

4. Data analysis

The outputs detailed above were reviewed with the aim to identify a list of sites with the potential for development of district heating networks. The analysis was based on a series of relevant criteria and was discussed with a number of stakeholders to ensure that the implementation plan was developed only for the most relevant sites.

4.1. Prioritisation criteria

The complexity of delivering a district heating network means that the selection of priority sites has to be based on technical viability, but also on financial viability and practical delivery issues. Table 5 shows the criteria that have been considered during the analysis of the data collected.

Technical viability criteria	Financial viability criteria	Deliverability criteria
- Size of heat loads - Type of building - Proximity to other high potential buildings - Phasing of development - Potential for extension of network	- Ownership of building - Financial delivery mechanisms - Length of pipe work - Potential for extension of network - Presence of existing Energy Services Companies (ESCos)	- For existing buildings – Proposals and extent of refurbishment - For new buildings – Proposals for energy strategy - Timescales and phasing of proposed refurbishment/development - Practical barriers to district network installation (e.g. railways, utilities)

Table 5: Site prioritisation criteria for district heating

The above criteria were used to review the maps in Figure 5, Figure 6 and Figure 7 and a number of sites were identified as of potential interest. These are shown in Figure 9.

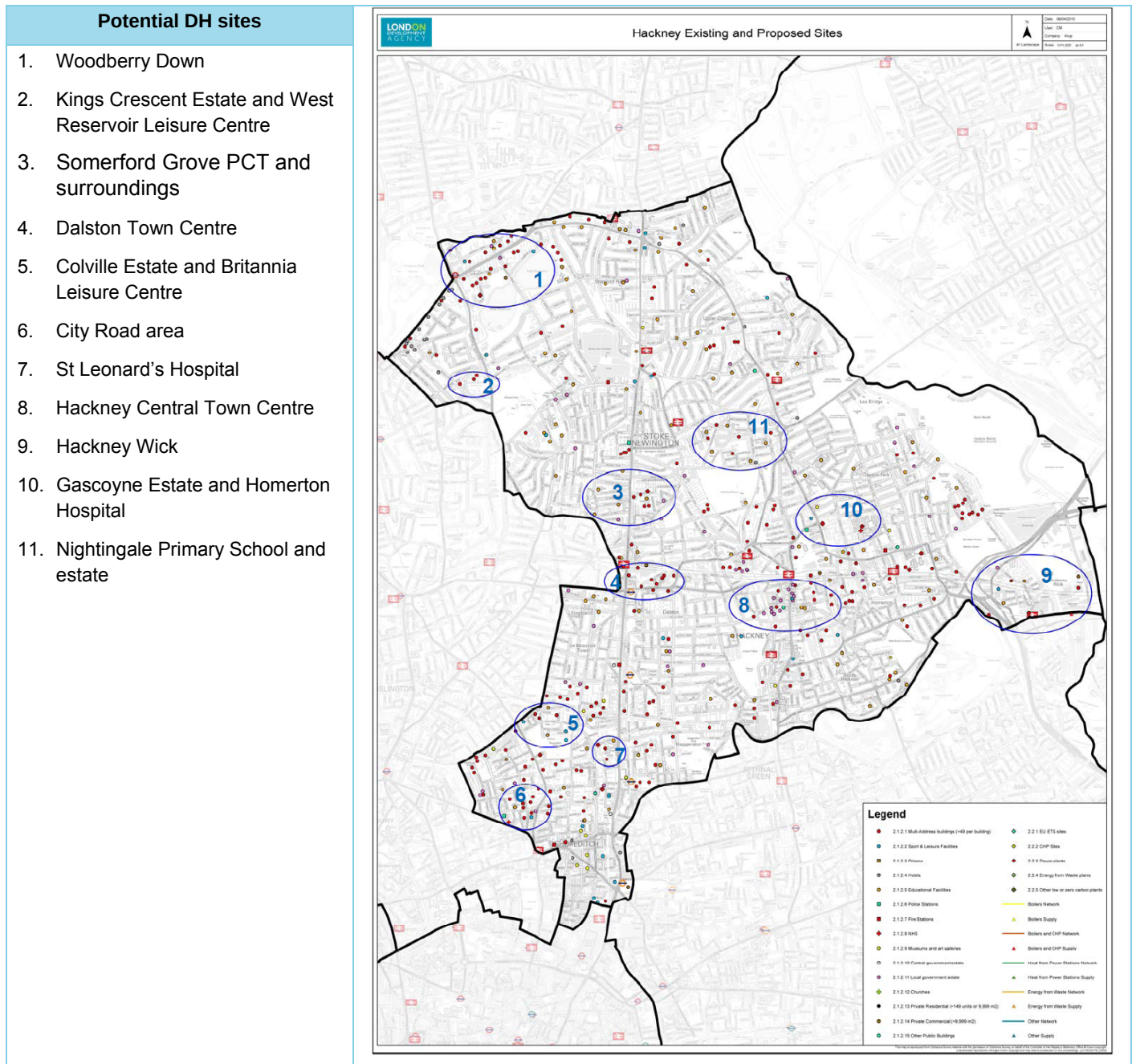


Figure 9: Preliminary sites identified to have district heating potential

In addition to the sites above, the map in Figure 7 shows that there are considerable heat demands to the east of the recently redeveloped Haggerston West Estate. Haggerston West is served by a CHP engine and, if extra capacity is available, consideration should be given to extending the network in this direction.

4.2. Connection to other boroughs

Consideration was also given to the potential for connection outside the Borough's boundaries, given the presence of some large heat users just outside Hackney. Specifically these were identified as:

- Moorfields Eye Hospital and City University - to the south west (LB Islington);
- Mildmay Mission Hospital and London Chest Hospital – to the south east (LB Tower Hamlets)
- College Library – to the west (LB Islington)

- Haringey Green Lanes Arena Shopping Park and St Ann's Hospital – to the north (LB Haringey)

Communication with the relevant people in these Boroughs is vital to gain a better understanding of the work that they are doing on the subject of district heating system and to exploit opportunities for collaboration where appropriate.

In particular, communication with Islington and Haringey is needed in the short term, as they are ahead of Hackney in the DEMaP programme, with Islington being in Phase 3, the Implementation Stage and Haringey in Phase 2, Tranche 1.

Tower Hamlets are also investigating the potential for decentralised energy within their boundary as shown by the following map (Figure 10) from their LDF evidence base. This shows that a Tower Hamlets DH network could potentially extend to serve the Bishopsgate Goods Yard development site.

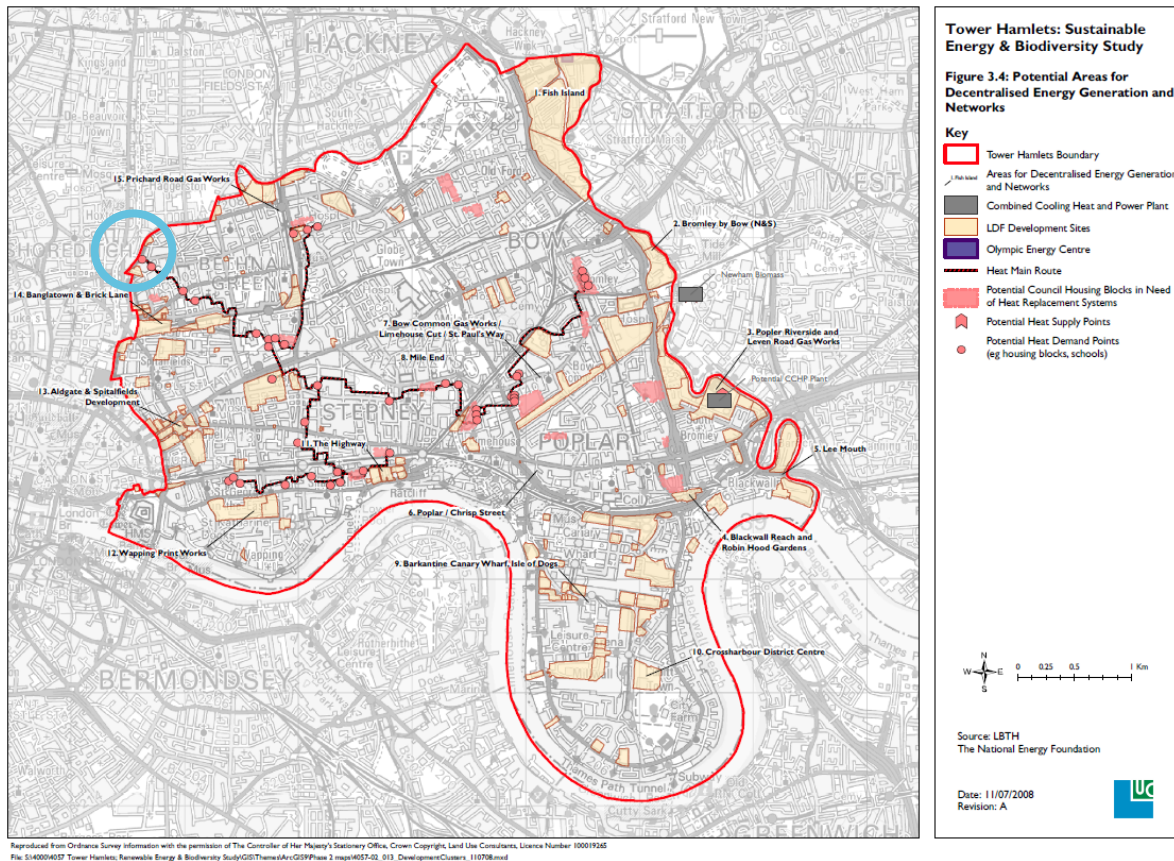


Figure 10: Tower Hamlets proposed district main (ref: Tower Hamlets LDF Evidence Base)

Although the City of London is not involved in the DEMaP programme, it is probably considering possible extensions of its Citizen Network. Therefore communication with the City is also recommended to consider further opportunities in the Shoreditch area.

4.3. Stakeholder engagement

After selecting the list of potential sites shown in Figure 9, a meeting was held with key stakeholders. This was done to gain a better understanding of the sites selected and obtain feedback on any issues that may affect the delivery of district heating networks in these areas. The following stakeholders were consulted:

- Hackney Homes
- Various members of LBH
- City and Hackney Teaching PCT
- The Learning Trust
- LDA's DEMaP Team

During the meeting, each site was discussed in turn and the relevant stakeholders were able to provide some additional information on some of the sites. In many cases development plans are still at a very early stage therefore it was not possible to

gain any more detailed information on timing and quantum of proposed development. However the information provided was used to check the assumptions made during the data gathering process.

The main outcomes from the meeting and subsequent additional feedback were as follows:

- The City and Hackney PCT is restructuring and rationalising its estates, this presents an opportunity where refurbishment work is taking place, but also may mean that some current PCT buildings will be abandoned.
- Various major developments are proposed in the area around City Road (see Figure 11 below). Islington is planning major redevelopment in the area around Old Street, including the use of CHP. These two facts increase the potential for DH development in this area.

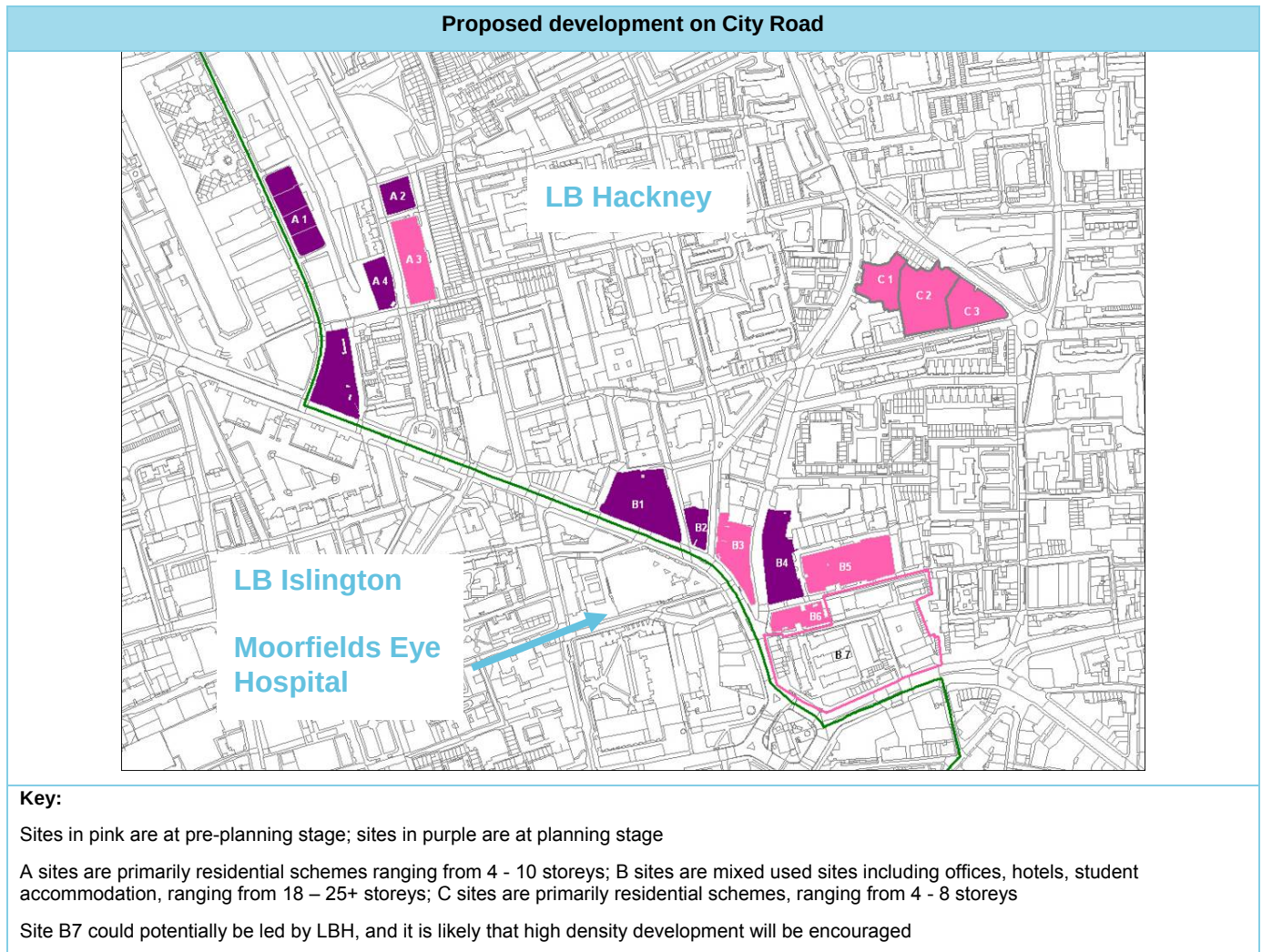


Figure 11: Proposed developments in south west of Hackney (map courtesy of LBH)

- A DH network could potentially be expanded in the north of the Borough to include developments in LB Islington and LB Haringey. Cross-borough discussions are already taking place between Hackney, Islington and Haringey to assess the potential for extending a district heating network in the north of the Borough. The cross-borough energy strategy could include Woodberry Down and Manor House in Hackney, Florentina Clothing Village and Overbury Road in Haringey and City North, 2 John Jones, Six Acres Community Project, 4 Isledon Road and Finsbury Park Station in Islington.
- The Castle Climbing Centre is near the West Reservoir Leisure Centre and, if they are planning refurbishment works, it may increase the potential for the King's Crescent Estate site (site 2 in Figure 9).
- The Somerford Grove PCT is small and may not be retained as a result of the City and Hackney Teaching PCT's restructuring. The nearby housing estates are not part of the Estates Regeneration Programme and the educational buildings are small primary schools. These facts combined with the lack of obvious nearby future connections suggest that this area (site 3 in Figure 9) can probably be taken off the list.

- The Haggerston & Kingsland sites (not too far from St Leonard's Hospital) have recently been completed and have DH with CHP. Scottish and Southern have already been selected as the ESCo for the schemes. Although these sites are not particularly close to any of the potential sites given in Figure 9, it may be worth assessing the interest of the ESCo in getting involved in other sites in the area, or in extending the network to the east to include the Regent Estate.
- St Leonard's Hospital is currently under redevelopment. The East London Foundation Trust will be taking over the Kingsland Road side of the site to develop a mental health unit (including some overnight accommodation). The City and Hackney Teaching PCT will retain the part of the site on Hoxton Street and will develop a PCT building with long opening hours (no overnight accommodation). Development is expected to start on site in September/October 2010 and the plan is to have a common energy strategy, but the details are yet unclear. The redevelopment of the site presents a great opportunity for the integration of DH and CHP, however the stage of development may mean that the design process has gone too far for the DEMaP programme to provide a useful contribution.
- The information provided on the Colville Estate (site 5 in Figure 9) confirmed that the assumptions made during data gathering were correct. During the stakeholders meeting it was stated the Britannia Leisure Centre site may also be redeveloped soon, which could present a good opportunity for its connection to a DH system serving the Colville Estate. However there is currently no information available about the proposed development.
- Cranston Estate (in the south west corner of the Borough) has been regenerated with the use of CHP and DH. The system has been developed with the capacity to extend the network to adjoining housing estates in the future, funding permitting. Potential extension sites include the Faibank Estate, where 72 out of the 118 units are still served by electric heating, and the Wenlock Barn Estate, which consists of 1,376 units.
- Homerton Hospital presents a good opportunity for DH and CHP given the high heat load, however this will depend on the nature of the existing building services and whether refurbishment work is planned to take place in the near future.
- Bridge House and Marian Court are two small estates to the south of the Homerton Hospital site that are part of the Estates Regeneration Programme. Bridge House is expected to start on site in October 2010.
- The Old Hackney Hospital site has not been included in Figure 9, but could potentially be of interest given the presence of a PCT building, a school and the John Howard Centre in close proximity. The PCT building submitted a planning application in early 2009 and the energy strategy proposed ground source heat pumps and solar PV panels. It is thought to be already under construction, therefore it is too late for it to be included in this study.
- The Nightingale Housing Estate has recently been regenerated and the college in the area has recently carried out extension works. As works have only just been carried out, it is unlikely that it will be acceptable to cause further disruption to develop a DH network.
- Berger School to the south west of Homerton station has recently been rebuilt with ground source heat pumps, under floor heating and solar panels on the roof, therefore it is not suited for connection even if the old Hackney Hospital site proved viable.

All the information collected was used to select the sites with the highest potential, which can then be taken forward for further consideration in the DEMaP programme.

4.4. List of preferred sites

Figure 12 below shows the list and location of the preferred sites selected after the data analysis and stakeholder engagement process and subsequent follow up with the London Borough of Hackney.

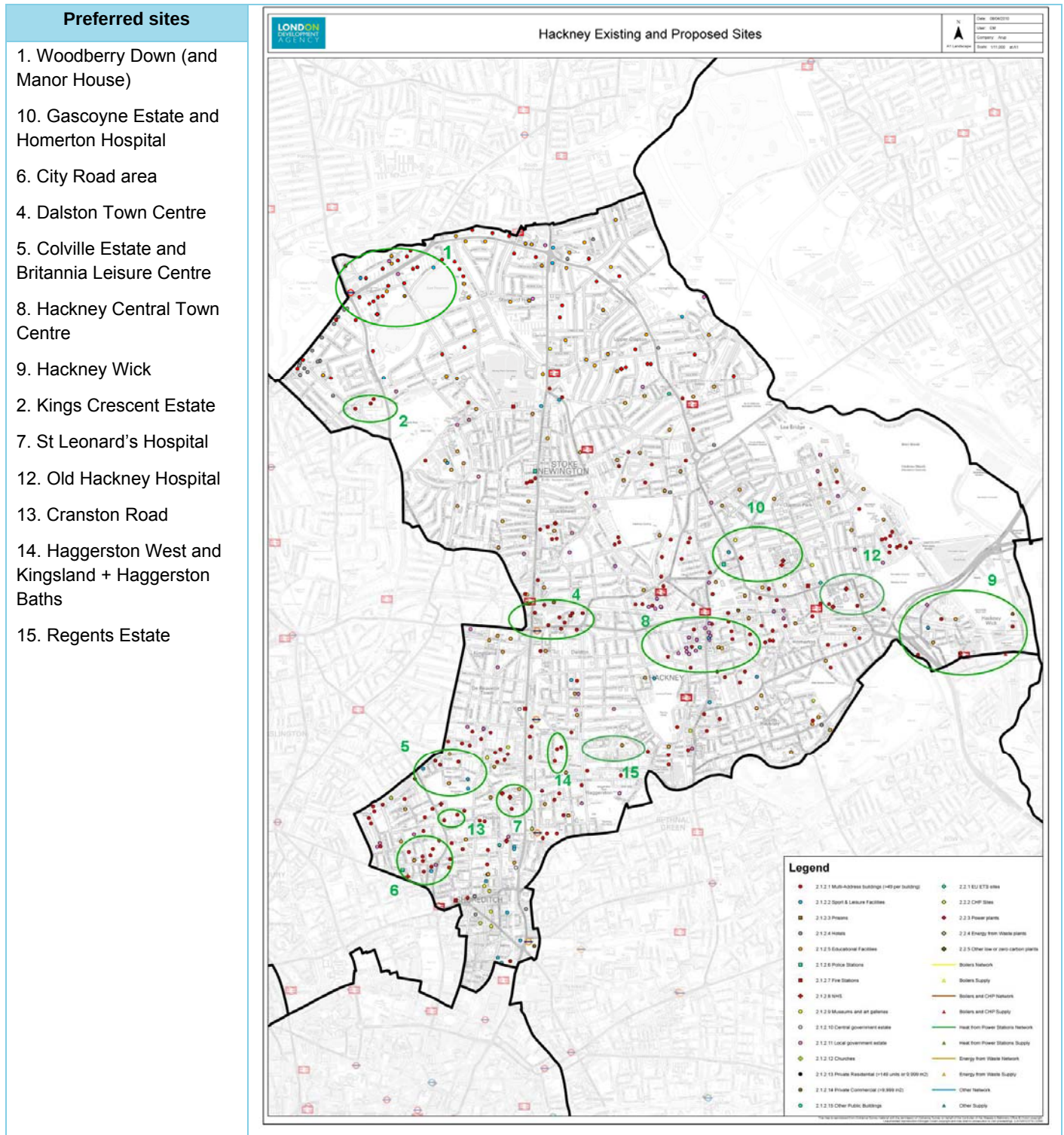


Figure 12: Preferred sites

These are the sites that appear to have the highest potential for development of district heating networks, however further investigation is required to reduce the list to the sites that could fit within the timeframe of the DEMaP programme. Given below are the main pros and cons associated with each of the selected sites.

Site Reference		Advantages	Disadvantages
1	Woodberry Down (and Manor House)	Large development with large proportions of Council owned development. Manor House is an Area Action Plan so LBH can potentially aid delivery. Potential for extension to high heat loads in Islington and Haringey	Very long phasing programme. Cooperation with other boroughs may affect programme.
2	Kings Crescent Estate and West Reservoir Leisure Centre	LBH ownership. Part of the site is already proposed to have DH and CHP. The DH system could benefit from extending to the Castle Climbing Centre.	It is quite a small site with little potential for extension in the short term.
4	Dalston Town Centre	Many mixed use developments, including redevelopment of a shopping centre, are proposed in the area providing a good base load. The site is an Area Action Plan so LBH can potentially aid delivery.	Relatively long phasing programme (depending on private developers coming forward). Presence of Overground lines could limit future extension of the network.
5	Colville Estate and Britannia Leisure Centre	Both the estate and leisure centre are planned to be redeveloped providing opportunity for installation of DH with minimum disruption. Proximity to other estates and public buildings present potential opportunities for extension.	There are few building types therefore the base load may be too low to make CHP viable.
6	City Road area	Many large, mixed use developments are proposed in the area providing very good heat loads. There may be opportunities for collaboration with Islington and potential connection of Moorfields.	Timing of proposed development north of City Road may be too far into the future for the DEMaP programme. Islington is already in Phase 3 of the programme so discussions on potential future connection need to take place as soon as possible.
7	St Leonard's Hospital	High heat demand with long running hours, so good base load. Its location presents good opportunities for further extension in the future (e.g. Geffrye Museum, Hackney Community College).	Development is expected to start on site this year so it may be too late for the site to be part of the DEMaP programme.
8	Hackney Central Town Centre	Many buildings are owned by LBH, which could make delivery easier. The site is an Area Action Plan so LBH can potentially aid delivery.	Many buildings are new therefore disruption caused by retrofit may prove unacceptable. Railway line could limit extension potential to the north.
9	Hackney Wick	Proximity to the Olympic site DH network may make connection easier. The site is an Area Action Plan so LBH can potentially aid delivery.	Timing of proposed development may be too far into the future for DEMaP programme. Presence of railway line and water courses may limit extension potential.
10	Gascoyne Estate and Homerton Hospital	Very high heat demand and good heat load for CHP. Proximity to LA housing estates presents an opportunity for extension.	Unlikely to be viable unless DH installation is part of wider planned refurbishment works.
12	Old Hackney Hospital	High heat demand and various buildings of different types could provide a good base load.	The PCT is already being built without DH and installation of DH in other buildings would probably only be considered as part of planned refurbishment works.

13	Cranston Road Estate	The site has been regenerated with the use of CHP and DH and has the capacity to extend the network to adjoining housing estates in the future.	Timing of proposed redevelopment of adjoining sites may be too far into the future for DEMaP programme.
14	Haggerston West and Kingsland + Haggerston Baths	High heat demand from 700+ units and baths. Energy centre already agreed for both sides of the canal. Housing development due to start imminently.	Timing and connection to the south across the canal could be unfeasible
15	Regent Estate	Would offer consolidation from 19 gas fired boilers which currently feed the estate of 297 flats. Potential connection to a Haggerston West and Kingsland system.	Unlikely to be viable unless DH installation is part of wider planned refurbishment works. Connection from HW and K could be cost prohibitive.

Table 6: Main advantages and disadvantages of preferred sites

5. Implementation plan

Table 7 and Table 7 below give a high level implementation plan for the preferred sites; the sites have been separated in existing buildings and new development. The aim of this is to help LBH and LDA to focus their efforts in investigating the sites further in order to establish the best ones to be taken forward to Phase 2 of the DEMaP programme.

Please note that the priority column is indicative only and it is based on information available to AECOM to date. The prioritisation is mostly based on technical feasibility (i.e. size of heat load, mix of uses and potential for extension), rather than short term deliverability. The prioritisation will significantly change depending on what is considered the most important assessment criteria. For example, if delivery in the short term is the priority, the preferred sites will be different than if ease of extension or overall CO₂ savings are the priority. For this reason it is recommended that further consideration is given to the prioritisation of the sites following further consultation with relevant members of LBH and the LDA's DEMaP team.

With regards to discussions with neighbouring boroughs, these contacts have been identified so far to begin communications:

London Borough of Islington	City of London
Charlotte Parkes Decentralised Energy Programme Environment & Regeneration Islington Council 222 Upper Street, London, N1 1XR Tel: 020 7527 3006 E-mail: Charlotte.Parkes@islington.gov.uk	Andrew Crafter Principal Engineer Property Services Division CHP and H&V Sections City Surveyor's Department City of London Corporation PO Box 270, Guildhall, London EC2P 2EJ Tel: 020 7332 1252 E-mail: Andrew.Crafter@Cityoflondon.gov.uk

With regards to discussing the real potential for some of the sites listed in the implementation plan, the following contacts have been identified:

Homerton Hospital NHS Trust	East London Foundation Trust (regarding St Leonard's Mental Health Unit)
Confidential _____	Confidential _____

Site ref. no.	DE Opportunity (Identified by location, name of development, scheme name or other)	Priority (High, Medium or Low based on highest potential for delivery)	Notes (Basis of assessment of delivery potential)	Barriers (Potential barriers for delivery of opportunity identified)	Next Steps (Next steps for LA to facilitate delivery of opportunity identified)	Key dates (If action is not taken by this date the potential for delivery of the scheme may be reduced)	Responsible person (Person responsible for taking action)
6	City Road area	High	Large, mixed use development, partly publicly owned proposed and various existing public buildings (23,000MWh/year from identified existing buildings in the area). Possible links with Cranston CHP, including Fairbank, Wenlock Barn and Arden Estate. Proximity to potential opportunity site in Islington. High potential for future extension.	Long development programme (of LBH sites)	Collect more detailed information on the proposed developments along City Road and their scheduling	Ideally in time with discussion with Islington	Project Manager for Old Street masterplan, Strategic Delivery Team, Regeneration and Planning, N&R
				Liaison with LB Islington is required	Liaise with Islington to discuss collaboration opportunities	ASAP as Islington is already in Implementation Stage of the DEMaP programme	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
13	Cranston Estate	High	Heating mains renewed and in place in kickstart sites with risers currently being installed. Good potential for expansion. CESP funding is also being investigated for this site. LDA supported scheme.	Funding not secured from CESP	Submit CESP bid and secure funding	On-going	Head of Estate Renewal, Asset Management, Hackney Homes Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
10	Gascoyne Estate and Homerton Hospital	High	Publicly owned, high heat demand and good base load building (nearly 20,000MWh/year over 52,000m ² floor area). Nearby housing estates present potential for future extension. There are 4 tower blocks containing 160 flats that currently are heated by storage heaters and hot water is provided by electric immersion heaters. No Decent Homes works have yet been carried out and are currently programmed for 2013 but negotiations about bringing the scheme forward are in progress. Cabinet will consider final programme proposals in July: new double glazed windows, new roof, new kitchens and bathrooms. The	Unlikely to be financially and practically viable unless part of planned refurbishment works	Contact relevant person at Homerton Hospital to establish refurbishment plans	No key date, but the sooner contact is made, the sooner site can be retained or removed from the list.	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R

			blocks are of 'Bison' large panel concrete construction and the u-values of external walls are poor. Gas cannot be piped in to the building because of the risk of progressive collapse in an explosion. Initial feasibility work suggests that there are easy routes through the building to run district heating mains. Option 1 would be a connection to the Olympic Park CHP plant. Option 2 would be a CESP bid for fuel switching (to gas fired CHP), external insulation, and fuel-metered district heating.				
14	Haggerston West and Kingsland + Haggerston Baths	High	761 unit housing development. Energy centre already agreed for both sides of the canal. Discussion initiated with Haggerston baths to connect to energy centre on south side if baths are refurbished (Grade 2* listed building). Baths at pre app discussion stage, with proposal for additional well being centre (24 month programme start to completion). Housing development due to start imminently.	Haggerston Baths refurbishment is subject to funding availability	Programme already developed and underway. Haggerston Baths already have sufficient support to make the necessary decisions. How the scheme will benefit from further LDA support is uncertain.	On-going	Head of Estate Renewal, Asset Management, hackney Homes Directorate Procurement Manager, N&R Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
15	Regents Estate	Medium	An estate of 297 flats, houses and maisonettes built in 1970s, currently heated via 19 gas-fired mini boiler houses. Not in Decent Homes programme because they pass decency standard. CERT bid for rationalisation of DHS to CHP. Possible extension of network to Ann Taylor Centre and London fields Lido. Timetable for delivery of heat network provided cert funding received: end of 2012	Funding not secured from CERT	Submit CESP bid and secure funding	On-going	Head of Estate Renewal, Asset Management, hackney Homes Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
5	Colville Estate and Britannia Leisure Centre	Medium	Large housing estate planned for regeneration. Leisure centre also planned for regeneration. Estimated heat demand of 6,500MWh/year over 68,000m ² floor area of regeneration. Potential for extension of network in the future. C. 850 units newbuild. Kickstart site starting soon with 41 units (CHP) + 12 units (MVHR), June 2010 - July 2011. Next phases pending on funding availability.	Private developers will be involved	Ensure a strategic view of planning applications and conditions of approval (via development of a strong masterplan)	Ongoing, starting from May 2010, as masterplan for Colville Estate is just starting	Project Manager Colville Estate, Housing renewal team, Regeneration and planning, N&R
				Long development programme	Use planning process to steer proposals towards maintaining a good anchor load (e.g. swimming pool)	When initial enquiries relating to Britannia redevelopment are made	Case officer, Development Management, Regeneration and Planning, N&R

				Presence of Regent's Canal may limit potential for future extension of DH to the north	Carry out DH feasibility study, including assessment of potential for future extension	DEMaP Tranche 1 funding application deadline	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
2	Kings Crescent Estate and West Reservoir Leisure Centre	Medium	LA housing estate partly to be refurbished and partly to be renewed. It is already planning to use CHP. Potential for connection to nearby leisure facilities. Estimated heat demand of 5,000MWh/year over 73,000m ² floor area.	Lack of funding	Carry out financial feasibility study	ASAP as refurbishment work is already taking place	Asset Management Hackney Homes
				Refurbishment works already underway	Carry out energy strategy for whole site (i.e. if DH and CHP is to be included, the units being refurbished should be fitted with communal heating systems from now)		
7	St Leonard's Hospital	Low	Long operating hours provide a good anchor load (4,000MWh/year from existing NHS buildings). Publicly owned and planned for redevelopment. Proximity to sites with good potential for future extension (including Colville Estate and City Road Area)	Planning already agreed and start on site expected in autumn 2010	Establish if there is any opportunity to influence the energy strategy of the site	ASAP	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R LBH to speak to East London Foundation Trust and City & Hackney PCT
12	Old Hackney Hospital	Low	Mix of different building types provides good anchor load (4,000MWh/year over 25,000m ²).	PCT building is already under construction and housing proposed in the area does not have communal heating.	Establish whether refurbishment works are proposed for John Howard Centre and Cardinal Pole School	No key date, but the sooner contact is made, the sooner site can be retained or removed from the list.	LBH to speak to East London Foundation Trust

Table 7: Implementation plan for existing buildings

Site ref. no.	DE Opportunity (Identified by location, name of development, scheme name or other)	Priority (High, Medium or Low based on highest potential for delivery)	Notes (Basis of assessment of delivery potential)	Barriers (Potential barriers for delivery of opportunity identified)	Next Steps (Next steps for LA to facilitate delivery of opportunity identified)	Key dates (If action is not taken by this date the potential for delivery of the scheme may be reduced)	Responsible person (Person responsible for taking action)
1	Woodberry Down (and Manor House)	High	LBH led masterplan. Good mix of building types provides good base load (23,000MWh/year expected over 390,000m ² floor area). There is potential for connections to nearby sites in the future, including in neighbouring boroughs Haringey and Islington.	Very long phasing programme (at present estimated to 2027)	LBH to liaise with LB Haringey and LB Islington to discuss potential connections	ASAP and ongoing	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
				Delivery will depend on rate of development	Woodberry Down LBH team to liaise with LBH Manor House team to ensure strategic approach	ASAP and ongoing	Project manager Manor House AAP, Strategic Delivery Team, Regeneration and Planning, N&R
					Strategic plan to be considered as detailed planning applications are produced	As and when detailed planning applications are developed	Case officer, Development Management, Regeneration and Planning, N&R
9	Hackney Wick	High	The area is an opportunity site for large mixed use development, which could provide a good anchor load. DH is already planned for the Olympic part of the site. Site is covered by Area Action Plan meaning LBH could potentially aid delivery, furthermore there is considerable development planned in the area. A heat demand of 14,000MWh/year has been estimated for 200,000m² of development assumed. Total no. of Hackney Homes housing estates have been identified that can be served by the CCHP on the Olympic site. Clapton Park Estate – 3 small communal heating/hw systems, all gas fired at Belper Court (21 flats), Longford Court (75 flats) and Kirkstead Court (74 flats). Sherrys Wharf Estate – Larger gas fired DHS serving 60 flats and houses. Trowbridge Estate – Larger gas fired DHS serving 116 flats and houses. Gascoyne 2 Estate/Wyke Estate – no DHS, all individual gas boilers. However 140 flats	Private developers will be involved	Ensure AAP develops with strong support for DH	Ongoing (key dates as per Local Development Scheme)	Project manager Hackney Wick AAP, Strategic Delivery Team, Regeneration and Planning, N&R
				Long development programme (2013 - 2018)	Ensure a strategic view of planning applications and conditions of approval	Ongoing	Strategic Delivery team and relevant planning officers
					Ensure collaboration with LDA on plans for Olympic Games and Legacy	Ongoing	Regeneration Manager, 201Project manager Hackney Wick AAP, Strategic Delivery Team, Regeneration and Planning, N&R2 Team, Regeneration and Planning, N&R
				Presence of railway line and River Lee Navigation canal may affect financial viability	Carry out DH feasibility study	DEMaP Tranche 1 funding application deadline	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R

			in 4 tower blocks have electric storage heaters. There are easy routes through the buildings for heating mains. Ideal for conversion to heat network.				
4	Dalston Town Centre	High	The area is an opportunity site for large mixed use development, which could provide a good anchor load. Site is covered by Area Action Plan meaning LBH could potentially aid delivery, furthermore there is considerable development planned in the area. A heat demand of 14,200MWh/year has been estimated for opportunity sites in AAP phase 1.	Private ownership	Ensure AAP (Phase 2) develops with strong support for DH. Ensure implementation of Phase 1 AAP continues with strong support for DH.	Ongoing (key dates as per Local Development Scheme and as per Phase 1 AAP Implementation Plan)	Project manager Dalston Town Centre AAP, Strategic Delivery Team, Regeneration and Planning, N&R
				Long development programme (2010 – 2022)	Ensure a strategic view of planning applications and conditions of approval (e.g. require oversized energy centres for large developments surrounded by small ones that could not accommodate their own plant room)	Ongoing	Project manager Dalston Town Centre AAP, Strategic Delivery Team, Regeneration and Planning, N&R
				Presence of Overground lines may limit future extension of DH network	Carry out DH feasibility study, including assessment of potential for future extension	DEMaP Tranche 1 funding application deadline	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
8	Hackney Central Town Centre	Medium	The area is an opportunity site for large mixed use development, which could provide a good anchor load. Many existing buildings are owned by LBH. Site is covered by Area Action Plan meaning LBH could potentially aid delivery. A heat demand of 4,000MWh/year has been estimated for opportunity sites in AAP phase 1. Potential extension to electrically heated Gascoyne Estate.	Private developers will be involved	Ensure AAP (Phase 2) develops with strong support for DH. Ensure implementation of Phase 1 AAP continues with strong support for DH.	Ongoing (key dates per Local Development Scheme and as per Phase 1 AAP Implementation Plan)	Project manager Hackney Central Town Centre AAP, Strategic Delivery Team, Regeneration and Planning, N&R
				Long development programme (2010 – 2022)	Ensure a strategic view of planning applications and conditions of approval	Ongoing	Project manager Hackney Central Town Centre AAP, Strategic Delivery Team, Regeneration and Planning, N&R
				Many LBH buildings are new meaning that further disruption may be unacceptable	Discuss with LBH facilities management current facilities situation and assess potential for connection to DH	DEMaP Tranche 1 funding application deadline	Sustainability Officer, Conservation, urban design and sustainability team Regeneration and Planning, N&R
				Presence of railway line may limit future extension of DH network	Carry out DH feasibility study, including assessment of potential for future extension		

Table 8: Implementation plan for proposed development

6. Conclusions

The aims of the project were:

- To collect actual heating energy data from as many buildings as possible within the London Borough of Hackney in order to update the London Heat Map;
- To use the information collected to select a number of priority sites for further investigation into the feasibility of delivering district heating networks in the Borough.

Data on energy consumption was collected from publicly available sources such as NI 185 database and the NHS Hospital Estates and Facilities Statistics. Various public and private building owners were also approached requesting energy consumption information. A large number of the organisations approached were not able to provide information within the project's timeframe, however it was possible to collect data for most of the major building types in the Borough.

As considerable development will be taking place in the Borough in the near future, the energy consumption of the proposed buildings also had to be considered. Indicative quantum of development figures were provided by various members of LBH and preliminary benchmarks were used to predict the energy demands of future development. The LDA will review these benchmarks and update them with figures that will be applied to the whole of London. The data in the spreadsheet collection tool can then be updated prior to uploading to produce the revised London Heat Map.

The data collected was used to generate maps showing the types of buildings and their location. As an updated heat map could not be produced by the LDA within the project's timeframe, a "hybrid" map was produced by AECOM showing the energy consumption data collected against the background of the London Heat Map. The aim of this map was to highlight the areas where buildings and building types with the highest heat loads are concentrated.

The maps produced were used to identify areas in the Borough with a high potential for the development of district heating systems. The criteria used to identify these sites were as follows:

Technical viability criteria	Financial viability criteria	Deliverability criteria
• Size of heat loads • Type of building • Proximity to other high potential buildings • Phasing of development • Potential for extension of network	• Ownership of building • Financial delivery mechanisms • Length of pipe work • Potential for extension of network • Presence of existing Energy Services Companies (ESCOs)	• For existing buildings – Proposals and extent of refurbishment • For new buildings – Proposals for energy strategy • Timescales and phasing of proposed refurbishment / development • Practical barriers to district network installation (e.g. railways, utilities)

The preferred sites were discussed with relevant stakeholders to gain a better understanding of their current and future situation. The information gathered was used to reduce the list of sites and highlight any barriers or actions necessary to allow the delivery of district heating networks. A high level implementation plan was then developed.

The list of preferred sites and their delivery potential is summarised below.

Site ref no	DE Opportunity	Priority	Key characteristics	Next Steps
6	City Road area	High	Existing housing estates needing upgrades could provide an initial anchor load to be expanded with connection to proposed mixed use development.	Collect more detailed information on the proposed developments in the City Road area and their timing Liaise with Islington to discuss collaboration opportunities
13	Cranston Road	High	The site has been regenerated with the use of CHP and DH. Heating mains renewed and in place in some key areas. Offers the potential for expansion to adjoining sites. This is a LDA supported scheme.	Carry out DH feasibility study for the extension of the CHP system to neighbouring estates. Submit CESP bid and secure funding
14	Haggerston West and Kingsland + Haggerston Baths	High	Programme is already planned and ongoing	Carry out financial feasibility study perhaps separating out the option of including the baths in the scheme.
2	Kings Crescent Estate and West Reservoir Leisure Centre	Medium	Refurbishment works currently taking place present a great opportunity to prepare the retained units for connection to the proposed DH for the new units.	Carry out energy strategy for whole site (i.e. if DH and CHP is to be included, the units being refurbished should be fitted with communal heating systems from now)
5	Colville Estate and Britannia Leisure Centre	Medium	Masterplan for estate redevelopment is being designed now therefore there is high potential for influencing the output. Proximity of Leisure Centre and other estates present opportunities for DH extension.	Ensure a strategic view of planning applications and conditions of approval (via development of a strong masterplan) Use planning process to steer proposals towards maintaining a good anchor load (e.g. swimming pool) Carry out DH feasibility study, including assessment of potential for future extension
15	Regents Estate	Medium	Timetable for delivery of a heat network provided cert funding is received would be scheduled for the end of 2012 which should meet the DEMaP programme schedule.	Carry out energy strategy for whole site, consider the implications for including as part of a wider scheme or standalone. Submit CESP bid and secure funding
10	Homerton Hospital and estates	Medium / Low	Good anchor load but potential for CHP will depend on whether heating system upgrade is planned for the near future.	Contact relevant person at Homerton Hospital to establish refurbishment plans
7	St Leonard's Hospital	Low	Good anchor load but due to start on site later in 2010, therefore the design may be too progressed to be influenced by the DEMaP programme.	Establish if there is any opportunity to influence the energy strategy of the site
12	Old Hackney Hospital	Low	Good anchor load but PCT building is already on site, therefore it is probably too late for DEMaP programme to influence design.	Establish whether refurbishment works are proposed for John Howard Centre and Cardinal Pole School

Table 9: Summary of preferred sites – existing buildings

Site ref no	DE Opportunity	Priority	Key characteristics	Next Steps
1	Woodberry Down (and Manor House)	High	Large development, mostly in LBH's control. Long development programme (present to 2027).	LBH to liaise with LB Haringey and LB Islington to discuss potential connections Woodberry Down LBH team to liaise with LBH Manor House team to ensure strategic approach Strategic plan to be considered as detailed planning applications are produced
9	Hackney Wick	High	High potential for extension of the Olympic DH network.	Ensure AAP develops with strong support for DH Ensure a strategic view of planning applications and conditions of approval Ensure collaboration with LDA on plans for Olympic Games and Legacy Carry out DH feasibility study
4	Dalston Town Centre	High	Good anchor load but potentially long development programme (2010-2022).	Ensure Phase 2 of AAP develops with strong support for DH Ensure a strategic view of planning applications and conditions of approval (e.g. require oversized energy centres for large developments surrounded by small ones that could not accommodate their own plant room) Carry out DH feasibility study, including assessment of potential for future extension
8	Hackney Central Town Centre	Medium	Good anchor load but potentially long development programme (2010-2022).	Ensure Phase 2 of AAP develops with strong support for DH Ensure a strategic view of planning applications and conditions of approval Discuss with LBH facilities management current facilities situation and assess potential for connection to DH Carry out DH feasibility study, including assessment of potential for future extension

Table 10: Summary of preferred sites – proposed development

Please note that the list of sites provided is based on the data collected to date and the information gathered during this project. The list of sites and their prioritisation may well change as more data becomes available and more specific information is gathered about plans and timing for the individual sites.

It is recommended that the list of sites and their order of priority is reviewed on a regular basis as more information on plans for regeneration or redevelopment becomes available.

Appendix A – Compiled LDA spreadsheet template

Final version of the compiled LDA spreadsheet provided electronically under separate cover.

Appendix B – LDA Hackney site location maps

Electronic versions and hard copies of the maps in Figure 6 provided under separate cover.