natural gas	1013.75	-	2,761	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516229	176881	Marlborough Primary	Off London Road, via Darcy Road, Isleworth	TW7 5XA	Local government	No	Education facilities	Central Boilers	Natural gas	538.91	-	3,647	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512552	178345	Norwood Green Infant and Nusery	Thorncliffe Road, Southall	UB2 5RN	Local government	No	Education facilities	Central Boilers	Natural gas	232.39	-	1,594	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514918	175753	Oaklands School	Woodlands Road, Isleworth	TW7 6JZ	Local government	No	Education facilities	Central Boilers	Natural gas	310.47	-	1,520	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511993	172056	Oriel Primary	Hounslow Road, Hanworth	TW13 6QQ	Local government	No	Education facilities	Central Boilers	Natural gas	467.20	-	3,456	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
509787	173406	Southville Infant and Nusery	Bedfont Lane, Feltham	TW14 9NP	Local government	No	Education facilities	Central Boilers	Natural gas	533.51	-	3,549	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511139	173878	Sparrow Farm Infant and Nusery	Denham Road, Feltham	TW14 0DB	Local government	No	Education facilities	Central Boilers	Natural gas	173.63	-	1,353	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511338	173818	Sparrow Farm Junior	Sparrow Farm Drive, Feltham	TW14 0DG	Local government	No	Education facilities	Central Boilers	Natural gas	403.97	-	1,422	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
514791	176242	Spring Grove Primary	Star Road, Isleworth	TW7 4HB	Local government	No	Education facilities	Central Boilers	Natural gas	220.69	-	1,448	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512230	177125	Springwell Infant and Nusery	Speart Lane, Heston	TW5 9EF	Local government	No	Education facilities	Central Boilers	Natural gas	466.01	-	1,774	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512360	177029	Springwell Junior	Vicarage Farm Road, Hounslow	TW5 0AG	Local government	No	Education facilities	Central Boilers	Natural gas	248.81	-	1,908	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510644	173014	St Lawrence RC Primary	Victoria Road, Feltham	TW13 4FF	Local government	No	Education facilities	Central Boilers	Natural gas	379.10	-	2,019	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512998	175610	St Marks Catholic School	106 Bath Road, Hounslow, Middlesex	TW3 3EJ	Local government	No	Education facilities	Central Boilers	Natural gas	966.89	-	9,464	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
521084	177989	St Marys RC Primary (Chiswick)	Duke Road, Chiswick	W4 2DF	Local government	No	Education facilities	Central Boilers	Natural gas	239.27	-	1,869	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516294	175817	St Marys RC Primary (Isleworth)	South Street, Isleworth	TW7 7EE	Local government	No	Education facilities	Central Boilers	Natural gas	159.54	-	1,428	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512631	175572	St Michael and St Martin RC Primary	Belgrave Road, Hounslow	TW4 7AG	Local government	No	Education facilities	Central Boilers	Natural gas	370.13	-	2,402	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
517794	177567	St Paul's CE Primary	St Pauls Road, Brentford	TW8 0PN	Local government	No	Education facilities	Central Boilers	Natural gas	227.86	-	1,155	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
519493	177903	Strand on the Green Junior	Thames Road, Chiswick	W4 3NX	Local government	No	Education facilities	Central Boilers	Natural gas	612.32	-	2,320	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
516545	176760	Syon Park School	Twickenham Road, Isleworth	TW7 6AU	Local government	No	Education facilities	Central Boilers	Natural gas	187.63	-	-	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516442	175825	The Blue CE School	North Street, Isleworth, Middlesex	TW7 6RQ	Local government	No	Education facilities	Central Boilers	Natural gas	173.54	-	752	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510500	177353	The Cedars Primary School	High Street, Cranford	TW5 9RU	Local government	No	Education facilities	Central Boilers	Natural gas	191.95	-	1,322	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516419	176928	The Green School	Busch Corner, Isleworth	TW7 5BB	Local government	No	Education facilities	Central Boilers	Natural gas	851.46	-	8,625	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512919	174446	The Heathland School	Wellington Road South, Hounslow	TW4 5JD	Local government	No	Education facilities	Central Boilers	Natural gas	2060.99	-	13,519	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
513024	177772	The Rosary RC Primary	10 The Green, Heston	TW5 0RL	Local government	No	Education facilities	Central Boilers	Natural gas	248.62	-	2,525	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516226	176513	The Smallberry Green School	Turnpike Way, Isleworth	TW7 5BF	Local government	No	Education facilities	Central Boilers	Natural gas	383.32	-	2,969	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
510724	173057	Victoria School	Victoria Road, Feltham	TW13 4AQ	Local government	No	Education facilities	Central Boilers	Natural gas	54.42	-	1,640	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
512823	176312	Wellington Primary	Sutton Lane, Hounslow	TW3 4LB	Local government	No	Education facilities	Central Boilers	Natural gas	271.85	-	2,197	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
521192	178039	William Hogarth Primary	Duke Road, Chiswick	W4 2JR	Local government	No	Education facilities	Central Boilers	Natural gas	751.89	-	3,147	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
515798	176711	Woodbridge Park Educational Service	24 Wood Lane, Isleworth	TW7 5ED	Local government	No	Education facilities	Central Boilers	Natural gas	144.44	-	1,103	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
516484	175406	Worple Primary	Queens Terrace, Isleworth	TW7 7DB	Local government	No	Education facilities	Central Boilers	Natural gas	249.99	-	1,607	-	-	-	-	-	-	2011	-	-	-	No	-	Hounslow	-	-
511145	178386	David Lloyd Racquet & Fitness Club	Southall Lane, Hounslow	TW5 9PE	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521271	176519	Esporta Health Club	Dukes Meadows, London	W4 2SX	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521902	178590	Esporta Health Clubs Ltd	3, Chiswick High Road, London	W4 2ND	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
513567	175779	Golds Gym	29-31, Lampton Road, Hounslow	TW3 1JA	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
516602	175733	La Fitness Ltd	Swan Street, Isleworth	TW7 6RJ	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
511849	172557	Life Centre	Uxbridge Road, Feltham	TW13 5EG	-	No	Sport &	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
							Leisure facilities																				
521267	177323	Life Centre	Edensor Road, London	W4 2RG	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
516604	177687	Topnotch Health Club	1-5, Windsor Close, Brentford	TW8 9DZ	-	No	Sport & Leisure facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
517054	177122	London Cyrenians Housing	97 London Road ,Brentford	TW8 8JQ	Central government	No	Central government estate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
510336	174777	Feltham Fire Station	101 FAGGS ROAD	TW14 0LZ	Other public	No	Fire stations	Assets including CHP	Natural gas	233.45	28	847	0.00	0.2	0.01	0.02	0	1961	2009	-	-	Meters	No	-	Hounslow	-	-
515167	176444	Heston Fire Station	520 LONDON ROAD	TW7 4HR	Other public	No	Fire stations	Individual boilers	Natural gas	364.27	0	1,049	0.00	0.31	0.00	0.00	0	1936	2009	-	-	Meters	No	-	Hounslow	-	-
520280	178258	Chiswick Fire Station	2/4 HEATHFIELD GARDENS	W4 4JY	Other public	No	Fire stations	Assets including CHP	Natural gas	223.82	28	718	0.00	0.19	0.01	0.02	0	1964	2009	-	-	Meters	No	-	Hounslow	-	-
510893	173896	Hounslow Hotel	HOUNSLOW ROAD, FELTHAM	TW140AU	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
510779	173469	St. Giles Hotel	HOUNSLOW ROAD, FELTHAM	TW149AD	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	4969.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
512945	175384	Shalimar Hotel	STAINES ROAD, HOUNSLOW	TW3 3JJ	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	590.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
512362	177737	Thorncliffe Hotel	NORTH HYDE LANE, HOUNSLOW	TW5 0ES	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
513890	174504	South Western Hotel	WHITTON ROAD, HOUNSLOW	TW3 2EP	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
513743	175262	Treaty Lodge Hotel	HANWORTH ROAD, HOUNSLOW	TW3 3TU	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
513567	175779	Continental Hotel	LAMPTON ROAD, HOUNSLOW	TW3 1JA	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
513066	176734	Master Robert Hotel	GREAT WEST ROAD, HOUNSLOW	TW5 0BD	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
515612	177338	The Osterley Four Pillars Hotel	GREAT WEST ROAD, ISLEWORTH	TW7 5NA	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
518396	177843	Travelodge Hotels Ltd	HIGH STREET, BRENTFORD	TW8 0BD	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	1700.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	Benchmarked	-
519613	178461	Chiswick Moran Hotel	CHISWICK HIGH ROAD, LONDON	W4 5RY	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
520941	178561	Shangri-La Hotels & Resorts	FISHERS LANE, LONDON	W4 1RX	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521231	178564	Fouberts Hotel	TURNHAM GREEN TERRACE, LONDON	W4 1QP	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521539	178530	Chiswick Hotel	CHISWICK HIGH ROAD, LONDON	W4 2LS	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521904	178670	Stamford Hotel	GOLDHAWK ROAD, LONDON	W6 0SB	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521596	179022	Chiswick Court Hotel	BATH ROAD, LONDON	W4 1LJ	Private	No	Hotels (> 99 units or 4,999 m2)	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
518783	178064	Kew Bridge Steam Museum	-	TW8 0EN	Private	No	Museums & Art Galleries	-	-	613.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	Benchmarked	-
518604	177932	The Musical Museum	399 High Street, Brentford	TW8 0DU	Private	No	Museums & Art Galleries	-	-	159.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	Benchmarked	-
518269	177686	Watermans Arts Centre	40 High Street, Brentford	TW8 0DS	Private	No	Museums & Art Galleries	-	-	345.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	Benchmarked	-
516346	176341	West Middlesex University Hospital	TWICKENHAM ROAD, ISLEWORTH	TW7 6AF	Other public	No	NHS	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
513710	175730	Hounslow Police Station, Metropolitan Police	MONTAGUE ROAD, HOUNSLOW	TW3 1LB	Other public	No	Police stations	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
521023	178460	Chiswick Police Station 205-207, Metropolitan Police	CHISWICK HIGH ROAD, LONDON	W4 2DU	Other public	No	Police stations	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-

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 (MWel)	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
508870	172052	H M Prison Feltham	FIELD VIEW	TW134RZ	Other public	No	Prisons	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
508996	172409	Hm Yoi & Rc Feltham	BEDFONT ROAD	TW134ND	Other public	No	Prisons	-	Oil	2151.01	-	-	0.00	0.640182	0.00	0.00	628.466	-	1997	-	-	Boiler Sites	No	-	Hounslow	-	-
508996	172409	Hm Yoi & Rc Feltham	BEDFONT ROAD	TW134ND	Other public	No	Prisons	-	Oil	107.55	-	-	0.00	0.032009	0.00	0.00	31.4233	-	1997	-	-	Boiler Sites	No	-	Hounslow	-	-
512013	171488	Bear and Swan	Bear Road, Hanworth	TW13 6RF	Other public	No	Social Housing Estate	Boilers	Natural Gas	1030.00	-	-	-	-	-	-	-	-	2011	-	-	Bills	No	-	Hounslow	Estimated	Estate
513049	175339	Frogley House	Estridge Close, Hounslow	TW3 3QX	Other public	No	Social Housing Estate	Boilers	Natural Gas	515.92	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
512783	175771	Boswood Court	Ede Close, Hounslow	TW3 3EY	Other public	No	Social Housing Estate	Boilers	Natural Gas	814.08	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
517236	177180	Brent Lea (120-171) and Danehurst	Brent Lea, Brentford	TW8 8HY	Other public	No	Social Housing Estate	Boilers	Natural Gas	2238.62	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
513916	176458	Brookwood (2) 57-109, Odd 76-146	Brookwood Road, Hounslow	TW3 4HE	Other public	No	Social Housing Estate	Boilers	Natural Gas	1006.23	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
513834	176445	Brookwood (1) (1-55, 2-74)	Brookwood Road, Hounslow	TW3 4HB	Other public	No	Social Housing Estate	Boilers	Natural Gas	1176.08	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
508645	173711	Burlington House	Burlington Close, Bedfont	TW14 8JU	Other public	No	Social Housing Estate	Boilers	Natural Gas	216.38	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
511993	171978	Oriol Estate	Cottington Road, Hanworth	TW13 6YH	Other public	No	Social Housing Estate	Boilers	Natural Gas	3875.88	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
514885	176209	Star Road (1-27) and Derwent Lodge	Star Road, Isleworth	TW7 4HF	Other public	No	Social Housing Estate	Boilers	Natural Gas	1420.42	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
509627	173665	Edward Pauling House	Westmacott Drive, Feltham	TW14 9RJ	Other public	No	Social Housing Estate	Boilers	Natural Gas	689.42	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
514156	175646	Everglades	Inwood Avenue, Hounslow	TW3 1XF	Other public	No	Social Housing Estate	Boilers	Natural Gas	321.04	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
508395	173498	David Henry Waring Court	Staines Road, Bedfont	TW14 8PE	Other public	No	Social Housing Estate	Boilers	Natural Gas	639.77	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
516656	176809	Fenn House	Lodge Close, Isleworth	TW7 5BS	Other public	No	Social Housing Estate	Boilers	Natural Gas	532.65	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
518272	177809	Griffin Court	Walnut Tree Road,	TW8 0JZ	Other public	No	Social	Boilers	Natural Gas	725.73	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered

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 (MWel)	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
			Brentford				Housing Estate																				Housing Unit
508258	173395	Hatchett Road	Hatchett Road, Feltham	TW14 8DX	Other public	No	Social Housing Estate	Boilers	Natural Gas	760.23	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
512930	175046	Heath Court	Benham Gardens, Hounslow	TW4 5JY	Other public	No	Social Housing Estate	Boilers	Natural Gas	552.04	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510355	173052	Highfields	Lemon Grove, Feltham	TW13 4DH	Other public	No	Social Housing Estate	Boilers	Natural Gas	2839.19	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
512462	177329	Hogarth Court	Cranford Lane, Hounslow	TW5 9ES	Other public	No	Social Housing Estate	Boilers	Natural Gas	586.85	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
514448	175754	Hyde House	103 Pears Road, Hounslow	TW3 1RZ	Other public	No	Social Housing Estate	Boilers	Natural Gas	837.65	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
520802	178635	Jessop House	Kirton Close, Chiswick	W4 5UX	Other public	No	Social Housing Estate	Boilers	Natural Gas	589.00	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
517610	178040	Lambert Lodge	56 Layton Road, Brentford	TW8 0PT	Other public	No	Social Housing Estate	Boilers	Natural Gas	749.27	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
510736	174114	Lavender Court	Becketts Close, Feltham	TW14 0BU	Other public	No	Social Housing Estate	Boilers	Natural Gas	603.00	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
512639	175805	Maitland Close Estate and Cooper House	Maitland Close, Hounslow	TW4 7DR	Other public	No	Social Housing Estate	Boilers	Natural Gas	3169.81	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate and Sheltered Housing Unit
518398	178060	Brentford Towers and Harnage House	Green Dragon Lane, brentford	TW8 0DL	Other public	No	Social Housing Estate	Boilers	Mixed source	6315.15	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
519467	178045	Meadowcroft	Brooks Road, Chiswick	W4 3BD	Other public	No	Social Housing Estate	Boilers	Natural Gas	463.54	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
512668	174997	Midsummer Avenue	Midsummer Avenue, Hounslow	TW4 5BB	Other public	No	Social Housing Estate	Boilers	Natural Gas	2365.65	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510661	173136	New Chapel Square	Victoria Road, Feltham	TW13 4AY	Other public	No	Social Housing Estate	Boilers	Natural Gas	2275.69	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
511676	177194	Norman Crescent, flats 25-55 Odd	Norman Crescent, Heston	TW5 9JR	Other public	No	Social Housing Estate	Boilers	Natural Gas	593.19	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
511717	177131	Norman Crescent, flats 56-	Norman Crescent, Heston	TW5 9JP	Other public	No	Social	Boilers	Natural Gas	445.38	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate

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 (MWel)	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
		106 Even					Housing Estate																				
511655	177026	Norman Crescent, flats 81-139 Odd	Norman Crescent, Heston	TW5 9JN	Other public	No	Social Housing Estate	Boilers	Natural Gas	437.27	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
511695	177020	Norman Crescent, flats 134-192 Even	Norman Crescent, Heston	TW5 9JW	Other public	No	Social Housing Estate	Boilers	Natural Gas	504.81	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
511655	177026	Norman Crescent, flats 141-199 Odd	Norman Crescent, Heston	TW5 9JN	Other public	No	Social Housing Estate	Boilers	Natural Gas	465.38	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510671	173641	Nursery Close	Nursery Close, Feltham	TW14 9BE	Other public	No	Social Housing Estate	Boilers	Natural Gas	300.42	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
512837	175484	Old Farm Close	Old Farm Close, Hounslow	TW4 7AB	Other public	No	Social Housing Estate	Boilers	Natural Gas	498.62	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510090	173596	Owen House	Shore Close, Feltham	TW14 9QE	Other public	No	Social Housing Estate	Boilers	Natural Gas	470.15	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
510875	177469	Cranford Lane (269-347)	Cranford Lane, Heston	TW5 9PH	Other public	No	Social Housing Estate	Boilers	Natural Gas	596.69	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510881	172356	Pinewood Road (1-29, 2-38)	Pinewood Road, Feltham	TW13 7BD	Other public	No	Social Housing Estate	Boilers	Natural Gas	608.77	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
511209	171949	Rectory Court	Fernside Avenue, Hanworth	TW13 7QE	Other public	No	Social Housing Estate	Boilers	Natural Gas	169.58	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
510865	177545	Redwood flats 113-138	Redwood estate, Cranford	TW5 9PP	Other public	No	Social Housing Estate	Boilers	Natural Gas	398.35	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510885	177583	Redwood flats 87-112	Redwood estate, Cranford	TW5 9PW	Other public	No	Social Housing Estate	Boilers	Natural Gas	451.19	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510942	177554	Redwood flats 14-39	Redwood estate, Cranford	TW5 9PL	Other public	No	Social Housing Estate	Boilers	Natural Gas	406.96	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510951	177655	Redwood flats 46-81	Redwood estate, Cranford	TW5 9PN	Other public	No	Social Housing Estate	Boilers	Natural Gas	492.77	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510903	177713	Crane Lodge Road (1-43)	Crane Lodge Road, Cranford	TW5 9PG	Other public	No	Social Housing Estate	Boilers	Natural Gas	253.54	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510828	172428	Sandalwood Road (no.1) 1-57, 2-74	Sandalwood Road, Feltham	TW13 7AY	Other public	No	Social Housing Estate	Boilers	Natural Gas	451.04	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510822	172349	Sandalwood Road (no.2) 59-79, 76-102	Sandalwood Road, Feltham	TW13 7BB	Other public	No	Social Housing Estate	Boilers	Natural Gas	1138.15	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
510220	173338	Southern Avenue	Southern Avenue, Feltham	TW14 9ND	Other public	No	Social Housing Estate	Boilers	Natural Gas	3163.65	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
515739	174695	Ivybridge Estate	Summerwood Road, Isleworth	TW7 7QD	Other public	No	Social Housing Estate	Boilers	Natural Gas	7429.96	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
512042	175035	Sycamore Court	Barrack Road, Hounslow	TW4 6AE	Other public	No	Social	Boilers	Natural Gas	628.81	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered

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 (MWel)	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
							Housing Estate																				Housing Unit
511837	171884	The Hollands	Park Road, Hanworth	TW13 6PQ	Other public	No	Social Housing Estate	Boilers	Natural Gas	1840.00	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
519079	177978	The Maltings	Spring Grove, Chiswick	W4 3NH	Other public	No	Social Housing Estate	Boilers	Natural Gas	313.81	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
512130	175126	Tivoli Road	Tivoli Road, Hounslow	TW4 6AS	Other public	No	Social Housing Estate	Boilers	Natural Gas	2825.65	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
519641	178397	Tomlinson Close	Tomlinson Close, Chiswick	W4 4DR	Other public	No	Social Housing Estate	Boilers	Natural Gas	419.58	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
509336	173228	Watermead Estate	Watermead, Bedfont, Feltham	TW14 8BA	Other public	No	Social Housing Estate	Boilers	Natural Gas	3075.88	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Estate
516399	175862	Wynne Court	Hartland Road, Isleworth	TW7 6RH	Other public	No	Social Housing Estate	Boilers	Natural Gas	728.81	-	-	-	-	-	-	-	-	2011	-	-	Bills	-	-	Hounslow	Estimated	Sheltered Housing Unit
517520	177659	Kew Bridge Road and Thameside Centre	Kew Bridge Road	TW8 0ED	Private	Yes	Social Housing Estate	Assets including CHP	Mixed source	1000.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	308 private dwellings - community gas fired heating system. Provision will be made to link the enery centre9s) within the proposed development, and to connect to a district scheme in the evne of future proposals for an area-wide district heating scheme.	
516327	176355	Former West Middlesex Hospital	Twickenham Road	TW7 6AG	Private	Yes	Social Housing Estate	Boilers	Natural Gas	668.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	206 Private Dwellings. Development includes community gas fired heating in each of the buildings	
516346	176341	Great West Quarter	Great West Road	TW8 9BD	Private	Yes	Social Housing Estate	-	-	2214.45	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow			
512949	175488	Lascar Works Site	Staines Road, Hounslow	TW3 3JL	Private	Yes	Social Housing Estate	Boilers	-	730.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	682 dwellings. CHP for health club and hotel 225 dwellings - biomass fired community heating	
516089	177818	BSkyB	Grant Way, Isleworth	TW7 5QD	Private	Yes	Social Housing Estate	Assets including CHP	Natural Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	Estimated	-
516089	177818	Commerce Road	Commerce Road, Brentford, Middlesex	TW8 8LE	Private	Yes	Social Housing Estate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	Land and buildings at Commerce Road Industrial Estate	

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
517121	177437	Former Car Park And Canteen	Elmwood Avenue	TW13 7AH	Private	Yes	Social Housing Estate	Boilers	Natural Gas	162.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	50 dwellings - Communit heating for the flats on site	
510554	172627	Alfa Lavel Site	Great West Road	TW8 9BU	Private	Yes	Social Housing Estate	Assets including CHP	Natural Gas	668.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Hounslow	206 private dwellings to be built - community heating	

A1.1.2 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
517642	177572	Brentford Police, House & Station	-	-	-	-	CHP sites	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
511145	178386	David Lloyd Club Heston	-	-	-	-	CHP sites	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
510844	173230	Isleworth	-	-	-	-	CHP sites	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
516035	174735	Isleworth Baths	-	-	-	-	CHP sites	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
519441	178393	Brentford Fountain Leisure Centre	-	-	-	-	CHP sites	-	-	-	-	-	-	-	-	-	-	-	No	-	Hounslow	-	-
515800	174883	Mogden Sewage Treatment Works	-	-	-	-	CHP sites	-	-	-	10	16	0	-	-	-	-	-	No	-	Hounslow	-	-

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.