Mayor of London

London Heat Map +

Heat Mapping Study - London Borough of Barking and Dagenham

REP-BarkingandDagenham/01

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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 Barking and Dagenham is one such Borough.

The heat load and supply data used for the London Heat Map has been sourced by the London Borough of Barking and Dagenham 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 Barking and Dagenham, two clusters exhibiting a particularly good level of opportunity has been identified. These are:

- Barking Town Centre, and
- Barking Riverside.

The former, focussed in the Town Centre, has been designated as one the Mayor of London's Energy Action Areas with ambitions to achieve low carbon regeneration of the area. It is formed of a mix of existing and new development buildings, which can achieve very high carbon savings through the connections to DE schemes. Barking Town Centre opportunity area counts of approximately 7,000 new homes planned over the next 15 years.

The latter, Barking Riverside cluster, is a major area of regeneration, and is envisioned to provide a model for sustainable living in the 21st century. The 10,800 homes are planned to be built out over the next 20 years as well as new community and commercial facilities. Also, it is formed of other several industrial parks, nearby where potential private loads may also be interested in connecting to a DE network, enhancing the heat loads diversity of the area.

The Barking Riverside area is situated close to the Barking Power Station, a large source of potential heat, along with the proposed London Thames Gateway Heat Network.

1 Introduction

The London Heat Map was developed through the London Development Agency (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 (DE).

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

- to include 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 DE

This report outlines the potential opportunities for DE in the London Borough of Barking and Dagenham. To compile it, Arup consultant engineers worked in partnership with the London Borough of Barking and Dagenham to carry out the data collection and opportunity analysis.

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 Barking and Dagenham.

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

For the purposes of this report, the term decentralised energy schemes is used with specific reference to district heating network.

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 CO_2 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 emissions[1]; 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, DE is the local or sub-regional supply of energy from a local source. A District Heating (DH) network uses this principle on a district scale and delivers heat generated at an Energy Centre (EC) to local end users via a network.

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

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

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 Agency[2] (LDA) in 2009. The LDA allocated nearly £5 million towards decentralised energy over four years from 2009, with additional support made available through the JESSICA (Joint European Support for Sustainable Investment in City Areas) fund to unlock the development of decentralised energy in London.

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

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

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

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

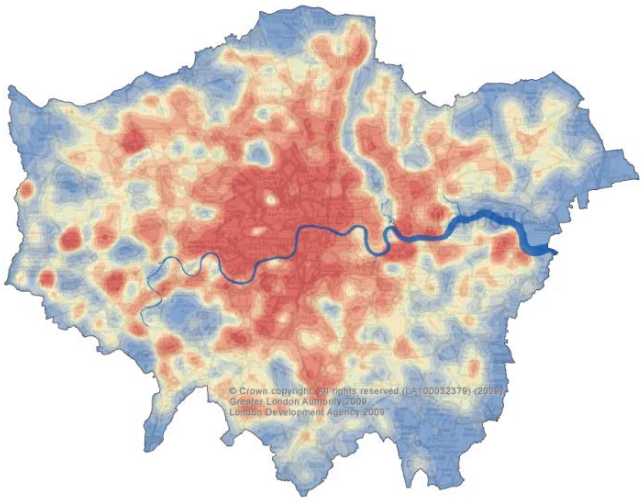

Figure 1: The London Heat Map, as viewable at www.londonheatmap.org.uk

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

The aims of the heat mapping exercise are:

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

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

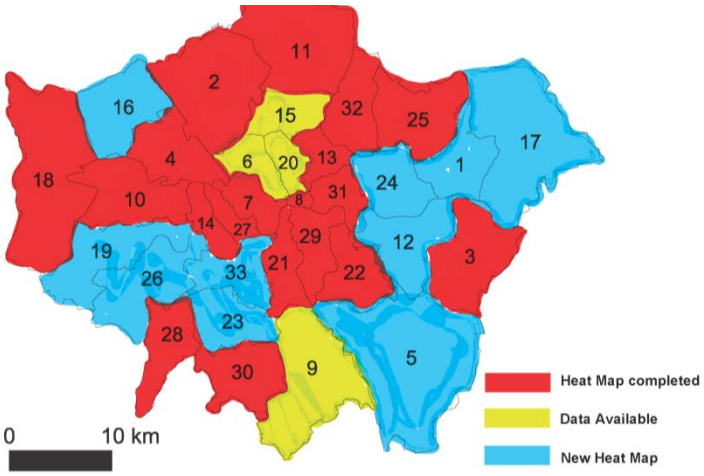

Figure 2: The Heat mapping status of London Boroughs.

Those remaining London Boroughs involved in the second round of completing the London 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
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 greenhouse gas emissions (GHG), 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 The 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 dioxide emissions*

This policy sets out a range of CO_2 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

The Borough is committed to ensuring district heat systems are implemented when viable. The Borough has been working with the GLA on the London Thames Gateway Heat Main Project for a number of years and as a result created the 'Barking Town Centre Energy Action Area Implementation Plan' which requires all Town Centre developments to be able to connect to a district heat main in the future.

Other key developments have been recognised with the potential to connect to a heat main in the future, including Barking Riverside, the largest regeneration project in the Borough. If the London Thames Gateway Heat Main does not eventuate the Borough is able to look at other potential heat load sources in the nearby area.

A focus on sustainable energy and heat main distribution has also been carried through into the Boroughs LDF documents:

Borough Wide Development Policies: Policy BR2: Requires all major and strategic developments in key areas around the Borough to be capable of linking into a district heating system.

Barking Town Centre Area Action Plan: Policy BTC22: The Council will support and, as necessary, facilitate the provision of the underground pipes and other related infrastructure to implement the district heating network as part of the London Thames Gateway Heat Network.

4 Decentralised Energy in London

Following on from the successful DEMaP programme, the GLA is committed to further strategic development of DE 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, and the City, 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" (Figure 3). These can be viewed in more detail on the London Heat Map website by turning on the vision layer.

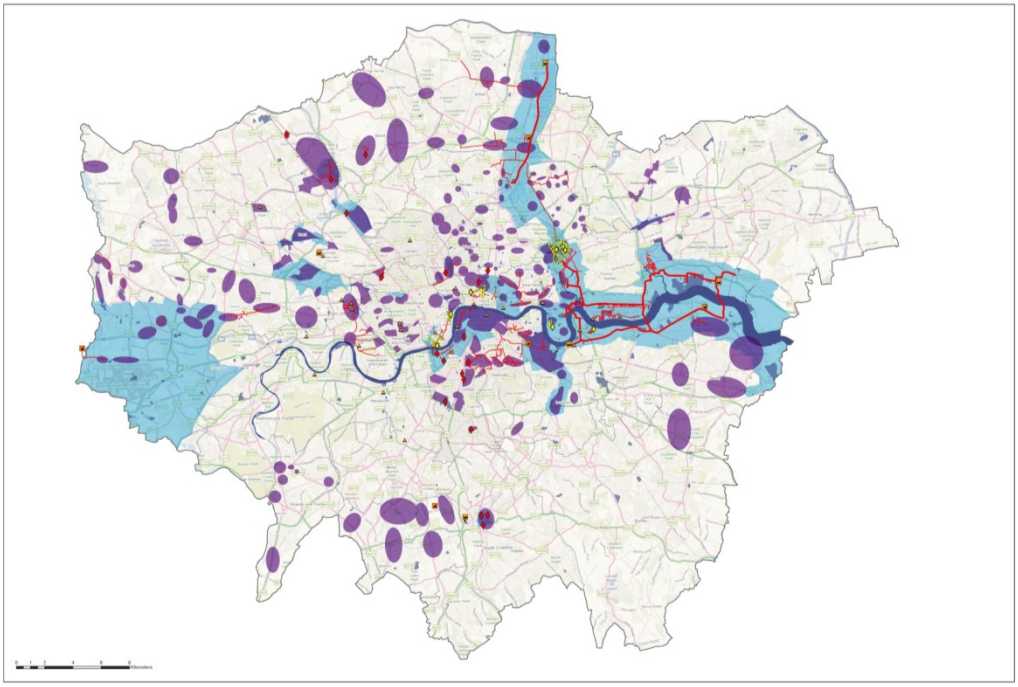

Figure 3: The London Vision Map 2012

5 Methodology

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

The heat mapping process identifies potential DE opportunities in each borough, and where relevant cross-borough opportunities. The process concludes with an implementation plan developed jointly with the London Borough of Barking and Dagenham 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 Phase1: 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 both existing and already planned heat loads, heat supply plants and district heating networks.

Some data points within the London Borough of Barking and Dagenham 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 Barking and Dagenham, 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 **A2**.

An inception meeting was held in the Barking and Dagenham Town Hall on 25th January 2012 with representatives from the London Borough of Barking and Dagenham. The following people attended the meeting:

- Rachael Hookway, Climate Change Apprentice
- Andy Butler, Group Manager Sustainable Communities
- Alison Hall, Senior Professional-Barking Riverside Coordinator
- Sandra Joseph, Energy Manager
- Leeann Kenny, Energy Officer
- Dave Mansfield, Development Management Manager

Following the meeting the London Borough of Barking and Dagenham carried out the data gathering exercise for heat mapping.

The full data set provided is available in Appendix 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 DE schemes both within the London Borough of Barking and Dagenham, 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 reduce the amount of infrastructure required to meet the demand.
- The presence of **existing anchor loads** which could be able to drive a DE network. An anchor load is a heat load that is large, has a relatively constant load profile and is therefore likely to consider entering into a long-term 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 two 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.
- 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 Barking and Dagenham 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 Barking and Dagenham wish to investigate the cluster opportunity further.

Where buildings within an identified cluster had no fuel consumption data, this has been calculated using 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 London Borough of Barking and Dagenham

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

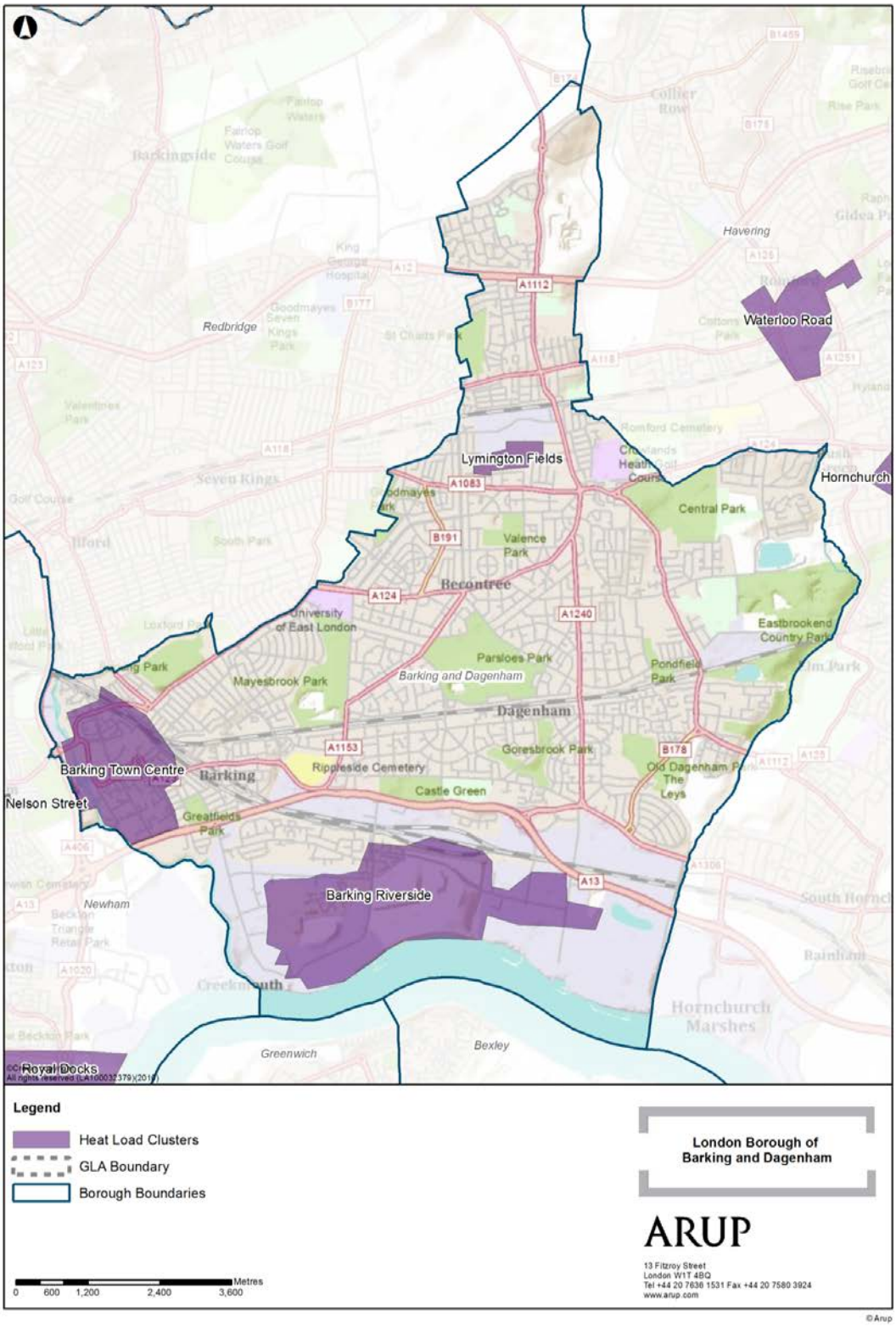

Figure 4: Identified heat clusters for the London Borough of Barking and Dagenham

6.1 Heat Clusters within the London Borough of Barking and Dagenham

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 Barking Town Centre Cluster

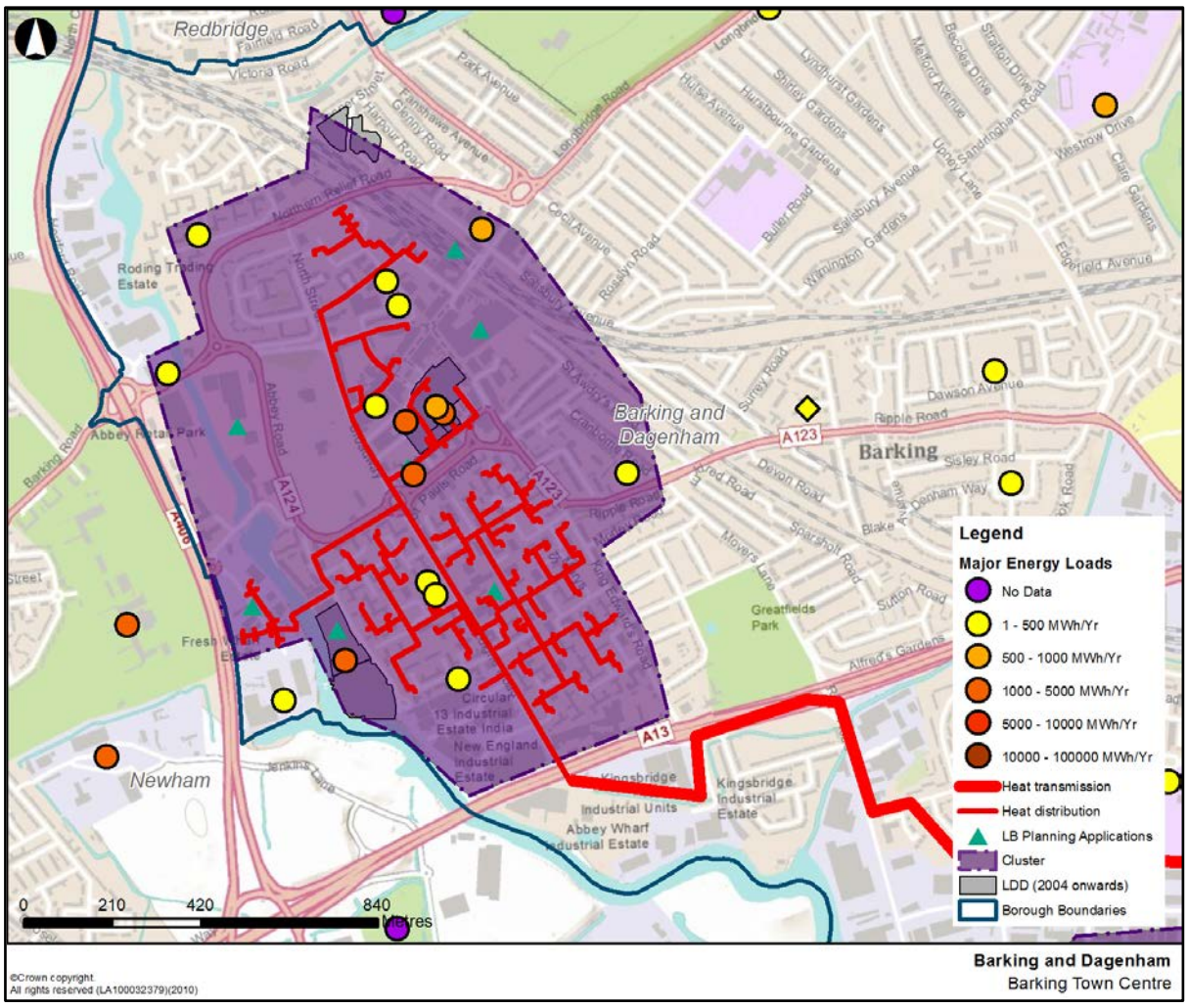

Figure 5: Barking Town Centre Heat Cluster

Barking Town Centre was designated one of the Mayor of London's Energy Action Areas with ambitions to achieve low carbon regeneration of the area. It is a major regeneration area with approximately 7,000 new homes planned over the next 15 years. The Implementation Plan for the Area sets out a strategy for reducing carbon emissions generated by new developments equating to 6,590 tonnes of CO_2 per year. These savings will be achieved through the connection of

new developments to a district heating network, as well as on-site generation of electricity through renewable technologies.

The heat network opportunity has been outlined in detail within the report 'Establishing a community heating network in Barking Town Centre; The technical study and business case', produced by Pöyry for the London Borough of Barking and Dagenham. The report outlines the following areas to connect over an eight-year period up to 2015:

1. The Lintons
2. London Road
3. Freshwharf
4. Gascoigne estate
5. Town Square and Axe Street including the Town Hall and Abbey Sports Centre
6. Station Quarter comprising: Cambridge Road (Higgins scheme); Cambridge Road (Northern end); Roycraft House (not renovated); Red Lion Public House

Figure 6 below shows these areas for connection.

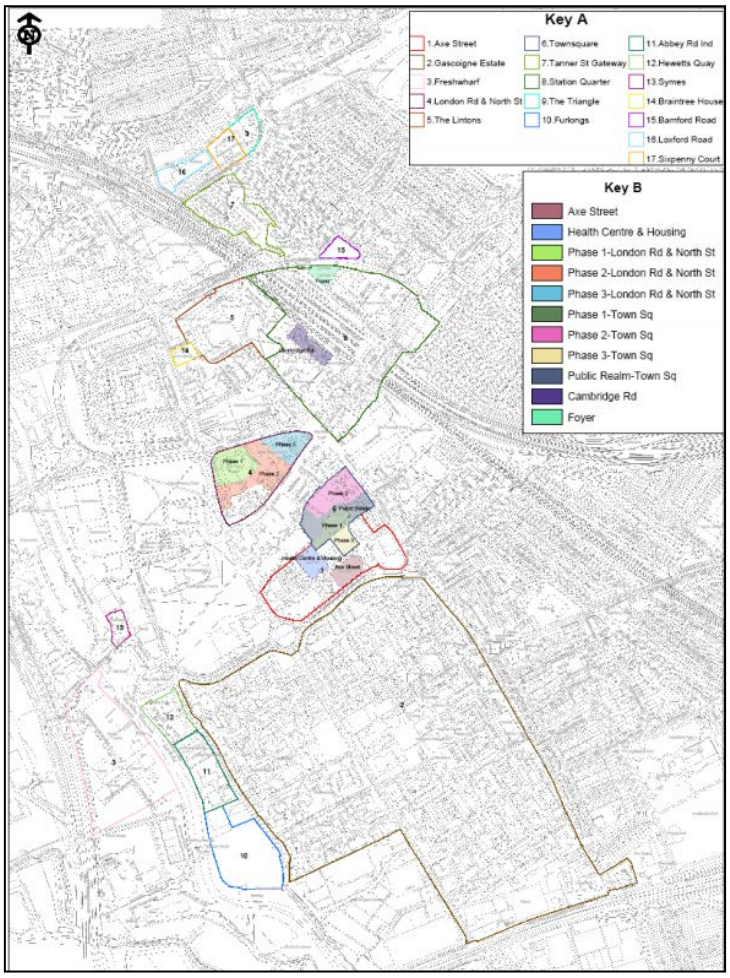

Figure 6: Housing regeneration strategic sites[3]

[3] Establishing a community heating network in Barking town centre; The technical study and business case, London Borough of Barking and Dagenham

Most of these areas are outlined in the current data on the London Heat Map, however a few additional small loads have been identified in this process and are detailed in

Table 1 that may also be suitable for connection to the proposed network. It should also be noted that all of the areas have new developments proposed within them. A number of planning applications have been submitted and Street permission has been granted for Freshwharf, William Street Quarter and parts of Axe. However, for the Gascoigne Estate and Abbey Retail Park no application has yet been submitted.

As previously outlined, new developments offer an opportunity to build out a heat network in conjunction with the development works and also secure heat demand through planning consents. Assuming that those granted permission are already required to be DH ready, it would be beneficial to pursue this trajectory with the remaining developments.

The report outlines Barking Power Station as a potential existing source of heat for the network that would be linked to the Barking Town Centre heat network via the London Thames Gateway Heat Network. A new CHP powered by fuel from the Jenkins Lane Mechanical Biological Treatment Facility in Newham is also suggested. From the London Heat Map there is also a planned CHP facility at Beckton Sewage treatment, just across the border with Newham. This is a possible future energy source with a proposed installed thermal capacity of $10.8MW_{th}$. Depending on how much of this heat will be used for the treatment process there may be some heat available to a possible connection into the network. Alternatively, the treatment processes employed here will be very heat intensive and the plant may also act as an anchor load for the network.

Barking Hospital, not currently identified on the map, lies about a kilometre east of the Town Hall and may also prove to be beneficial as an anchor load for the network. There are also several industrial parks such as the New England Industrial Estate to the south of the cluster and the Barking Abbey Industrial Estate to the west.

The original technical study states that until low carbon heat becomes available from Barking Power Station, local-area heat networks complete with Energy Centres accommodating hot water boilers will be used. Since the plans for Barking Power Station and the London Thames Gateway Heat Network have not yet come to fruition further investigation into heat sources for the proposed opportunity would be required. Barking Town Centre still represents a significant opportunity for decentralised energy development.

Further steps:

- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis, such as Barking Hospital and the nearby retail and industrial parks
- Investigate the possibility for other existing sources of heat, such as the CHP at Beckton Sewage Treatment Works or using the fuel from the Jenkins Lane Treatment plant for a new CHP
- Continue to ensure that new developments in the area are DH ready

- Identify expected heat loads for currently incomplete data
- Keep abreast of developments in the London Thames Gateway Heat Network and the potential to interconnect Barking Town Centre with the riverside developments

Table 1: Existing buildings in Barking Town Centre

Name	**Ownership**	**Typology**	**Fuel Consumption (MWh/yr)**
Abbey Sports Centre	Local government	Sport & Leisure facilities	1,382
Barking Central House	Private	Multi-address buildings	1,120
Town Hall	Local government	Local government estate	1,118
Barking Learning Centre	Local government	Local government estate	613
Roycraft House	Local government	Local government estate	478
Westbury Teacher's Centre	Local government	Local government estate	472
The Maples	Local government	Local government estate	367
80 Gascoigne Road	Local government	Local government estate	367
William Street Quarter Phase 1	Local government	Local government estate	306
Maritime House	Local government	Local government estate	211*
Galleon Community Hall	Local government	Local government estate	96
Bridge House	Local government	Local government estate	55
Abbey Community Hall	Local government	Local government estate	54
Youth Information Shop	Local government	Local government estate	29
Unit 18 Muirhead Quay	Local government	Local government estate	20
		Total fuel consumption	**6,688 MWh/yr**

Table 2: Planned developments in Barking Town Centre

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Gascoigne Estate Phases 1,2 & 3	Other public	Residential – 2150 dwellings (no application submitted)	8,726
Freshwharf	Private	Private residential – 1050 (planning permission granted)	4,262
Abbey Retail Park	Private	Multi address buildings – 1000 dwellings (no application submitted)	4,059
Muirhead Quay	Private	Other public buildings (completed)	3,144*
Barking Station Quarter	Private	Private residential - 600 dwellings (application under consideration)	2,435
98-178 Abbey Road development	Not Available	Residential – 254 dwellings (completed)	1,030
62-96 Abbey Road development	Not Available	Residential - 218 dwellings (submitted)	885
William Street Quarter Phase 2	Local government	Residential - 201 dwellings (planning permission granted)	750*
Vicarage Fields	Private	Multi-address dwellings – 150 dwellings (planning permission granted)	609
Town Square development	Not Available	Commercial – 4505m^2 (completed)	282
Site of the Clevelands	Not Available	Residential – 58 dwellings (completed)	235
Axe Street	Other public	Multi-address buildings – 50 dwellings (part built out)	203
Cultural Industries Park	Other public	Multi-address buildings (planning permission granted)	Not available
		Total fuel consumption	**26,620 MWh/yr**

*calculated from industry standard benchmarks

Table 3: Summary of Existing and New Developments for Barking Town Centre Cluster

Total Fuel Consumption	**33,308 MWh/yr**
Total Estimated Heat Demand	**26,646 MWh/yr**
Estimated Peak Heat Load	**12 MW**

6.1.2 Barking Riverside Cluster

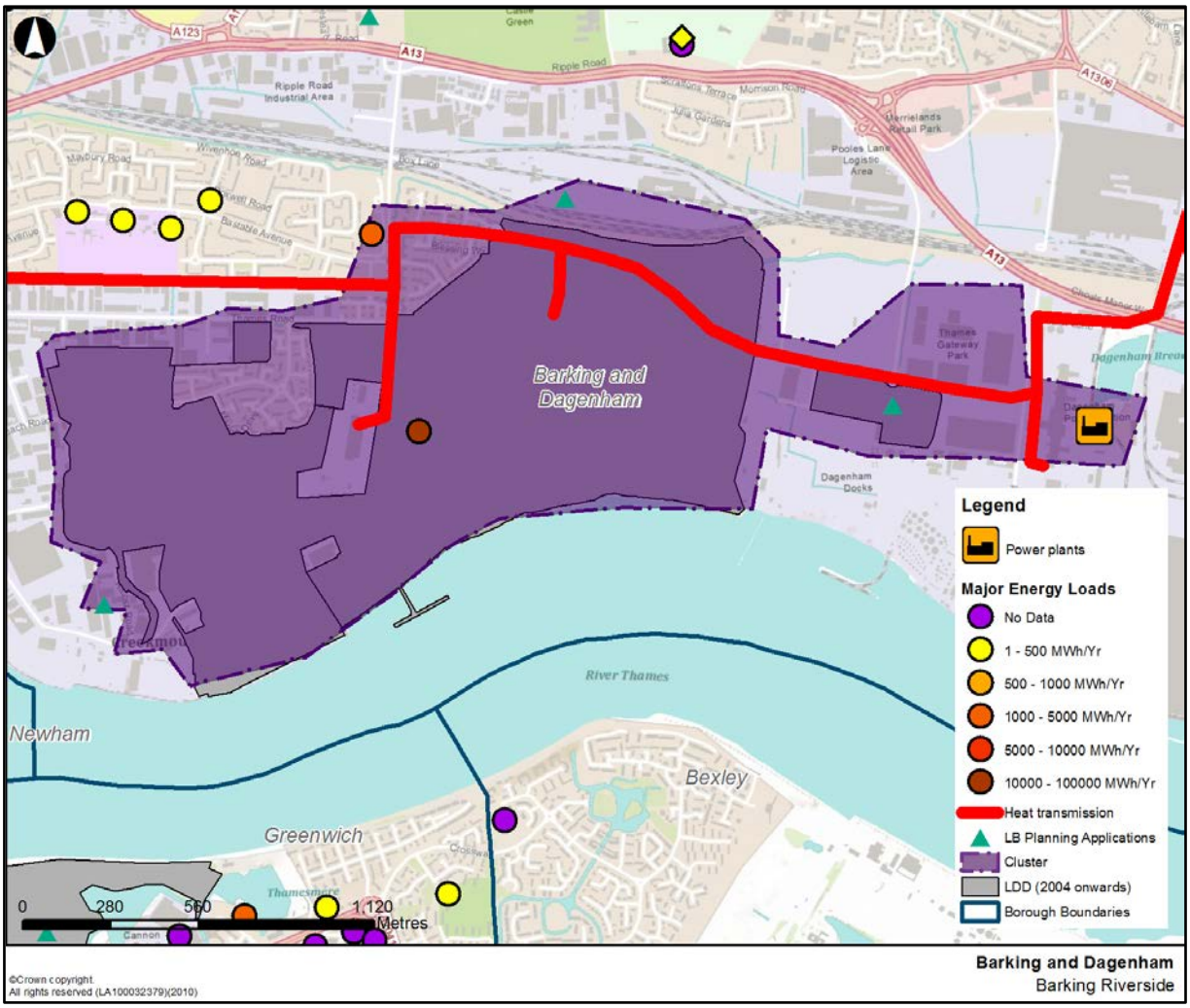

Figure 7: Barking Riverside Cluster

Barking Riverside is a major area of regeneration, and is envisioned to provide a model for sustainable living in the 21st century. The 10,800 homes proposed in stages 1, 2, 3 and 4 (equivalent to approx. 35,074 MWh per year fuel consumption) are planned to be built out over the next 20 years as well as new community and commercial facilities. There are several industrial parks, such as Creekmouth, Ripple Road, Kingsbridge, Abbey Wharf and Dagenham Docks (earmarked as a Sustainable Industries Park) nearby where potential private loads may also be interested in connecting to a network. Connection of these estates would further increase the diversity of the heat loads on the network.

As previously outlined, new developments offer an opportunity to build out a heat network in conjunction with the development works and also secure heat demand through planning consents. Assuming that those granted permission are already required to be DH ready, it would be beneficial to pursue this trajectory with the remaining developments.

The Barking Riverside development area is situated close to the Barking Power Station, a large source of potential heat, and along the proposed London Thames Gateway Heat Network.

With such a large level of regeneration planned it is also feasible to consider the interconnection with the identified Barking Town Centre heat network, approximately 2km away. However, it should be noted that the A13 is a physical constraint that would need considering to achieve this.

Further steps:

- Explore the vicinity for additional public / private loads that have not yet been captured in this analysis, such as the nearby industrial parks
- Continue to ensure that new developments in the area are DH ready
- Keep abreast of developments in the London Thames Gateway Heat Network and the potential to interconnect with Barking Town Centre
- Give consideration to physical constraints such as the A13
- Identify expected heat loads for currently incomplete data

Table 4: Planned developments in Barking Riverside

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Barking Riverside Stage 3&4	Private	Private residential (> 149 units or 9,999 m^2) (no application submitted)	24,401*
Barking Riverside commercial	Private	Private commercial (> 9,999 m^2) (small scale commercial approved)	6,933
Barking Riverside Stage 1	Private	Private residential (> 149 units or 9,999 m^2) (completed)	5,676
Barking Riverside Stage 2	Private	Private residential (> 149 units or 9,999 m^2) (planning permission granted)	4,997
Barking Riverside Secondary School	Local government	Education facilities (no application submitted)	4,175
Eastern End Thames View	Local government	Local government estate (planning permission granted)	1,697
London Sustainable Industries Park	Other public	Multi-address buildings (planning permission granted)	Not available
River Road	Private	Other public buildings	Not available
Tear Drop/Box Lane	Private	Other public buildings (application under consideration)	Not available
		Total fuel consumption	**47,879 MWh/yr**

*calculated from industry standard benchmarks

Table 5: Summary of Existing and New Developments for Barking Riverside Cluster

Total Fuel Consumption	**47,879 MWh/yr**
Total Estimated Heat Demand	**38,303 MWh/yr**
Estimated Peak Heat Load	**17.0 MW**

6.1.3 Lymington Fields Cluster

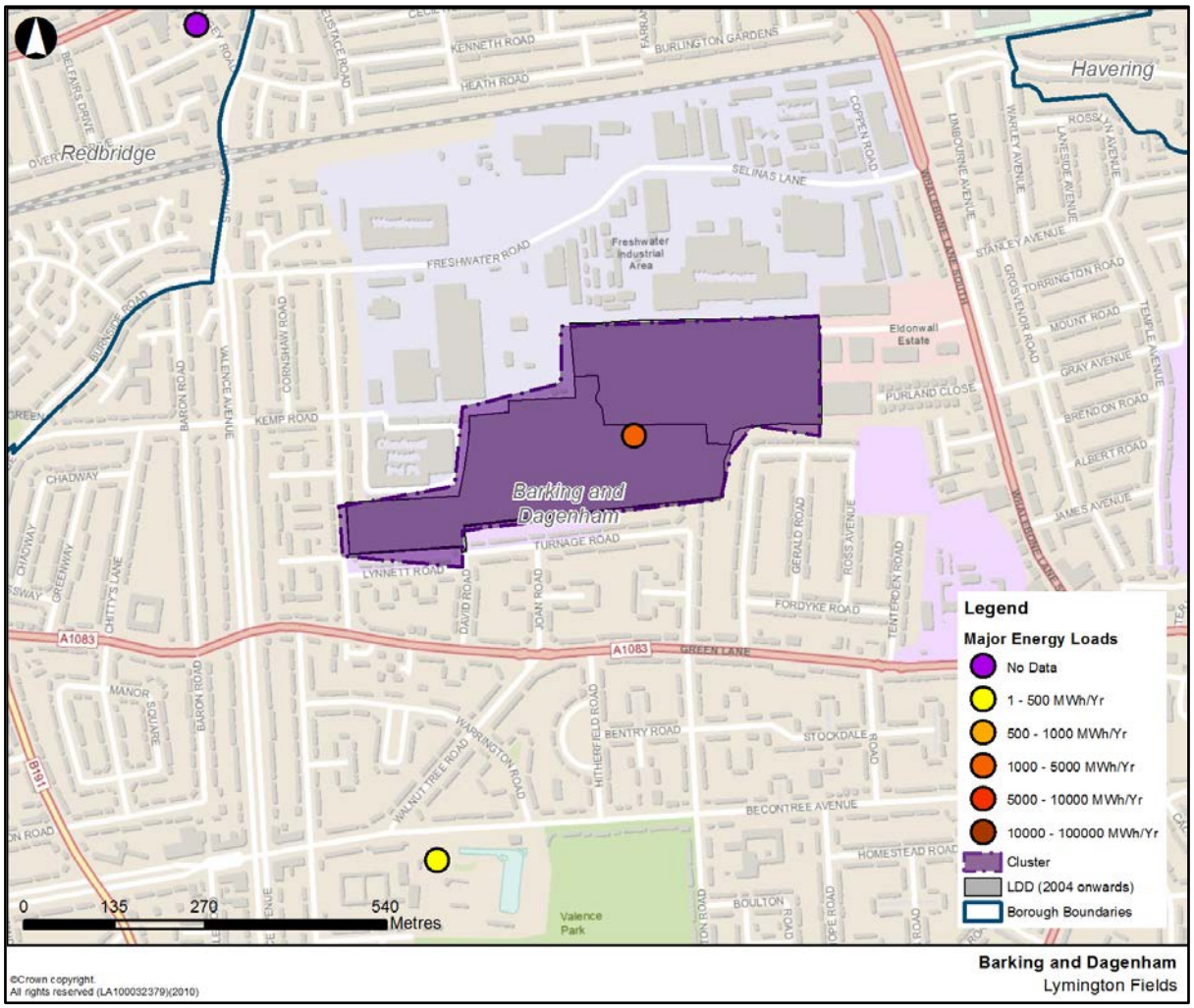

Figure 8: Lymington Fields Cluster

The Lymington Fields cluster is a potential small heat cluster opportunity totalling 2,443 MWh/yr fuel consumption where a new development has been proposed. There are currently no obvious anchor loads in the vicinity and it is unclear whether the development would offer sufficient diversity for a heat network. The new development includes a proposed health facility and school which will contribute to overall diversity. There may also be the potential to connect to the cluster identified at Central Park mentioned in Section 6.1.4. given these opportunities. There is also a large industrial area, Freshwater, to the north of this development where potential private loads may also be interested in connecting to a network; further increasing the diversity of the heat loads.

It should also be noted that there is a large A-road and a railway line that may constrain this cluster in connecting with other clusters and loads, any further investigation should take these into consideration and there may be opportunity to run the network along bridges or tunnels.

Further steps:

- Explore the vicinity for additional public / private demand that has not yet been captured in this analysis, in particular looking for potential anchor loads

- Give consideration to the feasibility of any potential network crossing the railway and the large A-road

Table 6: Planned developments in Lymington Fields cluster

Name	Ownership	Typology	Fuel Consumption (MWh/yr)
Lymington Fields Phase 1&2	Not Available	Residential – 602 dwellings (also new school and health facility not included in calculation)	2,443
		Total fuel consumption	**2,443 MWh/yr**

Table 7: Summary of Existing and New Developments for Lymington Fields Cluster

Total Fuel Consumption	**2,443 MWh/yr**
Total Estimated Heat Demand	**1,955 MWh/yr**
Estimated Peak Heat Load	**0.90MW**

7 Implementation Plan

The Implementation Plan has been developed jointly by Arup and the London Borough of Barking and Dagenham. It identified the priority, constraints and next steps for delivering each cluster.

DE Opportunity Area	Opportunity / Priority	Constraints	Next Steps for delivering DE schemes
Barking Town Centre Cluster	High	Submission of applications for proposed developments	Explore the vicinity for additional public / private loads that have not yet been captured in this analysis, such as Barking Hospital and the nearby retail and industrial parks Investigate the possibility for other existing sources of heat, such as the CHP at Beckton Sewage Treatment Works or using the fuel from the Jenkins Lane Treatment plant for a new CHP Continue to ensure that new developments in the area are DH ready Keep abreast of developments in the London Thames Gateway Heat Network and the potential to interconnect Barking Town Centre with the riverside developments
Barking Riverside Cluster	High	Large A road and the river encapsulate the area Construction of proposed development If not already, the ability to enforce heat network ready development Build out of the London Thames Gateway Heat Network	Explore the vicinity for additional public / private loads that have not yet been captured in this analysis, such as Barking Hospital and the nearby retail and industrial parks Investigate the possibility of the CHP site being used or expanded for any future network development in the cluster, or with the wider London Thames Gateway Heat Network Investigate the possibility of wider build out of the London Thames Gateway Heat Network to interconnect Barking Town Centre with the riverside developments
Lymington Fields Cluster	Low	Lack of anchor load Lack of diversity Railway and A-road border the cluster	Explore the vicinity for additional public / private demand that has not yet been captured in this analysis, in particular looking for potential anchor loads Give consideration to the feasibility of any potential network crossing the railway and the large A-road

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 potential heat load clusters that offer opportunities for the implementation of DH schemes in the London Borough of Barking and Dagenham. These are listed below:

1. Barking Town Centre
2. Barking Riverside
3. Lymington Fields

In addition the borough has a large amount of regeneration planned, where opportunities to link the development of any proposed DE scheme with the planned regeneration would be beneficial. These sites have not been included in the analysis carried out as part of this work as data on the potential energy demands and phasing is not currently available. These sites include Creekmouth to Castle Green where the focus is on improved transport links, residential and industrial developments at Dagenham Dock, Dagenham Dock Interchange and South Dagenham and the London Riverside development opportunity which runs through Barking and Dagenham eastwards out to Havering and Thurrock where 20,000 new homes are to be built. If these sites can be developed to incorporate district heating they may facilitate a network link between the clusters identified at Barking town centre and Barking Riverside.

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.

Appendix A

Populated Template and London Heat Map Heat Load Typologies

A1 Populated template

A1.1 Major Heat Loads

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
549453	186772	2 Stour Road	Dagenham	RM10 7JS	Local government	NO	Local government estate	Individual boilers	Natural gas	198	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548668	185901	202a Halbutt Street	202a Halbutt Street	RM9 5AA	Local government	NO	Local government estate	Individual boilers	Natural gas	102	-	454	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544323	183568	80 Gascoigne Road	80 Gascoigne Road	IG11 7LQ	Local government	NO	Local government estate	Individual boilers	Natural gas	367	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
543777	184393	Abbey Community Hall	Cowbridge Lane	IG11 8LQ	Local government	NO	Local government estate	Individual boilers	Natural gas	54	-	442	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
543869	183939	Abbey Retail Park	Abbey Road, Barking, Essex	IG11 7BL	Private	YES	Multi-address buildings	-	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
544289	183823	Abbey Sports Centre	Axe Street	IG11 7LX	Local government	NO	Sport & Leisure facilities	Individual boilers	Natural gas	1382	-	3972	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548526	185256	Adult College of Barking & Dagenham	Fanshawe Crescent	RM9 5QA	Local government	NO	Education facilities	Individual boilers	Natural gas	615	-	2354	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549216	187076	All Saints RC Comprehensive	Terling Road	RM8 1JT	Local government	NO	Education facilities	Individual boilers	Natural gas	1279	-	10868	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545135	184934	Arden House Register Office	198 Longbridge Road	IG11 8SY	Local government	NO	Local government estate	Individual boilers	Natural gas	87	-	400	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544273	183842	Axe Street	Barking, Essex	IG11 7LX	Other public	YES	Multi-address buildings	-	-	-	-	-	50	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Health centre/residential buildings constructed. Sports centre application awaited
545148	185136	Barking Abbey Comprehensive - Lower	Longbridge Road	IG11 8UF	Local government	NO	Education facilities	Individual boilers	Natural gas	794	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545955	184849	Barking Abbey Comprehensive - Upper	Sandringham Rd	IG11 9AG	Local government	NO	Education facilities	Individual boilers	Natural gas	1505	-	19530	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544361	183969	Barking Central	Cambridge Rd, Barking	IG11 7FL	Private	NO	Multi-address buildings	-	-	1120	-	7000	518	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Estimated from benchmark for mixed use property,

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
																											120kWh/m2
544343	183985	Barking Learning Centre	2 Town Square	IG11 7NB	Local government	NO	Local government estate	Individual boilers	Natural gas	613	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547032	182419	Barking Riverside commercial	Barking Riverside, River Road, Essex	IG11 0GY	Private	Yes	Private commercial (> 9,999 m2)	-	-	6933	-	65000	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	Small scale commercial approved in Rivergate planning application, Estimated using benchmark for new retail fac, 80kWh/m2
547032	182419	Barking Riverside Secondary School	Barking Riverside, River Road, Essex	IG11 0GY	Local government	Yes	Education facilities	-	-	4175	-	20873	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	No application submitted, Estimated using benchmark for existing educational fac, 150kWh/m2
547032	182419	Barking Riverside Stage 1	Barking Riverside, River Road, Essex	IG11 0GY	Private	NO	Private residential (> 149 units or 9,999 m2)	-	-	5676	-	124300	1450	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Real	Estimated assuming unit size of 80m2 and unit energy use, 4870.5kWh/m2
547032	182419	Barking Riverside Stage 2	Barking Riverside, River Road, Essex	IG11 0GY	Private	YES	Private residential (> 149 units or 9,999 m2)	-	-	4997	-	164165	1835	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	Planning permission granted, Estimated assuming unit size of 80m2 and unit energy use, 3247kWh/m2
547032	182419	Barking Riverside Stage 3&4	Barking Riverside, River Road, Essex	IG11 0GY	Private	YES	Private residential (> 149 units or 9,999 m2)	-	-	24401	-	-	7515	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	No application submitted, estimated using 3247kWh/unit
544387	184360	Barking Station Quarter	Station Parade, Town Centre, Barking	IG11 8TU	Private	YES	Private residential (> 149 units or 9,999 m2)	-	-	-	-	-	600	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Cambridge Road – application under consideration.
550218	183278	Beam Primary	Oval Road North	RM10 9ED	Local government	NO	Education facilities	Individual boilers	Natural gas	637	-	4574	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546933	186291	Becontree Children's Centre	Stevens Road	RM8 2QR	Local government	NO	Local government estate	Individual boilers	Natural gas	140	-	521	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546883	186339	Becontree Primary	Stevens Road	RM8 2QR	Local government	NO	Education facilities	Individual boilers	Natural gas	404	-	3051	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549566	184460	Bethal Community Hall	Vicarage Road	RM10 9SD	Local government	NO	Local government estate	Individual boilers	Natural gas	81	-	445	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-

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
543704	184064	Bridge House	150 London Road	IG11 8DA	Local government	NO	Local government estate	Individual boilers	Natural gas	55	-	898	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547823	184083	Cambell Infants School	Langley Crescent Dagenham	RM9 6TD	Local government	NO	Local government estate	Individual boilers	Natural gas	275	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547691	184072	Cambell Junior School	Langley Crescent Dagenham	RM9 4TU	Local government	NO	Local government estate	Individual boilers	Natural gas	523	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
550220	185826	City Learning Centre - Formerly Outdoor Pursuits	Dagenham	RM10 7UR	Local government	NO	Sport & Leisure facilities	Individual boilers	Natural gas	48	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549519	186868	Civic Centre	Wood Lane	RM10 7BN	Local government	NO	Local government estate	Individual boilers	Natural gas	910	-	7971	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544108	183454	Cultural Industries Park	Abby Road, Barking	IG11 7BT	Other public	YES	Multi-address buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Planning permission granted
549090	184574	Dagenham Library	Ripple Road, Barking, Essex	1G11 7PE	Other public	NO	Multi-address buildings	-	-	-	-	-	82	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
549632	183955	Dagenham Park Church of England Secondary School	School Road	RM10 9QH	Local government	NO	Education facilities	Individual boilers	Natural gas	1083	-	22150	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549087	186804	Dagenham Swimming Pool	Althorne Way	RM10 7AY	Local government	NO	Sport & Leisure facilities	Individual boilers	Natural gas	2699	-	6066	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546774	185234	Dorothy Barley Infants	Davington Road	RM8 2LL	Local government	NO	Education facilities	Individual boilers	Natural gas	407	-	2100	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546759	185232	Dorothy Barley Junior	Ivinghoe Road	RM8 2NB	Local government	NO	Education facilities	Individual boilers	Natural gas	314	-	2863	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
550108	185888	Eastbrook Comprehensive	Dagenham Rd	RM10 7UR	Local government	NO	Education facilities	Individual boilers	Natural gas	2396	-	14073	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545031	184517	Eastbury Comprehensive	Rosslyn Road	IG11 9UH	Local government	NO	Education facilities	Individual boilers	Natural gas	1662	-	23067	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545672	184070	Eastbury Infants School	Barking	IG11 9QQ	Local government	NO	Local government estate	Individual boilers	Natural gas	191	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
545711	183804	Eastbury Manor House	Eastbury Square	IG11 9SN	Local government	NO	Museums & Art Galleries	Individual boilers	Natural gas	220	-	1254	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
545717	184103	Eastbury Primary	Dawson Avenue	IG11 9QQ	Local government	NO	Education facilities	Individual boilers	Natural gas	140	-	6650	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-

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
546883	183052	Eastern End Thames View	Crouch Avenue, Barking	IG11 0QZ	Local government	YES	Local government estate	-	-	1697	-	25460	276	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Real	Estimated using benchmark for new office, 50kWh/m2
548841	185368	Fanshawe Community Complex (Hall & Library)	Barnmead Road	RM9 5DU	Local government	NO	Local government estate	Central Boilers	Natural gas	309	-	997	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547581	189218	Fews Lodge	75 Gregory Road	RM6 5RU	Local government	NO	Local government estate	Individual boilers	Natural gas	949	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548829	186204	Five Elms Primary	Wood Lane	RM9 5TB	Local government	NO	Education facilities	Individual boilers	Natural gas	540	-	2598	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549366	184425	Ford Road Children's Centre	Ford Road	RM10 9JS	Local government	NO	Local government estate	Individual boilers	Natural gas	99	-	265	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
543905	183511	Freshwharf	Highbridge Road, Barking, Essex	IG11 7BP	Private	YES	Private residential (> 149 units or 9,999 m2)	-	-	-	-	-	1050	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Planning permission granted
549558	186625	Frizlands Depot and Offices	Rainham Road North	RM10 7HX	Local government	NO	Local government estate	Individual boilers	Natural gas	1416	-	1137	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548360	188009	Furze Children's Centre	1a Farrance Road	RM6 6EB	Local government	NO	Local government estate	Individual boilers	Natural gas	92	-	515	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548386	187999	Furze Infants	Bennett Road	RM6 6ES	Local government	NO	Education facilities	Individual boilers	Natural gas	32	-	2086	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544396	183337	Galleon Community Hall	Boundary Road West	IG11 7JR	Local government	NO	Local government estate	Individual boilers	Natural gas	96	-	515	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544481	183547	Gascoigne Phase 1	Gascoigne Road	IG11 7DR	Other public	YES	Local government estate	-	-	-	-	-	2150	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
544481	183547	Gascoigne Phase 2	Gascoigne Road	IG11 7DR	Other public	YES	Local government estate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
544481	183547	Gascoigne Phase 3	Gascoigne Road	IG11 7DR	Other public	YES	Local government estate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
544456	183548	Gascoigne Primary	Gascoigne Road	IG11 7DR	Local government	NO	Education facilities	Individual boilers	Natural gas	906	-	5695	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-

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
548410	188015	Godwin Primary	Finnymore Road	RM9 6JH	Local government	NO	Education facilities	Individual boilers	Natural gas	456	-	3077	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547876	183658	Goresbrook Leisure Centre	Goresbrook Road	RM9 6XW	Local government	NO	Sport & Leisure facilities	Assets including CHP	-	-	5347	9613	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546872	183748	Goresbrook Village	Maplestead Road, Dagenham, Essex	RM9 4XY	Other public	YES	Local government estate	-	-	-	-	-	300	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
548506	186607	Grafton Infants	Grafton Road	RM8 3EX	Local government	NO	Education facilities	Central Boilers	Natural gas	600	-	1551	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548506	186607	Grafton Junior	Grafton Road	RM8 3EX	Local government	NO	Education facilities	Central Boilers	Natural gas	-	-	2294	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549761	184470	Grays Court	John Parker Close	RM10 9SR	Local government	NO	Local government estate	Individual boilers	Natural gas	163	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549310	186270	Heath Park Community Hall	Rusholme Avenue	RM10 7PR	Local government	NO	Local government estate	Individual boilers	Natural gas	68	-	505	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549024	186064	Heathlands Centre	Heathway	RM10 7SE	Local government	NO	Local government estate	Individual boilers	Natural gas	287	-	1542	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548991	185880	Heathway Offices	512a Heathway	RM10 7SL	Local government	NO	Local government estate	Individual boilers	Natural gas	86	-	902	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547578	186919	Henry Green Primary	Green Lane	RM8 1UR	Local government	NO	Education facilities	Individual boilers	Natural gas	422	-	2555	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
550448	184135	House Ley's Primary School	Leys Avenue	RM10 9YR	Local government	NO	Education facilities	Individual boilers	Natural gas	410	-	96	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548776	184890	House Parsloes Primary	Spurling Road	RM9 5RH	Local government	NO	Education facilities	Individual boilers	Natural gas	350	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547369	185619	House Roding Primary & St. Teresa Primary	21 Bowes Road	RM8 2XJ	Local government	NO	Education facilities	Individual boilers	Natural gas	601	-	80	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549612	185255	Hunters Hall Primary	Alibon Road	RM10 8DE	Local government	NO	Education facilities	Individual boilers	Natural gas	565	-	3386	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547589	183746	Jo Richardson Community School	Castle Green, Gale Street	RM9 4UN	Local government	NO	Education facilities	Individual boilers	Natural gas	1600	-	23076	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
550732	184787	John Perry Children's Centre	Auriel Avenue	RM10 8BS	Local government	NO	Local government estate	Individual boilers	Natural gas	70	-	514	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-

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
550676	184737	John Perry Primary	Charles Road	RM10 8UR	Local government	NO	Education facilities	Individual boilers	Natural gas	711	-	3096	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547573	189259	Kallar Lodge Residential Home	Gregory Road	RM6 5JJ	Local government	NO	Local government estate	Individual boilers	Natural gas	949	-	2390	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
550442	184048	Leys Children's Centre	Wellington Drive	RM10 9XW	Local government	NO	Local government estate	Individual boilers	Natural gas	85	-	635	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
550336	184220	Leys Estate	Leys Avenue, Dagenham, Essex	RM10 9YR	Other public	YES	Local government estate	-	-	-	-	-	200	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
545935	184701	London Road/North Street	Westrow Drive, Barking	IG11 9BL	Other	YES	Multi-address buildings	-	-	585	-	6500	90	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Application under consideration, Estimated from benchmark for mixed use property, 120kWh/m2
548551	182504	London Sustainable Industries Park	Choats Road Dagenham	RM9 6LF	Other public	YES	Multi-address buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Planning permission granted, No full address and postcode as it is a relatively new development and has not applied for an address yet. - SA addded postcode 21/02/12
548313	187204	Lymington Fields	Lymington Road, Dagenham	RM8 1RP	Other public	NO	Private residential (> 149 units or 9,999 m2)	-	-	-	-	-	1054	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
545894	184847	Manor Infants	Sandringham Road	IG11 9AG	Local government	NO	Education facilities	Central Boilers	Natural gas	-	-	6836	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545827	184731	Manor Junior	Sandringham Road	IG11 9AG	Local government	NO	Education facilities	Central Boilers	Natural gas	631	-	2806	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544253	184225	Maritime House	1 Linton Road	IG11 8HG	Local government	NO	Local government estate	Individual boilers	Natural gas	211	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	Arup benchmarks
548418	188858	Marks Gate	Whalebone Lane North	RM6 5QX	Other public	YES	Local government estate	-	-	-	-	-	300	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted
548081	189545	Marks Gate Community Complex (Hall, Library & Adult College)	Rose Lane	RM6 5NJ	Local government	NO	Local government estate	Central Boilers	Natural gas	78	-	666	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548197	189548	Marks Gate Infants	Lawn Farm Grove	RM6 5LL	Local government	NO	Education facilities	Individual boilers	Natural gas	211	-	1652	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-

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
548068	189608	Marks Gate Junior	Rose Lane	RM6 5NJ	Local government	NO	Education facilities	Individual boilers	Natural gas	422	-	1992	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549364	183557	Marsh Green Primary	South Close	RM10 9NJ	Local government	NO	Education facilities	Individual boilers	Natural gas	316	-	1749	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546615	185057	Mayesbrook Park Leisure Centre	Lodge Avenue, Barking, Essex	RM8 2JR	Private	NO	Sport & Leisure facilities	-	-	3926	-	8922	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546805	183915	Monteagle Primary	Burnham Road	RM9 4RD	Local government	NO	Education facilities	Individual boilers	Natural gas	633	-	3835	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544127	183381	Muirhead Quay	Highbridge Road, Barking	IG11 7GP	Private	YES	-	-	-	3144	-	19647	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	Built out
543999	184526	Northbury Infants	North Street	IG11 8JA	Local government	NO	Education facilities	Central Boilers	Natural gas	892	-	2496	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544013	184537	Northbury Junior	North Street	IG11 8JA	Local government	NO	Education facilities	Central Boilers	Natural gas	-	-	3372	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548776	184890	Parsloes Primary	Spurling Road	RM9 5RH	Local government	NO	Education facilities	Individual boilers	Natural gas	350	-	2242	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549229	185429	Richard Alibon Primary	Alibon Road	RM10 8DF	Local government	NO	Education facilities	Individual boilers	Natural gas	494	-	3001	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545127	183930	Ripple Primary	Suffolk Road	IG11 7QS	Local government	NO	Education facilities	Individual boilers	Natural gas	515	-	8644	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544798	183827	Ripple Primary	225 Ripple Road	IG11 7FP	Local government	NO	Education facilities	Individual boilers	Natural gas	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546025	181865	River Road	River Road, Barking	IG11 0SW	Private	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	?
546364	183158	Riverside - Vacant (former residential home)	Roxwell Road	IG11 0PR	Local government	NO	Local government estate	Individual boilers	Natural gas	399	-	1953	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548823	186948	Robert Clack Comprehensive - Lower	Green Lane	RM8 1AL	Local government	NO	Education facilities	Individual boilers	Natural gas	747	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549400	187066	Robert Clack Comprehensive - Upper	Gosfield Road	RM8 1JU	Local government	NO	Education facilities	Individual boilers	Natural gas	1334	-	19857	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548608	188149	Robert Jeyes Library (Whalebone)	High Road	RM6 6AS	Local government	NO	Local government estate	Individual boilers	Natural gas	125	-	476	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547506	185510	Roding Primary	Hewett Road	RM8 2XS	Local government	NO	Education facilities	Individual boilers	Natural gas	601	-	7614	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544224	184283	Roycraft House	15 Linton Road	IG11 8HE	Local	NO	Local	Individual	Natural gas	478	-	4195	-	-	-	-	-	-	-	-	-	-	No	-	Barking and	-	-

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
					government		government estate	boilers																	Dagenham		
550988	187152	Rush Green Infants	Dagenham Road	RM7 OTL	Local government	NO	Education facilities	Central Boilers	Natural gas	261	-	1721	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
551000	187214	Rush Green Junior	Dagenham Road	RM7 ORL	Local government	NO	Education facilities	Central Boilers	Natural gas	137	-	2369	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
550931	187206	Rush Green Library	Dagenham Road	RM7 0TL	Local government	NO	Local government estate	Individual boilers	Natural gas	4	-	88	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547691	186280	Seabrook House	22 Shipton Close	RM8 3QR	Local government	NO	Local government estate	Individual boilers	Natural gas	387	-	388	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546085	183094	Seagulls Neighbourhood Nursery	Barking	IG11 OLG	Local government	NO	Local government estate	Individual boilers	Natural gas	109	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548093	185825	Southwood Primary	Keppel Road	RM9 5LT	Local government	NO	Education facilities	Individual boilers	Natural gas	385	-	2245	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548649	185652	St George's Day Centre	Dagenham	RM9 5AR	Local government	NO	Local government estate	Individual boilers	Natural gas	737	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544138	183753	St Josephs RC (Barking)	The Broadway	IG11 7AR	Local government	NO	Education facilities	Individual boilers	Natural gas	128	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548703	185822	St Josephs RC (Dagenham)	Connor Road	RM9 5UL	Local government	NO	Education facilities	Individual boilers	Natural gas	362	-	-	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544043	184012	St Margarets Church of England Primary	North Street	IG11 8AS	Local government	NO	Education facilities	Individual boilers	Natural gas	299	-	2440	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
548837	183622	St Peters RC Primary	Goresbrook Rd	RM9 6UU	Local government	NO	Education facilities	Individual boilers	Natural gas	356	-	2655	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547206	186684	St Vincents RC Primary	Burnside Road	RM8 2JN	Local government	NO	Education facilities	Individual boilers	Natural gas	266	-	1491	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549402	186770	Stour Road Office Complex	Stour Road	RM10 7JB	Local government	NO	Local government estate	Central Boilers	Natural gas	198	-	3521	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546085	183094	Sue Bramley Centre	Bastable Avenue	IG11 0LG	Local government	NO	Local government estate	Individual boilers	Natural gas	114	-	873	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546239	183070	Sue Bramley Children's Centre	Bastable Avenue	IG11 0LG	Local government	NO	Local government estate	Individual boilers	Natural gas	114	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-

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
547958	185472	Sydney Russell Comprehensive	Parsloes Ave	RM9 5QT	Local government	NO	Education facilities	Individual boilers	Natural gas	1712	-	24601	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547500	183166	Tear Drop/Box Lane	Barking	IG11	Private	YES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Application under consideration
546895	185029	Ted Ball Community Hall	Neasham Road	RM8 2LU	Local government	NO	Local government estate	Individual boilers	Natural gas	124	-	439	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
550489	184000	Teresa Greene Community Hall	Leys Avenue	RM10 9YP	Local government	NO	Local government estate	Individual boilers	Natural gas	62	-	430	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
545939	183121	Thames View Community Hall	Bastable Avenue	IG11 OLN	Local government	NO	Local government estate	Individual boilers	Natural gas	40	-	413	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
546167	183069	Thames View Infants	Bastable Ave	IG11 OLG	Local government	NO	Education facilities	Central Boilers	Natural gas	427	-	2567	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
545972	183054	Thames View Junior	Bastable Ave	IG11 OLG	Local government	NO	Education facilities	Central Boilers	Natural gas	496	-	2625	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546880	184090	The Acorns Centre	220 Stamford Road	RM9 4EL	Local government	NO	Local government estate	Individual boilers	Natural gas	17	-	125	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544342	183538	The Maples	80a Gascoigne Road	IG11 7LQ	Local government	NO	Local government estate	Individual boilers	Natural gas	367	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547792	184148	The Tution Centre	Dagenham	RM9 6TD	Local government	NO	Local government estate	Individual boilers	Natural gas	99	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547047	186308	The Vibe Youth Centre	195-211 Becontree Avenue	RM8 2UT	Local government	NO	Local government estate	Individual boilers	Natural gas	56	-	981	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548934	184158	Thomas Arnold Primary	Rowdowns Road	RM9 6NH	Local government	NO	Education facilities	Individual boilers	Natural gas	601	-	2959	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544270	183949	Town Hall	1 Town Square	IG11 7LU	Local government	NO	Local government estate	Individual boilers	Natural gas	1118	-	8793	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549115	185953	Trinity School	Heathway	RM10 7SJ	Local government	NO	Education facilities	Individual boilers	Natural gas	1319	-	6946	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
546636	185605	UEL/Academy Central	Longbridge Road, Barking, Essex	IG11 9BY	Private	NO	Private residential (> 149 units or 9,999 m2)	-	-	-	-	-	1042	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	No application submitted

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
543981	183286	Unit 18 Muirhead Quay	Fresh Wharf Estate - Highbridge Road	IG11 7BG	Local government	NO	Local government estate	Individual boilers	Natural gas	20	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548019	186568	Valence Library	Becontree Avenue	RM8 3HT	Local government	NO	Local government estate	Individual boilers	Natural gas	167	-	701	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547910	186525	Valence Primary School	Bonham Road	RM8 3AR	Local government	NO	Education facilities	Individual boilers	Natural gas	524	-	8751	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544447	184169	Vicarage Fields	Ripple Road, Barking, Essex	IG11 8DQ	Private	YES	Multi-address buildings	-	-	-	-	-	150	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	Planning permission granted
549467	184261	Village Infants	Ford Road	RM10 9JS	Local government	NO	Education facilities	Individual boilers	Natural gas	236	-	1328	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549467	184261	Village Infants	Dagenham	RM10 9JS	Local government	NO	Education facilities	Individual boilers	Natural gas	236	-	90	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549848	185954	Wantz Community Complex (Hall & Library)	Rainham Road North	RM10 7DX	Local government	NO	Local government estate	Central Boilers	Natural gas	262	-	970	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549594	185447	Wantz Depot / Pondfield House	Dagenham	RM10 8PZ	Local government	NO	Local government estate	Central Boilers	Natural gas	18	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548507	188626	Warren Comprehensive	Whalebone Lane North	RM6 6SB	Local government	NO	Education facilities	Individual boilers	Natural gas	2164	-	10787	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
547996	188801	Wellgate Children's Centre	119 Rose Lane	RM6 5NR	Local government	NO	Local government estate	Individual boilers	Natural gas	90	-	462	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544798	183827	Westbury Teacher's Centre	Barking	IG11 7NF	Local government	NO	Local government estate	Individual boilers	Natural gas	472	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549452	186676	William Bellamy Infants	Frizlands Lane	RM10 7EX	Local government	NO	Education facilities	Central Boilers	Natural gas	475	-	2347	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549455	186571	William Bellamy Junior	Frizlands Lane	RM10 7HX	Local government	NO	Education facilities	Central Boilers	Natural gas	277	-	2144	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
549453	184187	William Ford CE Junior	Ford Road	RM10 9JS	Local government	NO	Education facilities	Individual boilers	Natural gas	281	-	2488	-	-	-	-	-	-	-	-	-	-	Yes	-	Barking and Dagenham	-	-
544451	184406	William Street Quarter Phase 1	Anne Mews, Barking	IG11 8GH	Local government	NO	Local government estate	-	-	307	-	3410	31	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Real	Estimated using benchmark for new office 50kWh/m2
544451	184406	William Street Quarter Phase 2	Linton Road, Barking	IG11 8GH	Local government	Yes	Local government	-	-	750	-	20000	201	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	Estimated	Planning permission granted, Estimated using benchmark for existing

OXS	OYS	Name	Address	Postcode	Ownership	New Development	Typology	Heating supply	Fuel source	Fuel consumption: all assets exc. CHP (MWh/yr)	Fuel consumption: CHP (MWh/yr)	Gross internal floor area (m2)	Number of dwellings	Installed thermal capacity: all assets exc. CHP (MWth)	CHP installed electrical capacity (MWe)	CHP installed thermal capacity (MWth)	CO2 emissions (tCO2/yr)	Year of Construction	Year of data collection	Start date	Completion date	Data Source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
							estate																				office 120kWh/m2
549862	186302	Woodlands (Children's Resouce Centre)	Rainham Road North	RM10 7ER	Local government	NO	Local government estate	Individual boilers	Natural gas	99	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549862	186302	Woodlands Hostel for Girls	Dagenham	RM10 7ER	Local government	NO	Sport & Leisure facilities	Individual boilers	Natural gas	99	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547511	184367	Woodward Road - Julia Engwell Clinic	Dagenham	RM9 4SJ	Local government	NO	Local government estate	Individual boilers	Natural gas	45	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547482	184362	Woodward Road Contact Centre	Woodward Road	RM9 4SP	Local government	NO	Local government estate	Individual boilers	Natural gas	31	-	488	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
544200	183986	Youth Information Shop	20 East Street	IG11 8EU	Local government	NO	Local government estate	Individual boilers	Natural gas	29	-	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-

A1.2 Major Heat Supply Plants

OXS	OYS	Name	Plant Address	Postcode	Ownership	New development	Typology	Fuel source	Fuel consumption: all assets inc. CHP (MWh/yr)	Heat generation: all assets inc CHP (MWh/yr)	Installed thermal capacity: all assets inc. CHP (MWth)	Installed power: all assets inc CHP (MWe)	CO2 emissions (tCO2/yr)	Date of Construction	Year of data collection	Start date	Completion date	Data source	Confidentiality of data	Attach file	Borough	Real or estimated data?	Notes
549073	182462	Barking Power Station	Chequers Lane, Dagenham, Essex	RM9 6PF	-	No	Power plants	Natural Gas	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
548352	182905	Cyclomax	Chequers Lane, Dagenham, Essex	RM9 6RJ	-	No	Energy from waste plants	-	-	-	-	-	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
549087	186804	Dagenham Swimming Pool	-	-	-	-	CHP Site	-	-	-	0.15	0.09	-	-	-	-	-	-	No	-	Barking and Dagenham	-	-
547875	183679	GORESBROOK LEISURE CENTRE	-	-	-	-	CHP sites	-	0	0	0.09	0.15	0	-	-	-	-	-	No	-	Barking and Dagenham	-	-
545226	183981	BECKTON SEWAGE TREATMENT WORKS	-	-	-	Yes	CHP sites	-	0	0	10.80	69.00	0	-	-	-	-	-	No	-	Barking and Dagenham	-	-

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.