London Borough of Hounslow

ARUP

London Borough of Hounslow

Local Area Energy Plan

Hounslow LAEP

June 2025

London Borough of Hounslow

ARUP

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ARUP

This Plan was prepared by Arup on behalf of the London Borough of Hounslow.

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Introduction

In June 2019, the London Borough of Hounslow declared a Climate Change Emergency, committing to reducing its carbon footprint, achieving net zero by 2030 and influencing wider borough decarbonisation within the shortest possible timeframe.

To support the energy transition effectively, Hounslow is adopting an interdisciplinary approach and taking proactive measures through the development of a Local Area Energy Plan (LAEP).

To achieve net zero emissions whilst meeting critical success factors, the borough must significantly reduce energy demand across heating, electricity, and transport sectors, while fundamentally changing how energy is consumed.

Figure 0.01 presents the key interventions needed to deliver Hounslow's future energy system and pathway to net zero. These interventions are deeply interconnected, highlighting why achieving net zero depends on taking a comprehensive, systems-based approach rather than addressing each component in isolation.

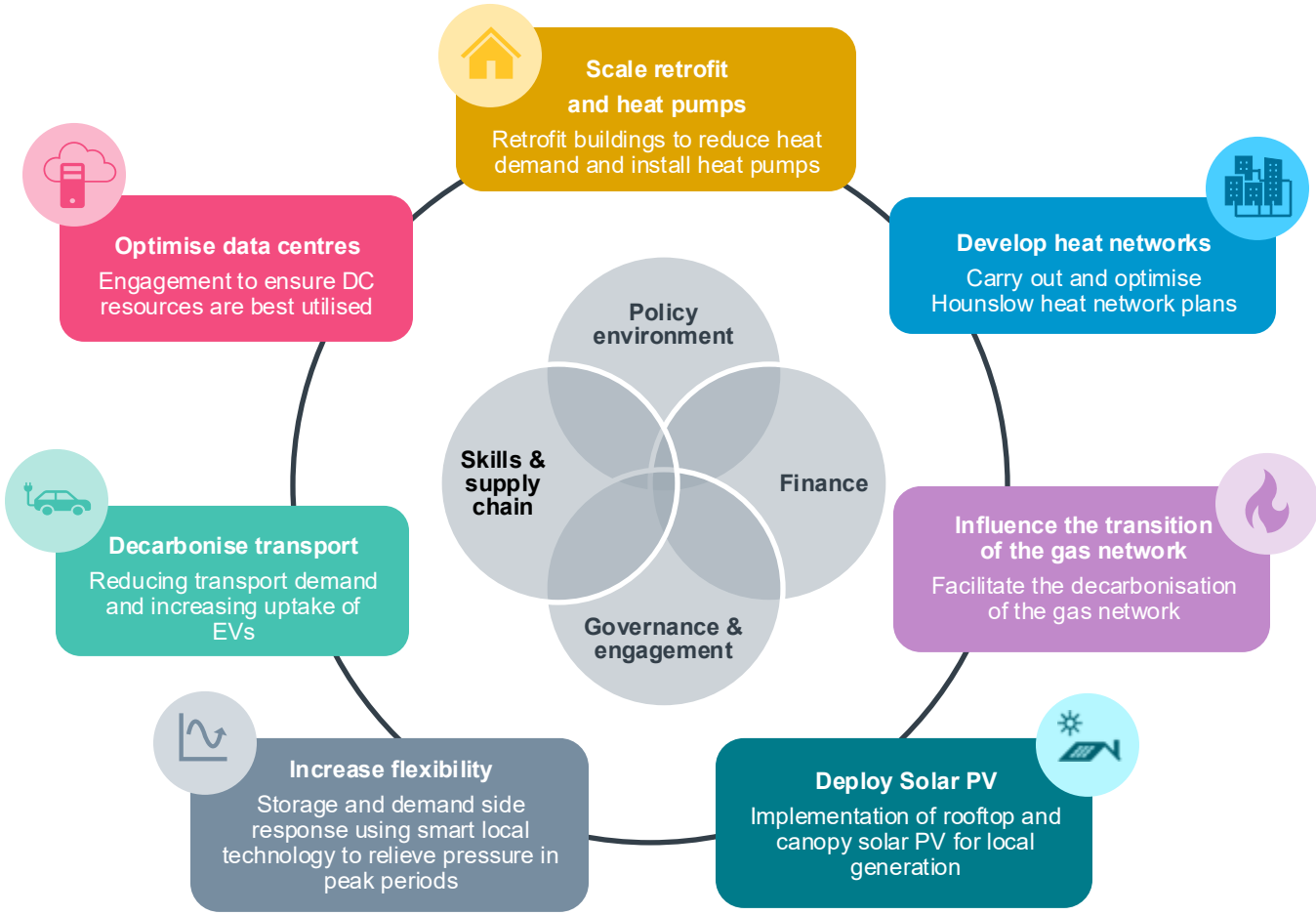

Figure 0.01: Breakdown of intervention areas for the LAEP area

Executive Summary
The London Borough of Hounslow has identified key success factors

LAEP Critical Success Factors

The London Borough of Hounslow has established a set of Critical Success Factors (CSFs) that served as a guiding framework in the LAEP's development. These CSFs were designed to align the LAEP with Hounslow's specific objectives, focusing efforts on five priority themes:

1. Achieves net zero.
2. Meets the borough's social objectives.
3. Affordability of delivery.
4. Delivery of feasible and practical solutions.
5. Aligning with broader targets beyond the LAEP.

The CSFs have been used to shape a preferred pathway and inform the actions included in the route map. Centring the development of the LAEP around these CSFs has helped make the plan both actionable and aligned with long-term strategic goals.

Further details about the methodology used to develop the CSFs can be found in Section 3. Table 0.01 provides a summary of the broad themes covered by the CSFs.

Theme	Critical Success Factors
Achieves net zero	Borough-wide net zero target
	Energy resilience
Meets social objectives	Just & inclusive transition
	Affordable energy for residents and businesses
	Improved energy performance for residents and businesses
	Co-benefits for the community
	Local job creation
	Green skills and workforce development
	Investment to support the borough's green economy
	Short-term impact
Affordability of delivery	Public capital & revenue costs
	Viability for private sector investment
	Availability of funding
Deliverability (feasibility)	Regulatory alignment and adaptability
	Council influence & risk management
Broader alignment	Alignment with new development targets
	Collaboration across the sub-region

Table 0.01 Overview of the CSFs for LAEP area

Executive Summary

The existing electricity infrastructure across Hounslow is significantly constrained

Hounslow's energy context: West London Capacity Constraints

Hounslow, and other boroughs in West London, face electricity capacity constraints due to high demand for connections in recent years from data centres looking to co-locate near a national fibre optic cable transmission route running through west London. The demand to power and cool their servers led to connection applications exceeding 1 MVA each and years of delay for new connections for developments lower down the queue.

To address this, SSEN, National Grid Electricity Transmission, and National Grid Electricity System Operator have implemented a solution that allows schemes to gradually ramp up their capacity over time to receive more than 1MVA of capacity per year. The scale of MVA is subject to the GSP location and the scheme [41].

Figure 0.02 illustrates the areas served by each primary substation in and around Hounslow.

It is within the context of these significant challenges that Hounslow's LAEP has been developed. Energy systems modelling analysis has been used to understand how the energy system may change between now and 2050 and to understand the impact these changes may have on the already constrained grid.

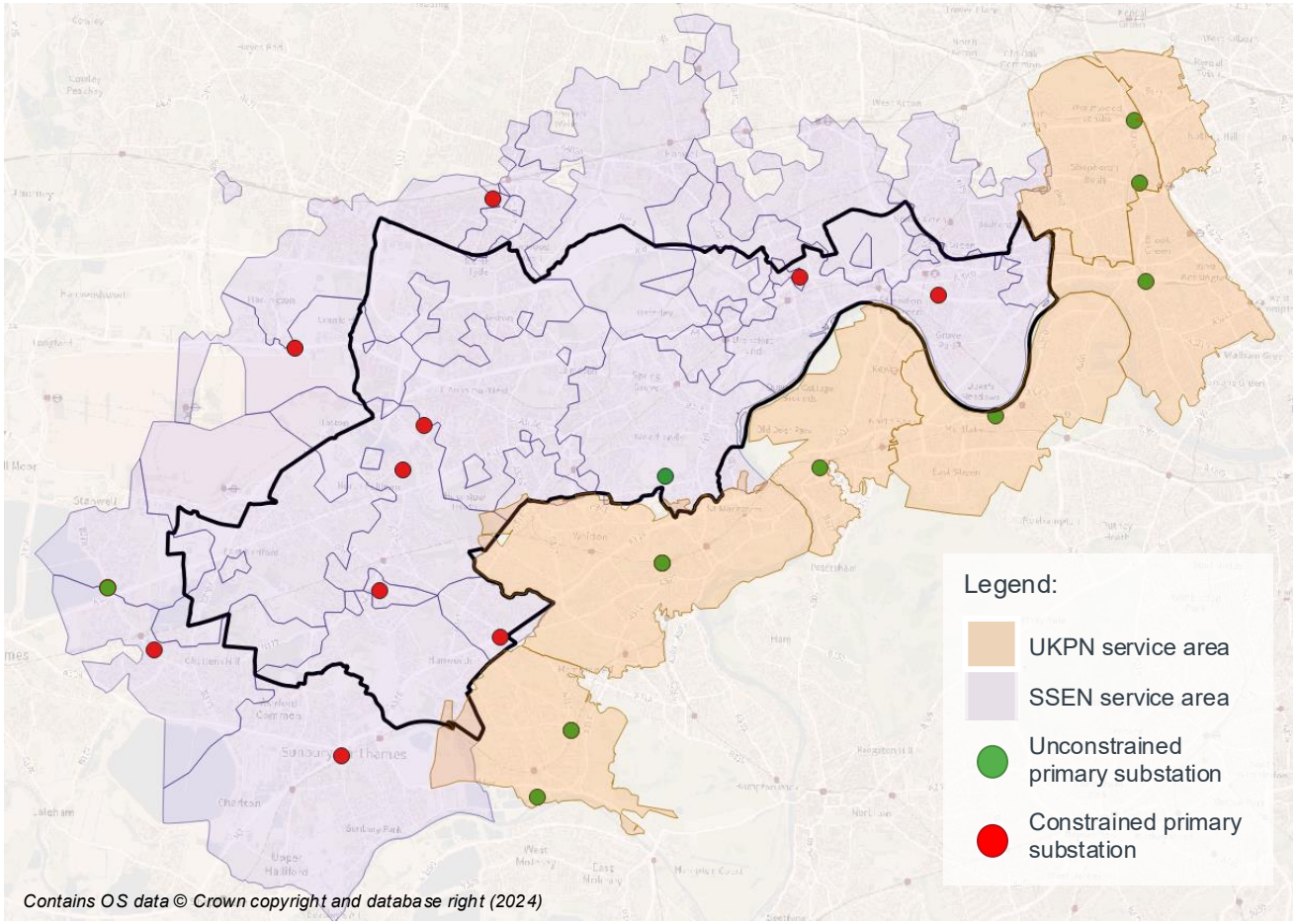

Figure 0.02: Locations of primary substations and the boundaries of the areas they serve in December 2024 (Source: UKPN and SSEN, 2024).

Executive Summary
Energy system transition

Modelling Hounslow's future energy system

To inform the LAEP, three stages of energy system modelling were undertaken:

- 2025 Baseline Modelling: developing a comprehensive picture of the current energy system, including the way energy is currently supplied
- 2050 Optimisation Modelling: examining the options for Hounslow's energy system to achieve net zero in the target year 2050. A final 2050 optimised energy system was selected after evaluation against the Critical Success Factors
- Deployment Modelling: examining how the preferred 2050 energy system is attained, exploring the rate and scale of change required.

Hounslow's Prioritised Pathway combines ambitious retrofit of the existing building stock with extensive roll-out of heat networks, widespread installation of solar PV, and increased uptake of active travel and public transport.

Figure 0.03 highlights the reductions in emissions that need to be made across the different demand sectors. Following this pathway, residual emissions in 2050 would be 10 $ktCO_2e$.

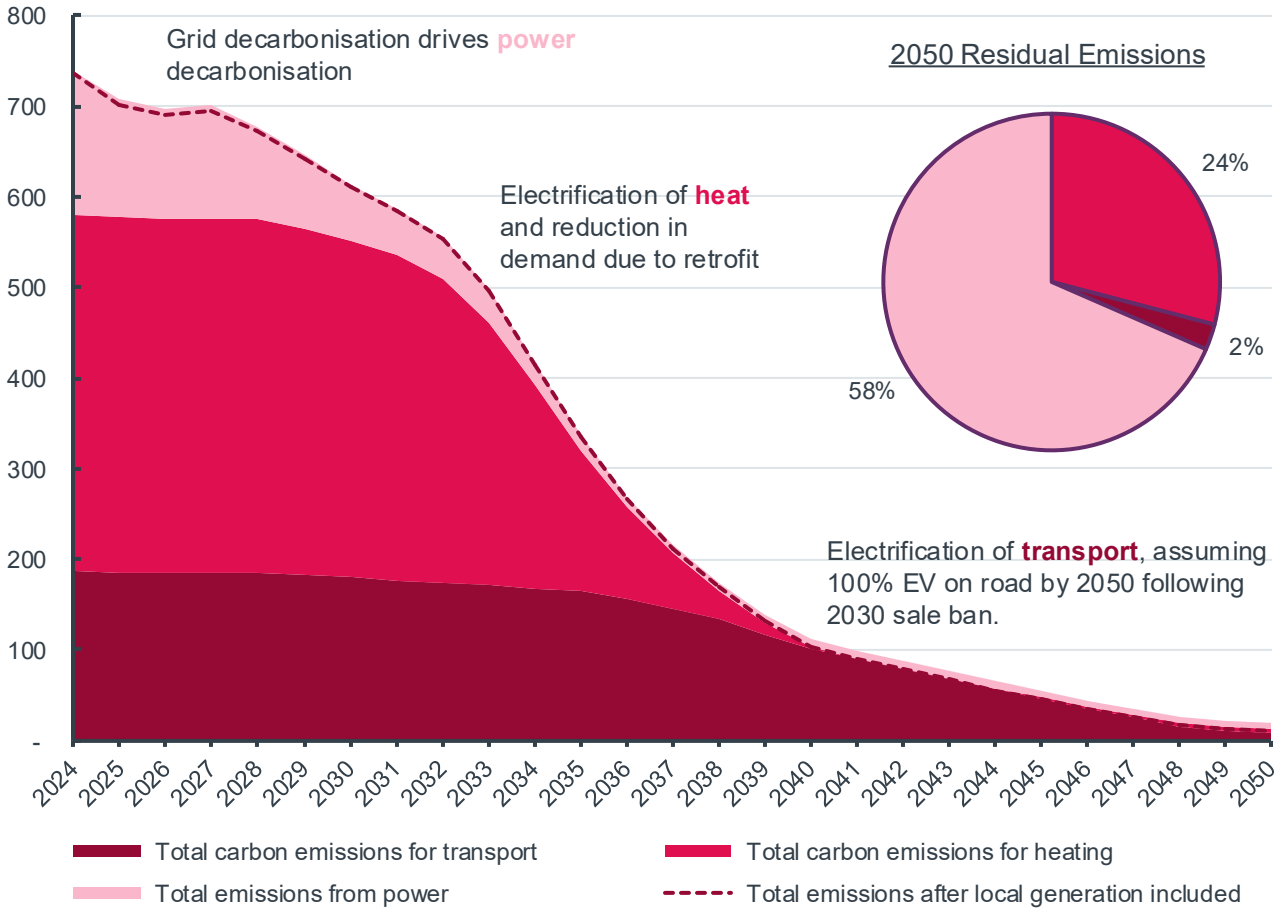

Figure 0.03: Carbon emissions by sector for the Prioritised Pathway to 2050

Executive Summary
An introduction to Hounslow's implementation plan

Implementation plan and direct actions

The LAEP implementation plan sets out a high-level short- and long-term route map showing recommended actions to enable delivery of the trajectory described by the prioritised pathway, aligned with wider London and national policy targets.

A table of actions has been produced for each intervention area, alongside key asks of stakeholders beyond the Council, including the GLA, energy system operators, public sector bodies, and private sector partners. These actions have been classified into direct, enabling or influencing dependent on the Council's level of control. This is described further on page 66.

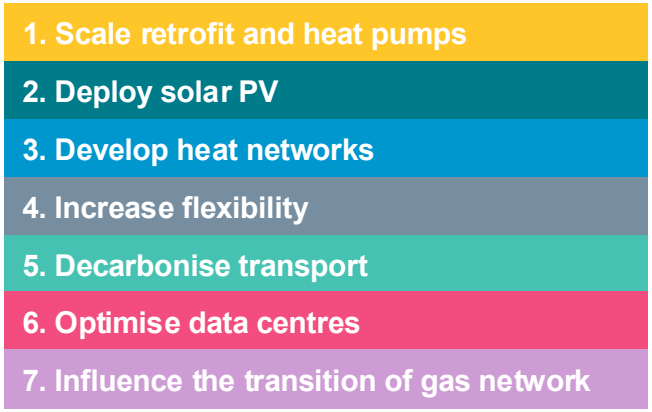

Figure 0.04: Intervention areas

The Council's role will vary across interventions. Some actions will require direct intervention in programme delivery, while others will need the Council to act as a facilitator for market-driven change.

Each recommended action has been classified into one of three action types:

- **Direct:** Within Hounslow's direct control.
- **Enabling:** Hounslow may create the prerequisite environment for the action to occur
- **Influencing:** Hounslow can influence the action to occur

As described, direct actions are those that Hounslow can implement itself and realise the soonest benefit. As such, the direct actions across each intervention area form the short-term action route map on the following page. The direct, and short-term actions have been extracted from the action plans in Section 5 and are laid out in Table 0.02.

The enabling and influencing actions are longer term actions which extend the impact of the direct short-term actions.

The next page presents the long-term route map for Hounslow, with key targets and milestones.

#	Direct actions
1	Implement pilot demonstrator
2	Roll out programme for energy efficiency and retrofit in Council assets
6	Develop implementation plan for solar roll out on Council assets, including car parks
11	Hounslow heat network implementation
15	Understand Hounslow asset suitability for flexibility
16	Switch Council buildings to TOUT
19	Continue existing active transport programme
20	Continue Council's existing programme on EV charging
27	Explore chosen retrofit demonstrator as a pilot

Table 0.02: Direct actions for Hounslow Borough Council (extracted from full set of actions)

London Borough of Hounslow ARUP

Executive Summary
Decarbonisation route map

Long-term targets route map

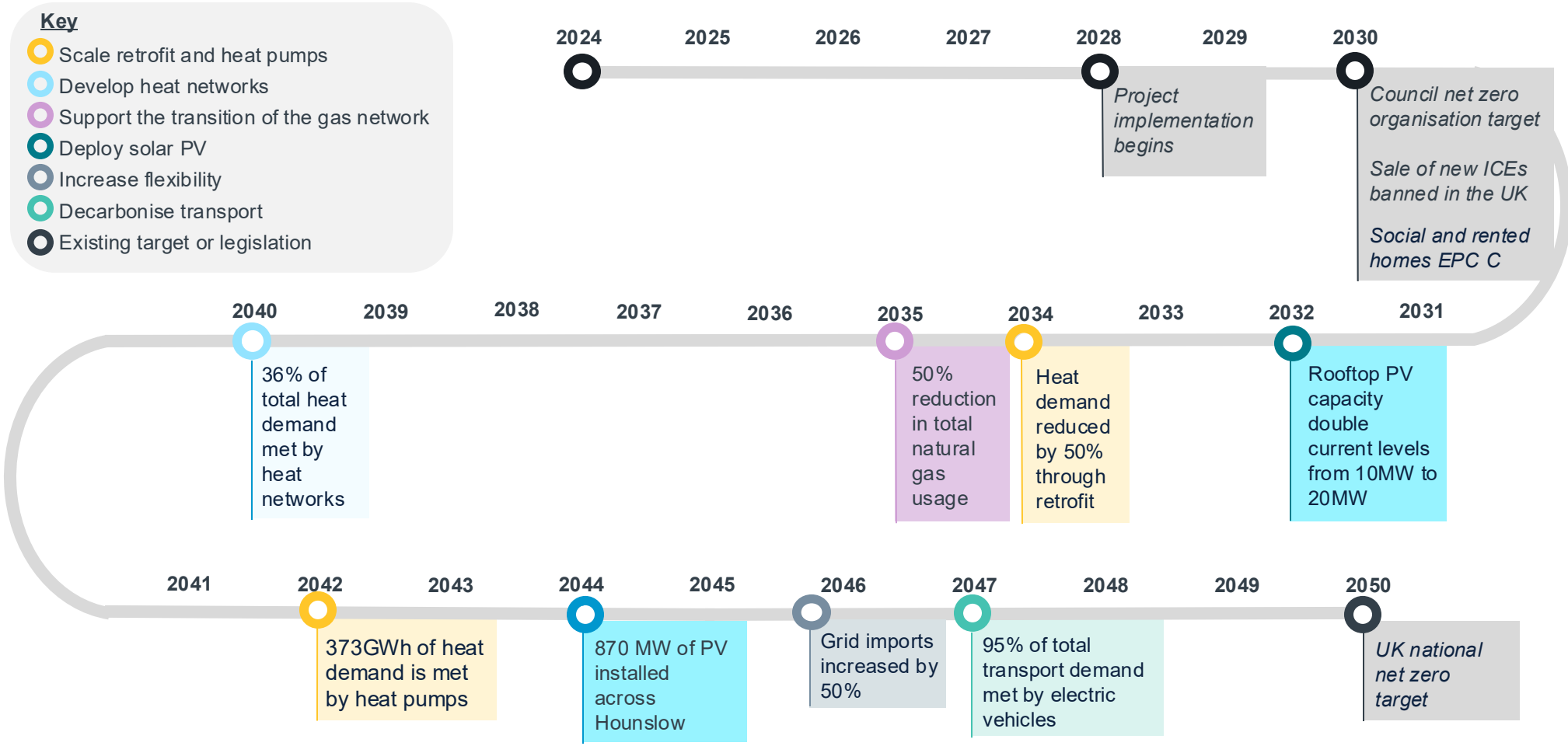

Figure 0.05: Long-term LAEP activation plan

Executive Summary
Enabling conditions for success

Monitoring and evaluation

A comprehensive monitoring approach should capture both measurable outcomes and qualitative insights into progress.

Key output metrics could include:

- Number of building retrofits completed (by property type and tenure)
- Number of electric vehicle (EV) registrations
- Heat pump installations (by kW capacity)
- Solar PV deployment (by kW installed)
- EV charging points installed
- Heat delivered through local heat networks (kWh)
- Carbon emissions reductions (tonnes CO_2e)

Collectively, these indicators will help build a clear picture of Hounslow's progress toward net zero.

Where possible, data collection should draw on existing resources — including internal Council teams, delivery partners, and publicly available datasets including from DESNZ and the Department for Transport. The GLA's reporting frameworks can also provide useful benchmarks for borough-wide progress, though some data may lag behind actual delivery.

Annual monitoring reports can help assess both specific metrics and wider strategic objectives. These reviews can identify successful approaches to scale up, and flag areas needing additional support or new methods.

Updates to Hounslow's LAEP

As Hounslow advances its decarbonisation efforts, monitoring and evaluation of the LAEP should be integrated into the Council's existing reporting processes. While project and programme level monitoring already takes place internally, it is recommended that the LAEP includes formal annual updates, aligned with revisions to Hounslow's Climate Emergency Action Plan (CEAP). This will allow the Council to continue to track progress against the CEAP's three climate targets, with the LAEP delivery specifically being reviewed under the second target: influencing wider borough decarbonisation.

In addition to these annual reviews, a strategic refresh of the LAEP is recommended at least every five years. These periodic updates should consider changes in national and regional policy, advances in low-carbon technologies, shifts in market conditions, and progress made locally. This approach will ensure the LAEP remains current, responsive, and aligned with Hounslow's long-term climate ambitions.

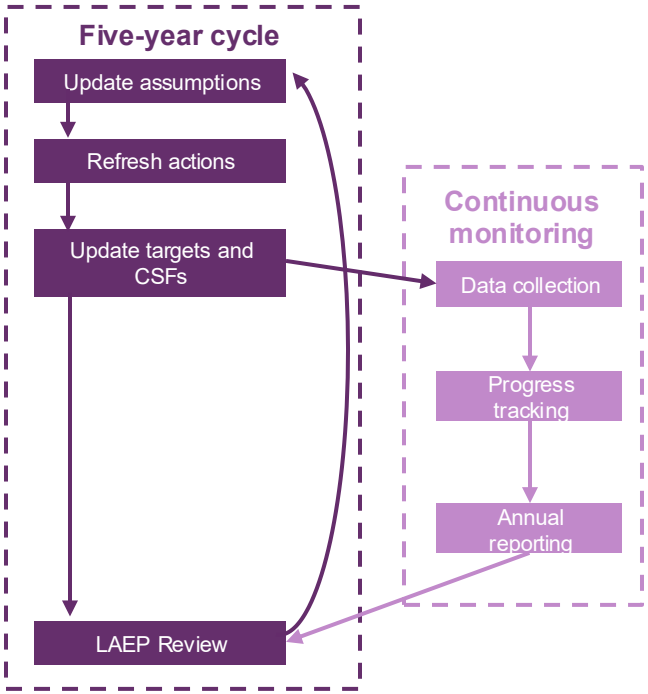

Figure 0.06: Monitoring and evaluation cycle

London Borough of Hounslow ARUP

Glossary of Terms

Term	Definition
Batteries	Stored electrical energy to be used at a later time
Data Centres	Buildings that are densely packed with computing hardware, servers and storage systems
Distribution Network Operator (DNO)	Company operating the power distribution network infrastructure in a specific area
Energy Performance Certificate (EPC)	Efficiency Performance Certificate – A measure of how energy efficiency a building is where letters closest to A are highest efficiency
Flexibility	Ability of an electrical system to respond to changes in supply and demand for a reliable energy supply
Heat network	Pipe network carries hot water to supply heat from a central source to consumers
Heat pump	Heat exchange system that takes heat from air, ground or water and increases the temperature to heat buildings
Hydrogen	Flammable gas that can be burned, like natural gas, to generate heat or power vehicles with a byproduct of water

Term	Definition
LAEP	Abbreviation used interchangeably for ‘Local Area Energy Planning’ and ‘Local Area Energy Plan’
LBH	The London Borough of Hounslow, used to refer to the Council
Lower Layer Super Output Area (LSOA)	Geographic area used in England and Wales for statistical reporting
Resistance Heating	Heat generated by passing electrical currents through wires
Solar PV	Technology converted solar radiation into electricity using photovoltaic (PV) cells
Smart EV Charging	Electrical vehicle charging at times when electrical demand is lower, to reduce peak demands and strain on the network
Substation	Part of the electricity distribution system that transforms voltage distributed across electrical transmission systems to higher or lower voltages
Time of Use Tariffs (TOUT)	Flexible electricity tarrifs which differ between times of day based on energy availability and generation
ULEV / ULEZ	Ultra low emission vehicles/zone

1. Introduction

1. Introduction

The Hounslow LAEP leverages the work completed for the whole of West London

Overview

Introduction

In June 2019, the London Borough of Hounslow declared a Climate Change Emergency, committing to reducing its carbon footprint, achieving carbon neutrality and transitioning to zero-carbon operations within the shortest possible timeframe.

The London Borough of Hounslow adopted the Climate Emergency Action Plan 2020-2030 (CEAP) in 2020. This committed the Council to achieve zero by 2030 for the Council's direct emissions and to influence wider borough emission reductions in the shortest time possible [1].

Furthermore, recognising its role as a community leader, Hounslow is also working collaboratively with strategic partners, businesses and local communities to implement a broader programme targeting emissions associated with activities across the borough.

To support the energy transition effectively, Hounslow is adopting an interdisciplinary approach and taking proactive measures through the development of a Local Area Energy Plan (LAEP).

West London's Subregional Approach

Outlined in Figure 1.01, Hounslow's LAEP was developed following a subregional approach, made up of two phases of work:

- **Phase 1** developed a foundational evidence base, including a data baseline and series of energy demand projections for the whole of the West London sub-region, and accompanying subregional output report (referred to as a Local Energy Asset Representation or LEAR). This Phase was commissioned by the Greater London Authority and delivered in 2022.
- **Phase 2** used the evidence base gathered in Phase 1 to carry out a more detailed exercise to develop an energy action plan specifically for the Hounslow area.

You can find more information on the work completed as part of Phase 1 here.

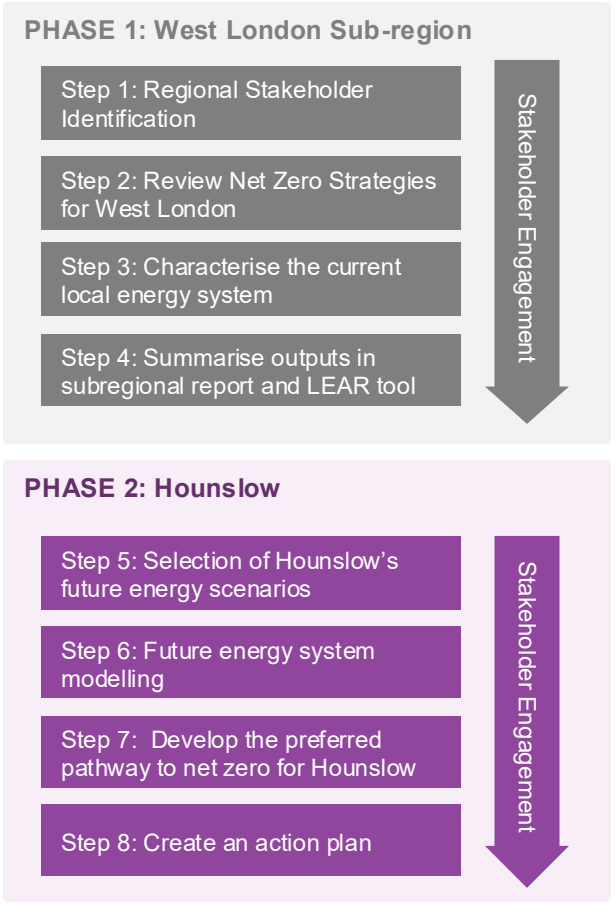

Figure 1.01: Steps taken for the West London Subregional and Hounslow's LAEP

1. Introduction

Local Area Energy Planning adopts a whole-system, evidence-based approach

What is a LAEP?

A Local Area Energy Plan (LAEP) provides an understanding of the nature, scale, rate, and timings of changes needed for the transition to a net zero energy system within Hounslow.

Following Energy Systems Catapult's 7-step methodology in Figure 1.02, the LAEP process combines robust technical analysis with comprehensive stakeholder engagement to create a route map for delivering decarbonisation as effectively as possible, identifying actions required by groups including local and national government, energy providers, regulators, and residents.

The whole energy system approach considers heat, cooling, electricity, transport, buildings, local growth plans, energy system flexibility, storage and generation. The plan sets out a vision for a zero-carbon energy system that meets the future needs of the area, and the associated infrastructure, policy and programmes which will be needed to realise the plan.

This plan also aims to facilitate increased local stakeholder awareness in Hounslow, resulting in more widespread and meaningful consent for the changes required and credible commitments to deliver the plan.

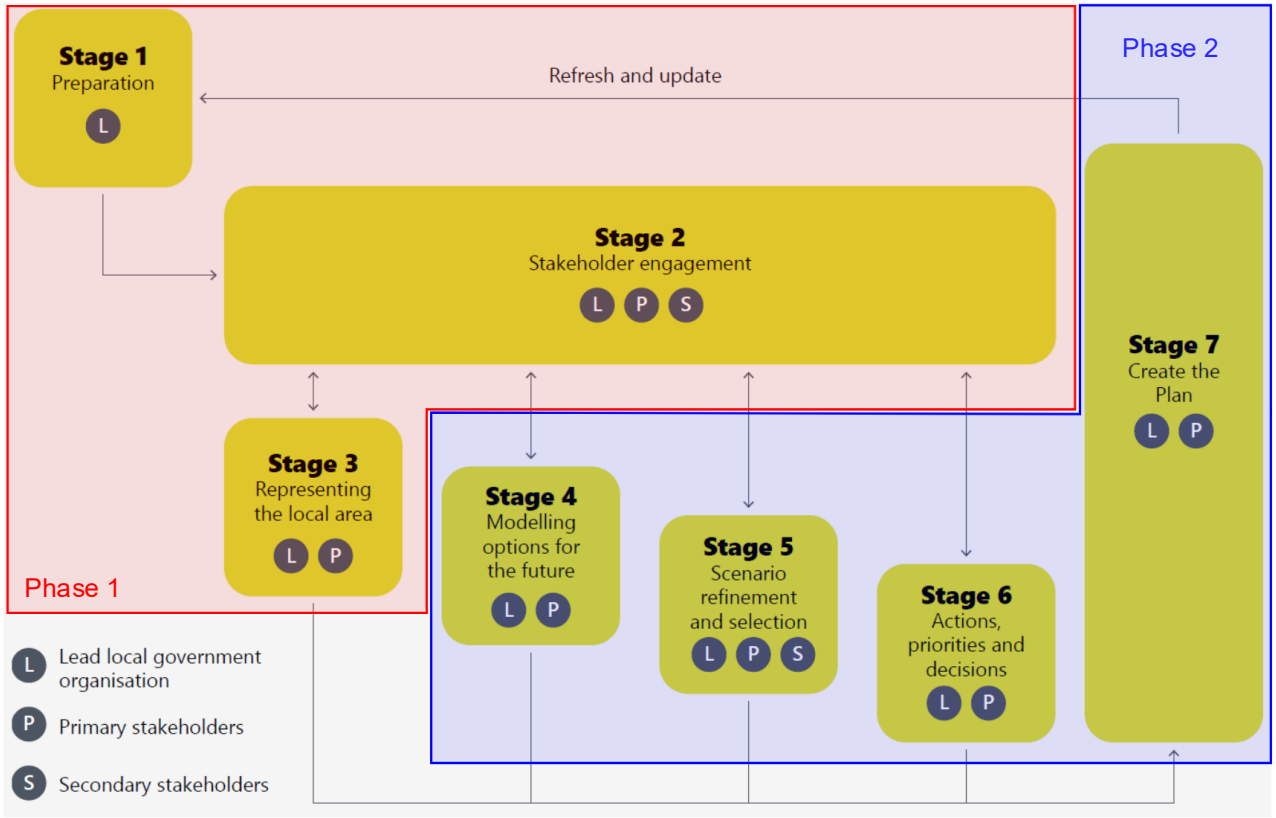

Figure 1.02: 7-stage process to creating a LAEP (Energy Systems Catapult (ESC) [34])

1. Introduction
The London Borough of Hounslow has identified key success factors

LAEP Critical Success Factors

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Further details about the methodology used to develop the CSFs can be found on page 40. Table 1.01 provides a summary of the broad themes covered by the CSFs.

Theme	Critical Success Factors
Achieves net zero	Borough-wide net zero target
	Energy resilience
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Table 1.01: Overview of the CSFs for LAEP area

1. Introduction
Contents

Plan contents

This LAEP has been structure by five main topic areas:

1. Context and baseline – description of Hounslow's existing energy system, and relevant policies and objectives.

2. The future energy system – presentation of future scenarios for a net zero local energy system, and the preferred pathway on how to get there.

3. Priority intervention areas – presenting the areas for future energy system interventions, including "easy wins" measures, which are very likely to be part of the future energy system regardless of uncertainty around certain aspects of the future.

4. Actions and recommendations – route map and action plan to drive the local energy system transition in Hounslow, including available funding streams and relevant delivery and commercial strategies for LAEP implementation.

5. Governance and monitoring – a plan that sets out the governance structures necessary to deliver the action plan, and a monitoring framework for tracking process during implementation.

Figure 1.03: West London waterfront development in Brentford

2. Context and baseline

2. Context and baseline

Hounslow will need to transition in an equitable way, prioritising more deprived areas

Socio-economic context of LAEP area

Understanding the local characteristics of an area is a crucial part of the LAEP's development. The energy transition is not just a technical challenge; it will also have far-reaching effects on the local economy and community. Recognising Hounslow's unique characteristics and priorities is essential for tailoring the LAEP to meet the borough's specific needs.

The London Borough of Hounslow is located in West London. Stretching from Heathrow Airport to Chiswick, it covers an area of 56km^2 [2]. The largest employment sector is transportation and storage, influenced by Heathrow Airport [3].

Demographics

Population: In 2021, Hounslow's estimated population is 288,200 people, which is approximately 3.2% of the population of London [4]. Population density is roughly 5,200 people per km^2 and made up of four towns: Chiswick, Hounslow, Brentford and Feltham. The GLA projects Hounslow's population will grow to 345,756 in 2050 [5]. Between the 2011 and 2021 census, Hounslow's population grew by 13.5% whilst London's grew by 7.7% [6].

Ethnicity: Hounslow is one of the most diverse boroughs across London. The largest ethnic group in Hounslow was White (44.1%), closely followed by Asian, Asian British or Asian Welsh (36.7%). Other ethnic groups make up 7.3% of the population, followed by Black, Black British, Black Welsh, Caribbean or African (7.2%) and Mixed or Multiple ethnic groups (4.7%) [4].

Deprivation: 55.9% of Hounslow is deprived in at least one dimension [4].

Domestic Building Stock

There are 102,961 homes in Hounslow where 37.4% are flats, 28.6% are semi-detached, 20.5% are terraced, 6.4% are part of a converted or shared house, 4.9% are detached, 1.2% are in a commercial building such as over a shop, 0.8% are part of a converted building and 0.2% are mobile such as a caravan.

Across these homes, 48% are owner occupied, through a mortgage or shared ownership, 31% are privately rented or rent free and 21% are socially rented [7].

Transport

In 2023, 1.02 billion vehicle-miles were travelled on the roads of Hounslow [8]. 80% of these were made up by cars and taxis. Transport for London (TfL) forecasts that EVs will make up 34-49% of the total 2030 vehicle stock in London [9].

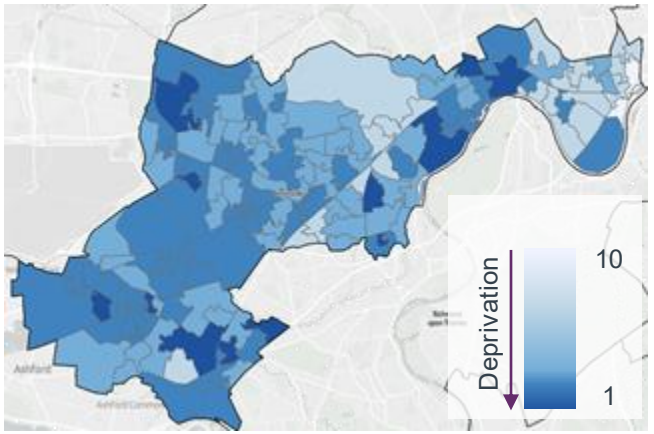

Figure 2.01: IMD deciles in the LAEP area [10]

Description	Information
Area	56km^2
Population (2021)	288,200
Character	Suburban
Fuel Poverty	11.5%

Table 2.01: Hounslow socio-economic statistics [11]

2. Context and baseline

The London Borough of Hounslow has committed to make the Councils activities net zero by 2030

Local policy drivers

Hounslow's Climate Emergency Action Plan (2020-2030)

The London Borough of Hounslow adopted the CEAP 2020-2030 in 2020. This committed the Council to achieving net zero by 2030 for its direct emissions and to influencing wider borough emission reductions as quickly as possible.

The Plan outlines key programmes to reduce Council emissions, including improving building energy efficiency. More broadly, the Council recognises its leadership role in borough-wide emissions reduction. Hounslow will collaborate with strategic partners, businesses, and the community to implement a wider programme addressing all emissions linked to borough activities. These programmes include:

- Retrofit Hounslow and deliver zero carbon housing
- Sustainable travel promotion
- A transition to electric mobility
- Greening the borough
- Develop net zero lifestyles
- Stimulate the local green economy

Progress against the plan is reviewed, with results documented in a Climate Emergency Plan Annual Report (latest version published in 2024) [12].

Hounslow's Transport Strategy (2025)

The Hounslow Transport Strategy outlines overarching objectives for Transport within the borough, including Inclusive, Safe, Efficient and Healthy, Clean and Green. The Strategy sets how the Council will deliver the Mayor's Transport Strategy and programme such as Electric Vehicle Charge Points and increasing active and sustainable travel which will reduce energy demand [13].

Hounslow's Electric Vehicle Charging Strategy (2022-2026)

This strategy sets out the new, strategic evidence-based approach that Hounslow Council will take when providing publicly available charge points in future. It highlights the Council's main role will be in providing charging solutions for those who do not have access to off-street parking, including on estates which Hounslow manage. The Council will facilitate the installation of fast and rapid charge points for high mileage drivers. By March 2026, the Council aims to have over 2,000 new charging points installed [9].

Figure 2.02: EV Charger in Hounslow

2. Context and baseline

The London Borough of Hounslow has committed to make the Councils activities net zero by 2030

Local policy drivers

Local Plan (2015-2030)

The Local Plan (2015) is the adopted local development plan document which sets out the Council's policies for the future development of the borough over a 15-year period.

The Local Plan aims to assist in the move towards being a low carbon borough, by minimising the demand for energy and promoting renewable and low carbon technologies, as well as establishing a Community Energy Fund. It requires development to meet certain carbon emission reduction requirements, connect to district heating networks, promotes collaboration with partners to improve energy efficiency in the existing built environment, and sets out a range of sustainable design measures which development should incorporate [14].

The emerging Hounslow Local Plan 2020-2041 is currently being prepared and, subject to being found sound by the Planning Inspectorate, will replace the adopted Local Plan in 2026. The emerging Local Plan seeks to update Hounslow's policy approach to achieving net zero development by establishing higher on-site performance targets, and by introducing a higher carbon offset price for major developments to help fund carbon reduction activity.

Hounslow Air Quality Action Plan (2023-2028)

The Plan identifies measures that will be implemented to improve air quality and residents' wellbeing, including air quality monitoring, reducing emissions from buildings and delivery vehicles, and transitioning the Council's fleet to cleaner alternatives. Promoting walking, cycling, and electric vehicles is a key focus, as road transport is the largest source of pollution in London. Public awareness campaigns and localised solutions further support these efforts [15].

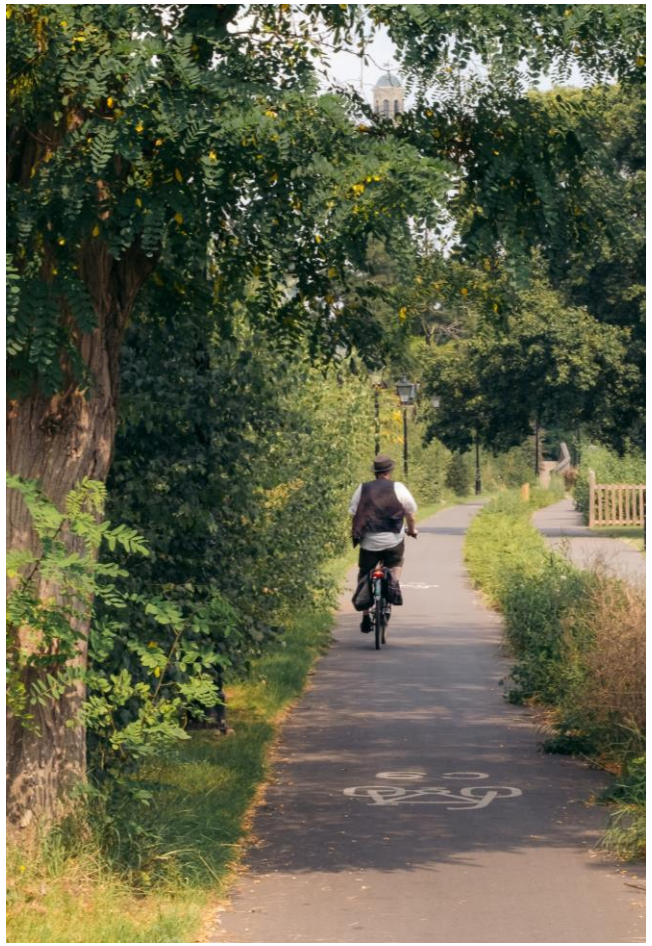

Figure 2.03: Bicycle in Hounslow Park (Source: Local Plan)

2. Context and baseline

These projects and initiatives were considered throughout the LAEPs development

Key Hounslow projects and initiatives continued

The London Borough of Hounslow is delivering several active projects to advance progress toward achieving borough-wide net zero. Some of these projects, such as Net Zero Neighbourhoods, are referenced throughout the report, as this LAEP considers how its actions can further support these initiatives.

Net Zero Neighbourhoods – an approach to domestic retrofit

The Net Zero Neighbourhoods approach aims to mobilise blended finance, including private sector investment, to deliver climate and community infrastructure by using domestic retrofit as a catalyst. This approach supports the Council's target to achieve net zero by 2050 by influencing wider emissions reductions across the borough.

To test the viability of the approach, the Council have undertaken a feasibility study in three areas: Cranford & Heston, Feltham and Hanworth. The Council applied a methodology, aligning with the Council's strategy, to target neighbourhoods which can address cost of living challenges and reduce inequality but also ensure that a demonstrator phase tests different building typologies which are representative of homes across the borough.

The feasibility study will provide an initial assessment against the areas of uncertainty, such as bill savings achieved from building retrofit and understanding the viability for private sector investment. Findings from this study will inform and shape an initial demonstrator project, as well as appropriate phasing for subsequent areas for implementation with the broader aim of rollout across all suitable areas/neighbourhoods.

Central to the Net Zero Neighbourhood approach is community and resident engagement. A comprehensive engagement plan for the feasibility study has been developed to assess factors such as resident priorities, barriers and motivations to participation, and any interventions that are currently perceived negatively by residents [17]. The feasibility study will provide an initial assessment against the areas of uncertainty, such as bill savings achieved from building retrofit and understanding the delivery of retrofit based on different tenure types. Findings from this study will inform and shape future demonstrator projects.

Hounslow Solar Plans

The Council is committed to sustainability, a key pillar of its Corporate Plan, which includes a target to generate 25% of its own renewable energy by 2026. This initiative aligns directly with the plan's 'Greener' and 'Cleaner' priorities while supporting both the Corporate Property Strategy and the Climate Emergency Action Plan (CEAP).

At present, many of the Council's operational buildings and schools are already equipped with solar PV systems, with a combined capacity of 4.71 MWp—generating approximately 18% of the Council's electricity needs (excluding street lighting).

The Council is now looking into further projects such as an additional 1.5 MWp of solar PV across multiple Council assets. This will further advance our renewable energy targets and reinforce our commitment to a more sustainable future.

2. Context and baseline

These projects and initiatives were considered throughout the LAEPs development

Key Hounslow projects and initiatives

Hounslow Heat Network

In 2023, Hounslow Council commissioned AECOM to prepare a Feasibility Study for a low carbon heat network in the borough, building on the Heat Map and Energy Masterplan they prepared in 2022 [47]. The Feasibility Study undertook techno-economic analysis of potential heat network options, of which a cross-borough scheme utilising waste heat from Mogden Sewage Treatment Works was determined to be the most viable.

In 2024, Hounslow progressed to the detailed project development stage, in which more comprehensive plans were developed for an initial phase of the scheme in Isleworth and Brentford. Under the current proposed timeline, procurement of a delivery partner will commence in 2026, with construction expected to commence in 2027 and first heat supply anticipated in 2029. It remains the Council's ambition for this to be followed by further phases of development, to fulfil the potential identified in the Feasibility Study

The District Heat Network (DHN) presents a significant opportunity to decarbonise both the Council's own estate and other public and private sector buildings across the Borough, providing a sustainable, low-carbon heat source for residents and businesses. Alongside Mogden Sewage Treatment Works, the scheme is also assessing the potential to integrate waste heat from two proposed data centres in the west of the Borough, which would offer an additional or alternative heat source to support future network expansion.

Equality Opportunity Areas

There are 30 Equality Opportunity Areas (see Figure 2.04) identified in the strategy, where the Council will target efforts to reduce inequality. These areas have been selected based on multiple indices of deprivation, community needs index scores, and households experiencing multiple deprivation characteristics.

The Council is committed to ensuring that all key projects, including climate initiatives, deliver benefits equitably, prioritising communities that face the greatest barriers. As such, the Council will work with residents and anchor institutions to address inequality while driving growth through a Local Investment Framework for Equality (LIFE). This framework sets clear, measurable targets and commitments to match outcomes to the borough average.

For a larger map of the Equality Opportunity Areas, please see Appendix B.

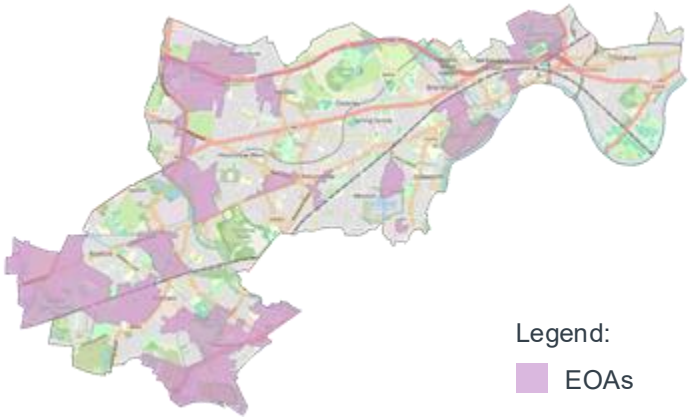

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Figure 2.04: Equality Opportunity Areas in Hounslow

2. Context and baseline

London Plan mandates high energy efficiency levels in new buildings. The GLA has a 2030 net zero target

Greater London policy drivers

The London Plan 2021 sets out the overarching framework of how London will develop over the next 25 years [18]. It sets out significant strategy, actions and targets across sectors on addressing the climate emergency. These include:

- The development of an energy hierarchy (Figure 2.05) to inform the design, construction and operation of new buildings, targeting an emissions reduction significantly beyond the standard Building Regulation requirements.
- The identification of Heat Network Priority Areas, where new buildings must be designed to facilitate a future connection to a heat network.

Alongside the London Plan, a report was produced for the Greater London: Pathways to Net Zero Carbon by 2030 [19]. The report sets out the high level of ambition and accelerated action that will be necessary to reduce emissions across sectors, including targets such as:

- A 37% reduction in heat demand from 2020 baseline delivered through retrofit interventions by 2030.
- 60% of domestic heat demand to be met by low-carbon systems by 2030.
- A 27% reduction in car travel by 2030.

The report also includes 2050 patchwork targets, used as the regulatory standard baseline in Section 3. Further GLA documents, strategies and studies relevant to this LAEP are:

- 'West London Electricity Capacity Constraints (2022-2024) documents outline the status of the electricity capacity constraints issue as it pertains to the SSEN managed area of West London (including Hounslow) and set out a range of potential solutions for developments that are seeking to achieve a connection to the grid [20].
- The London Solar Action Plan (2018) setting out strategies to accelerate the deployment of solar energy in London [21].
- The Mayor's Transport Strategy (2018), setting out how London's roads and transport networks should develop to reduce emissions and encourage active travel [22].
- The FlexLondon study (2018-2020), investigating the potential to accelerate flexible low-carbon energy in the capital [23].

In addition, the Mayor of London is advocating for all rental properties to attain an Energy Performance Certificate (EPC) rating of C or higher by 2028, ahead of the UK Government's 2030 target. This plan aims to improve energy efficiency, reduce energy costs for Londoners, and create jobs in the energy sector [48].

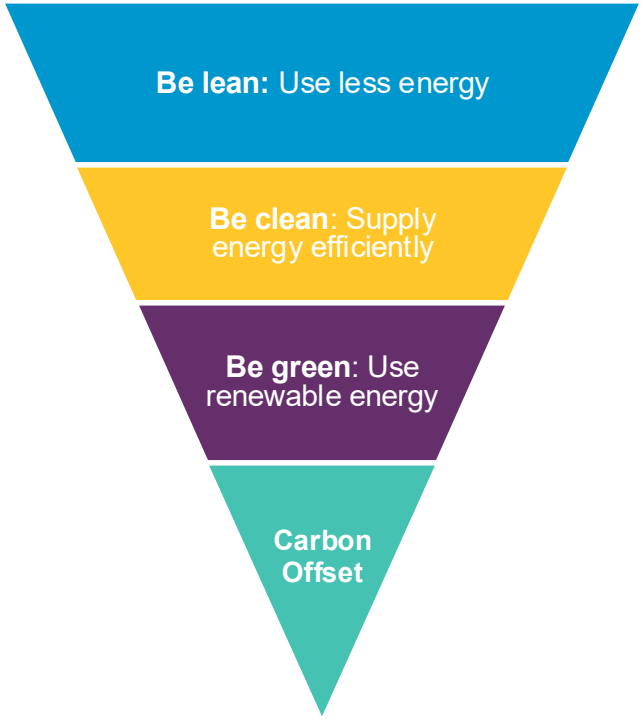

Figure 2.05: The energy hierarchy as set out in the London Plan [19]

2. Context and baseline
National policy that influences Hounslow's energy system

National policy drivers

In 2019, the UK Government made a commitment to a net zero carbon target by 2050. This is outlined in the Climate Change Act 2008 (2050 Target Amendment) Order 2019. This is a significant legislation update which updated the carbon emissions target from 80% to 100% by 2050 [45]. A range of legislation and strategies have been imposed across UK sectors to achieve the 2050 target. Where relevant, these legislations and documents have been taken into consideration during the preparation of this LAEP.

Plan for Change: UK Government Mission Statement (2024)

This mission statement outlines the mission of the UK Government until 2029 to become a Clean Energy Superpower and sustain growth, with a focus on infrastructure and housing. The plan includes building 1.5 million homes in England and fast-tracking planning decisions on infrastructure projects [24].

Clean Power 2030 Action Plan: A new era of clean electricity (2024)

This action plan outlines a pathway to achieving a clean power system, by 2030 detailing the government's commitments to support and accelerate the delivery of the necessary new infrastructure, and how the government intends to collaborate with all stakeholders to reach this goal.

The plan sets out how the government aims to address key "roadblocks" by reducing barriers to investment, development, and deployment [25].

Powering Up Britain: Energy Security Plan (2023)

The Powering Up Britain Net Zero Plan is a comprehensive strategy that aims to enhance energy security by scaling up technologies for decarbonisation.

This includes ambitions such as the improvements of the energy efficiency of homes, including grants for heat pumps and insulation; continued rolling out of smart meters; incentives to purchasing EV and expanding charging infrastructure [26].

Future Homes and Buildings Standard (2023)

This is a set of regulations due to be implemented in 2025 which aim to ensure that new developments, homes and buildings, have reduced carbon emissions against the current standards. The reduction is approximately 75-80% to the baseline. To achieve this, the standard highlights sustainable measures:

- Low carbon heating, where new developments are not connected to the gas network but utilise heat pumps and resistance heating,
- Increased energy efficiency, where insulation leads to lower heat demands [46].

2. Context and baseline
National policy that influences Hounslow's energy system

National policy drivers continued

Energy Security Act (2023)

This act introduces a regulatory framework for zoning. It highlights that heat networks will play a key role in achieving net zero. The Climate Change committee estimates that around 18% of UK heat could come from heat networks [27].

Energy Act (2023): Heat Network Zoning

The Government has introduced through the Energy Act 2023 a suite of policy and regulatory reforms designed to unlock investment in low carbon heat networks and enhance confidence in customers and supply chains. These reforms include a statutory framework for designating heat network zones across England. Within designated zones, a requirement to connect will apply to new buildings and many larger existing non-residential and communally heated residential buildings [35]. It will also require waste heat sources as supply for the heat network.

Plan for Drivers (2023)

The UK EV charging infrastructure strategy set out the government's vision and commitments to make EV charging cheaper and more convenient. On average, over 720 chargers were added to the UK public charging network each month in 2022 and 400,000 charge points in homes and businesses [49].

Decarbonising Transport (2021)

The UK Department for Transport published a document outlining the commitments and actions needed to decarbonise the transport sector across the UK.

This includes ambitions to increase active travel, setting the target that by 2030, 50% of journeys in urban areas are met by walking or cycling. The plan further sets out that all new produced cars and motorcycles are zero-emissions by 2035, as well as committing to a shift to zero-emission public transport by 2050 [28].

Regional Energy Strategic Planers (RESPs)

Ofgem has defined the requirement for regional planning roles across the UK to improve energy planning and accelerate the net zero transition, to be delivered by NESO. The RESPs will engage with organisations, including local governments, to improve understanding of the energy system and set targets. A RESP is being established in the Greater London area [29].

Figure 2.06: Open space adjacent to Feltham Station

2. Context and baseline

Stakeholder engagement is a crucial pillar of the Local Area Energy Planning process

Stakeholder engagement

Stakeholder engagement is a core component of the LAEP's development, ensuring that the findings presented are informed by key local actors and that the proposed actions are locally owned.

Hounslow's LAEP was developed through active collaboration with a wide range of stakeholder groups involved in the local energy system. These include Council departments, Councillors, Distribution Network Operators (DNOs), Gas Distribution Network Operators (GDNOs), Heathrow Strategic Planning Group, transport operators, community energy groups, Tech UK and the West London Alliance.

At the outset of the project, an engagement plan was established to define stakeholder touchpoints. Engagement activities primarily consisted of a series of workshops, supplemented by 1:1 meetings when further clarification or additional data was required.

Delivering the actions outlined in this LAEP will require a cohesive effort from the stakeholders identified in this section. The London Borough of Hounslow intends to continue working closely with stakeholders throughout implementation to ensure its successful delivery.

London Borough of Hounslow	Scottish & Southern Electricity Networks / UK Power Networks	Cadent – Your Gas Network	West London Alliance
Role: *Owner and key actor in the implementation of the LAEP.*	***Role:*** *Distribution Network Operators. Key facilitators and action owners.*	***Role:*** *Gas Network Operator. Key facilitator and action owner.*	***Role:*** *Borough partnership focused on collaborative initiatives.*
techUK	Community Energy London	GREATER LONDON AUTHORITY	HEATHROW STRATEGIC PLANNING GROUP
Role: *Data centre industry representative and action stakeholder.*	***Role:*** *Key enabler and convener for community energy projects.*	***Role:*** *Key stakeholder and action owner in the sub-region.*	***Role****: Significant energy stakeholder adjacent to and in the borough.*

Note: *Hounslow's residents are key stakeholders, as the plan aims to deliver positive benefits for the local community. Although residents were not involved in the plan's development, their engagement is recommended during its implementation. For more details, see Section 5.*

Figure 2.07: Stakeholders that were engaged with throughout the LAEP's development.

2. Context and baseline

The existing electricity infrastructure across Hounslow is significantly constrained

Electricity network infrastructure in Hounslow

Electricity is supplied to homes and businesses in Hounslow through distribution networks managed by Scottish and Southern Electricity Networks (SSEN) and UK Power Networks (UKPN). SSEN's network serves almost all (99%) of Hounslow, while UKPN's network serves the remainder. The distribution network receives electricity from the transmission network at five Grid Supply Points (GSPs). Figure 2.09 illustrates the areas served by each primary substation in and around Hounslow.

Capacity constraints in West London

Hounslow, and other boroughs, face electricity capacity constraints due to high demand for connections in recent years from data centres looking to co-locate near a national fibre optic cable transmission route running through west London. The demand to power and cool their servers led to connection applications exceeding 1 MVA each and years of delay for new connections for developments lower down the queue.

To address this, SSEN, National Grid Electricity Transmission, and National Grid Electricity System Operator have implemented a solution that allows schemes to gradually ramp up their capacity over time to receive more than 1MVA of capacity per year. The scale of MVA is subject to the GSP location and the scheme [41].

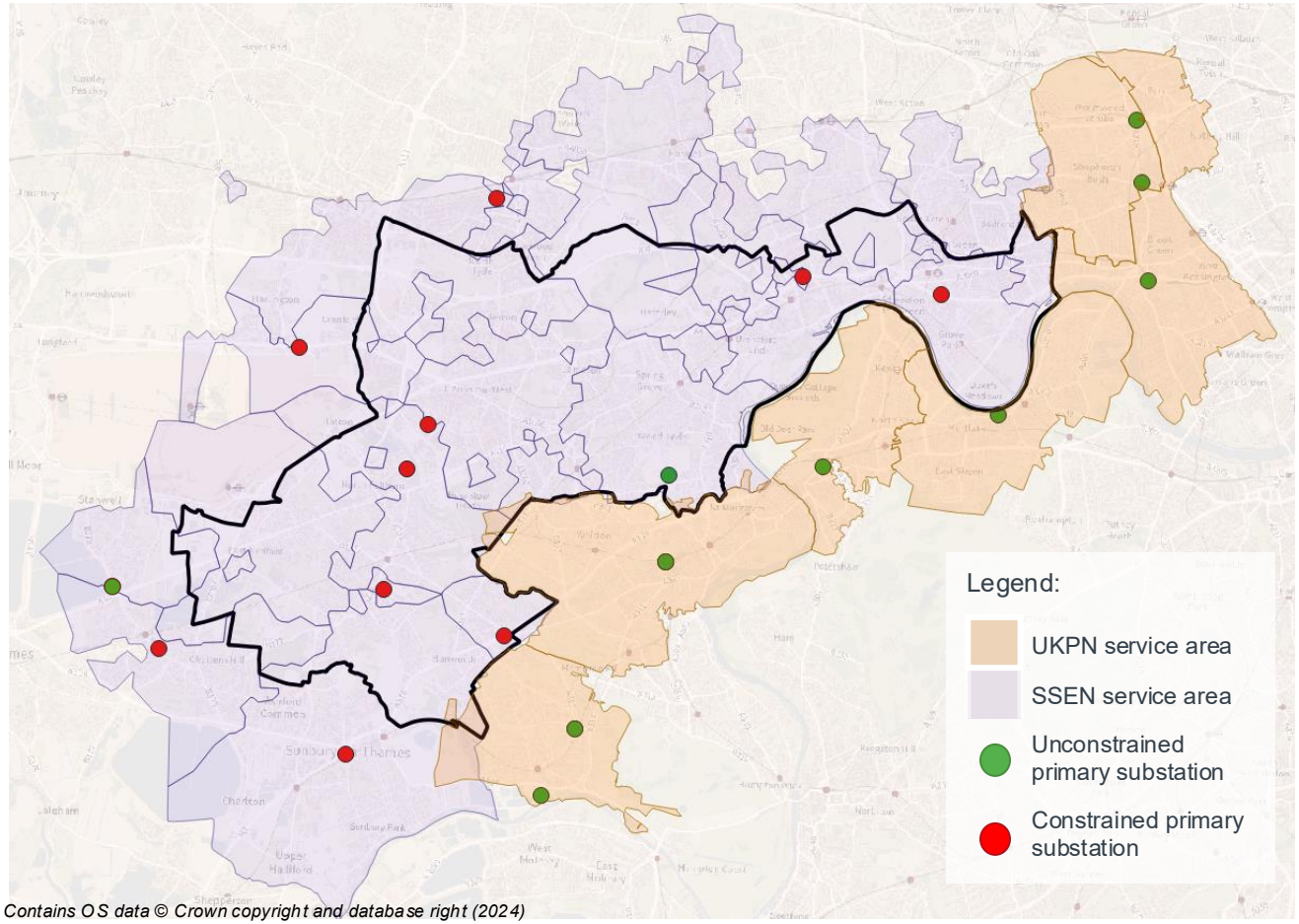

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Figure 2.08: Locations of primary substations and the boundaries of the areas they serve in December 2024 (Source: UKPN and SSEN, 2024).

2. Context and baseline

Heating infrastructure in Hounslow

Gas network infrastructure

Gas is supplied to buildings in Hounslow through a gas distribution network. Cadent is the Gas Distribution Network Operator (GDNO) responsible for supplying gas to the area. Cadent transports gas from the National Transmission System - operated by National Grid Gas - to customers.

Figure 2.09 captures domestic and commercial/industrial demand for natural gas. Grey areas shown on the map indicate data unavailability due to a low number of individual consumers. Gas consumption is split 75% and 25% between domestic and commercial/industrial customers respectively.

Existing heat networks

Heat networks could provide a low carbon alternative to natural gas for space heating and domestic hot water. At current, there are only site level operational heat networks in Hounslow. However, a study has been carried out to determine the feasibility of a borough-wide heat network. More information on the planned heat network can be found page 22.

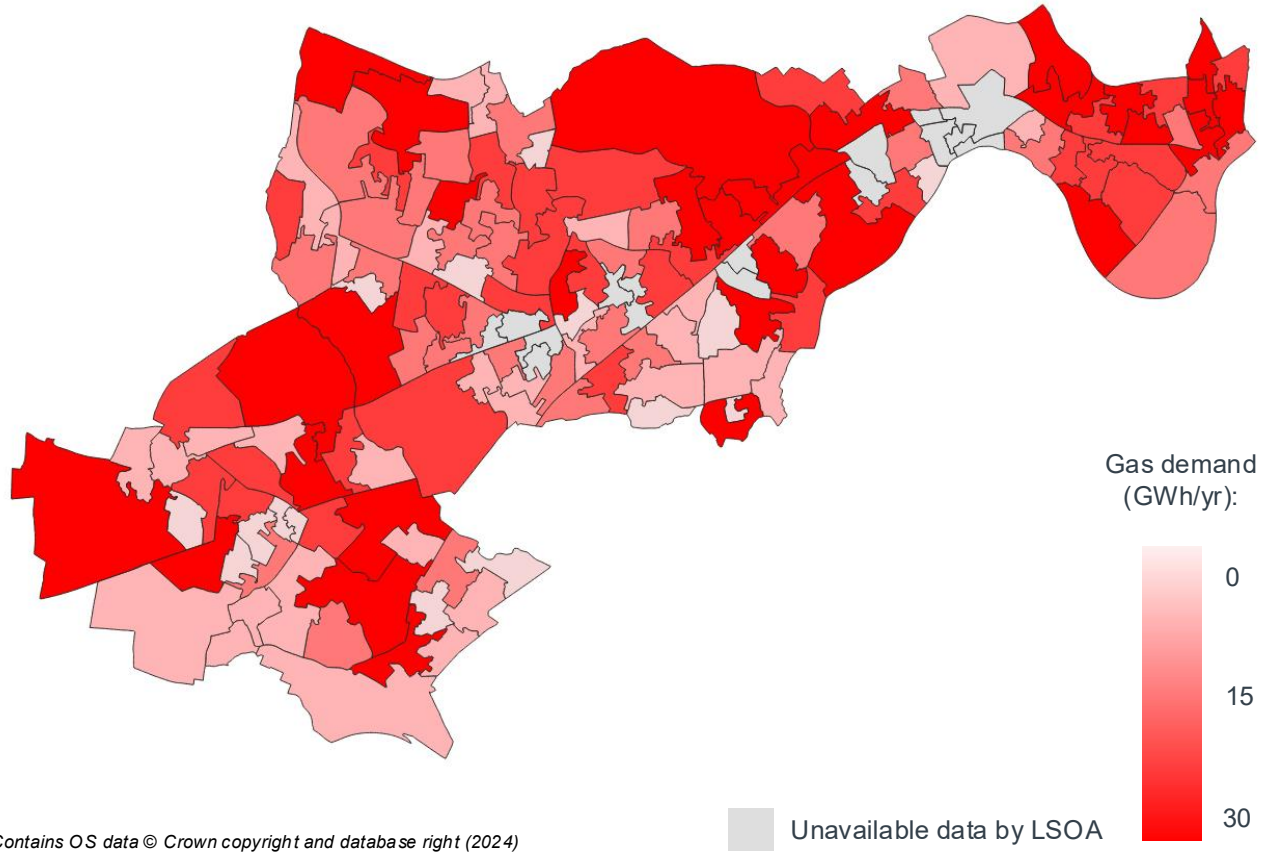


Figure 2.09: Gas demand in West London in 2024 by LSOA (GWh/year). Source: Cadent, 2024.

2. Context and baseline

The current energy system is dominated by natural gas, petrol and electricity

Understanding the current energy system

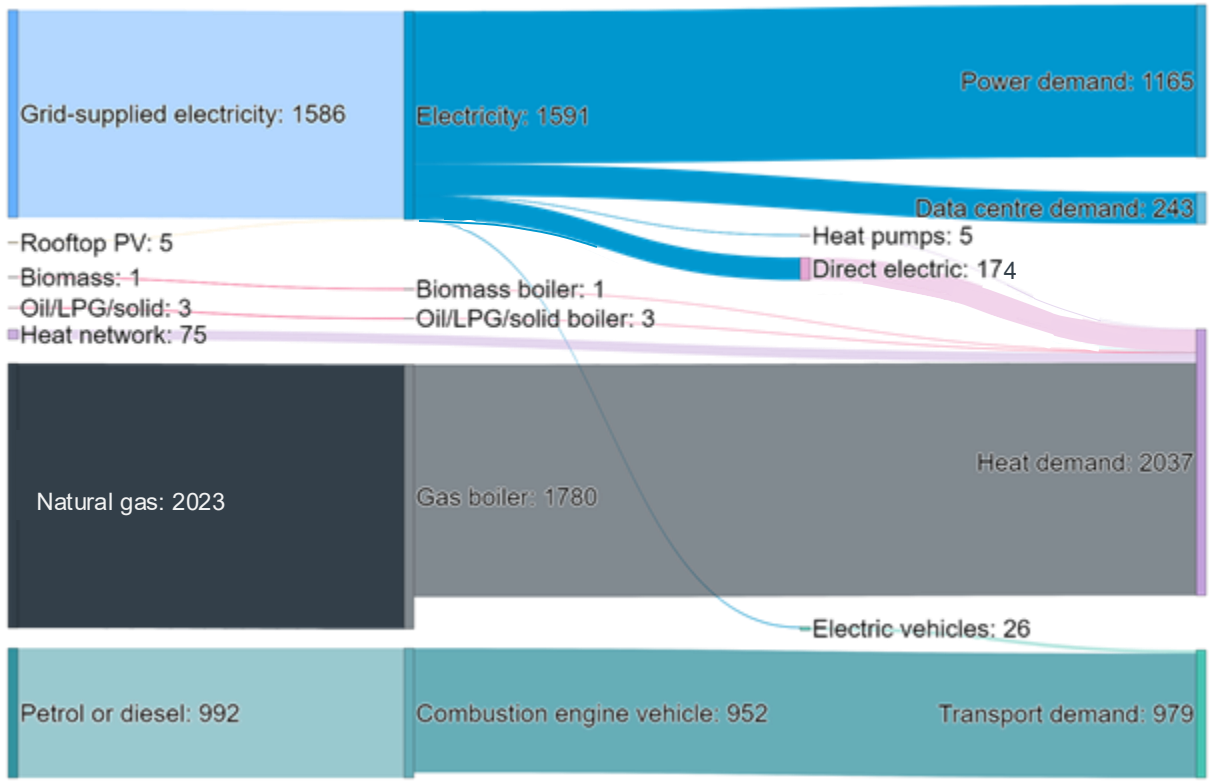
The current energy system in Hounslow consists of three largely isolated energy systems: power, heating, and transportation.

Figure 2.10 presents a Sankey diagram showing how different energy sources flow through energy vectors or converting technologies to meet various end-use demands in the energy system. The baseline Sankey diagram represents the energy system in 2024.

Most electricity in the system is imported from outside of the local area via the National Grid's transmission system and SSEN and UKPN's distribution network. The remaining electricity is generated locally by rooftop photovoltaics (PV) installations.

Heating demand is mostly met by natural gas through individual boilers, with a smaller proportion met by electric heating systems, such as direct electric systems and air-source heat pumps. A very small amount is from oil, liquefied petroleum gas (LPG) and solid fuel boilers.

Currently, almost all road transport demand is met by petrol and diesel, with only a small demand from EVs.



Note*: Sankey diagrams are a way of visualising energy transfer from energy sources to energy demands via energy vectors or conversion technologies. They are read from left to right and show a snapshot of a scenario in time.*

Figure 2.10: Baseline Sankey for LAEP area, with units of GWh/year

2. Context and baseline

Electricity demand in Hounslow includes a number of hotspots and is distributed across sectors

Current electricity demand

In 2024, Hounslow's total annual electricity demand was approximately 1,591 GWh. This captures all end-use electricity use, such as powering lighting and appliances. This excludes heat and transport use, given they can be met by multiple different energy carriers (e.g. gas, electricity and hydrogen). These demands are reported on separately.

Figure 2.12 shows that electricity demand across the borough is relatively even across sectors. The highest demand comes from domestic buildings and the 'other' category, which includes hospitals, schools and community buildings such as the Gtech Community Stadium.

From Figure 2.11, some hotspots include Hounslow high street, data centres and the Chiswick area with leisure centres and community hubs that are electrically heated.

Data centres account for a significant portion of electricity usage, with 6 data centres currently located within Hounslow borough. Despite the number of buildings being low relative to the number of homes, data centres consume substantial amounts of energy per facility via their IT and cooling equipment, so this high proportion is in line with expectations.

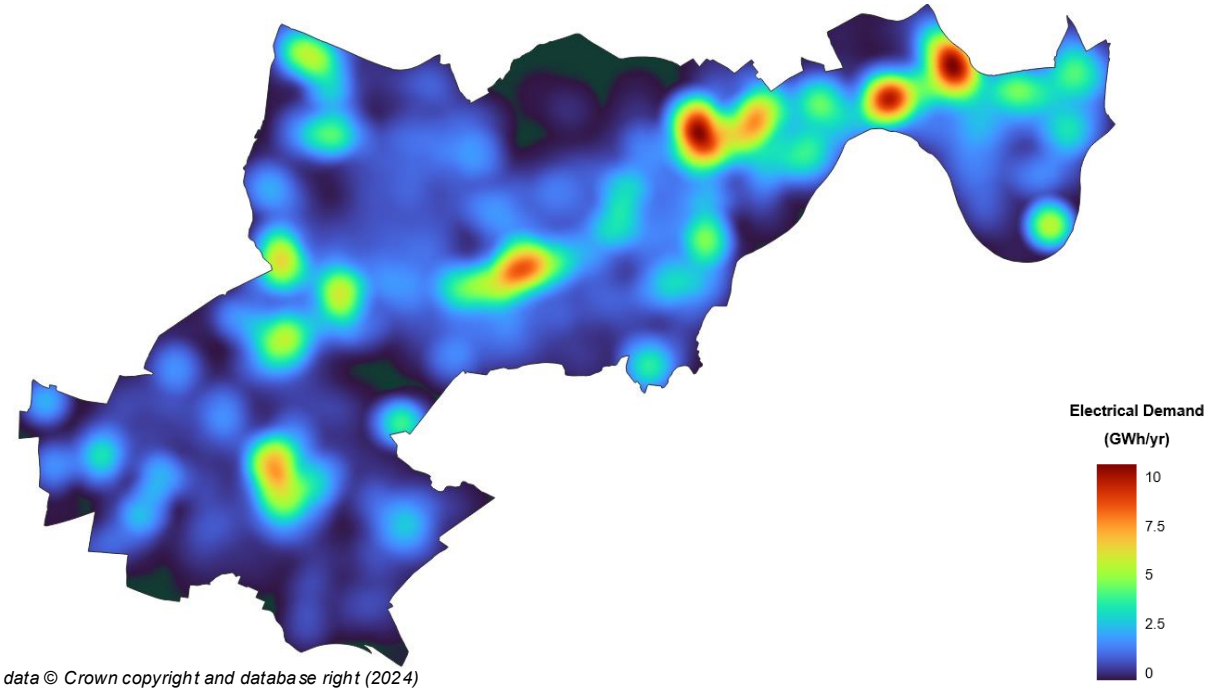


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Figure 2.11: Baseline electricity demand map (GWh/year) in Hounslow

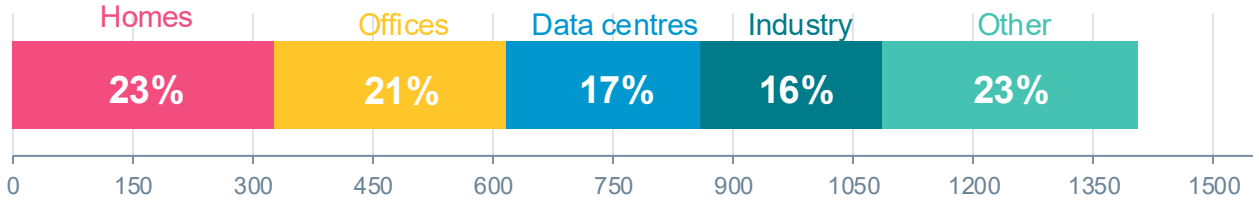

Figure 2.12: Annual electricity demand (GWh/year) by sector. Data Source: SkenarioLabs and Arup

2. Context and baseline
Heat demand is dominated by homes in Hounslow

Current heat consumption and supply mix

Annual space heating and domestic hot water demand for Hounslow in 2024 was approximately 2037 GWh. As shown in Figure 2.14, 69% of this demand is from domestic buildings. The towns of Chiswick and Hounslow Central have the highest demand density. Hounslow central has a higher density mix of businesses and homes including the high street. Similarly, Chiswick has a high concentration of office buildings. Additionally, as per the IMD decile map in Figure 2.01, Chiswick is relatively affluent area of Hounslow.

Around 87% of total heat demand is met by gas. The remaining share is met by air source, ground source and water source heat pumps, resistance heating, heat networks, oil boilers, as well as multi-fuel or solid fossil fuel stoves and wood log burners. Heat pumps generated a total of 4.7GWh in 2024.

Existing district heating in the form of communal heating networks connect a total of 1074 dwellings and buildings, with a total heat demand of 75GWh in Brentford and in central Hounslow.

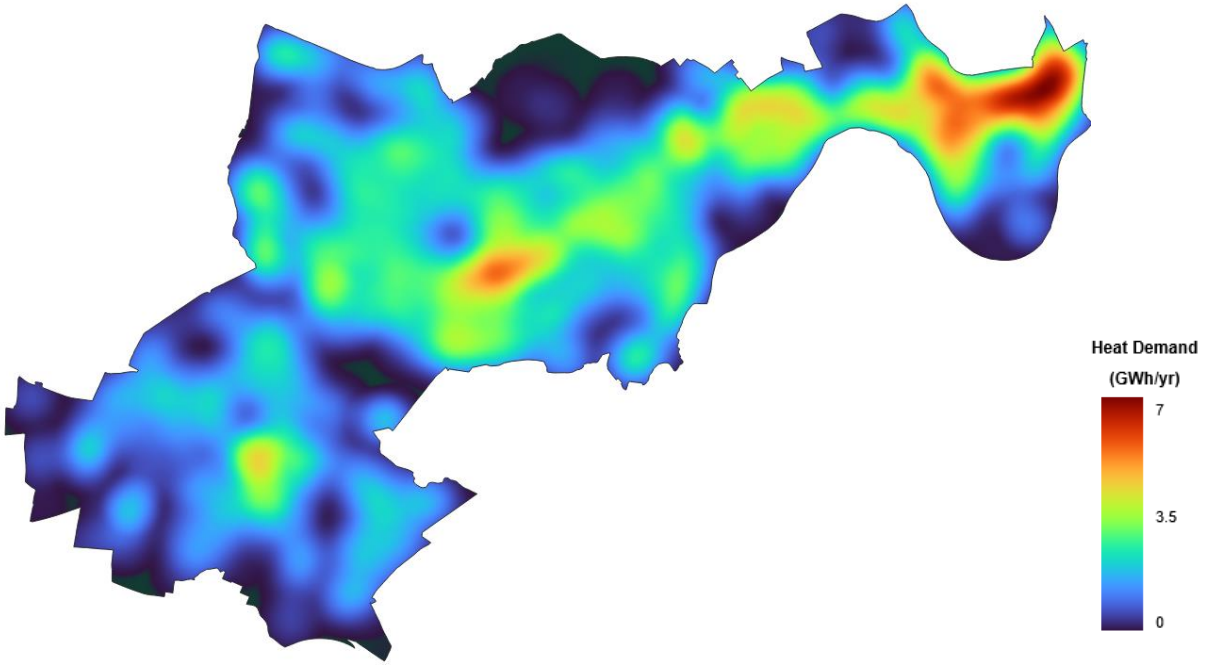

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Figure 2.13: Baseline heat demand map (GWh/year) in Hounslow

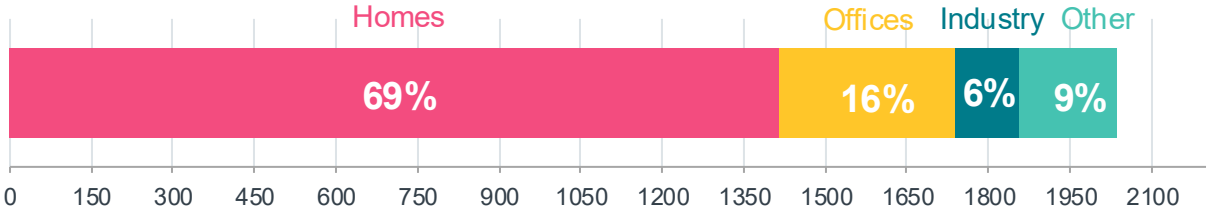

Figure 2.14: Electricity demand (GWh/year) by sector. Data Source: SkenarioLabs and Arup

2. Context and baseline

Transport demand is dominated by petrol fuelled vehicles in Hounslow at present

Current transport demand

In 2024, approximately 980 million miles were driven by cars, light commercial vehicles (LCVs) and heavy goods vehicles (HGVs). As seen in Figure 2.15, cars represent 83% of the total mileage, 14% by LCVs and 3% by HGVs. With Hounslow's proximity to Heathrow, LCVs and HGVs are key in the logistics and delivery supply chains that operate in the area to serve the airport. Their annual mileage is expected to grow with Heathrow growth.

As seen in Figure 2.16, of these vehicles, 82% are fuelled by petrol and diesel. Only 13% of vehicles are electric or hybrid.

As seen in Figure 2.17, there are several key roads running through Hounslow, including the A4 (Great West Road) which connects the West to Central London, contributing to vehicle traffic.

There are 416 public EV charging points installed in Hounslow, ranging from 2-50kW, according to the National Charge Point Registry [30]. The greatest density of charge points is in the Chiswick area, seen in Figure 2.18.

Public transport includes TfL buses, the Piccadilly and District line and National Rail. Rail-based rolling stock energy demands are not included in the LAEP as they utilise a separate electricity distribution network to the DNO networks.

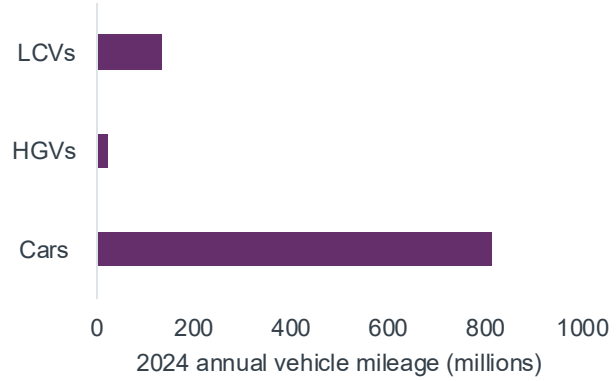

Figure 2.15: Total vehicle mileage in LAEP area in 2024 [42]

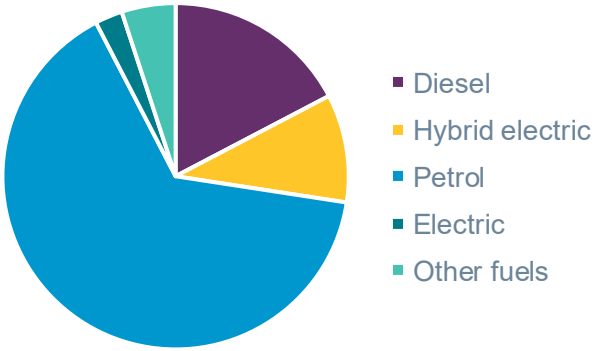

Figure 2.16: Breakdown of vehicle fuel in LAEP area [42]

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Figure 2.17: Major roads in LAEP area

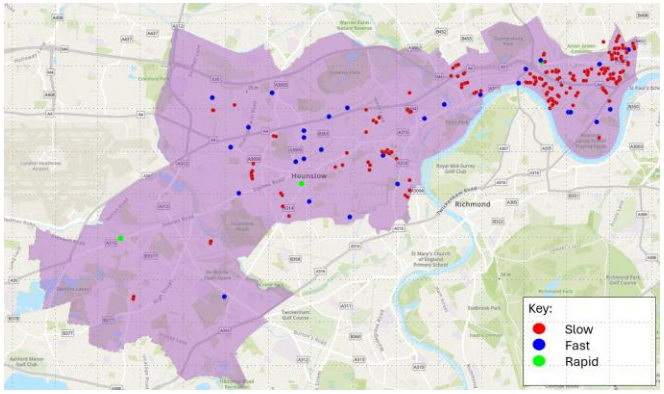

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Figure 2.18: EV charger distribution in LAEP area

2. Context and baseline

There are a number of smaller distributed solar photovoltaic installations at present

Existing renewable energy generation assets

Due to the urban nature of the LAEP area, the only recorded existing renewable energy generation asset is solar PV.

There is 2.2MW total installed residential solar PV capacity in Hounslow [43]. In addition, there are 66 installed solar PV installations comprising 10MW of generation capacity, as per the Renewable Energy Planning Database (REPD) [31]. These are located across commercial and public buildings such as schools and libraries. The largest installed capacity is 1.7MW at the Council-owned Western International Market. The project involves 6000 solar panels with battery storage and meets 45% of the site's demand [33].

Figure 2.19 shows the locations of the installations in the REPD. Domestic rooftop installations are not included in the database and so are not shown in the figure.

As discussed on page 27, Hounslow is facing grid capacity constraints. The impact of growth in renewables on local grid constraints will be a key consideration in future energy system planning.

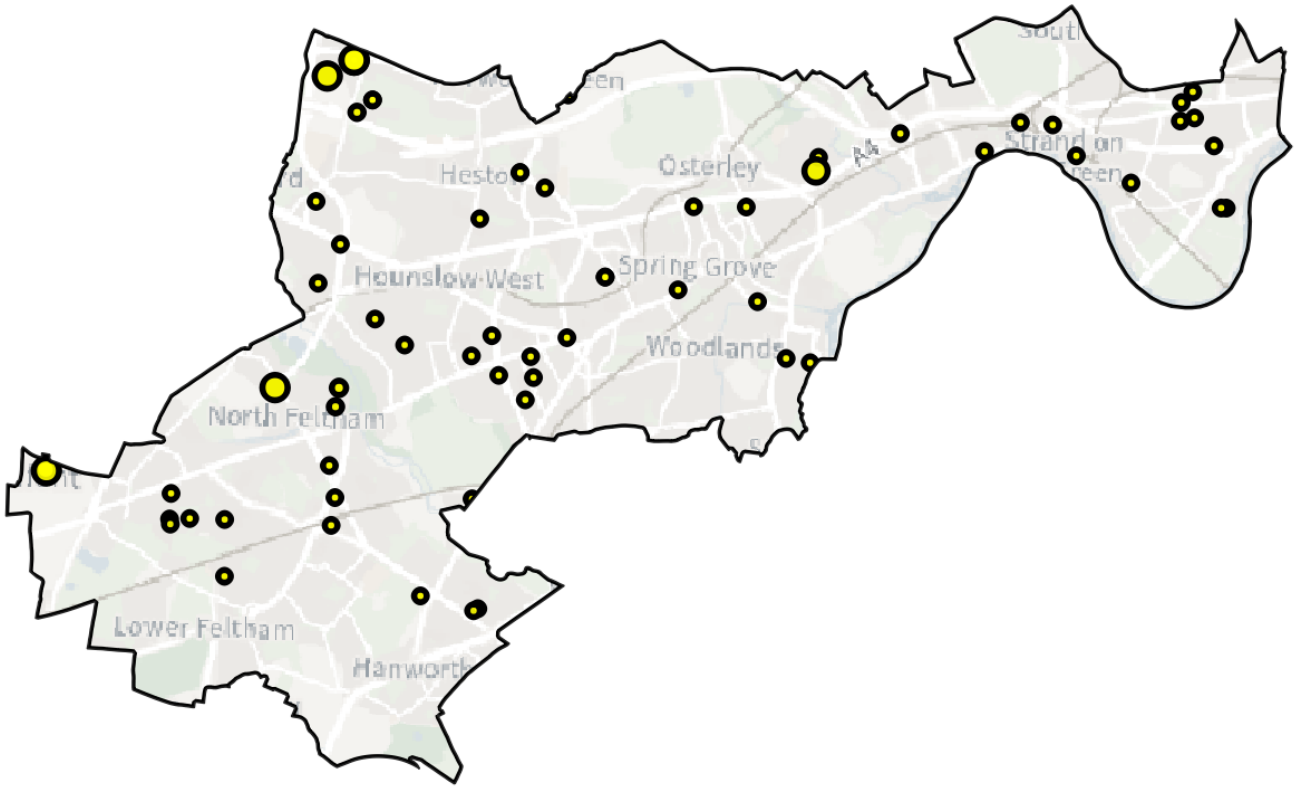

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Figure 2.19: REPD Solar PV distribution across LAEP area

3. Future energy system

3. Future energy system
Introduction

Future energy system vision

Understanding the future energy system

The Hounslow LAEP area energy system should aim to transition to net zero by 2050, whilst ensuring that the system is equitable for the growth of new development. There are a number of uncertainties about how Hounslow, as well as the wider energy systems of Greater London and the UK, will transition to a net zero future. These uncertainties include technology costs over time, UK Government policy decisions and the willingness and capability of the public and private sectors to enable the transition. These factors will influence the role of heat networks, or funding for renewable technologies like solar PV, for example.

To inform the LAEP, two stages of energy system modelling were undertaken:

- 2050 Optimisation Modelling: examining the options for Hounslow's energy system to achieve net zero in the target year 2050. It considers uncertainties on future changes in demand with a blend of 1- and 6-hourly modelling performed over the year to optimise each scenario against cost effectiveness and carbon reduction. The modelled energy systems in each scenario were assessed against tailored critical success factors. A final 2050 optimised energy system was taken forward as the 'preferred' option for Hounslow's energy system

- Deployment Modelling: examining how the preferred 2050 energy system is attained, exploring the rate and scale of change required. This was evaluated against alternative pathways that Hounslow's energy system could take.

The details and results of these modelling approaches are outlined in the following pages of this report.

Note: The 2050 system scenarios should not be considered as exact predictions for the future of the area, but rather designed to assess the impact of differing strategic decisions and technologies on the whole energy system of the area.

Figure 3.01: Feltham train station

3. Future energy system
Optimisation scenarios

2050 future energy system scenarios assumptions

Three scenarios were modelled of the optimised energy system. These scenarios were:

1. Low intervention
2. Low Demand
3. High Demand

Each scenario has four core levers – i.e. areas of the energy system that have been varied for this analysis:

- Heat networks
- Building retrofit
- Planned growth (buildings and data centres)
- Transport

Figure 3.02 outlines the extent of which each lever is applied in each of the three scenarios.

Low intervention: provides a scenario that features minimal change, allowing understanding of the impacts of low investment in energy infrastructure.

Low demand: provides results for the highest level of intervention, where retrofit allows for the largest decrease in demand, and incorporation of heat networks.

High demand: provides an outlook of the impact of existing policy plans in a high growth environment.

The characteristics of each scenario are broken down further in the following pages.

	Low Intervention	Low Demand	High Demand
Heat Networks	None	Borough-wide	None
Building Retrofit	No retrofit	High retrofit	Low retrofit
Planned Growth	Medium growth	Low growth	High growth
Transport	No change	Active travel + public transport	High Demand (EV)

Figure 3.02: Summary of assumptions per optimised model scenarios

3. Future energy system
Overview of future energy system technologies

Technology Overview

The levers on the previous page describe the energy system interventions that affect the magnitude and nature of the future demand for energy. In order to meet these demands, the optimisation modelling approach incorporates the main technology types which are appropriate to be deployed across Hounslow. These technologies are outlined in Table 3.01, with some key assumptions outlined below.

In this analysis, the "heat pump" technology adopts assumptions from Air Source Heat Pumps (ASHPs). Modelling all heat pumps as ASHPs produces the most conservative estimate for the number of individual units required to be deployed. However, some areas of Hounslow have the potential for deployment of other more efficient heat pump types, such as water and ground source.

Resistance heating is a lower efficiency low-carbon heating technology compared with heat pumps and heat networks. Heat pumps and heat networks were prioritised for selection in the modelling, with resistance heating deployed only when space or access requirements prevented higher efficiency technologies from being utilised.

Technology	Sector	Description
Rooftop PV	Generation	Photovoltaic panels on domestic and non-domestic building roofs to generate electricity.
Canopy PV	Generation	Photovoltaic panels on the roofs of useable spaces such as car parks to generate electricity.
Heat Pumps	Heat	Efficient heat device that transfers heat from one area (outside air) to another (indoor space or water) for space or water heating.
Resistance heating	Heat	Electrical resistance, where current passes through a resistive material, converts electrical energy into heat energy which can be used for space and water heating.
Thermal Storage	Storage	Technology that stores thermal energy for future, where demand is higher than supply. This is to help balance energy supply and demand.
Heat network	Heat	Network that uses a central energy source, such as waste heat from industrial processes, to heat hot water which is delivered in pipes to connected buildings to use for space and water heating.
EV Uptake / Chargers	Transport	Devices to charge the batteries of electric vehicles.
Batteries	Storage	Store chemical energy to be converted to electrical energy for future use, where the demand is higher than supply. This is to help balance energy supply and demand.

Shallow retrofit	Deep retrofit
• Building automation and BMS • Building services interventions such as recommissioning of ventilation and cooling • Fabric improvements including glazing, air tightness and roof/loft insulation	• All shallow measures, extended to include non-domestic buildings • Wall and floor insulation – all appropriate buildings • Replacement of poor-performing double glazed windows – appropriate residential buildings

Table 3.01: Summary of technologies deployed (top), retrofit interventions included within retrofit scenarios based on West London LAEP (bottom).

3. Future energy system
Scenario comparison

Generation breakdown per optimisation scenario

Table 3.02 presents the generation and demand metrics for each optimisation scenario.

Renewable generation:

- Increases equally for all scenarios from the baseline
- 750 GWh and 94 GWh for rooftop and canopy PV respectively in all scenarios

Heating and transport technologies:

- Values mirror the development growth and retrofit patterns. See the following page for more information on growth and retrofit.
- High Demand scenario experiences the highest increase from the baseline for EV chargers and heat pumps
- The heat network is only present in the low demand scenario, accounting for 300 GWh of generation.

Energy demands:

- Vary more significantly between the scenarios
- Low Demand has the largest decrease from the baseline to 810 GWh and 800 GWh for electrical and heating demand.
- Low Intervention scenario experiences the only increase from the baseline.

Energy components	Baseline (2024)	Low Intervention	Low Demand	High Demand
Renewable Generation:				
Rooftop PV	47	750	750	750
Canopy PV	0	94	94	94
Heating and Transport Technologies :				
EV chargers	6	6	170	210
Heat pump	~	1,900	500	1,300
Heat network	0	0	300	0
Energy Demands:				
Electricity demand (non-heat)	960	1,100	810	910
Heating demand	1,800	1,900	800	1,300

Annual Energy Generation/Demand (GWh)

Key: No change* Increase* Decrease*

*Relative to the baseline

Table 3.02: Generation and Demand inputs and results for optimisation scenarios (GWh)

3. Future energy system
Scenario comparison

Demand breakdown by scenario

The graphs on this page illustrate how total energy demand varies between the three modelled scenarios, highlighting the contribution that comes from development growth.

As illustrated in Figure 3.03, the Low Intervention scenario, in which no retrofit is assumed, includes the highest heat demands. In contrast, Low Demand has the deepest level of retrofit and therefore the lowest heating demands. Electrical demands remain similar between scenarios, with Low Demand having the lowest electrical due to low levels of growth.

Energy demand increase as a result of new buildings is shown in Figure 3.04. The Low Demand scenario has the lowest levels of growth. The High Demand scenario has the highest levels of growth with 150 GWh and 54 GWh for planned electricity and heating growth, respectively.

Demand for existing buildings constitutes the majority of the total demand across all three scenarios.

Low Intervention = No retrofit, medium growth
Low Demand = Deep retrofit, low growth
High Demand = Shallow retrofit, high growth

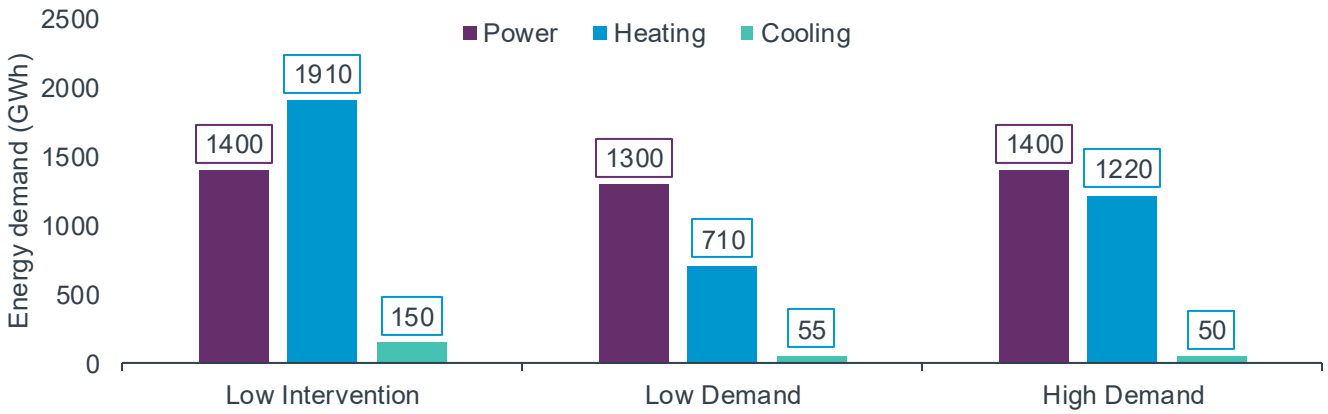


Figure 3.03: Total annual demands per optimisation scenario

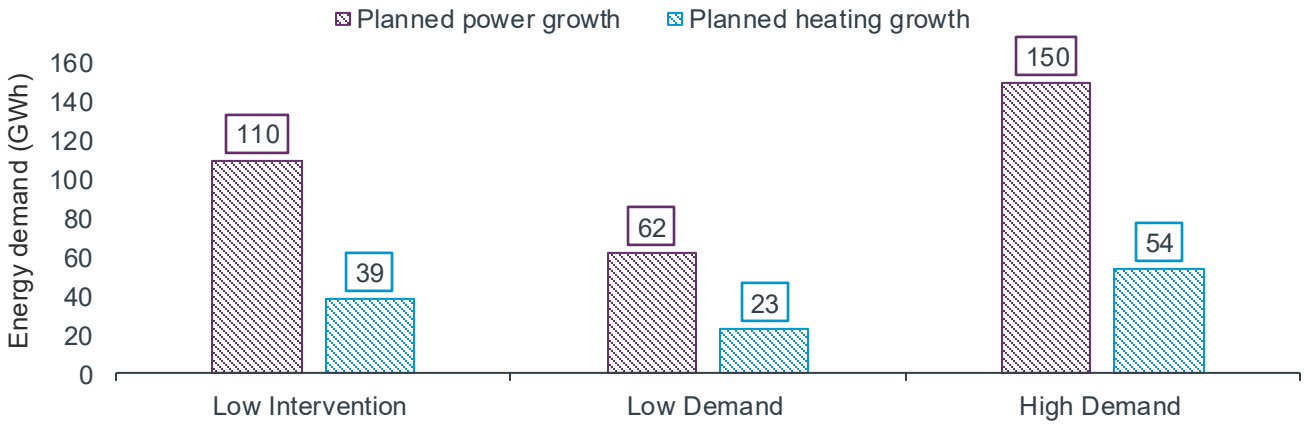


Figure 3.04: Total annual demands due to growth per optimisation scenario

3. Future energy system
Scenario comparison

Choosing the prioritised pathway

Multi-criteria analysis methodology

A multi-criteria analysis (MCA) method was used to inform the selection of the prioritised pathway from the three optimisation scenario results. The optimisation scenarios were assessed against the CSFs, introduced in the Executive Summary. The CSFs and their weightings for the MCA, were developed in collaboration between Arup and the London Borough of Hounslow. They were reviewed by the stakeholders of the Hounslow LAEP energy system area.

After evaluating each scenario against the CSFs, the scenario with the highest score is chosen as the basis of the prioritised pathway. Elements from other scenarios may be incorporated into the prioritised pathway after further consideration of the LAEP area's requirements and context.

A route map for the process from the optimisation scenarios to the prioritised pathway is shown in Figure 3.05.

The five CSFs have been repeated below:

- Achieving net zero
- Meeting social objectives
- Affordability of delivery
- Delivery (feasibility) – not used in MCA
- Broader alignment

From the five CSFs, only four were used as part of the MCA as delivery (feasibility) could not be measured quantitively.

A high-level MCA is shown on the following page. For full the MCA, the weightings and measures used, please see Appendix A of the report.

Multi-criteria analysis results

The MCA scored the Low Demand scenario the highest against the CSFs. Therefore, the low demand scenario formed the basis of optimised future system.

Projected growth

As discussed in the previous pages, the low demand scenario uses a low growth assumption, which includes all near-term growth plans and one third of longer-term projections. The latest mission statement from the UK Government, outlined in Section 2, prioritises growth as a key objective in the UK. Specifically, the plan includes building 1.5 million homes in England within this parliamentary period. To address the mismatch between this ambition and the demand scenario used, a higher growth assumption has been assumed for the prioritised pathway.

Prioritised pathway

Low Demand + Additional Growth

To create the prioritised pathway the medium growth assumption was adopted. This was an additional 15 GWh and 43GWh of heat and electrical demand respectively due to new developments. This is met by an increased level grid import and heat pump capacity.

A Sankey diagram for the prioritised pathway can be found on later in Section 3.

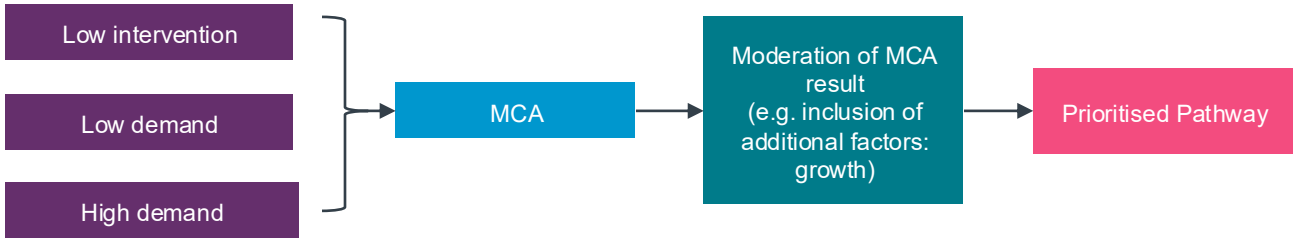


Figure 3.05: Multi-Criteria Assessment (MCA) methodology overview

3. Future energy system
MCA overview and results

High-level MCA Overview

Criteria	Sub-Criteria	Weighting	Low Demand	High Demand	Low Intervention
Achieve net zero	Pace at which the option accelerates borough-wide carbon emissions reduction, aiming to achieve net zero no later than 2050.	13%	1.3	1.3	1.3
Meets social objectives	Degree to which the option provides a diversified and resilient local energy supply.	5%	0.1	0.4	0.2
	Degree to which the option attracts investment that will support the Borough's green economy.	8%	0.4	0.4	0.7
	Extent to which the option ensures an inclusive transition, considering the needs of residents living in the equal opportunity areas and residents with protected characteristics.	10%	1.0	0.7	0.9
	Extent to which the option reduces system operating costs for residents and businesses.	10%	0.2	0.3	0.1
	Extent to which the option improves energy performance for residents and businesses.	8%	0.0	0.4	0.2
Affordability	Level of capital investment required from the public sector, prioritising low upfront costs and low ongoing revenue obligations.	15%	0.6	0.6	0.7
Deliverability	N/A	N/A	N/A	N/A	N/A
Broader Alignment	Extent to which the option improves grid capacity to support new developments and enable growth in the borough.	13%	1.3	0.8	1.1
	Extent to which the option provides a high IRR for private sector investments, ensuring attractive returns for both initial and ongoing contributions.	15%	0.6	1.5	0.9
	Extent to which residents and businesses are likely to experience negative impacts from the infrastructure work required to implement the option.	3%	0.1	0.0	0.1
Weighted Outcome		**100%**	**6.5**	**6.2**	**5.8**

Note: Certain sub-criteria were excluded from the MCA process due to their incompatibility with quantitative measurement. For the full list of CSFs, please see Table 1.01

Table 3.03: Summary of MCA analysis against CSFs

3. Future energy system
Scenario results

Prioritised pathway breakdown

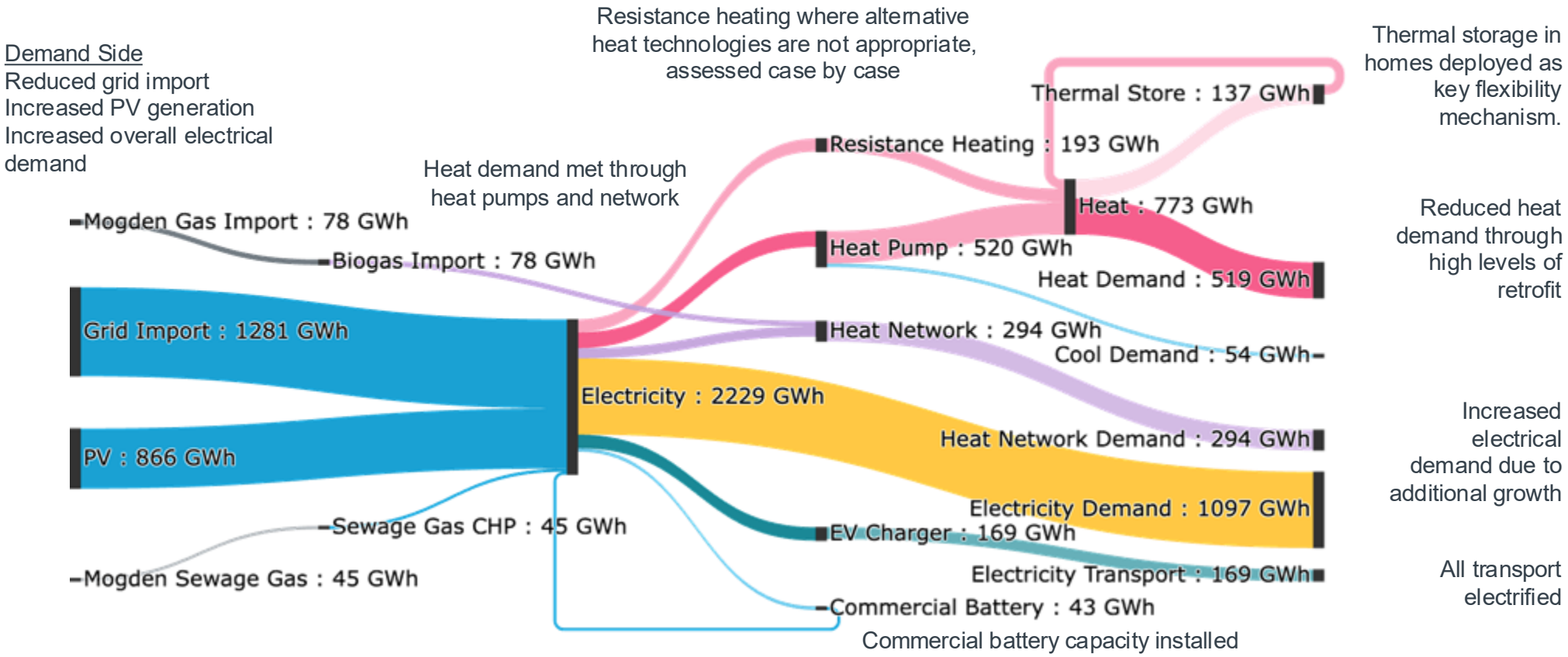


Figure 3.06: Optimised Sankey for the prioritised pathway, which combines the low demand scenario with additional assumptions around growth

3. Future energy system
Decarbonisation pathways

Introduction to deployment modelling and pathways

After the selection of the prioritised pathway, deployment modelling was carried out to identify the impact the rate of change of the prioritised energy system has on emissions and energy consumptions.

This is compared to an alternative pathway: Business as Usual. Grid decarbonisation is assumed to follow National Grid's Future Energy Scenarios (FES) "Holistic Evolution without BECCS" scenario [32].

The assumptions for each scenario are explored in more detail in Table 3.04.

Heating, electrical and transport demands increase based on current trends across both pathways, as growth is assumed in the modelling in line with UK Government plans.

Business as Usual

The Business as Usual (BaU) pathway has been used to indicate the 2050 Hounslow energy system if no further action were taken by residents, local businesses or the Council. Therefore, this model assumes that all technologies remain constant to 2050, at their 2025 capacity.

Prioritised Pathway

This models the pathway identified from the MCA. The pathway reaches the optimised energy system in 2050 with deployment following optimised adoption curves (also called S-curves).

2050 energy consumption by pathway

The roll out of the prioritised pathway has a 2050 energy mix of 70% grid imported electricity and 30% local generation. There is no fossil fuel heating fuel used due to the replacement of baseline sources with heat pumps, heat networks and resistance heating. The prioritised pathway also includes deployment of solar PV.
In the Business as Usual pathway, the fuel proportions of energy consumption and local generation remain the same from the baseline to 2050 (due to no additional intervention).
The repercussions of these energy mixes on carbon emissions for each pathway are represented in Figure 3.07.

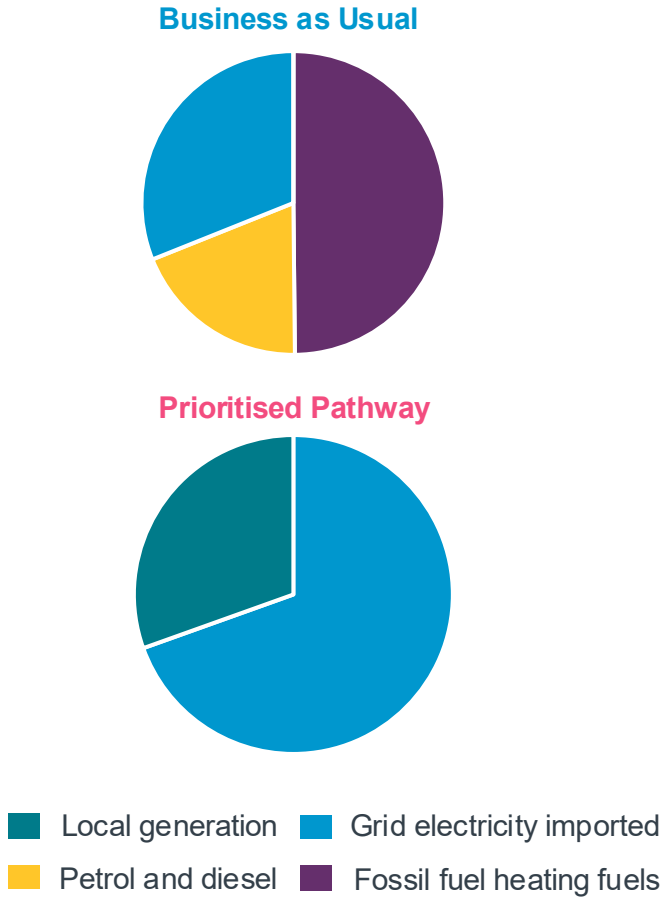


Figure 3.07: 2050 energy consumption split for each deployment modelling pathway

3. Future energy system
Energy consumption – deployment results

Deployment modelling assumptions

		Assumed increase from the baseline		Explanation	
Technology	**Sector**	**Business as Usual**	**Prioritised Pathway**	**Business as Usual**	**Prioritised Pathway**
Rooftop PV	Generation	No change	High	No new generation capacity installed	Build out to optimised capacity
Canopy PV	Generation	No change	Medium	No new generation capacity installed	Build out to optimised capacity
Heat Pumps (Air-Source)	Heat	No change	High	No new heat technologies installed	All heat electrified by 2050, roll out in line with retrofit
Domestic retrofit	Heat	No change	High	No retrofit	Meeting 2030 GLA EPC targets and in line with heat pumps for optimised savings
Non-domestic retrofit	Heat	No change	High	No retrofit	Roll out in line with heat pumps for optimised demand savings
Resistance heating	Heat	No change	High	No new heat technologies installed	Build out to optimised capacity
Thermal Storage	Storage	No change	High	No change	Build out to optimised capacity
Heat network	Heat	No change	High	No new heat technologies installed	Connections in line with optimised capacity
EV Uptake	Transport	No change	High	No EV uptake	100% of transport demand met by EVs
Batteries	Storage	No change	Medium	No batteries installed	Installed to optimised capacity

Table 3.04: Summary of assumptions against technologies for each deployment modelling pathway

3. Future energy system
Carbon emissions – deployment results

Carbon emission pathways

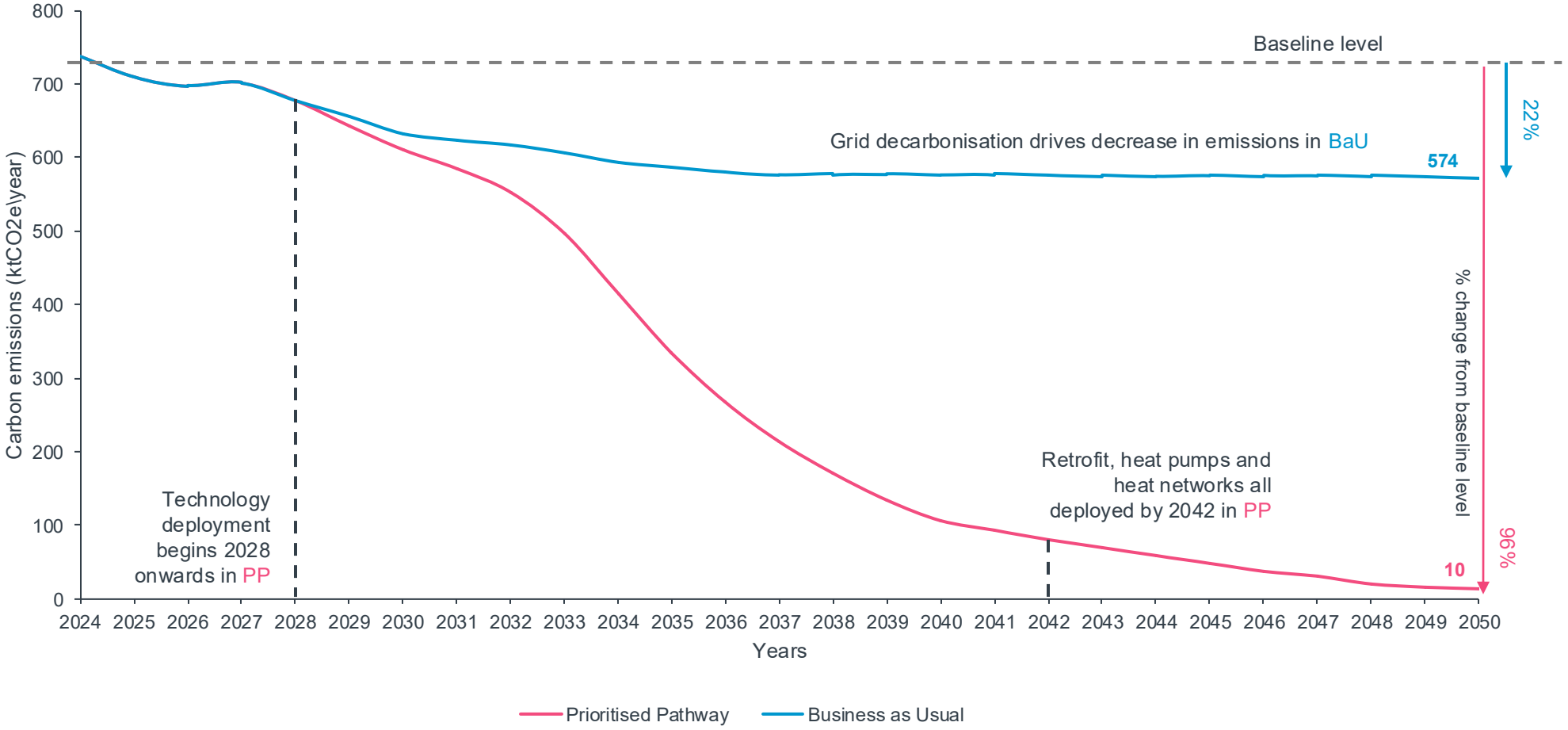


Figure 3.08: Carbon emissions to 2050 for each deployment modelling pathway

3. Future energy system
Carbon emissions – deployment results

Cumulative carbon emissions

Figure 3.09 shows the difference in cumulative emissions between each pathway. This showcases the potential contribution of each pathway to climate change.

The cumulative emissions for BaU will continue to increase with growth, despite grid decarbonisation. This shows that grid decarbonisation alone is insufficient to reduce overall carbon emissions, and further intervention is required.

The prioritised pathway assumes demand is met by electricity across heating, power and transport in 2050 and thus the graph plateaus with grid decarbonisation nearing zero.

It is important to note that before net zero is achieved, GHG emissions will continue.

Therefore, early reductions in emissions would result in lower total emissions than if emissions reductions were deferred, even if net zero were achieved in the same year. However, pathway acceleration faces considerable practical challenges. The Prioritised Pathway has been aligned to a rate of change which is highly challenging but still considered feasible.

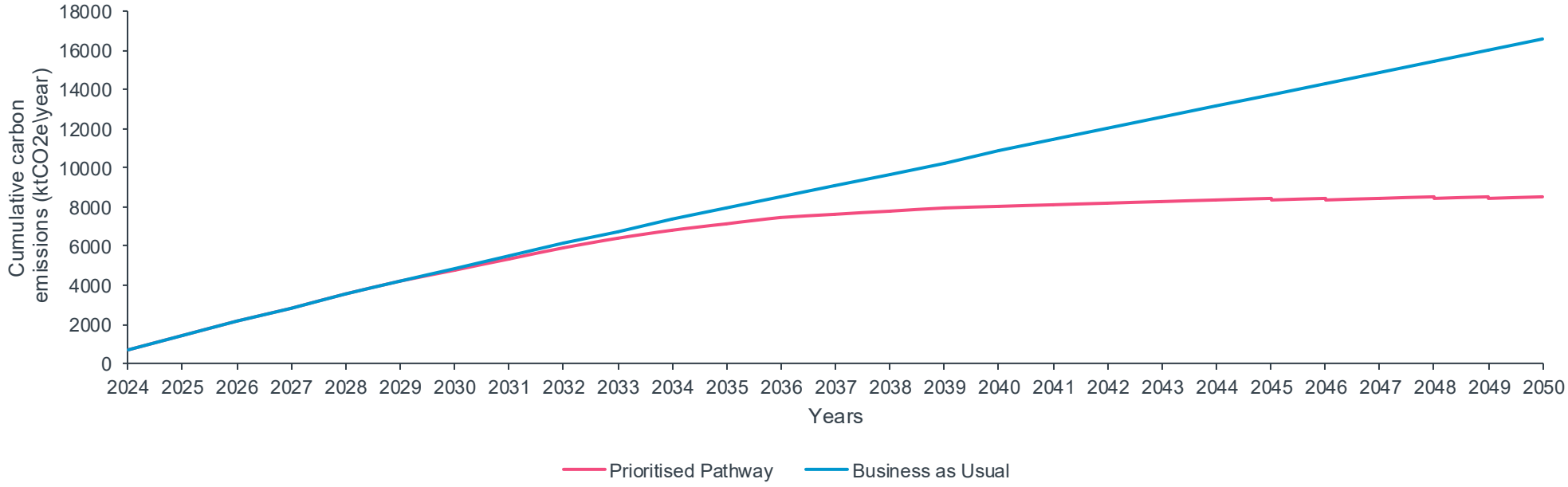


Figure 3.09: Cumulative carbon emissions to 2050 per deployment modelling pathway

3. Future energy system
Carbon emissions – deployment results

Avoided and residual emissions

Figure 3.10 compares the carbon emissions by demand sector in the 2050 Business as Usual pathway and 2050 prioritised pathway.

The emissions avoided from heating via retrofitting measures and from technology change/electrification of heating and transport have been illustrated. This isolates the impact of just retrofitting, assuming the same heating supply mix (e.g. gas boilers), and the further heat decarbonisation with a technology shift to heat pumps.

Following the prioritised pathway, Hounslow will be net zero ready by 2050. To achieve absolute net zero, the 2050 residual emissions from power and transport must be offset or balanced. These arise from the projections that the electricity grid will not have achieved complete decarbonisation. One option for Hounslow in addressing this would be to explore investment routes into zero-carbon electricity through power purchase agreements.

Addressing this will require input and action from Hounslow teams, developers and large emitters who have a responsibility to meet net zero within their own residual emissions.

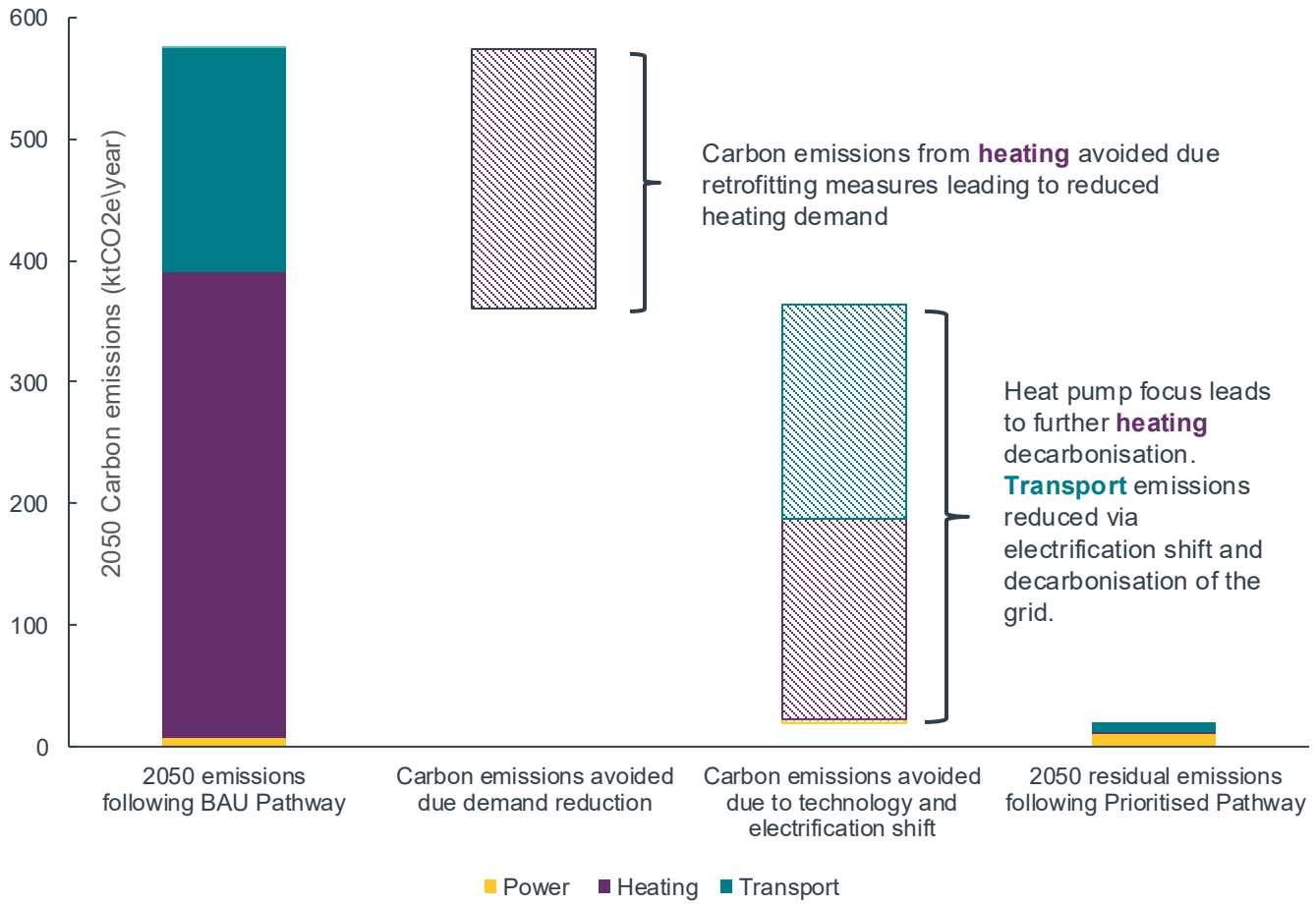


Figure 3.10: Waterfall chart for 2050 emissions and avoided emissions of BaU and Prioritised Pathway

3. Future energy system
Prioritised pathway scenario

Prioritised pathway

To meet net zero targets, Hounslow can aim to follow the Prioritised Pathway, as closely as possible. Figure 3.11 highlights the reductions in emissions that need to be made across the different demand sectors. Heating accounts for 53% of baseline emissions and is the most decarbonised sector by 2050, at 24% of emissions. The majority of heating decarbonisation is completed first by 2040, due to the prioritisation of retrofit, heat pumps and heat network deployment, see page 42 for further information on prioritisation.

Following this pathway, residual emissions in 2050 would be 10 $ktCO_2e$. Local generation reduces the requirement for grid import across all sectors, and the impact of incomplete decarbonisation on residual emissions. Maximising local renewable generation is a pathway to reduce grid constraints nationally, increase stability of supply, fuel costs for customers and cumulative emissions in earlier years where the grid carbon factor remains high.

The analysis carried out as part of the deployment modelling highlights the importance of transport and heating sectors in reaching net zero targets.

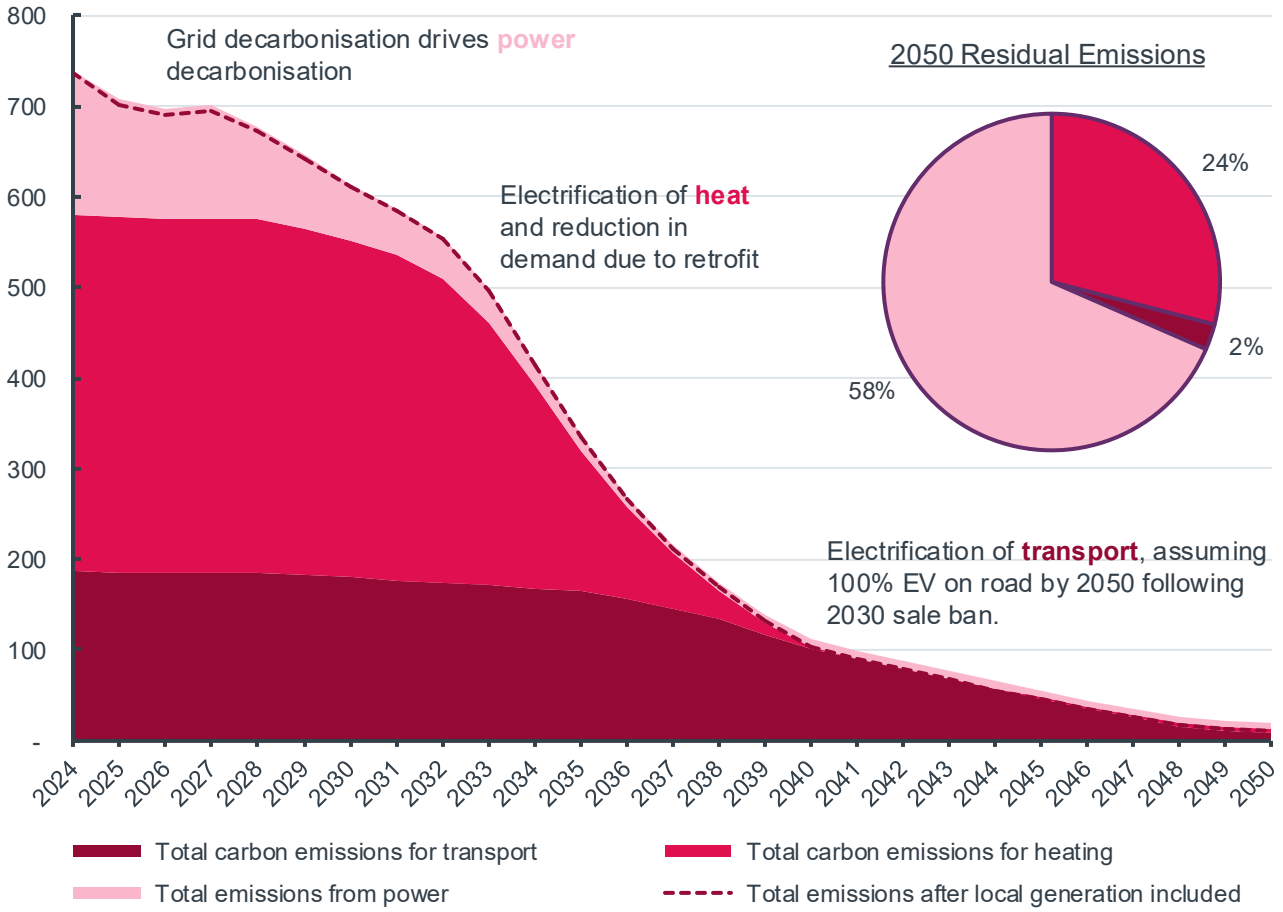


Figure 3.11: Carbon emissions by sector for the Prioritised Pathway to 2050

3. Future energy system
Spatial prioritisation by primary substation constrain levels

Spatial prioritisation

To achieve the vision of the future energy system described in the preceding pages, Hounslow's energy system will need to transform across the entire borough. It is not possible to roll-out the full extent of energy system change at once, so it will be important to prioritise areas of the borough best suited to early uptake of the technologies.

The action plan set out in Section 5 describes actions per intervention area that are applicable throughout the Hounslow LAEP area.

This section uses data on the existing and future energy system to understand the most technologically optimal locations for starting packages of interventions.

It is important to note that in practice there is a wide set of qualitative considerations which are more difficult to capture that will influence an area's ability to be an early adopter for any technology – for example socio-economic, ownership and behavioural factors.

When selecting the areas, it will be important to consider the impact on residents and businesses, particularly within Equality Opportunity Areas.

The following pages describe the areas best suited to early roll-out of:

- Retrofit and heat pumps
- Solar PV
- EV chargers
- Flexibility

These intervention areas are spatially prioritised through analysis against:

- EPC Rating by LSOA
- Primary substation constraint levels

The heat network routing is fixed as per the heat network feasibility study and has existing recommended phasing. Similarly, data centres are also fixed in location and therefore are not spatially prioritised. All substation areas are regarded as a priority for the gas network transition.

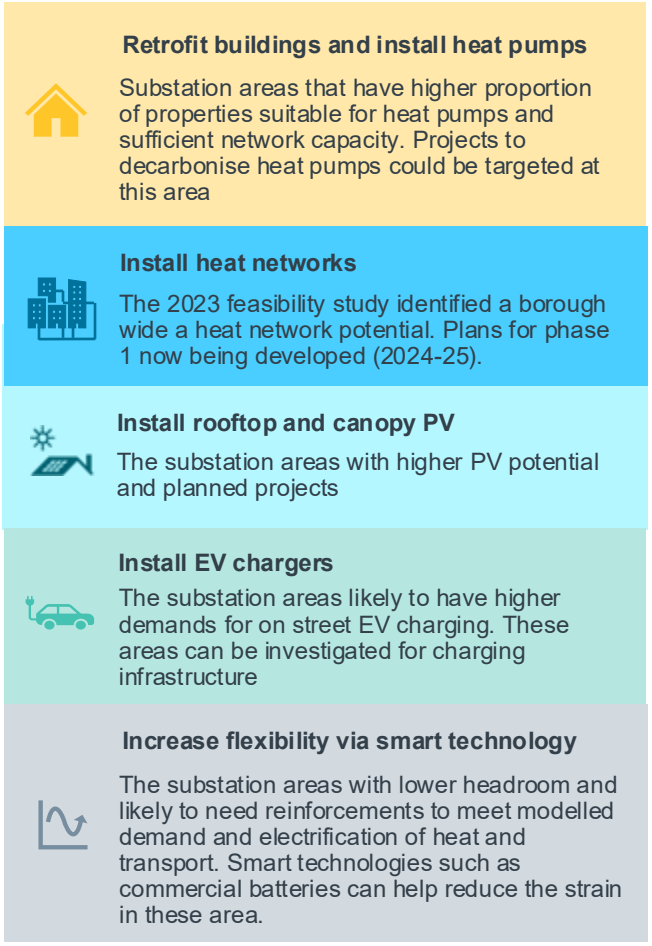


Figure 3.12: Actions to 2050 per substation for intervention areas

3. Future energy system
Spatial prioritisation by primary substation constrain levels

Flexibility

Flexibility measures should first be prioritised in the primary substation areas with the least available capacity. These are highlighted in the darkest shading, with the areas of greatest constraint in Cranford, Heston, and Chiswick.

EV Chargers

EV Chargers are recommended to be installed first in the primary substations with greatest available capacity.
These are the lighter shaded areas, including Hounslow, Isleworth, and south of Feltham.

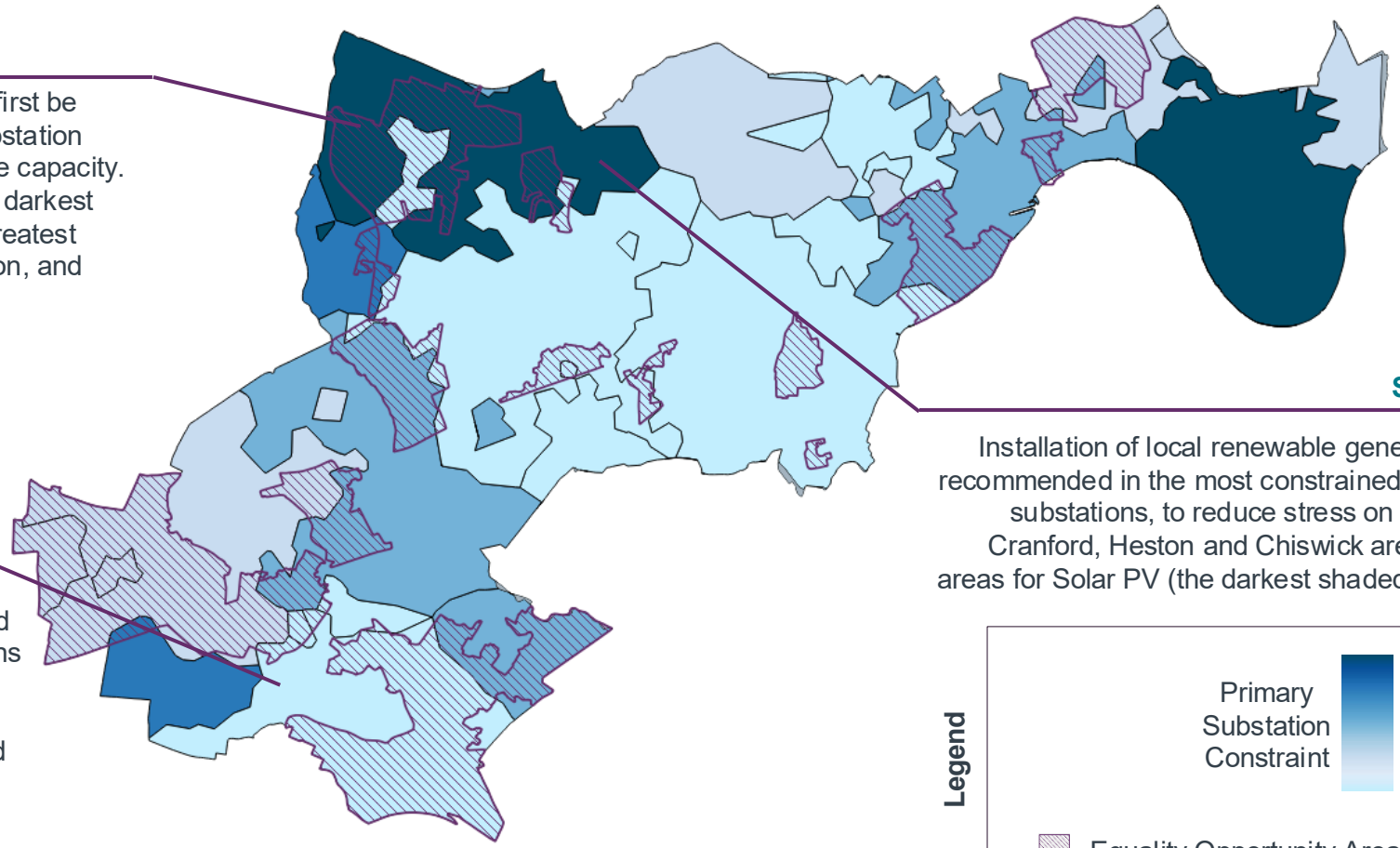


Figure 3.13: Spatial prioritisation: Flexibility, EV chargers & solar PV

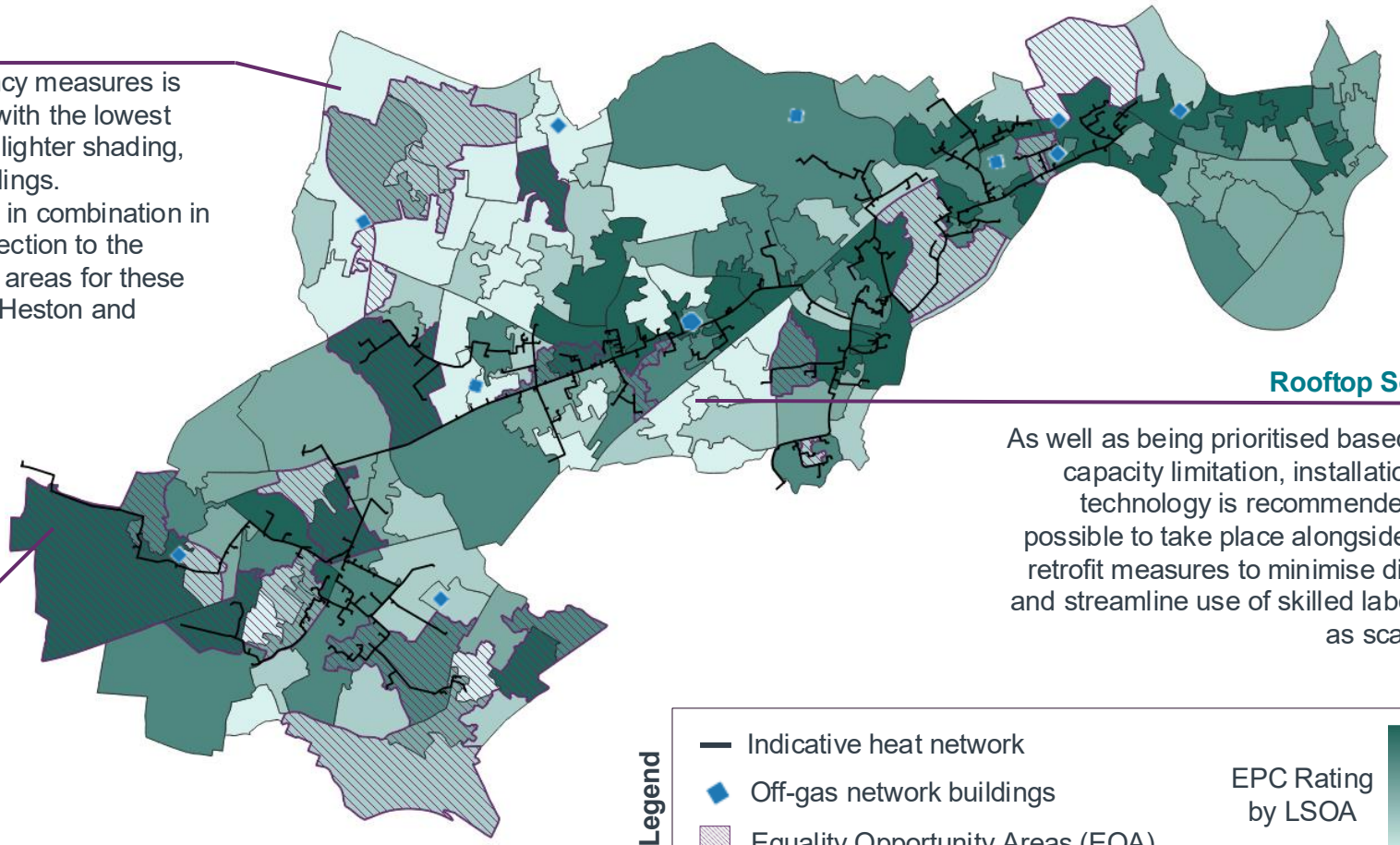
3. Future energy system
Spatial prioritisation by EPC grouped to LSOA

Retrofit and Heat Pumps

Installation of energy efficiency measures is recommended first in areas with the lowest EPC rating, indicated by the lighter shading, and off the gas network buildings.
Heat pumps can be installed in combination in areas without plans for connection to the district heat network. Priority areas for these measures include Cranford, Heston and Lampton.

Heat network

The proposed Heat network extends across most of the length of the borough.
Around 22% of connected buildings are in EOAs, with the majority being large residential blocks



Rooftop Solar PV

As well as being prioritised based on grid capacity limitation, installation of this technology is recommended where possible to take place alongside deeper retrofit measures to minimise disruption and streamline use of skilled labour such as scaffolders.

Figure 3.14: Spatial prioritisation: Retrofit, heat pumps, heat network & solar PV

3. Future energy system
Case Study: Cranford

Case Study: Cranford

The neighborhood of Cranford is located in the North-West of Hounslow, close to the border with Hillingdon and adjacent to Heathrow Airport. The area has a population of approximately 16,000 residents, distributed across around 5,000 households. The community comprises a mix of older residents, younger families, and professionals. Significant portions of the neighborhood have been designated as Equality Opportunity Areas.

The housing stock in Cranford includes a variety of types, from older terraced properties to newer developments. Many homes are privately owned, with a significant portion requiring energy efficiency upgrades. The area contains some of the lowest Energy Performance Certificate (EPC) rated properties, making it a priority for retrofit installations.

Cranford is served by some of the highly constrained primary substation areas – Bath Road East and North Feltham– making it a priority area for the installation of solar PV and flexibility technologies, which can help delay the need for significant grid upgrades. As mentioned above, installation of retrofit is also a priority in Cranford. By balancing the roll-out of heat pumps, which increase electrical requirements, with the installation of PV, storage and flexibility technologies, areas with the highest electrical constraints can minimise negative impact while network investment upgrades are still underway to provide a longer-term solution.

Given its proximity to Heathrow Airport, Cranford could also be a suitable site for future hydrogen projects, leveraging the airport's plans for potential hydrogen infrastructure and supply chains in the future.

In terms of energy efficiency and retrofit, the area includes some of lowest performing building stock, as indicated in the preceding section. This offers an opportunity for significant reduction in energy demands and energy costs for customers, starting with retrofitting of Council-managed assets including social housing, schools, and leisure centres. By 2040, all buildings in Cranford should look to transition to zero carbon heating solutions, such as heat pumps or connection to the borough-wide heat network, replacing traditional gas boilers.

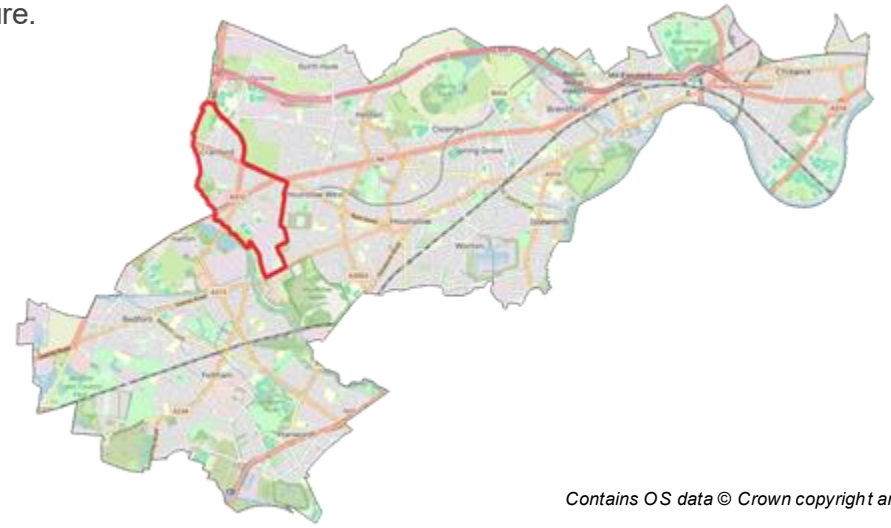


Figure 3.15: Map of Hounslow indicating Cranford in red

3. Future energy system
Case Study: Cranford

Case Study: Cranford

Some of the buildings in Cranford located to the south of the Great South West Road are planned for connection to the borough-wide heat network in Phase 4, including Beavers Community Primary School, Hounslow Sports Club, the Hub community centre and social housing blocks Clemens Court Estate and George Chatt House. Prioritising energy efficiency measures here would prepare the buildings for connection to the heat network, which, if connected to a low carbon heat source such as one of the data centres in the south east of the region, would enable heat network and building heating system operation with a more efficient, lower temperature regime.

Key educational institutions in Cranford include Cranford Primary School and Cranford Community College. These schools could benefit from energy efficiency improvements, offering demand reduction and educational opportunities.

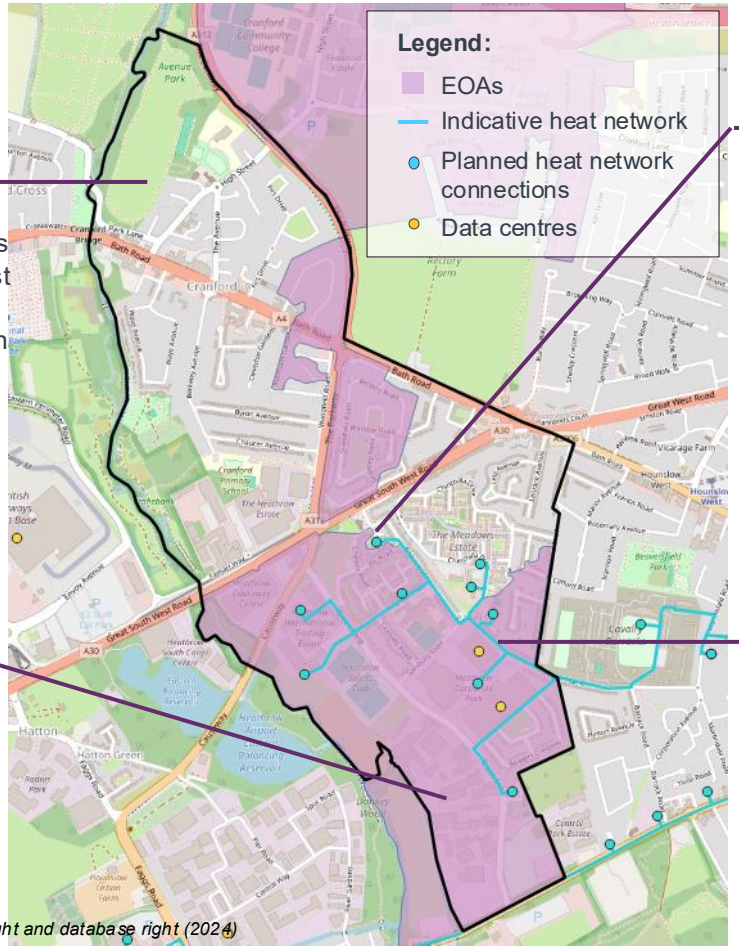
Many of the buildings along the south-western edge are industrial or logistics facilities, including the Heathrow Estate. If Heathrow Airport's plans for use of hydrogen proceed, this area could be well suited to becoming a hydrogen hub, utilising the local supply chain.

Solar PV & flexibility

Installation of these technologies in the areas of Cranford with the most constrained electricity substations, like the Bath Road East substation, can help relieve near-term grid limitations

Industrial and logistics hub

The area's proximity to Heathrow Airport could make these businesses well suited to trial and early hydrogen adoption in the future.



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Social Housing

Areas of social housing managed by the Council could be well suited to early demonstrator projects. George Chatt House and Clemens Court Estate are both also planned to connect to the heat network.

Heat network and data centres

Buildings in this area are planned for connection to the heat network in Phase 4 around 2032. Data centres could be connected to the network as a low carbon source of heat.

Figure 3.16: Map of Cranford

3. Future energy system
Hydrogen

Hydrogen in Hounslow: Challenges, Opportunities, and Future Prospects

Hydrogen is a versatile energy vector that could play a significant role in the future of decarbonisation in the UK. Producing only water when burned, as opposed to releasing carbon dioxide as natural gas does, hydrogen offers a clean alternative to fossil fuels, and could be particularly useful for parts of the energy system that are harder to transition to electricity.

In line with the latest low-carbon hydrogen standards, hydrogen can be produced via two main mechanisms [36]:

1. CCUS enabled - Steam Methane Reformation (SMR) and Autothermal Reforming (ATR): reformation of methane (CH_4) to isolate hydrogen (H_2), with a biproduct of carbon dioxide which can be captured with a relatively high success rate via CCS;
2. Electrolytic enabled - Electrolysers use clean electricity to split water atoms (H_2O) to isolate the hydrogen, with a biproduct of oxygen.

The potential for use of hydrogen in the UK energy system has been the subject of a significant amount of research and investment. The technologies associated with distribution of gas are mature, but their transition to use for hydrogen is pending a safety case. At present it is still considered a nascent industry, and there is uncertainty about how and when hydrogen may be produced and used. One key consideration is the transition timelines that would be required for adopting widespread hydrogen. Another is the public/social acceptance of the new fuel. DESNZ has been collecting evidence on its potential use in domestic homes, and is expected to publish a decision following this collection of evidence throughout 2025 [37].

Cadent, National Gas and SGN have been progressing the Capital Hydrogen project – a 15-20 year programme that will bring hydrogen into London and the South East [38]. At present this project's westernmost extent into London is Tower Hamlets, with a considerable distance remaining to reach Hounslow.

With its proximity to Heathrow Airport, Hounslow could potentially benefit from any plans for a future supply of hydrogen for aviation in the area. One key initiative is Project NAPKIN (New Aviation Propulsion Knowledge and Innovation Network), which aims to have hydrogen-powered aircraft operating by 2035 [39]. Heathrow has also published plans for a hydrogen refuelling network, including one of the UK's first public refuelling stations [40]. If a hydrogen supply chain were established to serve these needs at Heathrow Airport, there may be opportunities for Hounslow to access hydrogen more readily than in other areas of the country.

Because of the uncertainty around the future role of hydrogen, the core analysis presented in this LAEP focuses on other technological solutions for decarbonising the energy system.

This section explores the role hydrogen could play in Hounslow's future energy system, with a particular focus on **heating in homes**, **industrial decarbonisation** and **transport**.

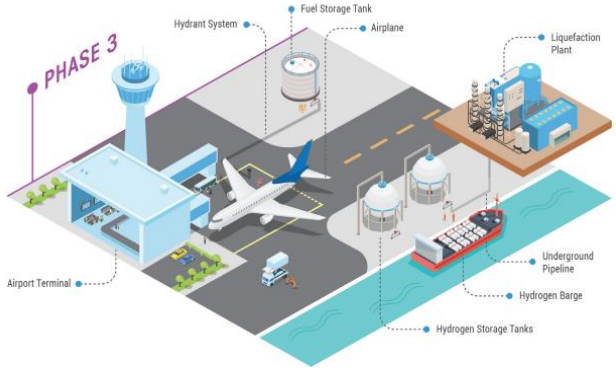

Figure 3.17: Hydrogen supply schematic for Phase 3 of Heathrow's Project NAPKIN

3. Future energy system
Hydrogen

Hydrogen in Hounslow: Challenges, Opportunities, and Future Prospects – Sector Exploration

Heating in homes

Hydrogen could be used as a heating fuel in homes, replacing the methane currently used in boilers and for cooking. Our existing gas distribution infrastructure could be modified to carry hydrogen instead, which prepares the network for transition. In homes, the methane-combusting burner components of heating and catering technologies would be switched out for hydrogen combustion, and an additional emergency flow valve installed as a safety mechanism.

Despite the advantage offered by the existing gas network, there are some challenges associated with a widespread transition to hydrogen . There is also a risk that low consumer acceptability could limit uptake, which could result in a significant number of pipelines being converted with a limited number of homes and businesses choosing to connect.

Table 3.05: Heating in homes overview

Potential number of homes requiring hydrogen retrofit in 2050 (assuming hydrogen adoption)	12,200 homes
Total hydrogen estimated	42.6 tons

Industrial processes

Another sector considered particularly suitable to decarbonisation with hydrogen is high-temperature industrial processes. These high-temperatures are required for things like manufacturing, metalwork, welding, and steel production, and in these cases it is difficult to achieve the same outcomes without using a combustible fuel.

Retrofitting industrial processes with hydrogen is a complex case-by-case process due to the unique nature of each individual application. To transition to hydrogen, careful consideration and diligence should be applied to each facility in turn.

Although Hounslow's industrial estates include many logistics and other facilities that do not require high temperature processes, the borough hosts a number of engineering, electroplating and metalworking facilities. If all the gas currently used for industrial processes could be replaced with hydrogen, this would require 2900 tonnes of hydrogen in Hounslow's local energy system.

Table 3.06: Industrial processes overview

Total amount of gas consumed in industrial processes at baseline	96.5 GWh
Total hydrogen estimated to meet industrial demand	2900 tons

Transport

Although electric vehicles are likely to hold a significant role in clean private vehicles and LGVs, hydrogen has the potential to play a significant role in the decarbonisation of heavy goods vehicles (HGVs). Hydrogen has a higher energy density than batteries, meaning a larger amount of fuel can be carried in the same space, making hydrogen better suited to long-haul journeys and heavy loads. Refuelling for hydrogen vehicles is also faster than recharging of electric vehicles.

Hounslow captures stretches of the M4 and A4 within its boundary and includes Heston Services, which serves traffic on the M4. These areas could offer ideal hydrogen refuelling stations for HGVs in the future. Heathrow's plans for hydrogen refuelling could serve as a useful pilot for this technology locally, and if successful Hounslow may benefit from sharing hydrogen supply infrastructure with Heathrow.

Table 3.07: Transport overview

Potential umber of HGVs fuelled by hydrogen (assuming hydrogen adoption)	12,200 HGVs
Total hydrogen required to meet HGV refuelling demand	671 tons

4. Intervention areas

4. Intervention areas
Focus areas for the delivery of the LAEP

Summary

Decarbonising Hounslow's local energy system requires a profound transformation, as demonstrated by our modelling scenarios. To achieve net zero emissions whilst meeting critical success factors, the borough must significantly reduce energy demand across heating, electricity, and transport sectors, while fundamentally changing how energy is consumed.

Figure 4.01 presents the key interventions needed to deliver Hounslow's future energy system and pathway to net zero. These interventions are deeply interconnected, highlighting why achieving net zero depends on taking a comprehensive, systems-based approach rather than addressing each component in isolation.

To realise this vision, Hounslow must establish strong governance frameworks, maintain continuous stakeholder engagement, implement enabling policies, and secure sustainable financing. The magnitude of change – from transforming heating systems to reframing transport patterns – demands unprecedented coordination and commitment from all stakeholders to achieve our decarbonisation goals.

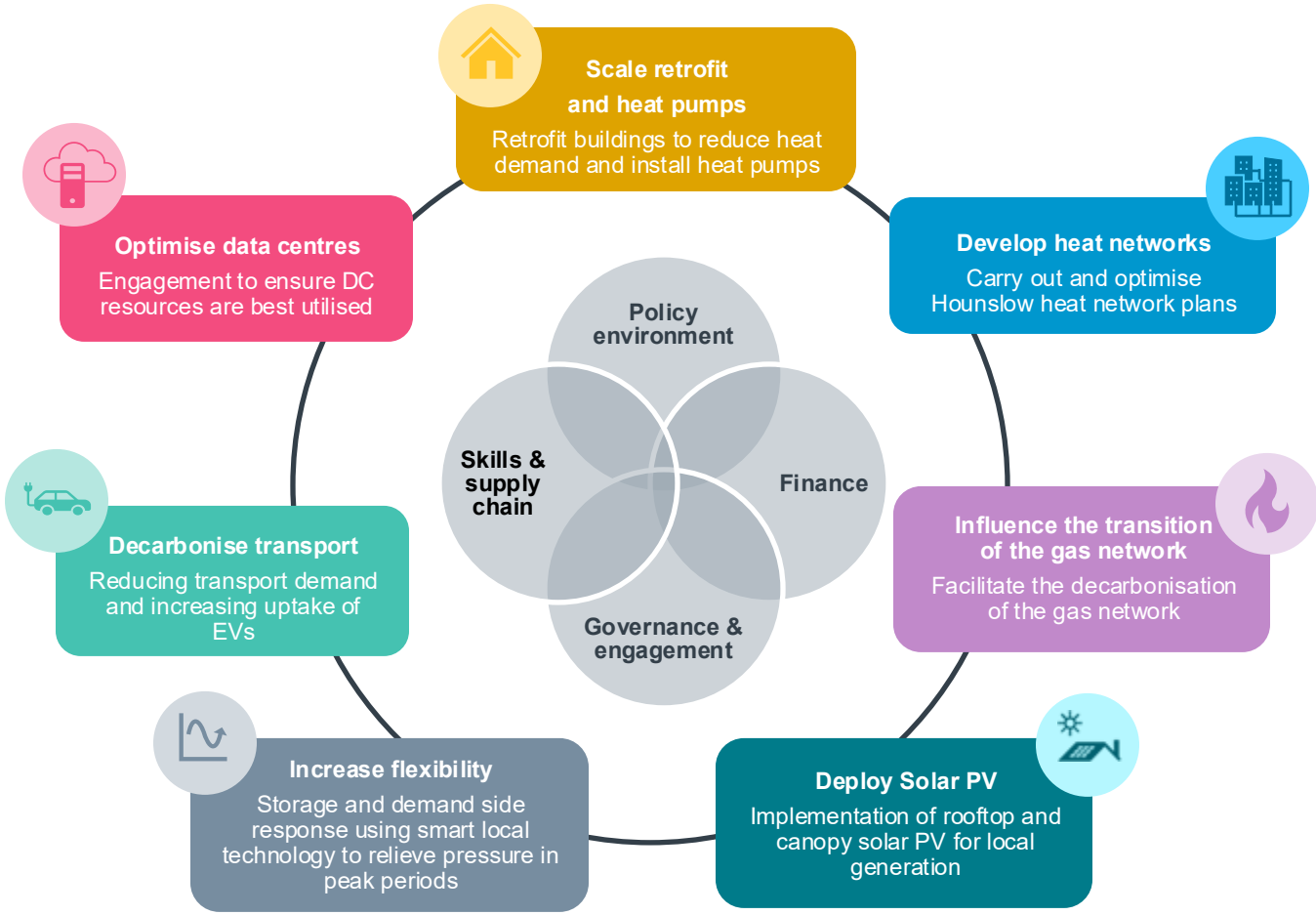

Figure 4.01: Breakdown of intervention areas for the LAEP area

4. Intervention areas
Framing the challenge

Framing the challenge: Heating in homes

Hounslow's homes will need to undergo significant transformation between now and 2050, particularly in the way hot water and space heating is supplied.

To help understand the scale of the change required to achieve the optimised future energy system by 2050 for Hounslow's homes, Table 4.01 highlights the key targets required for each relevant intervention area.

Existing plans and initiatives, such as those for Hounslow's heat network, have been considered in the production of these targets.

As discussed in Section 3, heat pumps and the heat networks are a more efficient form of heating compared with resistance heating, and are therefore recommended to be adopted wherever appropriate. Resistance heating is implemented in homes where heat pumps or a heat network connection is not appropriate.

Note: The heat pump installation figures quoted in the table have been calculated on the assumption of one heat pump per dwelling. In some cases, multiple heat pumps may be connected and operated together.

Action category	2030 Target	2040 Target	2050 Target	% homes in 2050	Remaining homes
Dwellings retrofitted	1,000 residential buildings	105,000 residential buildings	105,000 residential buildings	100% of residential buildings	For greatest impact, all homes to undergo retrofit measures. See page 60 for discussion of the challenges relating to this
Domestic HPs installed	21,800 heat pumps	83,500 heat pumps	85,100 heat pumps	81% of dwellings	400 dwellings (<1%) have an existing heat pump connection New developments to install heat pumps or connect to heat network.
Residential buildings connected to HNs	Completion of build out to the feasibility study and further build out to 2050 should allow for at least 300 buildings/sites (including residential) with demand of 500GWh. Specific phasing of these sites is not confirmed.				Implement resistance heating for remaining stock

Table 4.01: Action targets for homes to meet the prioritised pathway

4. Intervention Areas
Framing the challenge

Framing the challenge: Retrofit in homes

The prioritised pathway aims for an ambitious 92 GWh demand reduction by 2050 energy system, achieved by improving the energy performance of existing buildings.

Because of the scale of the change required, the lower temperature heating technologies it complements, and also the suitability of combining invasive retrofit measures with solar PV installation, retrofit as an intervention category has been identified as high priority in Hounslow. (see Section 3 for more information).

The spatial prioritisation maps on pages 50-51 outline how retrofit could be prioritised based on EPC rating distributions and therefore the greatest retrofit demand reduction potential.

To achieve the magnitude of change needed, significant efforts will be required in a short timeline, with barriers to implementation including:

- High upfront costs with long payback periods
- Limited influence over private homeowners
- Contractor availability
- Increased supply chain activity to meet demand
- Local disruption

To better understand the scale of the challenge and how best to target retrofit installation in Hounslow, this page presents a further breakdown of the retrofit and demand reduction for homes in Hounslow.

Table 4.02 shows the demand reduction achieved by targeting first the lowest-performing building stock in Hounslow. This data demonstrates that if the lowest-performing 50% of Hounslow's building stock were retrofitted, almost 80% of the demand reduction targeted in the prioritised pathway could be achieved.

The buildings that are currently the worst-performing have lower EPC ratings. The breakdown of Hounslow's EPC rating in building stock is shown in table Table 4.03, where residential buildings of EPC D-G make up 50% of Hounslow's residential building stock.

Hounslow residential building stock	EPC categories for Hounslow	Demand reduction impact	Proportion of prioritised pathway demand reduction
Bottom-performing 5%	G, F and E	169 GWh	18%
Bottom-performing 10%	G, F and E	278 GWh	30%
Bottom-performing 20%	G, F, E and D	432 GWh	47%
Bottom-performing 50%	G, F, E and D	719 GWh	78%

Table 4.02: Demand reduction potential for Hounslow's lowest performing building stock

EPC Rating	Proportion residential building stock
A	0.2%
B	15.9%
C	33.8%
D	35.8%
E	11.8%
F	1.9%
G	0.6%

Table 4.03: A breakdown of Hounslow's building stock EPC rating

4. Intervention areas
Framing the challenge

Framing the challenge: Other low carbon technologies

Table 4.04 outlines the targets for other low carbon technologies. The targets are cumulative till the respective years, not in addition to the previous target. E.g. 2570 rapid chargers installed by 2040, not 2570 in addition to the 200 installed by 2030. Ongoing initiatives, such as EV Charger rollout, have been considered in the production of these targets.

It is important to note the assumptions driving the targets in Table 4.04.

- Rooftop PV targets assumed 4kWp PV systems.
- Canopy PV targets assume 100kWp canopy PV systems.
- EV Chargers assume 7kW rapid chargers.
- EV Chargers are a blend of private, public and residential
- 2030 EV charger target is in line with Existing EV Strategy, see pages 19 and 25.
- The deployment of commercial batteries is largely independent of the Council and therefore installation assumed delayed to 2050.

Action category	2030 Target	2040 Target	2050 Target
Non-domestic HPs installed	1% of buildings	100% of non-heat network connected buildings (by 2040)	
Non-domestic buildings connected to HN	Completion of build out to the feasibility study and further build out to 2050 should allow for at least 300 buildings/sites (including non-domestic) with demand of 500GWh		
Rooftop PV panels installed	No change	171,600 roofs	195,000 roofs
Canopy PV panels installed	No change	854 large systems	970 large systems
Rapid chargers installed	2000 chargers*	2570 chargers	4800 chargers
Commercial battery capacity	No change	~105 MW	~120 MW
Overall electrical demand reduction	0.17%	4.91%	6%

Table 4.04: Action targets for low carbon technologies to meet the prioritised pathway

4. Intervention areas

Wider benefits and a just transition

The transition to a low-carbon, climate-resilient energy system in Hounslow offers benefits far beyond reducing emissions. The changes outlined in this LAEP will create economic opportunities, tackle fuel poverty, and enhance quality of life across the borough's diverse communities - directly supporting the CSFs around community co-benefits and affordable energy for residents and businesses.

Realising the LAEP will require significant local job creation in green sectors. While technology manufacturing may largely occur elsewhere, Hounslow will need a skilled local workforce to install and maintain new energy infrastructure - from heat pumps and solar panels to EV charging networks and building retrofit. Partnerships with Hounslow educational institutions like West Thames College and the West London Green skills organisation could help develop training programmes that prepare residents for these opportunities, ensuring local people benefit from the growing green economy.

The building improvements proposed in this LAEP will help create warmer, more efficient homes while reducing energy bills in the long term. This is particularly crucial for addressing fuel poverty in Hounslow's most vulnerable communities and areas of deprivation. By upgrading insulation and replacing outdated heating systems with low-carbon alternatives, the borough can ensure all residents have access to clean and affordable warmth.

The shift to zero-emission transport will dramatically improve air quality - a vital consideration given Hounslow's location near Heathrow Airport and major road corridors. The latest annual estimates suggest that neighbourhood NO_2 and PM2.5 exceed WHO guidelines [44]. Research shows that reducing exposure to vehicle emissions leads to better respiratory and cardiovascular health outcomes. This transformation of the transport system will create healthier neighbourhoods across the borough while contributing to London's broader air quality objectives, delivering substantial co-benefits for the community.

To ensure no one is left behind in this transition, careful planning and strong partnerships are required, aligning with success factors around collaboration and just transition. A collaborative approach will help create a fairer, more sustainable borough that works for everyone, while establishing Hounslow as a pioneer in London's journey to net zero.

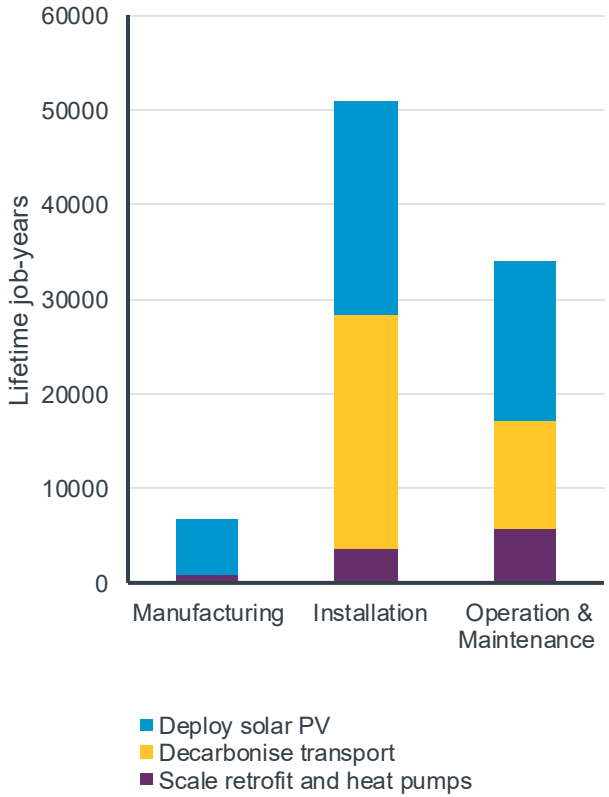

Figure 4.03: Estimated job-years out for Hounslow to 2050 for key priority intervention areas from deploymentt model

5. Action planning and implementation

5. Actions and recommendations
An introduction to Hounslow's implementation plan

Summary

The LAEP implementation plan sets out a high-level short- and long-term route map showing recommended actions to enable delivery, aligned with wider London and national policy targets.

The implementation plan is presented through the following sections:

- LAEP activation plan
- Intervention area time prioritisation
- Table of actions per intervention area, including long term actions
- Short term action plan (2025-2030)
- Long term targets route map
- Assessment of delivery strategies

The LAEP activation plan sets out the immediate future steps to deploy the outcomes of the LAEP such as mobilising resources, secure necessary funding, and establish a robust governance and monitoring process

To time-prioritise actions, each intervention area was assessed for its decarbonisation impact and cost to benefit ratio, on page 65. These intervention areas have been repeated in Figure 5.01.

A table of actions has been produced for each intervention area, alongside key asks of stakeholders beyond the Council, including the GLA, energy system operators, public sector bodies, and private sector partners. These actions have been classified into direct, enabling or influencing dependent on the Council's level of control. This is described further on page 66.

The control classification and time-prioritisation of actions have been used to produce a short-term route action map on page 74, following this LAEP. All other actions from the action tables make up the long-term route map on page 75.

These actions have then been spatially prioritised on pages 49-51 to recommend areas in the borough to begin actions. A map has been produced to reflect each intervention area.

While the LAEP implementation plan lays out proposed sequences and timelines, it should be viewed as a set of recommendations rather than definitive requirements. Despite a preferred energy system and delivery pathway, uncertainty remains over the exact nature of Hounslow's decarbonised energy system in 2050. The actions identified here are "easy wins" and therefore resilient to this uncertainty and can be taken now to create an enabling environment to help meet the UK Governments 2050 target. However, future changes (or lack of change) will require the plan to adapt, making monitoring of the plan crucial. Reviews and updates aligned with Hounslow's Local Plan refresh cycle are recommended to ensure actions and timelines remain achievable as the decarbonisation landscape evolves.

Page 76 includes an assessment of delivery and commercial strategies for the identified priority intervention themes for the LAEP. This includes potential funding streams to support some of the key actions identified in the action route map.

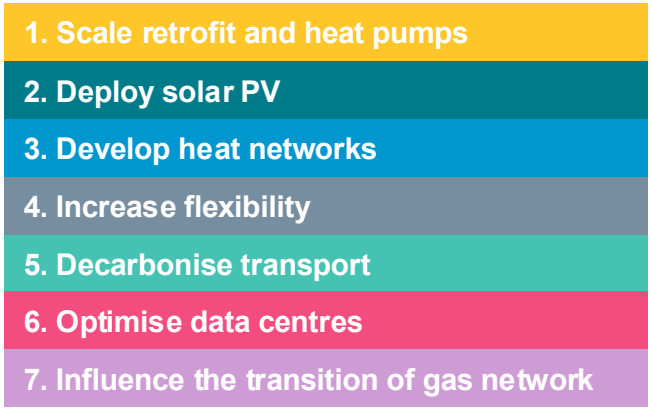

Figure 5.01: Intervention areas

5. Actions and recommendations
Decarbonisation route map

LAEP Activation Plan

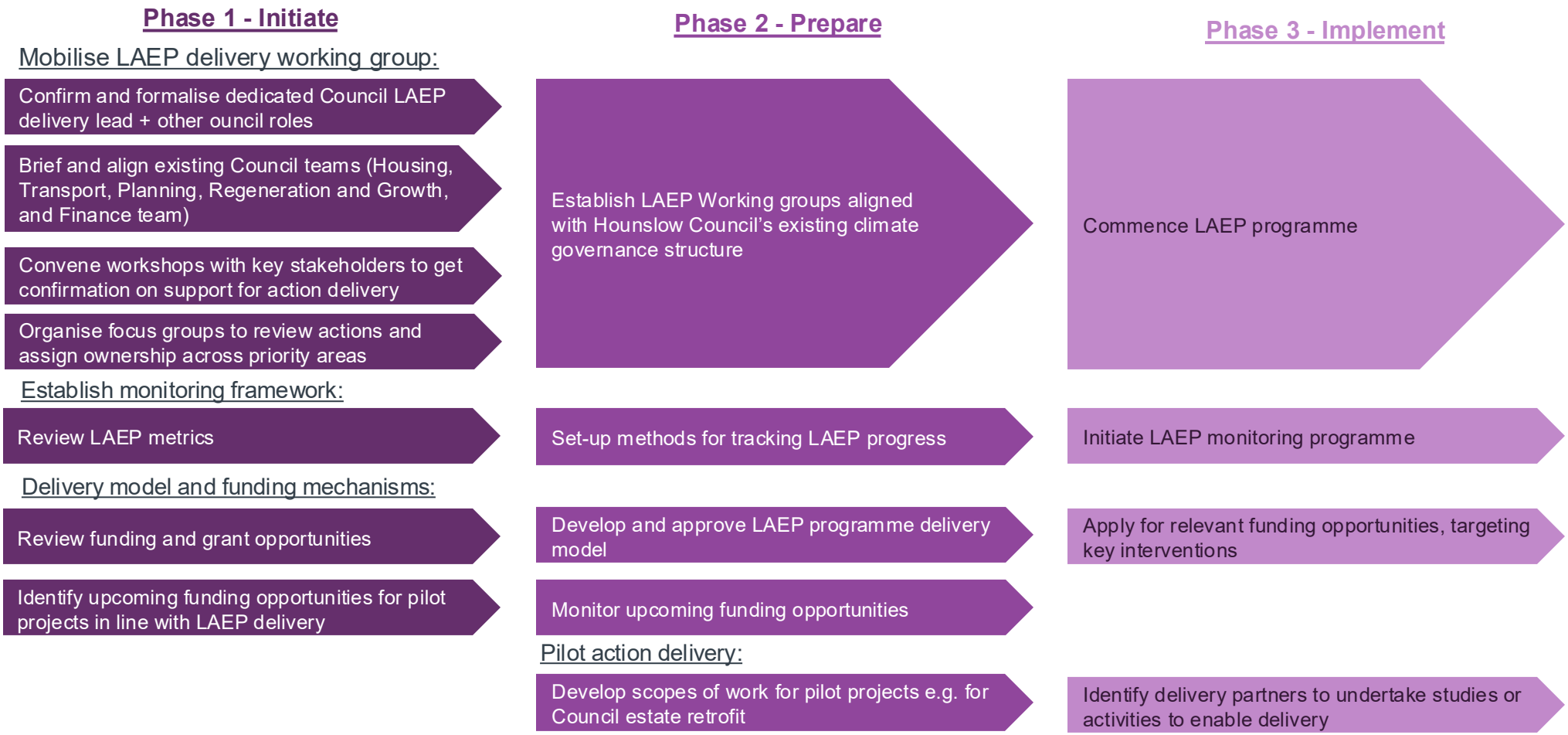

Figure 5.02: Phased LAEP activation plan

5. Actions and recommendations
Ranking the priority of intervention areas

Prioritisation of intervention areas

It may not be possible for Hounslow to action all intervention areas at once or in parallel. Therefore, the intervention areas have been assessed for their decarbonisation impact and cost benefit ratio.

The impact of policies and interdependencies between intervention areas have been considered, recognising that the implementation of some technologies can facilitate others. For example, heat networks are in line with policy, but it is ideal to retrofit buildings prior to a heat network connection, and retrofit install methods enable rooftop solar install, such as scaffolding.

With this, retrofit and heat pumps, solar PV and the heat network have been ranked as the highest priority intervention areas. The intervention area critical path has been reflected in the short-term road map and the deployment modelling of technologies.

The solar avoided emissions appear low due to the alternative of the decarbonised grid, but solar is key to enabling flexibility and avoided emissions earlier in the pathway to net zero.

Note: There is a wide variety of factors that can impact prioritisation, such as supply chain limitations and the Council's resources. These should be considered further in the deployment of actions.

Intervention areas	Emissions avoided in 2050 system ($ktCO_2e$)	Decarbonisation impact		Cost		Ratio	Justification for priority ranking	Priority
Retrofit and HPs	276	High	3	High	3	9	• Key for readiness for heat networks or heat pumps	1
Solar	5	Low	1	Medium	2	2	• Provides grid capacity and combines disruptive measures with retrofit	2
Heat networks	52	High	3	Medium	2	6	• Priority in line with policy • Retrofit required first	3
Flexibility	N/A	Low	1	Low	1	1	• Provides grid resilience	4
Transport	220	High	3	Medium	2	6	• Important but requires grid capacity to support charging infrastructure	5
Data centres	N/A	N/A	N/A	N/A	N/A	N/A	• Outside Hounslow's direct influence	6
Gas transition	N/A	N/A	3	N/A	N/A	N/A	• Outside Hounslow's direct influence	7

Table 5.01: Prioritisation of intervention areas

5. Actions and recommendations
Defining Hounslow's control over the implementation plan

Action control classification

Each intervention area has been evaluated and assigned actions to achieve net zero. A high-level overview of these actions is on pages 67-73. For a detailed action plan per intervention area, see Appendix D.

The Council's role will vary across interventions. Some actions will require direct intervention in programme delivery, while others will need the Council to act as a facilitator for market-driven change. Each recommended action has been classified into one of three action types:

- **Direct:** Within Hounslow's direct control.
- **Enabling:** Hounslow can create an enabling environment for the action to occur
- **Influencing:** Hounslow can influence others to take the action

Each of these classifications describe the level of control the Council have over the action's implementation.

Direct actions are more immediate actions that Hounslow can implement themselves and realise the soonest benefit. Hence, the direct actions form the short-term action route map on the following page. The direct, and short-term actions have been extracted from the action plans in pages 67-73 and are laid out in Table 5.02.

The enabling and influencing actions are longer term actions which extend the impact of the direct short-term actions.

To pursue these actions, and realise the net zero vision, Hounslow must establish strong governance frameworks, maintain continuous stakeholder engagement, implement enabling policies, and secure sustainable financing. The magnitude of change – from transforming heating systems to reframing transport patterns – demands unprecedented coordination and commitment from all stakeholders to achieve decarbonisation goals.

Each action will require five key elements for success:

1. Strong and consistent policy framework
2. Effective delivery model
3. Mobilising finance
4. Local engagement and buy-in
5. Supply chain and skills readiness

#	Direct actions
1	Implement pilot demonstrator
2	Roll out programme for energy efficiency and retrofit in Council assets
6	Develop implementation plan for solar roll out on Council assets, including car parks
11	Hounslow heat network implementation
15	Understand Hounslow asset suitability for flexibility
16	Switch Council buildings to TOUT
19	Continue existing active transport programme
20	Continue Council's existing programme on EV charging
27	Explore chosen retrofit demonstrator as a pilot

Table 5.02: Direct actions for Hounslow Borough Council (extracted from full set of actions)

5. Actions and recommendations
Short-term actions descriptions

Retrofit and heat pumps

This page describes actions relating to the roll-out of retrofit and heat pumps in homes, business and other buildings.

These actions seek to enable retrofit and heat pump installation through supporting early demonstrator projects such as the Net Zero Neighbourhoods pilots, followed by intervention within the Council's own assets, which will contribute towards achievement of the 2030 net zero carbon emissions target for Council-related emissions.

Until a decision is made by DESNZ around the use of hydrogen for heating in domestic properties, it is unclear what the role of hydrogen will be in Hounslow's energy system. As such, this plan focuses on "easy wins" actions, which will move towards Hounslow's goals without precluding the future of its energy supply.

Section 4 explores the challenges of implementing retrofit to match the prioritised pathway.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
1	Implement pilot demonstrator	Direct	Implement demonstrator project to test an approach to retrofit, such as the net zero neighbourhoods, and demonstrate decarbonisation through retrofit and heat pumps as an investable and scalable proposition.	Borough wide net zero target, Improved energy performance for residents Co-benefits for the community Viability for private sector investment
2	Roll out programme for energy efficiency and retrofit in Council assets	Direct	Implement systematic retrofit of Council-owned buildings and housing stock as exemplar projects	Just & Inclusive transition
3	Support heat pump and energy efficiency in new developments	Enable	Ensure developers follow net zero development planning policies which will involve incorporation of high energy efficiency standards in all new developments, and heat pumps where appropriate (outside heat network zones)	Alignment with new development targets Regulatory alignment and adaptability
4	Analyse local workforce for technology installation and support growth of heat pumps	Enable	Undertake an assessment of the existing workforce capacity to install heat pumps in comparison to the required capacity to install in line with the prioritised pathway	Local job creation Green skills and workforce development
5	Develop a comprehensive engagement campaign to promote retrofit	Influence	Create targeted education and awareness program for residents, businesses, educational institutions, corporate buildings, and landlords about retrofit benefits and heat pump technology	Improved energy performance for residents and businesses

Table 5.03: Action plan for retrofit and heat pumps

5. Actions and recommendations
Short-term actions descriptions

Deploy solar PV

This page describes actions relating to the roll-out of solar photovoltaic technologies.

Following the findings of the West London Subregional LAEP Phase 1, the GLA are moving forwards with planning for widespread solar PV roll out across the sub-region. Hounslow will look to align with this study, as well as progressing their own actions.

The Council should seek to meet the targets for solar PV laid out in this plan by beginning with Council assets, including canopy PV on car parks. Our short-term actions will also lay the groundwork for wide-spread PV build out through engagement, policy, and analysis of the skills and workforce requirements.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
6	Develop implementation plan for solar roll out on Council assets, including car parks	Direct	Create an implementation plan for installing solar panels on Council-owned buildings and car parks	Energy resilience
7	Engage with GLA on subregional planning for solar PV	Enable	Collaborate with the GLA on plans for roll-out of solar PV across West London	Collaboration across the sub-region
8	Ramp up Solar PV deployment in new developments	Enable	Continue to drive solar PV deployment in new developments where feasible through the application of the energy hierarchy approach, and if evidence justifies it, update planning policies as part of a future Local Plan review to increase deployment'	Council influence & risk management
9	Analyse local workforce for technology installation and support growth	Enable	Assess the workforce requirements for solar installation at scale and provide training and upskilling opportunities	Local job creation Green skills and workforce development
10	Campaign to encourage and engage private installation	Influence	Launch a public awareness campaign to promote the benefits of private solar panel installations for able to pay homeowner market	Viability for public sector investment

Table 5.04: Action plan for deployment of solar PV

5. Actions and recommendations
Short-term actions descriptions

Develop heat networks

This page describes actions relating to heat networks.

The Council has already been moving forwards with planning for a borough-wide heat network. See page 22 for more information on Hounslow's heat network plans. These actions support the continuation of this and seek to join up key additional stakeholders as well as align planning with the work carried out by DESNZ in preparation for the Heat Network Zoning policy.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
11	Hounslow heat network implementation	Direct	Technical design, business case development, procurement of private sector delivery partners and financing for multiple phases	Availability of funding Viability for private sector investment
12	Engage with DESNZ and GLA on Heat Network Zoning in wider area	Enable	Monitor development of Heat Network Zoning policy and collaborate with GLA to engage with DESNZ and neighbouring boroughs on how to identify viable zones across borough boundaries and maximise opportunities for heat network expansion	Collaboration across the sub-region
13	Engage with Heathrow Airport Ltd on heat networks to decarbonise buildings on the Heathrow estate	Enable	Establish a strategic partnership with Heathrow to investigate heat recovery opportunity to serve airport operations	Collaboration across the sub-region
14	Strategic engagement with suppliers of waste heat to understand source opportunities	Influence	Develop relationships with industrial facilities, wastewater treatment, data centres, and other large energy users to capture waste heat through formal heat supply arrangements	Viability for private sector investment Regulatory alignment and adaptability

Table 5.05: Action plan for develop heat networks

5. Actions and recommendations
Short-term actions descriptions

Increase flexibility

This page describes actions relating to exploring opportunities for flexible energy technologies in Hounslow's energy system.

Flexibility refers to the use of interventions and technologies such as batteries, time-of-use tariffs (TOUT) and demand side response, which allow energy demand on the grid to be moderated upwards or downwards in response to availability of electricity. These technologies can help to reduce instantaneous peak demand on substations and other parts of the electrical infrastructure but are not considered a replacement for the need to upgrade grid infrastructure. Rather, these technologies may be able to help postpone the urgency of grid upgrades, with the co-benefit of reducing energy bills, but ultimately grid upgrades will still be required.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
15	Switch Council buildings to flexible tariffs	Direct	Transition Council buildings and assets to time-of-use tariffs (TOUT) or other flexible tariff structures to optimise energy usage and reduce costs	Public capital & revenue costs
16	Understand Hounslow asset suitability for flexibility	Direct	Engage with the GLA and use smart meter data to assess the suitability of local buildings and infrastructure for participating in flexibility initiatives.	Energy resilience
17	Engage with GLA on subregional planning for flexibility	Enable	Collaborate with the GLA on plans for role of flexibility in West London.	Collaboration across the sub-region
18	Engage able to pay building owners about participation in flexibility initiatives	Influence	Develop incentives and awareness campaigns to encourage able-to-pay building owners to participate in flexibility initiatives	Co-benefits for the community

Table 5.06: Action plan for increase flexibility

5. Actions and recommendations
Short-term actions descriptions

Decarbonise transport

This page describes actions relating to the decarbonisation of transport.

These actions seek to decarbonise Hounslow's transport system through modal shift. Hounslow has several existing programmes to assist the modal shift. This includes cycle training and road safety education as well as developing walking/cycling infrastructure. The 'Kerbside' programme is also working to reduce car use. By reducing car use and increasing active travel, the emissions due to transport directly decrease and support overall decarbonisation. These behaviour changes are key to the transition.

It is also key to continue the roll out of EV charging infrastructure in line with the Electric Vehicle Charging Strategy.

At present, there are no actions for the decarbonisation of HGVs, but discussion of this and the potential role of hydrogen is included on pages 54-55.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
19	Continue existing active transport programme	Direct	Promote walking and cycling through infrastructure improvements, public awareness campaigns and incentives.	Co-benefits for the community
20	Continue Council's existing programme on EV charging	Direct	Continue roll out of EV charging infrastructure in line with Electric Vehicle Charging Strategy.	Investment to support the borough's green economy
21	Increase support for car sharing	Enable	Promote car sharing schemes to reduce the number of vehicles on the road and lower emissions	Council influence & risk management
22	Increase support for public transport use following access development	Enable	Promote use of public transport to follow improvement of southern rail access to Heathrow, working with partners to promote reopening Brentford to Southall rail line for passengers, supporting the West London Orbital and reviewing bus network coverage with TfL including securing S106 contributions for public transport improvements.	Co-benefits for the community Local job creation Just & inclusive transition
23	Continue engagement with e-bike providers to gain better coverage in Hounslow	Influence	Contact major e-bike providers to discuss coverage, provision and parking of bikes in Hounslow	Investment to support the borough's green economy

Table 5.07: Action plan for decarbonise transport

5. Actions and recommendations
Short-term actions descriptions

Optimise data centres

This page describes actions relating to data centres within Hounslow.

As private assets, the Council's direct influence over data centres is limited to the planning system. It is important to engage with them due to power network constraints influenced by data centres posing as a barrier to electrification of heat and transport.

These actions seek to engage data centres and encourage them to partake in optional activities which would benefit Hounslow's energy system and community. The first action, which seeks to explore data centre readiness for connection to heat networks, may ultimately be an activity data centre operators are obliged to undertake in line with the Heat Network Zoning policy.

Tech UK is a key stakeholder across these actions, and due to their wide national remit there are opportunities for subregional coordination, making the GLA another key stakeholder for these actions.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
24	Engagement with Data Centre operators on HNs	Enable	Engage with data centre operators in Hounslow to understand their readiness to connect to heat networks as a source of waste heat	Energy resilience Collaboration across the sub-region
25	Endorse clean energy technologies for Data Centres	Influence	Encourage data centre operators to adopt technologies such as solar panels, batteries and procure green Power Purchasing Agreements (PPAs) where possible to reduce impact on the local energy system	Council influence & risk management
26	Encourage data centre providers to offer skills and training to contribute to the local community and Equality Opportunity Areas	Influence	Create requirement for data centre operators to provide skills benefits on new clean energy technologies to the local community	Green skills and workforce deployment

Table 5.08: Action plan for optimise data centres

5. Actions and recommendations
Short-term actions descriptions

Influence the transition of gas network

This page outlines actions to support the transition from the gas network, including supporting Cadent who will lead replacement of iron mains with hydrogen-ready piping, promoting transition planning among major gas consumers, and coordinating with other infrastructure.

The plan prioritises Hounslow's transition away from natural gas while preparing for future developments until DESNZ takes a decision on hydrogen's role in domestic heating.

For a full action plan, including enablers, barriers and stakeholders, please see Appendix D.

#	Actions		Description	CSFs
27	Explore chosen retrofit demonstrator as a pilot	Direct	Back the retrofit demonstrator to pilot as gas network transition approaches	Regulatory alignment and adaptability
28	Coordinate and plan for street works for the long-term	Enable	Establish improved street works planning system to coordinate gas transition with other infrastructure upgrades, minimising disruption and deliver co-benefits	Co-benefits for the community
29	Accelerate / enable iron mains replacement	Enable	Work with Cadent to prioritise and expedite the replacement of iron gas mains with safer, more efficient materials. This is within Cadent's business as usual operations.	Council influence & risk management Short-term impact
30	Encourage top gas offtakers to complete decarbonisation plans	Influence	Develop targeted engagement program for largest gas consumers in the borough to support transition planning, focusing on feasible alternatives and timelines	Borough-wide net zero target
31	Determine interest from industrial community for decarbonised or hydrogen blended gas	Influence	Engage with Hounslow's industrial community for interest in decarbonised gas cluster that utilises decarbonised or hydrogen blended gas	Short term impact

Table 5.09: Action plan for gas network transition

5. Actions and recommendations
Short-term actions implementation

Short-term actions route map

● Initiate & Prepare ▶ Implement

#	Direct actions	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
0	Establish LAEP delivery programme	● ▶					
1	Implement pilot demonstrator		●		▶		
2	Roll out programme for energy efficiency and retrofit in Council assets			●	▶		
6	Develop implementation plan for solar roll out on Council assets, including car parks			●		▶	
11	Hounslow heat network implementation	●				▶	
15	Understand Hounslow asset suitability for flexibility	●		▶			
16	Switch Council buildings to TOUT	●	▶				
19	Continue existing active transport programme	▶					
20	Continue Council's existing programme on EV charging	▶					
27	Explore chosen retrofit demonstrator as a pilot			●		▶	

Figure 5.03: Short-term actions route map

5. Actions and recommendations
Decarbonisation route map

Long-term targets route map

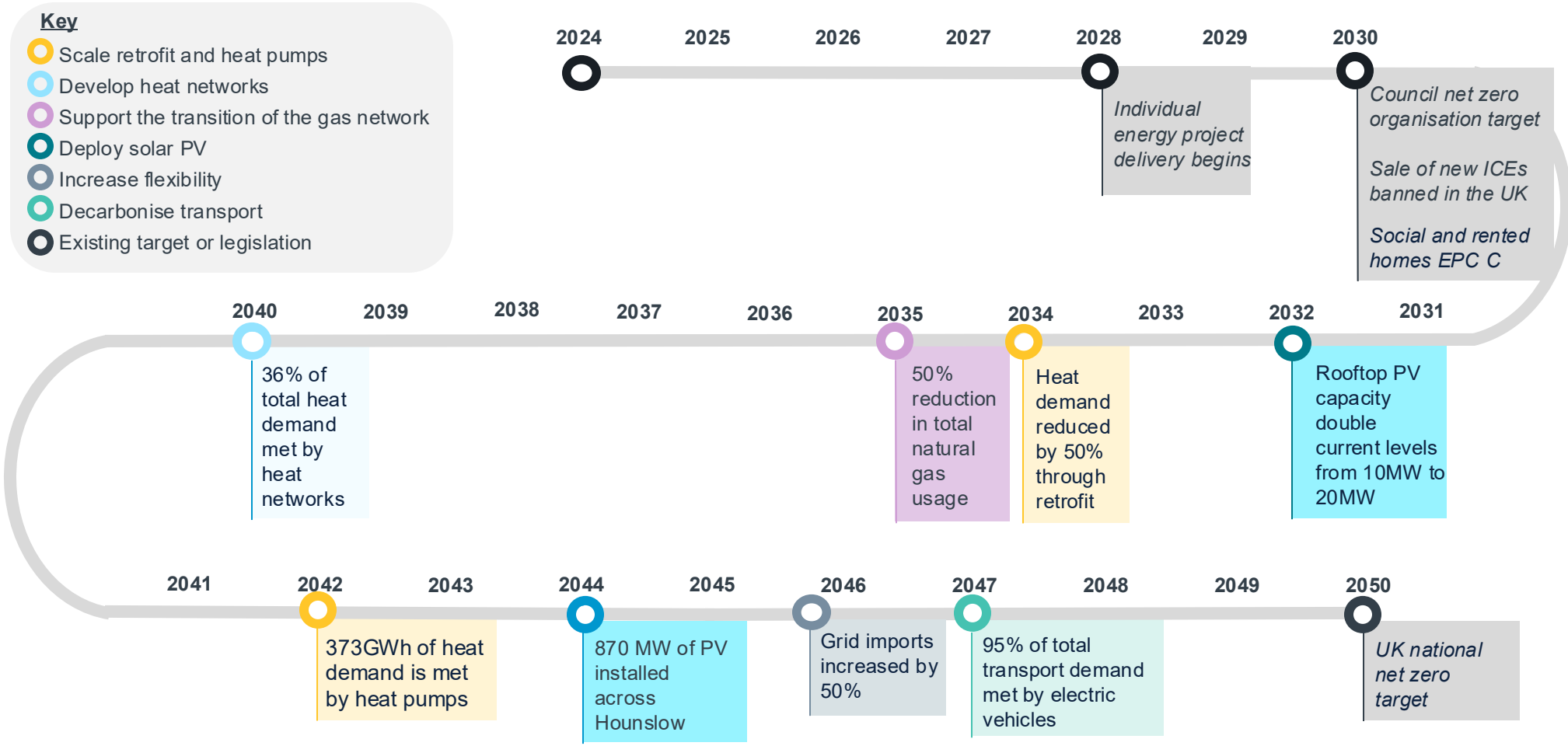

Figure 5.04: Long-term LAEP activation plan

5. Actions and recommendations
Delivery strategies for selected technologies

Examples for delivery options

Technology / intervention type	Potential delivery strategy	Implementation actions
District heating networks	Council sponsored but delivery likely through a Joint Venture or concession. Council to retain some control but requires private investment to enable delivery of the full network	- Outline business case development and approval *[ongoing work at LBH]* - Further project development and Green Heat Network Funding application - Continued engagement with potential heat customers and waste heat suppliers - Procurement of a delivery and funding partner
Rooftop solar PV – Council buildings	Council-led: in house, Council special purpose vehicle, or joint venture	- Outline business case development for building portfolio roll out - Soft Market Testing - Procurement of a delivery partner
Building-level heating (heat pumps / resistance heating)	Third-party development	- As identified in actions – policy and planning incentives for private sector delivery
Rooftop / canopy solar PV – non-Council buildings	Third-party development	- As identified in actions – policy and planning incentives for private sector delivery. - Potentially include planning requirements (e.g. S106) to include rooftop PV in all new developments.
EV chargers	Third-party development	- As identified in actions – policy and planning incentives for private sector delivery. - Potentially include planning requirements (e.g. S106) to include EV charging in all new developments.
Batteries and flexibility	Wider engagement with regulators	- Engagement with DNOs, Ofgem, etc. to ensure that flexibility programmes are in place and potential participants are aware programmes exist

Table 5.10: Analysis of technology and interventions for delivery strategy and implementation options

6. Monitoring and governance plan

6. Monitoring and governance
Introduction

Putting the LAEP in the context of delivery

This LAEP provides a comprehensive assessment of Hounslow's local energy system and outlines the key changes needed to enable borough-wide decarbonisation. Achieving this transition will require more than just technical solutions — it also depends on strong governance, effective delivery mechanisms, and continuous progress monitoring.

While the technical pathway and priority interventions have been identified, maintaining momentum will depend on robust structures for oversight and delivery. This section outlines recommended approaches to help ensure the successful implementation of the LAEP.

The scale and complexity of the energy transition presents significant delivery challenges. Multiple stakeholders will need to coordinate across different timeframes and geographical areas. Some projects — such as area-wide heat networks — require collaboration beyond borough boundaries, while others — like building retrofits — must be carefully sequenced and aligned with wider initiatives. In addition, the rapid advancement in technologies, shifting national policies, and changing market conditions makes it necessary to adopt an approach that is flexible and responsive.

To address these challenges, effective governance and monitoring frameworks should be established early on. These should aim to:

- Maintain strategic oversight while supporting practical delivery
- Track progress and identify areas needing additional support
- Coordinate stakeholders and initiatives effectively
- Facilitate learning and adaptation as circumstances change
- Ensure accountability and transparency
- Track funding and expenditure across projects

The following sections set out practical recommendations for governance structures and monitoring processes to help Hounslow stay on track with its net zero ambitions.

Monitoring and Evaluation

This LAEP report sets out a long-term pathway for Hounslow to reach net zero, supported by a set of priority actions focused on the medium term. However, the energy landscape is evolving rapidly. To remain effective, the LAEP must be regularly monitored and periodically reviewed to ensure it reflects current technologies, policies, and market conditions.

It is recommended that Hounslow establish a robust monitoring and evaluation framework that combines regular progress tracking with periodic strategic reviews. This will help ensure the LAEP remains relevant, achievable, and aligned with both borough needs and wider developments.

In practice, annual monitoring should include collecting data, reviewing key project progress, and conducting qualitative reporting against critical success factors. More detailed LAEP updates could also assess whether the prioritised pathway remains appropriate given emerging technologies, updated government policies, and Hounslow's local context.

6. Monitoring and governance
Enabling conditions for success

Monitoring and evaluation

A comprehensive monitoring approach should capture both measurable outcomes and qualitative insights into progress.

Key output metrics could include:

- Number of building retrofits completed (by property type and tenure)
- Number of electric vehicle (EV) registrations
- Heat pump installations (by kW capacity)
- Solar PV deployment (by kW installed)
- EV charging points installed
- Heat delivered through local heat networks (kWh)
- Carbon emissions reductions (tonnes CO_2e)

Collectively, these indicators will help build a clear picture of Hounslow's progress toward net zero.

Where possible, data collection should draw on existing resources — including internal Council teams, delivery partners, and publicly available datasets including from DESNZ and the Department for Transport. The GLA's reporting frameworks can also provide useful benchmarks for borough-wide progress, though some data may lag behind actual delivery.

Annual monitoring reports can help assess both specific metrics and wider strategic objectives. These reviews can identify successful approaches to scale up, and flag areas needing additional support or new methods.

Updates to Hounslow's LAEP

As Hounslow advances its decarbonisation efforts, monitoring and evaluation of the LAEP should be integrated into the Council's existing reporting processes. While project and programme level monitoring already takes place internally, it is recommended that the LAEP includes formal annual updates, aligned with revisions to Hounslow's Climate Emergency Action Plan (CEAP). This will allow the Council to continue to track progress against the CEAP's three climate targets, with the LAEP delivery specifically being reviewed under the second target: influencing wider borough decarbonisation.

In addition to these annual reviews, a strategic refresh of the LAEP is recommended at least every five years. These periodic updates should consider changes in national and regional policy, advances in low-carbon technologies, shifts in market conditions, and progress made locally. This approach will ensure the LAEP remains current, responsive, and aligned with Hounslow's long-term climate ambitions.

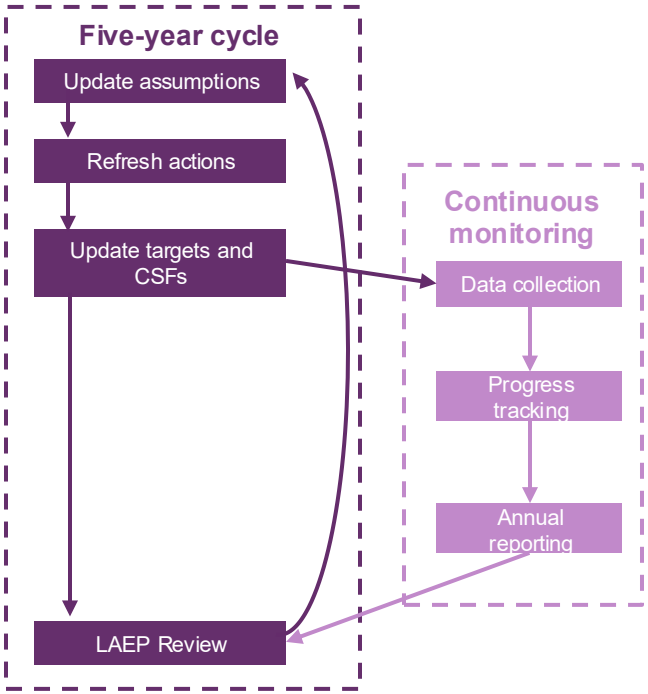

Figure 6.01: Monitoring and evaluation cycle

6. Monitoring and governance
Enabling conditions for success

Governance

The Council plays an integral role in shaping the strategic direction of the LAEP. To ensure effective implementation, delivery of the LAEP will be overseen by the Council in close coordination with the Greater London Authority (GLA), West London Alliance, and wider energy system stakeholders. Recognising the complex stakeholder landscape across West London, effective governance is essential to delivering the scale of transformation required in the energy system.

The Council will work with partners across public, private and community sectors to enable wider input and collaboration in the plan's delivery. Key stakeholders include major employers, housing associations, transport operators, energy network operators, and community organisations.

To support delivery of the transition, Hounslow Council will:

- Lead by example by decarbonising assets under its direct control, including corporate buildings and vehicle fleet
- Facilitate wider borough decarbonisation through policy, partnerships, mobilising funding, and community engagement
- Coordinate with neighboring boroughs, the GLA, and other key stakeholders on regional initiatives

Key areas of Council influence include:

- Mobilising finance for delivery, such as understanding and unlocking funding opportunities to support implementation
- Overseeing delivery and outcomes by tracking progress and ensuring alignment with strategic goals
- Setting strategic priorities by understanding Council priorities and directing focus towards interventions that best align
- Managing risk and resilience
- Leveraging local policy and planning to enable low-carbon development

Risks requiring active management:

- Maintaining project timelines and meeting interim targets
- Challenges in unlocking and securing funding for key interventions
- Grid capacity constraints and coordinating project delivery with network operators
- Ensuring alignment with evolving national and regional policies
- Complexity in delivering hard-to-decarbonise areas, such as retrofit

The Council is already engaged in numerous climate and energy initiatives with varying levels of control and influence. The LAEP will build on this foundation and be integrated with Hounslow's Climate Emergency Action Plan and other key strategies. The Council's sphere of influence ranges from direct control of its own assets to wider partnership working and community engagement, as illustrated in Figure 6.02. LAEP actions will be embedded into relevant Council service plans and monitored through existing climate governance structures, with regular progress updates provided to Cabinet and other relevant committees.

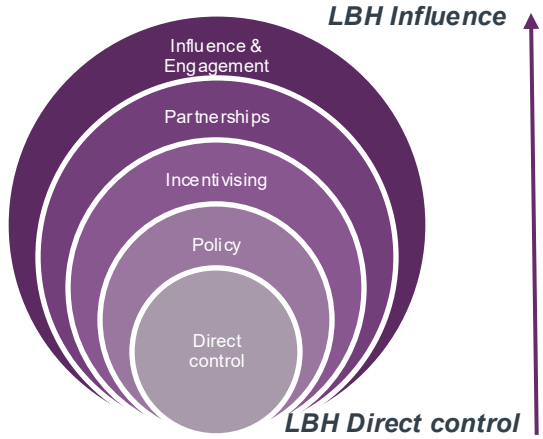

Figure 6.02: Scale of control of LAEP area by Council

7. Conclusion

7. Conclusion
Next steps

Delivering change in an evolving landscape

The transition to a net zero carbon energy system in Hounslow by 2050 represents a profound challenge that requires fundamental changes to how energy is produced, managed, and consumed across the borough. This transformation necessitates a shift from discrete energy systems to an integrated approach that connects heating, electricity, and transport in a coordinated way.

The scale and complexity of change outlined in this LAEP demands collaboration across sectors and stakeholders. While Hounslow Council can provide leadership and facilitate system-wide change where it holds direct influence, successful delivery relies on effective partnerships with the GLA, network operators, businesses, and local communities. The Council's role in coordinating and enabling this transition will be crucial.

There remain uncertainties around the future energy system, including potential developments at national and London-wide levels, the evolution of low-carbon technologies, and associated costs. The willingness of stakeholders to adopt the new technologies and change consumption patterns will also be critical. However, these uncertainties should not preclude immediate action on easy wins interventions and setting up systems for more significant interventions in future years. The LAEP provides a flexible framework designed to navigate these challenges, while maintaining progress toward decarbonisation and success factors.

The implementation of this LAEP must also recognise Hounslow's unique characteristics - its diverse building stock, major transport infrastructure including Heathrow, significant commercial districts, and varied socio-economic landscape. Success will require carefully tailored approaches that consider local context while leveraging broader London-wide initiatives and funding mechanisms.

By leveraging the collective expertise of stakeholders through robust governance structures and maintaining regular monitoring and review processes, Hounslow will be well-positioned to sustainably transform its energy system. The roadmap and actions outlined in this LAEP provide a clear pathway forward, while building in the flexibility needed to adapt to emerging opportunities and challenges.

Figure 7.01: Feltham duck pond

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Appendix A

Appendix A

Scenario comparison

Full MCA

Critieria Information					Scenario Results			Unweighted MCA Scoring		
Detailed Critical Success Factor (CSF)	Weighting	Measure	Subweighting	Optimisation output	Low Demand	High Demand	Low Intervention	Low Demand	High Demand	Low Intervention
Pace at which the option accelerates borough-wide carbon emissions reduction, aiming to achieve net zero no later than 2050.	13%	2050 Net Carbon Emissions tonnes eCO2	0%	Y	1	1	1	10	10	10
		Weighted Scoring Total						1.3	1.3	1.3
Degree to which the option provides a diversified and resilient local energy supply.	4%	Supply technology diversity by 2050 installed capacity	25%	Y	5	4	4	10	8	8
		Supply location diversity by 2050 installed capacity (greater diversity more secure)	25%	Y	10	1	1	10	1	1
		2050 volume of grid import (MWh)	25%	Y	1225053	1564669	1834649	3	1	0
		Levelised Cost of Energy (less is more secure)	25%	Y	25	29	179	9	8	0
		Unweighted Scoring Total						8	4.5	2.25
		Weighted Scoring Total						0.36	0.20	0.10
Degree to which the option attracts investment that will support the Borough's green economy.	7%	total CAPEX	N/A	Y	188041535	332983444	201826880	6	10	6
		Weighted Scoring Total						0.45	0.75	0.45
Extent to which the option ensures an inclusive transition, considering the needs of residents living in the equal opportunity areas and residents with protected characteristics.	10%	total CAPEX within equal opportunity areas compared to wider borough	N/A	Y	76562945	96025283	108281269	7	9	10
		Weighted Scoring Total						0.73	0.94	1.0
Extent to which the option reduces system operating costs for residents and businesses.	10%	2050 OPEX	50%	Y	143421362	162099692	190069605	2	1	0
		2050 REPEX	50%	Y	188041535	332983444	201826880	4	0	4
		Unweighted Scoring Total						3	0.5	2
		Weighted Scoring Total						0.31	0.05	0.21
Extent to which the option improves energy performance for residents and businesses.	7%	Building energy demand	N/A	Y	1,735,281,470	2,296,564,760	3,382,968,525	5	3	0
		Weighted Scoring Total						0.37	0.22	0
Level of capital investment required from the public sector, prioritising low up front costs and low ongoing revenue obligations.	15%	Total CAPEX (public funding)	33%	Y	3.1	2.2	2.5	0	3	2
		2050 OPEX	33%	Y	143421362	162099692	190069605	2	1	0
		Can we measure the ongoing revenue obligatiosn (pass or fail) - Qualitative analysis - decide whether pass or fail	33%	Y	PASS	PASS	PASS	10	10	10
		Unweighted Scoring Total						4	4.7	4
		Weighted Scoring Total						0.60	0.70	0.60
Extent to which the option improves grid capacity to support new developments and enable growth in the borough.	13%	Megwatt grid import	N/A	Y	277	401	497	6	8	10
		Weighted Scoring Total						0.81	1.1	1.3
Extent to which the option provides a high IRR for private sector investments, ensuring attractive returns for both initial and ongoing contributions.	15%	We provide an average IRR (%) for each technology (subjective process to rate it), and times that by the capacity that each option has (quantitative).	N/A	N - additional analysis required	2.12	1.19	0.77	10	6	4
		Weighted Scoring Total						1.5	0.90	0.60
Extent to which residents and businesses are likely to experience negative impacts from the infrastructure work required to implement the option.	3%	Rate (%) the disruption impact of each technology (subjective process to rate it), and times that by the capacity that each option has (quantitative).	N/A	N - additional analysis required	32	26	22	0	2	3
		Weighted Scoring Total						0	0.06	0.09
Weighted Outcome	**100%**							**6.5**	**6.2**	**5.8**

Table A.01: Detailed critical success factors

Appendix B

Appendix B
Equality opportunity areas in Hounslow

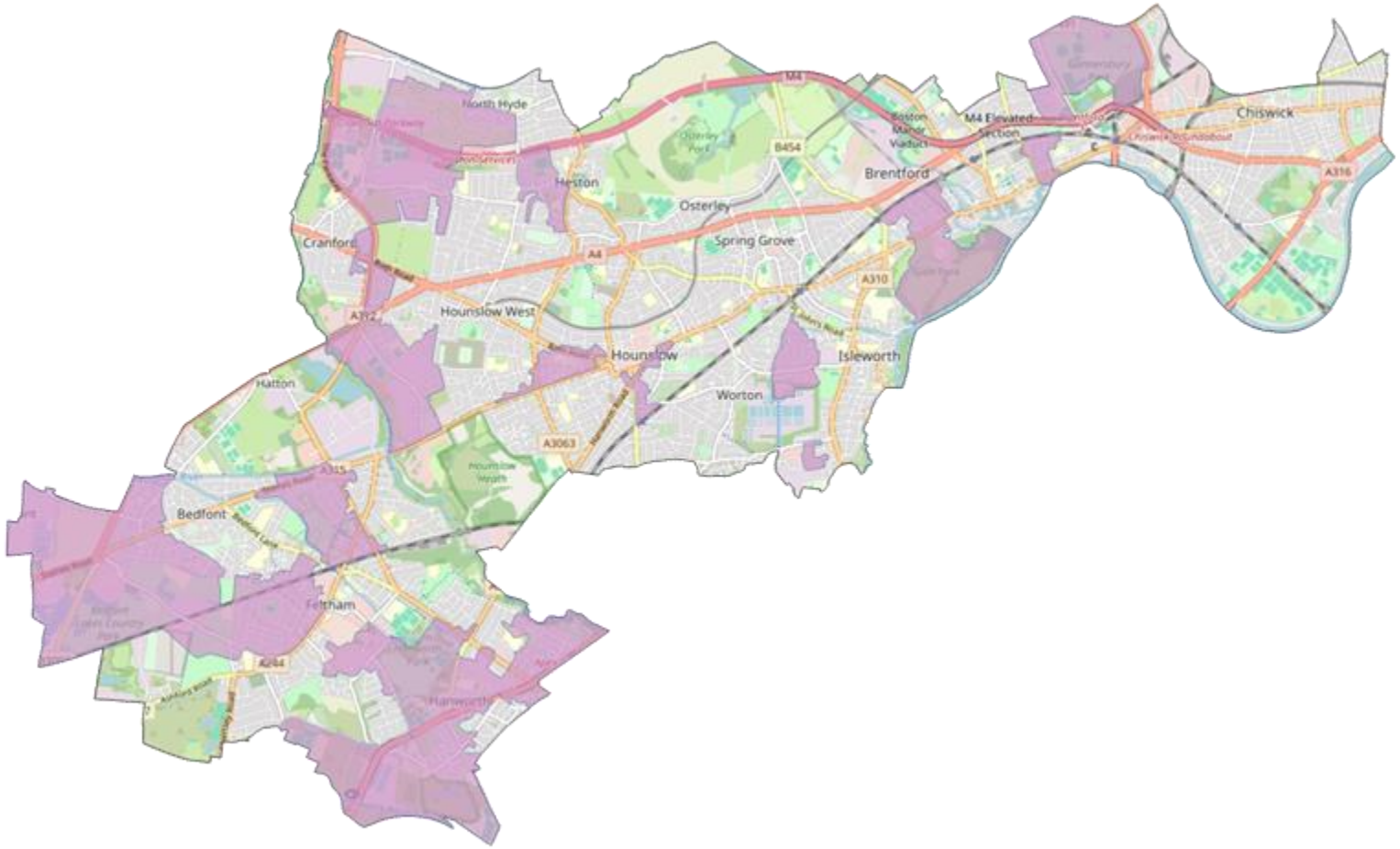

Figure B.01: Enlarged map of equality opportunity areas in Hounslow

Appendix C

Appendix C
Low intervention scenario Sankey diagram

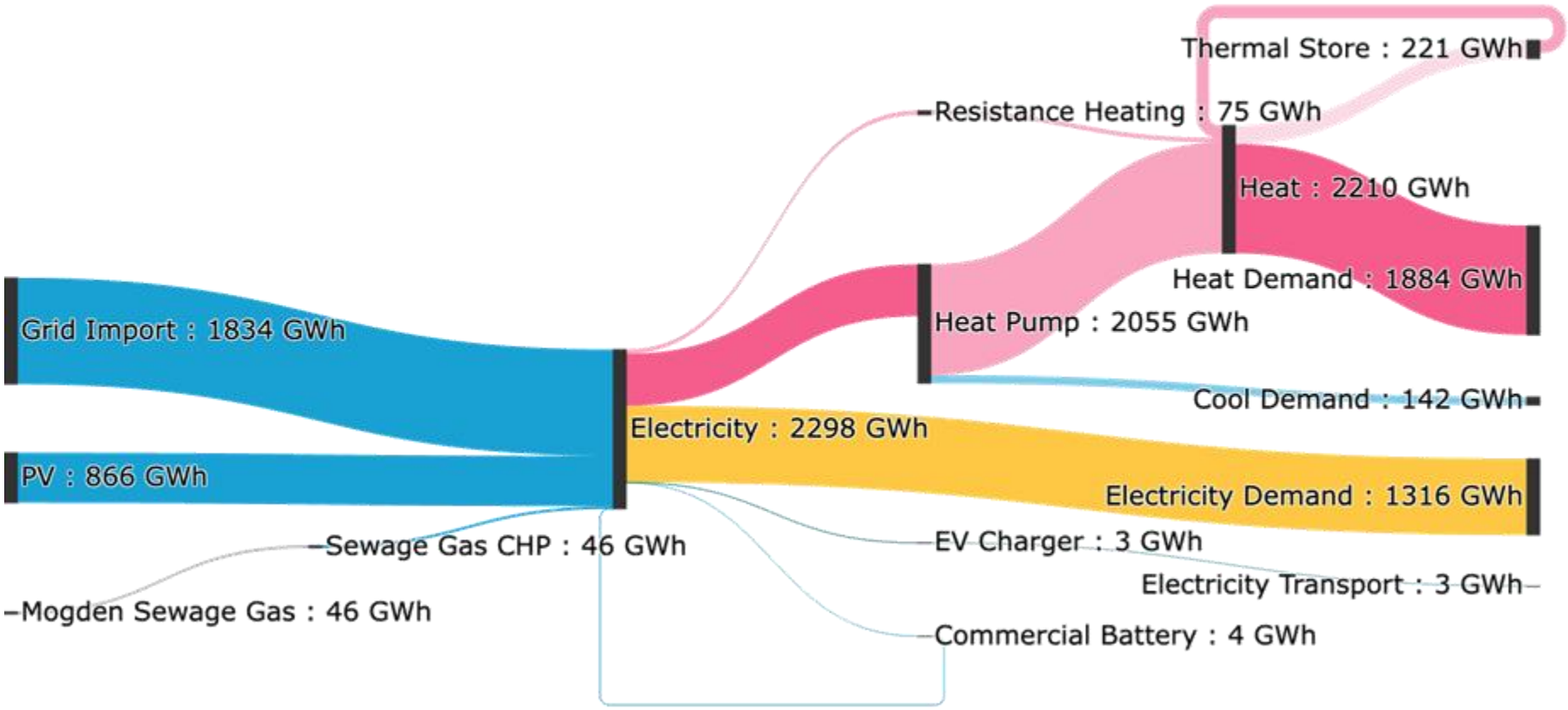

Figure C.01: Low intervention scenario Sankey diagram

Appendix C
Low demand scenario Sankey diagram

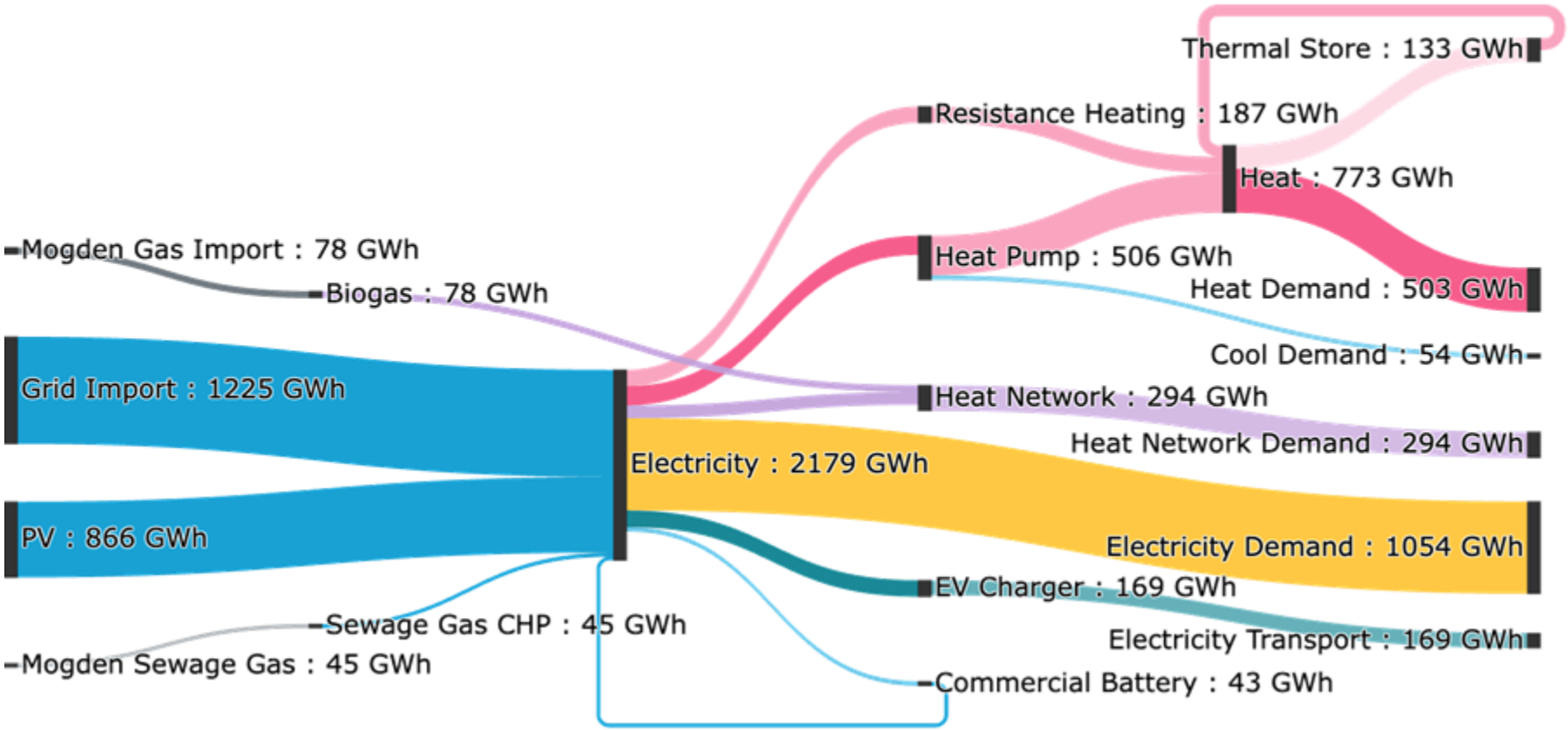

Figure C.02: Low demand scenario Sankey diagram

Appendix C
High demand scenario Sankey diagram

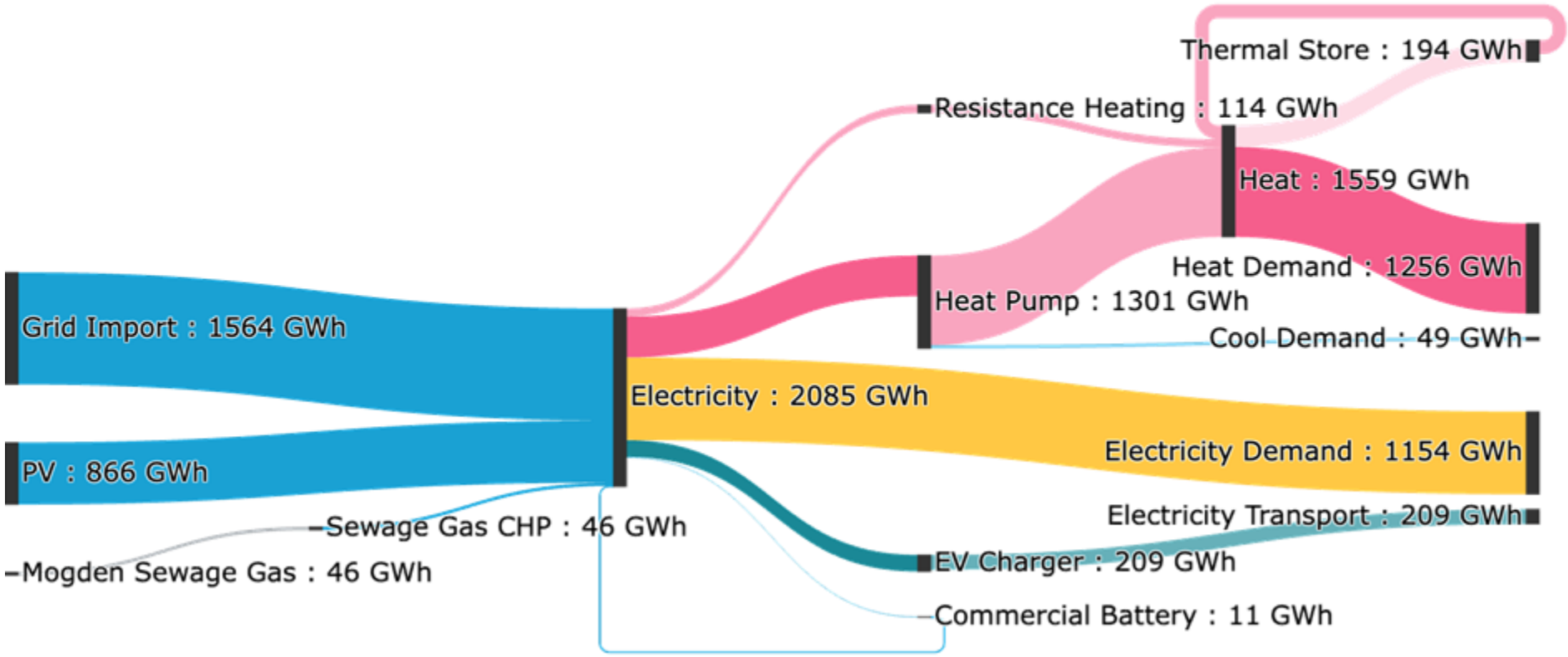

Figure C.03: High demand scenario Sankey diagram

Appendix D

Appendix D

Short-term actions detailed descriptions

Retrofit and heat pumps

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
1	Implement pilot demonstrator	Direct	Implement demonstrator project to test an approach to retrofit, such as the net zero neighbourhoods, and demonstrate decarbonisation through retrofit and heat pumps as an investable and scalable proposition.	• Private investment funding • Community Champions	• Coordination complexity • Competing priorities • Ensuring equity • Creating ROI for investment • Resident Buy-in	• Residents and homeowners • LBH Housing • Contractors and suppliers	Borough wide net zero target Improved energy performance for residents Co-benefits for the community Viability for private sector investment
2	Roll out programme for energy efficiency and retrofit in Council assets	Direct	Implement systematic retrofit of Council-owned buildings and housing stock as exemplar projects	• Capital investment programme • Alignment with maintenance cycles • External funding streams • Skills and workforce development	• Budget constraints • Building complexity • Operational disruptions • Relevant skillset	• LBH housing team • Facilities management • Tenants • Contractors and suppliers	Just & Inclusive transition
3	Support heat pump and energy efficiency in new developments	Enable	Ensure developers follow net zero development planning policies which will involve incorporation of high energy efficiency standards in all new developments, and heat pumps where appropriate (outside heat network zones)	• London Plan requirements • Updated local plan policies • Green building certification incentives • Technical design guides • Future Homes & Buildings Standard • Updates to Building Regs	• Developer resistance • Higher initial costs • Balancing affordability with net zero ambition • Technical integration challenges	• LBH planning department • Housing developers • Architects and designers • Energy assessors	Alignment with new development targets Regulatory alignment and adaptability
4	Analyse local workforce for technology installation and support growth of heat pumps	Enable	Undertake an assessment of the existing workforce capacity to install heat pumps in comparison to the required capacity to install in line with the prioritised pathway	• Further education colleges • Funding for training programmes • Industry partnerships • London Councils and GLA support	• Skills gap • Funding limitations • Engagement from workforce	• Educational institutions • Training providers • GLA • Local businesses	Local job creation Green skills and workforce development
5	Develop a comprehensive engagement campaign to promote retrofit	Influence	Create targeted education and awareness program for residents, businesses, educational institutions, corporate buildings, and landlords about retrofit benefits and heat pump technology	• Adopting the One Stop Shop model trialled in other cities (e.g. Leeds) • NESO and RESP coordination • Community energy programmes • Joint ventures with private sector • London Councils and GLA support	• Low public awareness • Misinformation about heat pumps • Initial cost concerns	• Residents and homeowners • Landlords • Housing associations • Local businesses • Community groups	Improved energy performance for residents and businesses

Table D.01: Action plan for retrofit and heat pumps

Appendix D

Short-term actions detailed descriptions

Deploy solar PV

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
6	Develop implementation plan for solar roll out on Council assets, including car parks	Direct	Create an implementation plan for installing solar panels on Council-owned buildings and car parks	• Government funding • Completion of the LAEP	• High initial costs	• LBH Energy team • Community Energy London • GB Energy	Energy resilience
7	Engage with GLA on subregional planning for solar PV	Enable	Collaborate with the GLA on their upcoming study exploring the roll-out of solar PV across West London	• Support from the GLA • Alignment with other boroughs	• Possible misalignment of timescales of project • Differing priorities among boroughs	• LBH Energy team • GLA • West London Alliance	Collaboration across the sub-region
8	Ramp up Solar PV deployment in new developments	Enable	Continue to drive solar PV deployment in new developments where feasible through the application of the energy hierarchy approach, and if evidence justifies it, update planning policies as part of a future Local Plan review to increase deployment'	• Planning regulations • Collaboration with developers • London Plan	• Possible resistance from developers • Supply chain • Scheme viability and feasibility	• LBH Energy team • GLA • Developers	Council influence & risk management
9	Analyse local workforce for technology installation and support growth	Enable	Assess the workforce requirements for solar installation at scale and provide training and upskilling opportunities	• Further education colleges • Funding for training programmes • Industry partnerships	• Skills gap • Funding limitations • Engagement from workforce • Maintenance cost	• Educational institutions • Training providers • GLA • Local businesses	Local job creation Green skills and workforce development
10	Campaign to encourage and engage private installation	Influence	Launch a public awareness campaign to promote the benefits of private solar panel installations for able to pay homeowner market	• Partnerships with solar providers	• Public resistance • Upfront costs • Time for funding apps	• LBH Energy team • GLA • Local residents • Community groups	Viability for public sector investment

Table D.02: Action plan for deployment of solar PV

London Borough of Hounslow ARUP

Appendix D

Short-term actions detailed descriptions

Develop heat networks

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
11	Hounslow heat network implementation	Direct	Technical design, business case development, and procurement of private sector delivery partners and financing for multiple phases	• Green Network Heat Fund (GNHF) • Heat Network Zoning Policy • Public sector anchor loads • Heat Network Delivery Unit (HNDU)	• High upfront capital costs • Long payback periods • Coordination of multiple stakeholders • Technical and coordination complexity • Securing access to heat	• Potential heat network developers and ESCOs • Anchor load owners/operators • Green infrastructure investors • Suppliers of heat	Availability of funding Viability for private sector investment
12	Engage with DESNZ and GLA on Heat network zoning in wider area	Enable	Monitor development of Heat Network Zoning policy and collaborate with GLA to engage with DESNZ and neighbouring boroughs on how to identify viable zones across borough boundaries and maximise opportunities for heat network expansion	• HNZ policy framework • Working groups (i.e. West London Alliance) • Regional coordination through the GLA • HSPG • Innovate UK Runway to Net Zero	• Uneven development and funding timelines • Complex governance arrangements • Differing priorities	• Businesses operating on Heathrow estate • Neighbouring borough Councils • GLA • TfL • Major cross-boundary landowners	Collaboration across the sub-region
13	Engage with Heathrow Airport Ltd on heat networks to decarbonise buildings on the Heathrow estate	Enable	Establish a strategic partnership with Heathrow to investigate heat recovery opportunity to serve airport operations	• Airport-adjacent data centre development • Low-carbon computing commitments • Data centre cooling demands • Heathrow decarbonisation targets	• Security constraints and commercial sensitivity • Water constraints for cooling • Technical integration challenges	• Heathrow Airport Ltd (as heat customer) • DC developers/operators • West London Business • HSPG • London Borough of Hillingdon • London Councils	Collaboration across the sub-region
14	Strategic engagement with suppliers of waste heat to understand source opportunities	Influence	Develop relationships with industrial facilities, wastewater treatment, data centres, and other large energy users to capture waste heat through formal heat supply arrangements	• Heat recovery incentives • Guaranteed offtake agreement • Low temperature heat network standards	• Commercial confidentiality • Supply reliability concerns • Temperature range limitations • Retrofit costs for heat recovery • Operational disruption risks	• Industrial site operators • Data centre operators • Thames water • Large commercial buildings • HN developers/operators	Viability for private sector investment Regulatory alignment and adaptability

Table D.03: Action plan for develop heat networks

Appendix D

Short-term actions detailed descriptions

Increase flexibility

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
15	Switch Council buildings to flexible tariffs	Direct	Transition Council buildings and assets to time-of-use tariffs (TOUT) or other flexible tariff structures to optimise energy usage and reduce costs	• Support from utilities • Smart meter infrastructure • Cost savings	• Stakeholder resistance • Tariff complexity (real or perceived) • Initial set-up costs	• LBH • Utilities	Public capital & revenue costs
16	Understand Hounslow asset suitability for flexibility	Direct	Engage with the GLA and use smart meter data to assess the suitability of local buildings and infrastructure for participating in flexibility initiatives.	• Existing asset data • Support from the GLA • Smart meter data • Local and national funding initiatives • Flexibility tariffs	• Data privacy concerns around smart meters • Lack of suitable data	• LBH • GLA • UKPN • SSEN • Utilities	Energy resilience
17	Engage with GLA on subregional planning for flexibility	Enable	Collaborate with the GLA on plans for role of flexibility in West London.	• Support from the GLA	• Possible lack of data • Misalignment of timescales	• LBH • GLA • West London Alliance	Collaboration across the sub-region
18	Engage able to pay building owners about participation in flexibility initiatives	Influence	Engage able to pay building owners about participation in flexibility initiatives	• Local and national funding initiatives • Flexibility tariffs	• Stakeholder resistance • Tariff complexity (real or perceived) • Initial set-up costs	• LBH • Local building owners • UKPN • SSE • Utilities	Co-benefits for the community

Table D.04: Action plan to increase flexibility

Appendix D
Short-term actions detailed descriptions

Decarbonise transport

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
19	Continue existing active transport programme	Direct	Promote walking and cycling through infrastructure improvements, public awareness campaigns and incentives.	• Funding from local and national government • Community engagement • Partnerships opportunities	• Policy uncertainty • Public resistance to change	• LBH transport planners • GLA • TfL • Local residents, businesses and schools	Co-benefits for the community
20	Continue Council's existing programme on EV charging	Direct	Continue roll out of EV charging infrastructure in line with Electric Vehicle Charging Strategy.	• Funding from local and national government • Community engagement • Partnerships opportunities • LEVI funding • UKPN (digital tools)	• High installation costs • Space limitations / procurement • Grid capacity issues	• LBH transport planners • GLA • TfL • Local residents, businesses and schools • Charge point operators • OZEV	Investment to support the borough's green economy
21	Increase support for car sharing	Enable	Promote car sharing schemes to reduce the number of vehicles on the road and lower emissions	• Public awareness campaigns • Incentives for users (e.g. high-occupancy vehicle (HOV) lanes)	• Public resistance • Insurance and liability issues • Lack of HOV lanes in Hounslow	• LBH transport planners • GLA • TfL	Council influence & risk management
22	Increase support for public transport use following access development	Enable	Promote use of public transport to follow improvement of southern rail access to Heathrow, working with partners to promote reopening Brentford to Southall rail line for passengers, supporting the West London Orbital and reviewing bus network coverage with TfL including securing S106 contributions for public transport improvements.	• Funding from local and national government • Community engagement • Public awareness campaigns	• Public resistance	• LBH transport planners • GLA • TfL	Co-benefits for the community Local job creation Just & inclusive transition
23	Continue engagement with e-bike providers to gain better coverage in Hounslow	Influence	Contact major e-bike providers to discuss coverage, provision and parking of bikes in Hounslow	• Funding from local and national government • Public awareness campaigns	• Suitability of existing cycling infrastructure	• LBH transport planners • GLA • TfL • E-bike providers • Local residents	Investment to support the borough's green economy

Table D.05: Action plan to decarbonise transport

London Borough of Hounslow ARUP

Appendix D

Short-term actions detailed descriptions

Optimise data centres

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
24	Engagement with Data Centre operators on HNs	Enable	Engage with data centre operators in Hounslow to understand their readiness to connect to heat networks as a source of waste heat	• Planning policy • Existing technical guidance • Upcoming Heat Network Zoning policy • Lessons learnt from other experiences (e.g. OPCD heat network)	• Lack of obligation to connect at present • Policy uncertainty • Confidentiality	• GLA • Tech UK • Data Centre operators • Potential HN customers • LBH planning department • OPCD	Energy resilience Collaboration across the sub-region
25	Endorse clean energy technologies for Data Centres	Influence	Encourage data centre operators to adopt technologies such as solar panels, batteries and procure green Power Purchasing Agreements (PPAs) where possible to reduce impact on the local energy system	• Would be advantageous to applications progressing through planning system	• Additional cost • Space availability on sites • Not legally binding	• GLA • Tech UK • Data Centre operators • LBH planning department	Council influence & risk management
26	Encourage data centre providers to offer skills and training to contribute to the local community and Equality Opportunity Areas	Influence	Create requirement for data centre operators to provide skills benefits on new clean energy technologies to the local community	• Would be advantageous to applications progressing through planning system	• Not legally binding	• GLA • Tech UK • Data Centre operators • Local schools • Community groups • Local residents	Green skills and workforce deployment

Table D.06: Action plan to optimise data centres

London Borough of Hounslow ARUP

Appendix D
Short-term actions detailed descriptions

Influence the transition of gas network

#	Actions		Description	Enablers	Barriers	Stakeholders	CSFs
27	Explore chosen retrofit demonstrator as a pilot	Direct	Back the retrofit demonstrator to pilot as gas network transition approaches	• Innovation funding mechanisms • Community energy groups • Academic partnerships	• Replication challenges • Funding limitations • Community engagement complexity	• Local community groups • Academic institutions • NESO	Regulatory alignment and adaptability
28	Coordinate and plan for street works for the long-term	Enable	Establish improved street works planning system to coordinate gas transition with other infrastructure upgrades, minimising disruption and deliver co-benefits	• Collaborative planning through London Permit Scheme (LoPS) • Integrating planning with GIS mapping • Utility corridor approach	• Differing planning horizons • Emergency works disruption • Complex stakeholder management • Budget cycle misalignment	• Highway authority • All utility providers • TfL • Neighbouring boroughs • GLA infrastructure coordination service	Co-benefits for the community
29	Accelerate / enable iron mains replacement	Enable	Work with Cadent to prioritise and expedite the replacement of iron gas mains with safer, more efficient materials. This is within Cadent's Business as Usual operations.	• Funding secured through RIIO-2 and RIIO-3 price control frameworks • Coordinated works programme	• Disruption to residents and businesses • Limited Council influence over GDNO priorities • Resource constraints • Technical challenges in dense urban areas	• Cadent • Highway authority • Local businesses • GLA infrastructure coordination service	Council influence & risk management Short-term impact
30	Encourage top gas offtakers to complete decarbonisation plans	Influence	Develop targeted engagement program for largest gas consumers in the borough to support transition planning, focusing on feasible alternatives and timelines	• Government support for energy intensive industries • Capital allowances • Carbon reduction commitments	• Capital investment barriers • Operational continuity requirements • Technology limitations for high temperature processes • Perceived risk of high operational costs	• Major industrial users • Public institutions (NHS, education) • Decarbonisation planning consultants • Technology suppliers	Borough-wide net zero target
31	Determine interest from industrial community for decarbonised or hydrogen blended gas	Influence	Engage with Hounslow's industrial community for interest in decarbonised gas cluster that utilises decarbonised or hydrogen blended gas	• Funding secured through RIIO-2 and RIIO-3 price control frameworks • Innovation funding mechanisms • Community energy groups • Academic partnerships	• Disruption to businesses • Complex stakeholder management • Technical challenges • Funding limitations	• Industrial community • Cadent • GLA infrastructure coordination service	Short term impact

Table D.07: Action plan for gas network transition