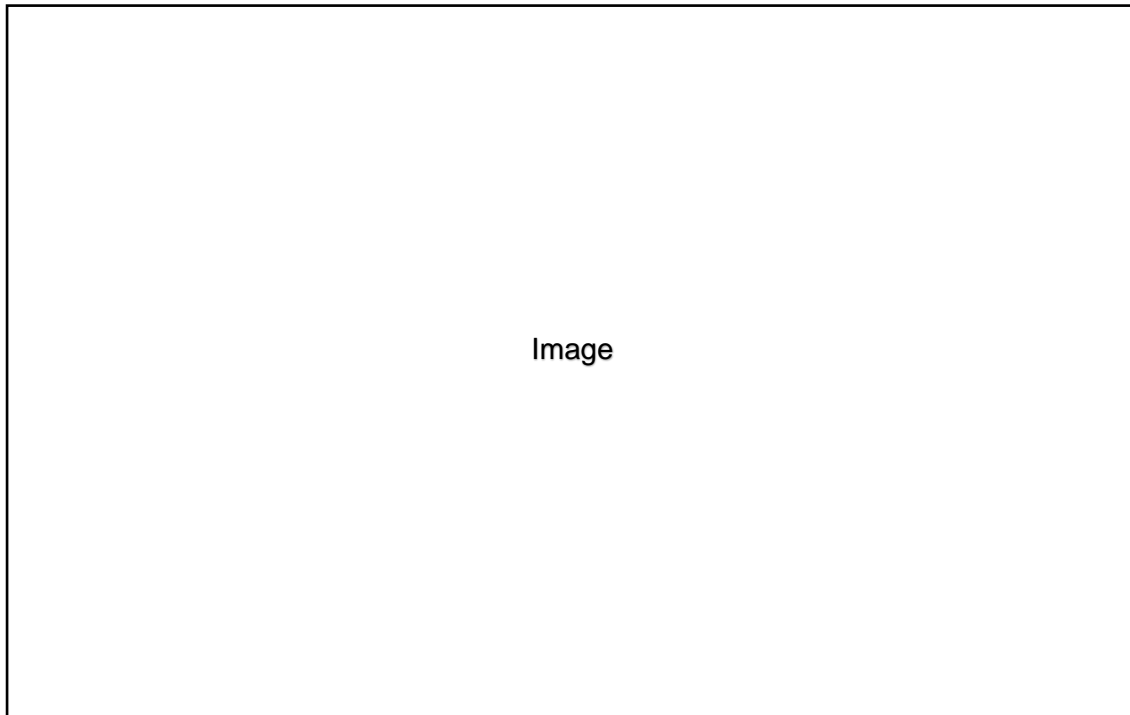


Chapter 12 Edmonton Leaside AAP text updated to reflect the Schedule of Minor Amendments

12 Promoting a Low Carbon Future



12.1 Introduction

12.1.1 The development of Edmonton Leaside will deliver a large number of new homes and jobs, presenting an opportunity to provide a place which promotes sustainable lifestyles through well-designed buildings and spaces, and maximises energy efficiency and use of low and zero carbon energy generation technologies.

12.1.2 The Council is committed to achieving high standards for sustainable design and construction within the borough. All developments will need to comply with the environmental and energy standards set out in the London Plan and Local Plan documents.

Approaches to Carbon Reduction

12.1.3 Developments at Edmonton Leaside must demonstrate how the proposal minimises energy-related CO₂ emissions through use of carbon saving technologies and approaches. For heat, where this cannot be via the connection to a heat network, then this could include for example solar thermal panels and ground source heat pumps.

Decentralised Energy Networks

12.1.4 Large scale decentralised energy networks offer an affordable way of achieving low carbon energy supply in densely populated urban areas, meeting domestic, commercial and some industrial space heating and domestic hot water requirements. This is achieved through the supply of low cost low carbon sources of heat (for example waste heat from power stations and heat generated from highly efficient gas combined heat and power engines) distributed at scale as hot water conveyed via highly insulated underground pipes.

12.1.5 Benefits of decentralised energy for local people and businesses include:

- Protection against future energy price rises;
- Durable cost and carbon savings – with potential knock-on benefits for inward investment, business advantage and job creation;

- Security of energy supply.

12.1.6 Lee Valley Heat Network Ltd has shown that a network is viable and could be extended over time. The EcoPark site has been identified as the preferred location for an energy centre to provide low carbon heat to a 'core network' to serve the Edmonton Leaside area. Planning policy development plays a key role in supporting the delivery and expansion of the network.

12.1.7 There is also the potential to use the waterways in Edmonton Leaside to cool buildings, particularly for waterside businesses with a significant cooling demand (for example those with data centres). This would involve using canal water and heat exchange technology to provide a more sustainable alternative to traditional air conditioning, reducing local businesses' energy bills and carbon dioxide emissions. The Canal & River Trust is promoting the use of such schemes and there are already examples of buildings using waterways for 'free cooling', such as GlaxoSmithKline's canal-side headquarters in Brentford, the Mailbox mixed use city centre development in Birmingham and the Hepworth Gallery in Wakefield. This AAP supports the use of such innovative and sustainable solutions, subject to consent from the Environment Agency.

12.2 Policy Context

Policy context for decentralised energy & managing flood risk

London Plan (2016)	<p>Policy 5.5 Decentralised Energy Networks Policy 5.6 Decentralised Energy in Development Proposals Paragraph 5.9a (relates to Policy 5.1 Climate Change Mitigation) Paragraph 5.32 (relates to Policy 5.5 Decentralised Energy Networks) Paragraph 5.32 (relates to Policy 5.5 Decentralised Energy Networks)</p>
Upper Lee Valley Opportunity Area Planning Framework (July 2013)	Objective 6 - A Lee Valley Heat Network linked to the Edmonton Eco Park
Enfield Core Strategy (Nov 2010)	Core Policy 20 Sustainable Energy Use and Energy Infrastructure
Development Management Document (2014)	DMD 52 Decentralised Energy Networks
Other Sources	<p>National Planning Policy Framework (2012) Edmonton EcoPark SPD Meridian Water Masterplan (2013) Discover Central Leaside: Towards a draft Area Action Plan (2012) Decentralised Energy Network Technical Specification SPD</p>

12.3 Decentralised Energy

12.3.1 The Council has created Lee Valley Heat Network Operating Ltd (LVHN Ltd), trading as Energetik, which was officially launched in July 2014 to deliver the Meridian Water, Arnos Grove, Ponders End and Oakwood Heat Networks. Research demonstrates that there is a unique opportunity to deliver a commercially sustainable decentralised energy network that would put the Upper Lee Valley at the forefront of energy production in London.

12.3.2 The Meridian Water Heat Network (MWHN) will initially use a combination of heat from combined heat and power plants (CHP) and then heat from the new Energy Recovery Facility (ERF) at the Edmonton EcoPark when it is operational, predicted to be 2025. MWHN will move energy in the form of hot water through a system of pipes to buildings and industry across the Lee Valley, including the Meridian Water development, a westward extension to Meridian Water and Edmonton Green. Over time the network has the potential to connect additional heat sources and heat demands elsewhere in the Lee Valley and, with the agreement of neighbouring Councils, links into other London Boroughs.

The EcoPark site and the MWHN

12.3.4 Key issues for policy on heat networks include the establishment of an energy centre on the EcoPark site; delivering a network route linking the EcoPark energy centre to the Meridian Water development; and delivering future connections to other suitable developments within the Lee Valley. Further details on the wider requirements for the EcoPark site are provided in Chapter 8.

12.3.5 The principal requirement for the future development of the EcoPark is to treat waste in the most sustainable way possible; however, the treatment of waste also

presents a significant opportunity to generate additional community benefits through the provision of heat. For this reason the EcoPark has been identified as the key low carbon heat source for initial development of the MWHN. The waste management infrastructure requirements of the EcoPark site are subject to the DCO which was granted by the Secretary of State. Energetik is seeking a heat supply agreement and lease at the EcoPark. It should be noted that the Energy Recovery Facility permitted by the grant of the DCO does not refer to the energy centre proposed by the Lee Valley Heat Network Ltd.

12.3.6 The Meridian Water Heat Network will have an energy centre at the EcoPark to supply low carbon heat via a network to Meridian Water and beyond. Subject to the new ERF being delivered to programmed completion in 2025, heat from the ERF will be captured and transferred to LVHN Ltd's energy centre at the EcoPark to provide very low carbon heat. Plant will be installed in a phased manner to meet customer heat demand and ultimately be capable of supplying in excess of 30,000 homes.

Creating a resilient network

12.3.8 The Energetik energy centre, the EcoPark, and the network will be designed to be resilient and energy efficient. In the unlikely event that the network cannot supply heat due to the need for maintenance, temporary boiler connections will be included within the network at each development. This will future-proof large developments for emergency backup and help make connection to the network more appealing for existing and new buildings, especially if it negates the need to install back-up boilers on site, thereby freeing up funds and space for other purposes.

12.3.9 The early phases of the heat network should aim for delivery at the same time as the initial phases of the Meridian Water

development so that all new developments can connect directly to the local heat network as a source of heat. This will avoid developments being 'locked in' to alternative heat generation solutions, which would reduce/delay the benefits delivered by the network.

12.3.10 The Council will take into account the design standards and specifications for district energy networks set out in the DEN SPD and the Mayor of London's 'London Heat Network Manual' (2014, or as updated) in the implementation of the MWHN, and the determination of relevant planning applications. Where connection to an existing or future decentralised energy network is feasible and viable, a commitment to a connection may be secured via a legal agreement. The connection charge may take into account the cost of a temporary onsite boiler where this is deemed appropriate to facilitate connection to the MWHN.

Delivery of the Heat Network

12.3.11 Easements will be required with land owners to allow the heating network pipes to be routed underground from the EcoPark to developments. The typical width of the twin pipe installation will be between 1.0m and 2.2m, depending on proximity to the Eco Park site, and a further Zone of Influence of 1.5m is required each side of the pipework, creating a width of between 4.0m and 5.2m (depending on proximity to the Eco Park). The Zone of Influence, like other utilities, is a protective zone that restricts excavation work without

the prior permission of MWHN to prevent the inadvertent risk of damage to MWHN assets. In addition, on one side of the pipework a further 3.5m of unrestricted space is required as an Access Corridor for as much of the length of pipe that is reasonable possible. The Access Corridor is to allow plant equipment to be used in order to install, repair, maintain, inspect, and replace the pipework. The Zone of Influence and Access Corridor does not prevent other services from being located underground in these areas as long as they are horizontally separated by a minimum 600mm from the network pipes. Smaller separation distances may be acceptable with the prior written permission of MWHN.

12.3.12 In the unlikely event of agreements with landowners not being reached, or being unlikely to be reached, and implementation being delayed beyond the Council's reasonable expectation, the Council may intervene directly. This would entail the Council undertaking a more significant role in land acquisition and assembly, potentially through the use of compulsory purchase order powers and/or direct delivery through partnerships with developers to secure land for the necessary infrastructure to deliver the MWHN.

12.3.13 Energetik will seek individual planning consents for the heat network and its expansion to provide maximum flexibility with regard to its final route to meet the requirements of connecting developments.

Policy EL26: The Meridian Water Heat Network

Part A: Developing the Meridian Water Heat Network

The Council supports the development of the Meridian Water Lee Valley Heat Network (MWHN). This will include safeguarding and securing:

- The establishment of an energy centre on the EcoPark site;
- A network route linking the EcoPark energy centre to the Meridian Water development; and
- Future connections towards other suitable developments, once they are identified.

The Council will continue to work with its partners and stakeholders to ensure that opportunities to establish connections across waterways, highways, railway land or private land interests allow for the future implementation of the MWHN.

Proposals for major developments which produce a significant amount of heat should supply heat to the MWHN unless it can be demonstrated that this is not technically feasible or economically viable, in accordance with policy DMD 52.

Part B: The Eco Park Site and the MWHN

To facilitate the delivery of the MWHN, development of the EcoPark site should enable heat/energy from the new energy recovery facility (ERF) when it is built to be captured and supplied to the MWHN energy centre. The DCO granted by the Secretary of State for the Eco Park site requires provision for combined heat and power. The DEN provider should reserve the right within the heat supply agreement with NLWA/ LWL to adapt the existing waste (EfW) facility to supply heat to the DEN energy centre such that if the new ERF completion is delayed, it

has the option to receive heat from the EfW facility if it is economic.

Detailed safeguarding routes and the location for an energy centre should be agreed with the Council as part of pre-application discussions.

Part C: Creating a Resilient Network

Development proposals which are connecting to the MWHN must demonstrate how they would enhance the resilience of the MWHN and allow provision of emergency back-up. This should include access to an area of hardstanding that could be used to park a truck mounted boiler and which is located a sufficient distance from any building with opening windows or inlet fresh air ventilation.

The Council will safeguard an “unobstructed” route for the MWHN pipe network along the Causeway within Meridian Water. “Unobstructed” here means a three metre wide zone with nothing built over it to a height of at least 10 metres.

Part D: Connecting to the MWHN

All major developments shall connect to or contribute towards the MWHN in accordance with Policy DMD 52 and the Decentralised Energy Network Technical Specification Heat Network SPD.

Where a major development is expected to be completed before the MWHN is able to supply it with heat then:

- If there are firm plans to enable the site to be connected to the MWHN within five years, the development should design for heat network connection from the outset and use temporary on-site boilers (potentially provided by the heat network operator) until network connection is possible.

- If there are no firm plans for extension of the MWHN within feasible and viable range of the development, provision of onsite Combined Heat and Power (CHP, with standby boilers) will be expected where the heating demand makes it feasible. The development should also be future proofed for connection to a heat network. In such instances the council may agree with the developer that the installation of CHP can be deferred for up to five years (the development would use heat from standby boilers during this time) to allow time for the MWHN to be extended and connected to the development. If the developer connects to the network within five years then the requirement to install CHP would fall away; if not then the obligation to install CHP would be triggered

The policy should be read in conjunction with Core Policy 20 and DMD policy 52, London Plan policies 5.5 and 5.6 and Enfield's Edmonton Eco Park Planning