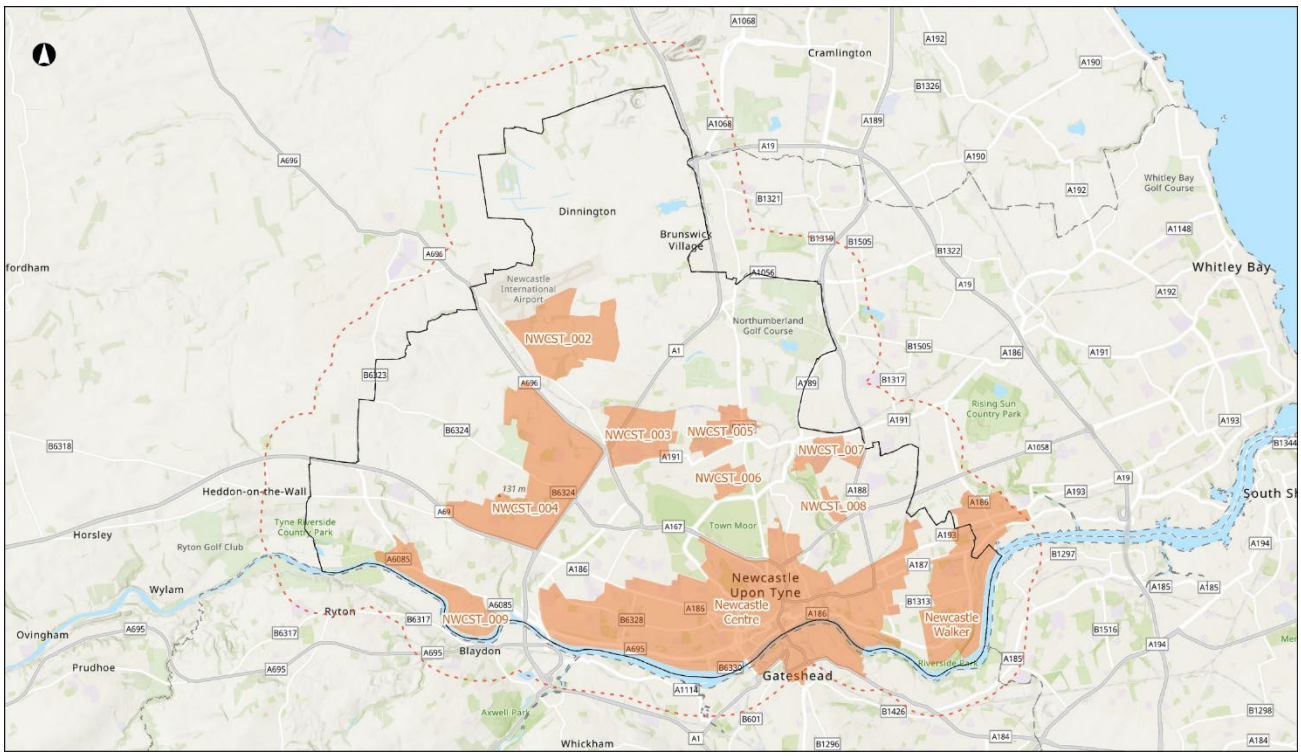
Department for Energy Security & Net Zero

Newcastle upon Tyne

Heat Network Zoning

Zone Opportunity Report



February 2025

Disclaimer

Please read the following licence conditions thoroughly to understand your responsibility for use of this report and data presented within it.

This report contains outputs from the Heat Network Zoning Pilot Programme. The Pilot was undertaken prior to full details of the Heat Network Zoning policy being available. Therefore, the contents, including data shown in maps, technical and economic data within the report, are likely to change and potentially sensitive information is withheld. No part of this report shall be relied upon for any business decisions.

Acknowledgements

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Contents

Executive Summary

About Newcastle: Newcastle upon Tyne has a population of over 300,000 and covers an area of 115km². The city centre is densely populated, bound by the River Tyne to the south and the Town Moor to the north.

Local Energy Policy: Newcastle City Council declared a Climate Emergency in 2019, aiming for net zero carbon emissions by 2030. The Net Zero Newcastle – 2030 Action Plan includes targets for heat network deployment.

Existing heat networks: Newcastle has several notable networks including at the Byker Estate, Helix, Northumbria University and Newcastle University. A network is also planned at the Forth Yards development.

Zones identified: Ten heat network zones were identified in Newcastle, with two considered strategic zones. The total annual heat demand across all buildings required to connect within identified heat network zones is 600GWh.

Strategic heat network zones: Newcastle Centre and Newcastle Walker are the two strategic zones. The overall annual heat demand for all buildings required to connect within strategic zones is 425GWh.

Key heat demands: The total annual heat demand for buildings connected to the initial zone opportunities is 200GWh. Key buildings include development at Forth Yards, the Royal Victoria Infirmary, Newcastle University, and Eldon Square.

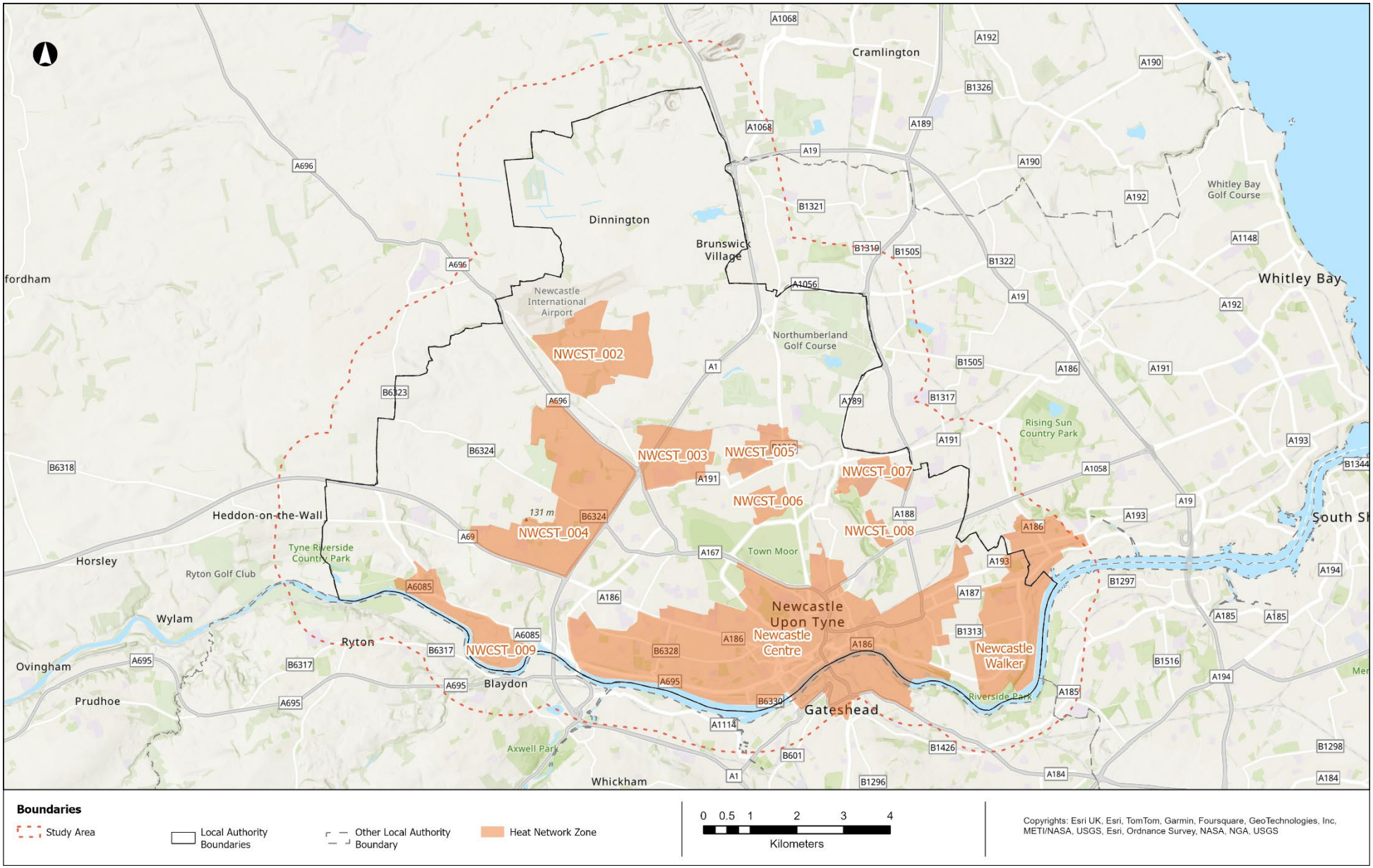
Key heat sources: Potential heat sources include water extracted from the River Tyne, mine water heat, geothermal heat, air source heat pumps and other heat recovery.

Estimated CapEx: The high-level estimate of capital expenditure to network all buildings required to connect in all zones is approximately £900m, of which the initial zone opportunities amount to approximately £325m.

Other heat network zones: Smaller heat network zones identified include Newcastle City Airport, Kenton, Westerhope & West Denton, Gosforth, Westfield, Freeman, Heaton, and Newburn.

Carbon savings: The initial zone opportunities identified could deliver carbon savings of about 35ktCO_{2e} annually.

Figure 1: Overview of Heat Network Zones in Newcastle upon Tyne



1) Introduction

Heat networks will play a crucial role in decarbonising heat in buildings. Heat networks take heating, cooling or hot water from a central source(s) and deliver it to a variety of premises such as public buildings, shops, offices, hospitals, universities, and homes. They are also an important part of securing the UK's energy independence through local, low carbon heat sources and reducing the cost of living through efficient, affordable heating in densely populated areas. Analysis shows that heat networks could provide about 20% of total heat by 2050. They currently provide about 3%.

The Department for Energy Security and Net Zero (DESNZ) is enabling the development of heat network infrastructure through a range of targeted funding, policy and legislative support to de-risk projects and attract investment. The Energy Act 2023 establishes the regulatory framework for heat networks in Great Britain and provides powers to introduce heat network zoning in England through secondary legislation. A heat network zone (HNZ) is a formally designated geographical area in England where heat networks are expected to provide the lowest-cost solution for decarbonising heating.

Under heat network zoning, central and local government will work with industry and local stakeholders to identify and designate areas of England where heat networks are expected to be the lowest-cost solution to decarbonising heat. Heat network zoning will be essential to speeding up the development of new heat networks and we hope to catalyse growth where it's most needed.

Heat network zoning will significantly increase private sector investment in the sector by removing the barriers which currently limit the pace of developing large scale heat networks. It will also give local communities the tools to accelerate the development of heat networks in their own areas and ensure that more homes and businesses can have access to greener, cheaper heat. It also has the potential to create tens of thousands of jobs across the country.

This report shows the Pilot programme outputs for Newcastle and is intended to showcase potential heat network zones in the city. The report indicates the heat network investment opportunity at a city scale, the potential location of heat network zones, and key opportunities for initial heat network development within those potential zones

Please note that all information presented in this report, including the location of identified heat network zones, is subject to change. These are the findings of Pilot programme that were developed alongside the emerging Heat Network Zoning policy and therefore reflect our understanding at a moment in time. As the methodology improves, we will update these reports to improve our understanding of how heat network zoning may be rolled out in each area. Any potential zones that are identified fully, or partly, in an adjacent local authority area will need to be discussed further once local zone co-ordinators are established.

Heat Network Zoning Pilot Methodology

Heat network zones will be identified using a standardised national zoning methodology[1]. The Heat Network Zoning Pilot Programme (hereafter Pilot programme) set out to develop a process to identify potential zones in a consistent and standardised manner across a range of towns and cities in England. The programme was fully funded and led by DESNZ, working alongside 28 Local Authorities, and multiple consultancy firms, to develop and test this approach at a local level. As such the final outputs are supported by each Local Authority but do not reflect an approved, endorsed, or adopted position on how zones may be delivered.

Lessons from the Pilot have been used to inform the development of the Heat Network Zoning policy. This includes improvements to the identification approach itself, but also wider policy design relating to the number and size of potential zones; existing heat networks; and the impacts of the policy on a range of stakeholders. Once the response to the heat network zoning consultation is published, we will update the methodology to reflect the final policy position.

The key concepts, definitions and complementary workstreams relevant to this report are introduced below. For a fuller description of the Heat Network Zoning policy, and up to date information regarding its implementation, please visit https://www.gov.uk/government/collections/heat-network-zoning.

Heat Network Zone Identification

Heat network zones will be identified using a standardised national zoning methodology. The December 2023 consultation on Heat Network Zoning proposes that the methodology will consist of two stages:

1. a national mapping exercise (using a data-led spatial energy model – the National Zoning Model, (or NZM), to identify indicative heat network zones across England;
2. a refinement stage where relevant local stakeholders will input to the review and refinement of potential heat network zones prior to formal designation.

For the purposes of this study, indicative heat network zones have been identified using a prototype version of the NZM. These indicative zones were then refined by technical consultants with input from local stakeholders. The NZM outputs are already of considerably higher quality than those shared for this work and therefore these reports will improve over time.

This study split heat network zones into two different categories. These are **'strategic'** zones – the largest zones which are generally seen as strategically significant to developing heat networks in an area; and **'other'** zones – which are generally smaller and discrete. These are terms specific to the Pilot programme and the report focuses primarily on the strategic zones.

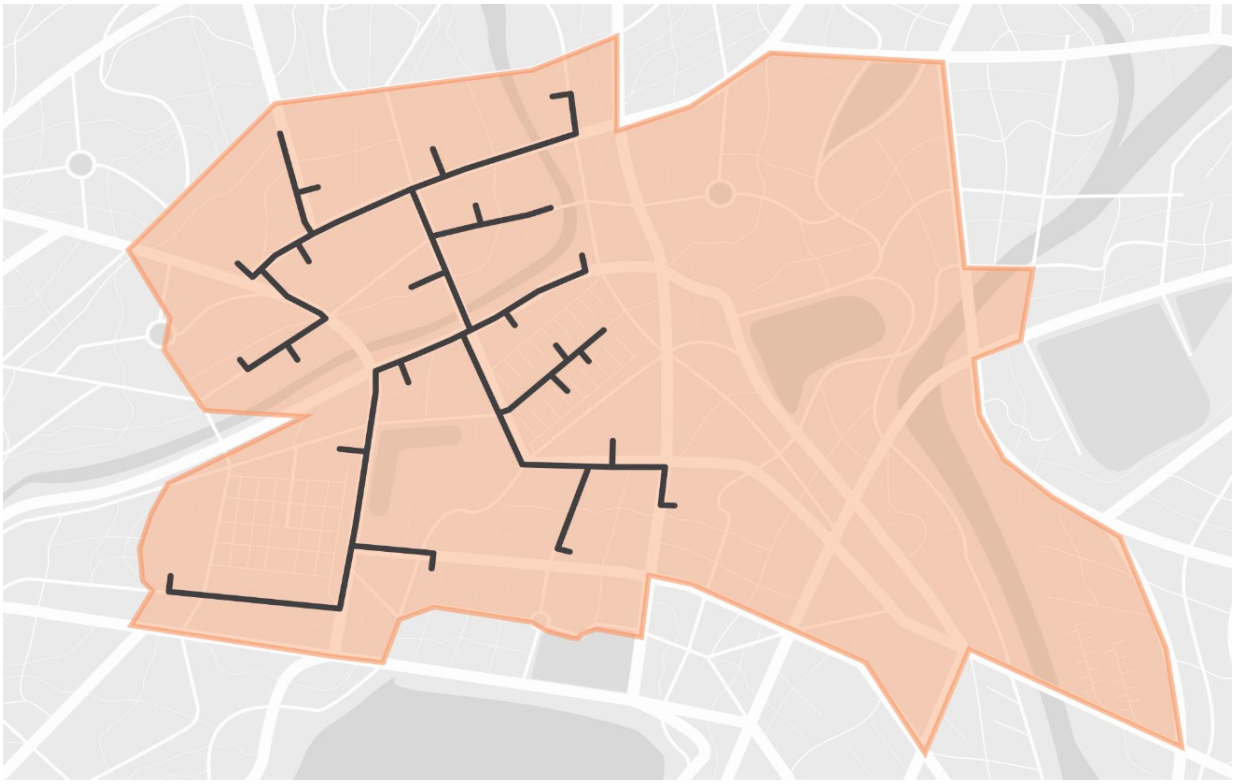
[1] More information can be found in the Heat Network Zoning Methodology Statements (Appendices 3, 4 & 5)

Initial Zone Opportunities

Alongside the identification of potential heat network zones, the Pilot programme has attempted to define areas within zones where the most attractive heat network development opportunities might exist. For the purposes of this programme *only* these are called an "initial zone opportunity" (or IZO). The approach considered economic viability, investment scale and returns, decarbonisation impact and deliverability. They were developed solely around buildings which could be required to connect[2] under the proposed Heat Network Zoning policy and did not consider potential voluntary connections.

Initial zone opportunity design targeted a linear heat density (LHD) of 4MWh/m/yr, for the existing built environment. This is considered a relatively low proxy for economic viability with the heat network sector in England. A more flexible approach was used for new development sites, where different economic success criteria are likely to be applied. To standardise the way opportunities were assessed, the IZOs presented in this report may differ from, or overlap with, existing or planned heat network infrastructure. Campus style heat networks (e.g. in hospitals or university campuses) were considered as potential heat loads with a single point connection. Figure 2 below shows an example of a heat network zone and an IZO.

Figure 2: Illustration of a Heat Network Zone (HNZ) and an Initial Zone Opportunity (IZO)



[2] The building categories being considered as required to connect include new developments, large non-domestic buildings, and communally heated residential blocks as described in Heat Network Zoning Consultation (2023)

Study Scope

This document is presented as a zone opportunity report as it was developed in advance of the final policy design. As such, the report does not include:

- references to the **central authority** or **zoning co-ordinator** roles;
- assumptions about rights of **existing heat networks,** or **zone delivery areas**;
- an options appraisal on which **routes to market** may be taken;
- calculations on the **cost of heat** (connection/tariffs) to specific buildings**;**
- any inferences as the suitability for **public/private sector delivery** unless it's matter of fact (existing network or Heat Network Investment Project/Green Heat Network Fund project);
- references to **local community benefit** or **consumer protection** (subject to a live consultation).

In the future, it is intended that a document, similar in style, will be produced to incorporate these policy design aspects and be used as a Zone Market Prospectus (ZMP) to market heat network zoning opportunities in an area. Further detail on the methodology and initial zone opportunity criteria is provided in Appendix 4 and Appendix 5.

Advanced Zoning Programme

The Advanced Zoning Programme (AZP) is working with 19 areas (including Newcastle) to support the construction of new zone scale heat networks as quickly as possible following the launch of heat network zoning in 2025. Amongst the programmes aims are to accelerate the delivery and construction of heat network zones; develop best practice guidance; provide project development support services; and promoting market transformation ready for the national rollout of Heat Network Zoning policy.

The programme builds upon lessons learnt from the Pilot programme and these outputs. In October 2024, DESNZ announced that ground-breaking heat network schemes in Leeds, Plymouth, Bristol, Stockport, Sheffield, and two more in London will receive prioritised support to advance to construction by the end of 2026.

AZP uses the latest zoning methodology (i.e. developed after the Pilot programme) and has undertaken further detailed development work with local stakeholders to further improve confidence and accuracy. The programme may also have applied local strategic and commercial considerations and therefore the opportunities may differ slightly from those presented here, using a national standardised approach. Where there is overlap, AZP studies should be considered more appropriate for use than the outputs from this Pilot programme.

2) Newcastle upon Tyne Heat Networks Context

2.1) Newcastle upon Tyne City Overview

Newcastle City Council (NCC) is the local authority for the city and metropolitan borough of Newcastle upon Tyne in northeast England. NCC is a member of the North of Tyne Combined Authority along with North Tyneside Council and Northumberland County Council. It has a population of over 300,000 and is the largest in the northeast. The city centre and the southern part of the local authority comprises the most densely populated urban area, which is bound by the River Tyne to the south and the Town Moor to the north. Outside this urban centre it is less densely populated, especially north and north-west of the city towards Newcastle International Airport and beyond. Here suburban developments and urban greenspace are more prevalent. NCC own approximately 24,000 social homes, managed by Your Homes Newcastle, with approximately a further 10,000 homes owned by other social landlords.

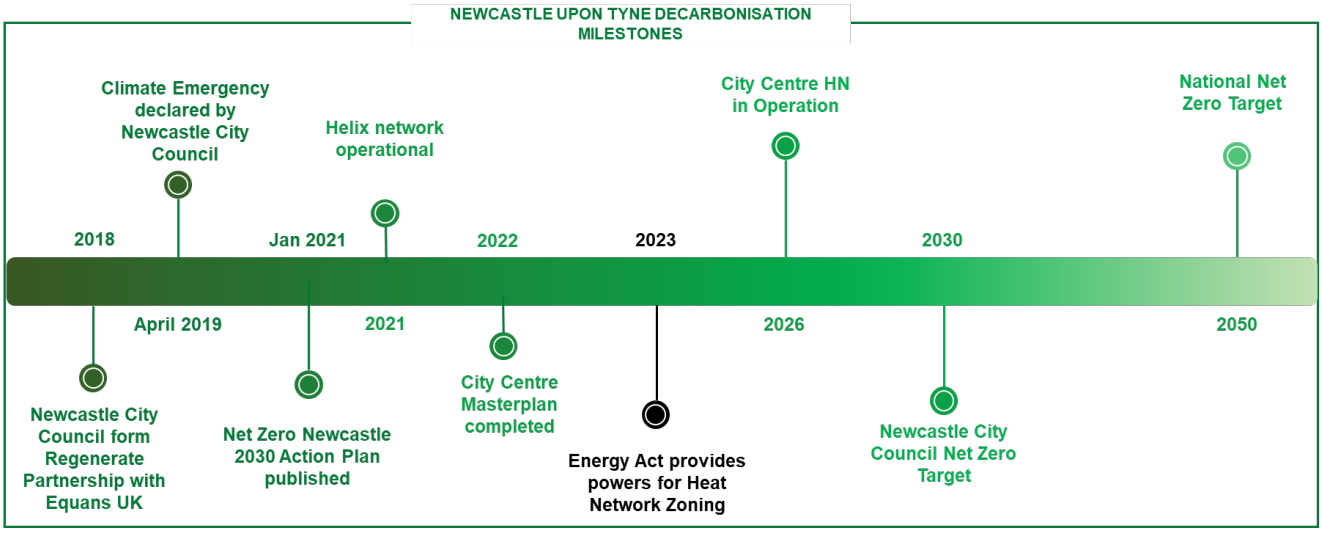
2.2) Newcastle upon Tyne Net Zero Targets and Commitments

In April 2019, NCC declared a Climate Emergency and committed to creating a Climate Change Strategy with the goal of achieving net zero carbon emissions by 2030 across the city and establishing a Climate Change Convention. The Climate Emergency declaration recognises the role of key partners across the city and region to achieve the 2030 net zero carbon goal.

In September 2020 NCC published its Net Zero Newcastle – 2030 Action Plan. The Action Plan highlights the value of heat networks to heat decarbonisation within Newcastle upon Tyne, particularly in the dense urban centre. The Action Plan introduces targets using heat networks to supply heating and hot water to 20% of homes and 74% of non-domestic buildings.

Figure 3 summarises key dates in NCC’s plans for decarbonisation and demonstrates their progress towards decarbonisation targets.

Figure 3: Newcastle upon Tyne Decarbonisation Milestones



2.3) Delivering Heat Networks in Newcastle

Heat networks in Newcastle upon Tyne currently deliver about 67GWh of heat annually to over 3,800 customers. Several heat networks date back to the 1970s, including the Byker Estate (2,300 connections), Riverside Dene (450 connections), St. Ann's Close (230 connections), Queen's Court (129 connections), and Scotswood New Community (1,800 planned connections).

In 2018, NCC and Bring Energy (formerly Equans) entered a 40-year strategic partnership, called Regenerate Newcastle Partnership. This is a joint venture for investment and development of energy projects in the city. Regenerate Newcastle can be used by different parties within the city including NHS, educational bodies, housing providers, developers and emergency service organisations. The purpose is to make use of the existing, planned, and future development sites in Newcastle upon Tyne to build on the current heat infrastructure and create heat network that can link the east and west of the city via the city centre. Newcastle's Energy Masterplan[3] sets out how this heat network could provide renewable and low-carbon heating and cooling to public sector buildings, commercial and residential properties.

Within NCC's Core Strategy, Policy CS1 (Spatial Strategy for Sustainable Growth) requires that all new development is designed to reduce carbon emissions and be adapted to the effects of climate change. Policy CS16 (Climate Change) requires new development to be sustainable, able to function effectively in a changing climate and address the impacts of climate change emissions. Included in this policy is a requirement for "*developments to optimise the use of local renewable or low carbon energy in accordance with a hierarchy, prioritising decentralised energy schemes…followed by other renewable energy solutions and finally other lower carbon energy solutions. Where no District Heat Networks exist, Major*

3 https://www.newcastle.gov.uk/sites/default/files/Climate%20Change/Net%20Zero/Net%20Zero%20Newcastle%20-%202030%20Action%20Plan_0.pdf

applications must evaluate the feasibility of providing a District Heat Network and, where feasible implement such schemes."[4]

The first Regenerate Newcastle Partnership project was the design, build, operation and maintenance of an extended heat network as part of the Helix development. Helix is a 24-acre site close to the city centre that was built for international tech and science businesses and for the local community and residents. It aspires to become one of the most important innovation hubs in Europe and is supplied with low-carbon heat and chilled water generated at a purpose-built energy centre. The network has been operational since 2020.

There are opportunities that could be progressed in the shorter term in Benfield, Forth Yards and Scotswood. See Section 3 for more information about each of these.

Please refer to Appendix 2 for further information about the evidence compiled for heat network opportunities in Newcastle. This includes a stakeholder directory and records of interactions with those stakeholders as well key studies and reports.

2.4) Newcastle upon Tyne Heat Network Zones

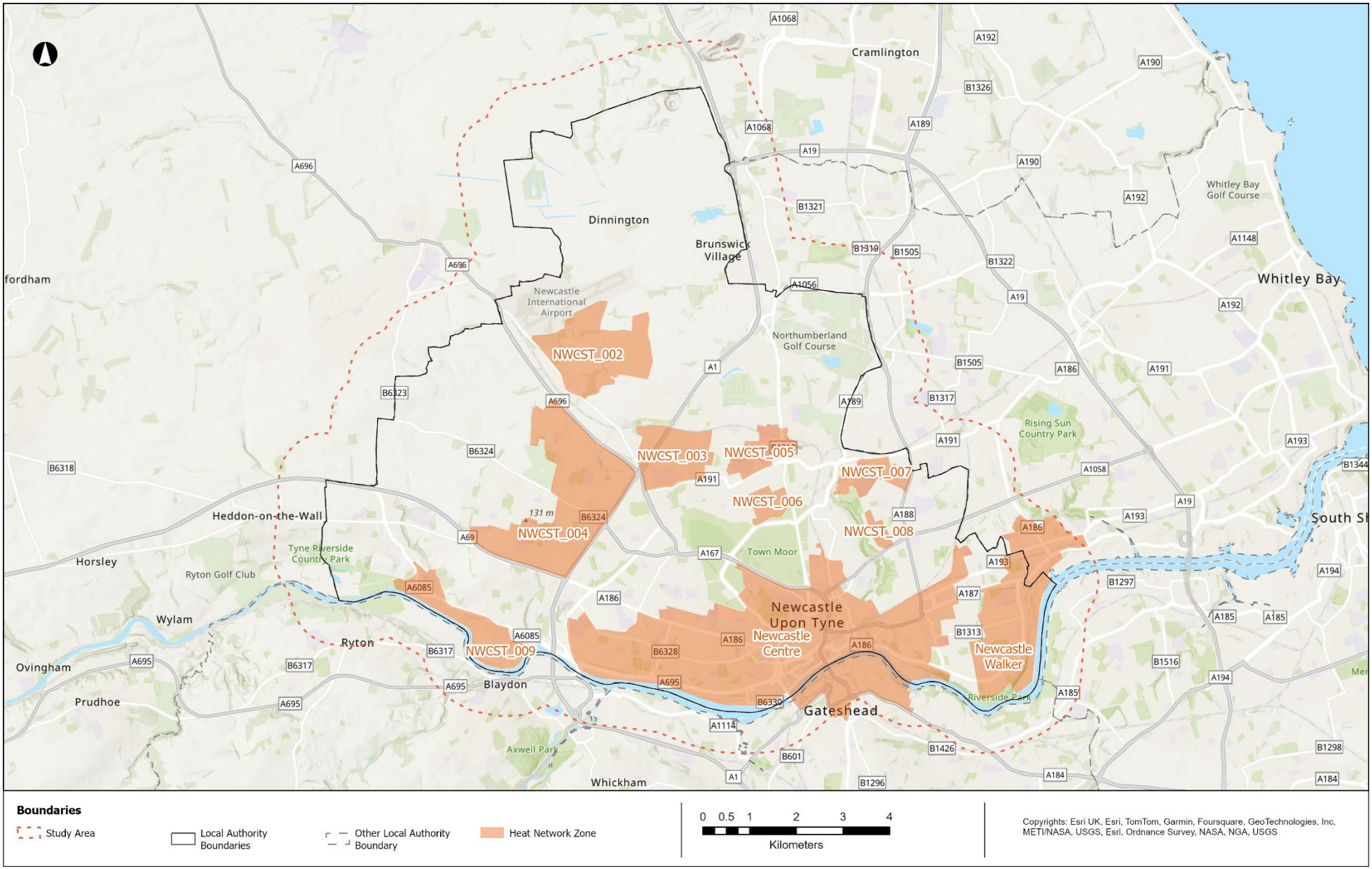
A total of ten potential HNZs were identified in Newcastle, with two considered Strategic HNZs. Figure 4 shows the study area boundary as well as the boundaries of all HNZs identified within Newcastle upon Tyne. Strategic HNZs have been allocated a meaningful name agreed as relevant from a local perspective whilst Other HNZs have been allocated a reference number.

Please see Appendix 1 for the following maps giving more detail:

- A: City Typology Map – shows building typologies which dominate by area.
- B: Key Heat Loads Map – highlights key buildings required to connect by heat demand.
- C: Key Heat Sources Map – highlights key heat sources by type and potential energy centre locations as well as any existing district heat network energy centres.
- D: Existing / Planned Heat Networks Map – shows existing heat networks, planned extensions, and planned networks at an advanced development stage
- E: Key Constraints Map – shows key topographical constraints identified.
- F: Off-gas Grid Areas – presents areas with differing levels of properties off the gas grid within the study area.
- G: Coal Mine Authority Map - shows area where coal mine water may be a possible heat source

[4] Newcastle City Council (2021) Planning Process Note - Major application sustainability guidance. Available at: https://www.newcastle.gov.uk/services/planning-building-and-development/planning-policy/supplementary-planning-documents

Figure 4: Heat Network Zones Identified within the Newcastle upon Tyne Study Area



3) Strategic Heat Network Zones

Strategic HNZs in Newcastle upon Tyne

This section examines the two strategic HNZs and the IZOs identified within each. This covers the key heat demands, heat sources, energy centre locations and potential constraints for each IZO identified. Heat network distribution routes are conceptual and designed to illustrate the potential size and scale of the heat network opportunity that may be realised as part of the upcoming Heat Network Zoning policy. Other heat network zones are listed in Section 4.

Table 1 below presents a high-level estimate of the scale of opportunities across Newcastle. Please refer to Appendix 4 for more detail.

Table 1: Annual Heat Demand for Buildings in All Zones, Strategic Zones and IZOs

Scope	Annual heat demand (GWh/yr)
All buildings required to connect in all zones[5]	600
All buildings required to connect in strategic zones	425
All buildings connected to the IZOs	200

Existing/planned heat networks that overlap with IZOs are described, though their locations may vary due to different approaches. The Pilot programme applied a standard set of technical and economic assumptions across each of the 28 areas that participated in the programme and uses a proxy for economic viability (see Section 1 and Appendix 4 for more detail). Existing and planned networks will often be based on more detailed design work and have taken account of strategic and commercial considerations that were relevant at the time of their development. Future iterations of this report will consider how to better align local studies whilst retaining a nationally consistent approach.

The two strategic zones are summarised below. Figure 5 illustrates the size of each, alongside the key potential heat source and the proportion of buildings that may be required to connect.

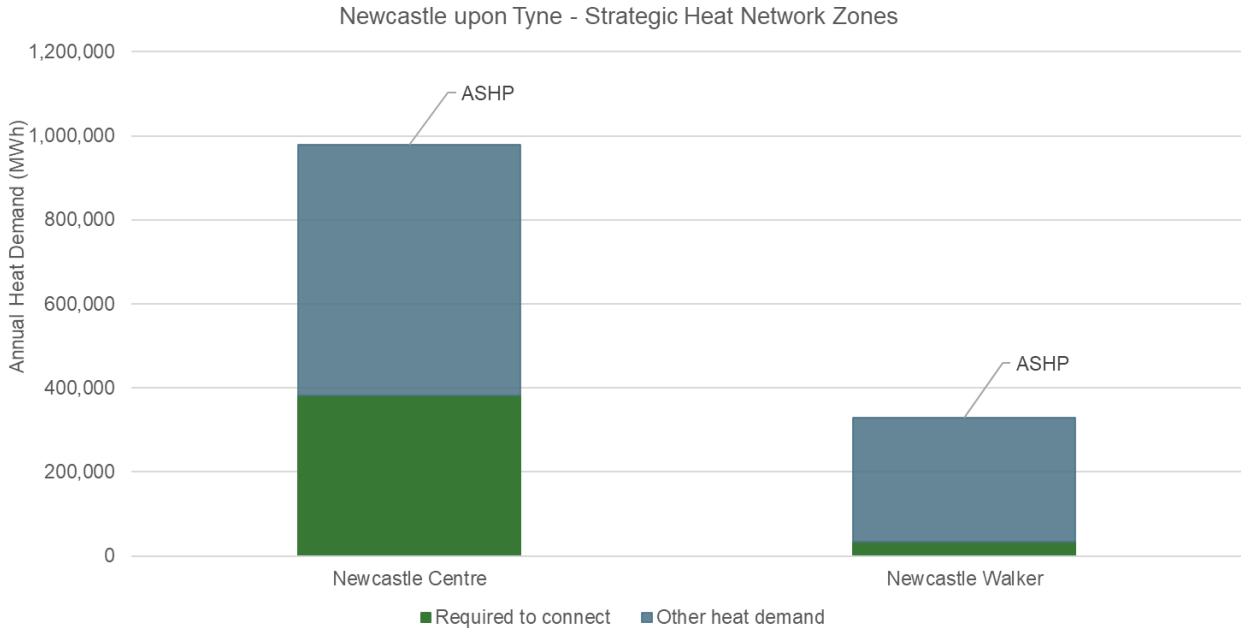
Newcastle Centre is the largest potential HNZ identified by area and includes four IZOs. It covers the city centre and many buildings that may be required to connect, including the Royal Victoria Infirmary, Walkergate Hospital, Newcastle and Northumbria Universities, and the Eldon Square Shopping Centre. It also includes areas with significant development planned, including Scotswood, Forth Yards, and Ouseburn. The existing Helix and Byker heat network schemes are in the HNZ, in addition to several communal heating schemes. Potential heat

[5] Row 1 is an estimate of heat demand across buildings required to connect in all zones identified. Row 2 is as per row 1, but only within strategic zones. Row 3 includes buildings connected to the IZOs described and largely comprise of buildings potentially required to connect. Figures are generally rounded up to the nearest 25 or 50GWh/yr.

sources identified include water source heat pumps and mine water or geothermal heat extraction on the Town Moor. For more information, please see Section 3.1.

Newcastle Walker is a zone on the eastern edge of Newcastle, which includes one IZO. Most buildings required to connect within the HNZ are industrial or commercial properties, including GE Oil and Gas, and Technip FMC. Neptune Energy Park and several sites adjacent to Walker Riverside Park represent the most significant planned developments in the zone. There are a few existing communal-scale heat networks in the zone, and a study investigating the potential for a heat network was undertaken in 2021. For more information, please see Section 3.2.

Figure 5: Summary of Heat Demands in all Strategic HNZs Identified



3.1) Newcastle Centre

3.1.1) Newcastle Centre – HNZ Summary

Newcastle Centre is the largest HNZ identified by both heat demand and area in Newcastle upon Tyne. The zone contains 602 buildings potentially required to connect, representing approximately 39% of the overall existing heat demand of the zone. This excludes new developments, of which a number are planned over the next decade. Key areas of development include Forth Yards, Helix, Pilgrim Street, Scotswood, and Ouseburn. Eldon Square Shopping Centre, St. James' Park Football Stadium and Royal Victoria Infirmary represent three of the largest existing heat loads in the Newcastle Centre zone. These demonstrate the diverse typology of large heat demands with retail, leisure, and medical campuses all included.

There is limited availability of low-carbon heat within the Newcastle Centre zone. Primary opportunities include heat extraction from the River Tyne via one or more water source heat pumps (WSHPs), air source heat pumps (ASHPs), and possible geothermal heat extraction (either via closed/open loop/deep geothermal or mine water) on the Town Moor. Other minor opportunities are dispersed across the zone but are considered unlikely to form a key heat source for network development. There are several potential constraints within this zone, including the railway line running from the east to the King Edward VII Bridge, the A167(M) road running south from the Town Moor, the River Tyne, and the River Ouseburn. None of these directly impact the proposed route.

The strategic opportunity to accelerate the delivery of heat networks in the Newcastle Centre zone is expected to consist of the development of multiple starter networks with longer term potential for interconnection.

3.1.2) Newcastle Centre - Existing Heat Networks

The existing and planned heat networks are described below and shown in Appendix 1: Map D. Projects which are in early stages of development, may be described here, but not included in maps where a proposed network route is yet to be established. There are four operational heat networks, a planned expansion and a new network proposed in this zone.

Operational Heat Networks and Planned Expansions

Helix Heat Network

The Helix heat network is a 5km network which supplies both low temperature hot water (LTHW) and chilled water (CHW) to ten buildings and 450 homes, with a heat demand of 4GWh/yr. It was the first project delivered via the Regenerate Newcastle Partnership introduced earlier in this report. Further new build development of the Helix site is anticipated to deliver an estimated additional 7GWh/yr. The network is supplied by a combination of gas-fired CHP and boilers, with work currently underway to incorporate 1.5MW of ASHPs capacity into the heat supply.

An expansion south from the existing Helix site to supply Newcastle College and Sixth Form is currently in detailed design stage. This will add an additional 6GWh/yr.

Byker Heat Network
A medium temperature hot water (MTHW) network supplies heat to the housing estate within the Byker Wall. It supplies 15GWh/yr via a combination of gas-fired CHP, gas-fired boilers, and biomass boilers.

Newcastle University Heat Network
Four LTHW networks (Merz Court, Kings Road, Hadrian Bridge and Park View Student Village) supply university buildings and accommodation across the city centre. It supplies 18GWh/yr of heat via a combination of gas-fired CHPs and boilers. There is an ongoing expansion and upgrade of the Merz Court energy centre. This is replacing the existing gas boilers with a biofuel CHP system and connect the Stephenson Building redevelopment.

Northumbria University Heat Network
This is a LTHW network supplying university buildings and accommodation on the city centre campus (west of the A167). The heat network is supplied by gas boilers and delivers an estimated 15GWh/yr.

Newcastle Heat Network Expansion
NCC commissioned a City Centre Heat Network Masterplan in 2021. This produced several proposals which NCC is exploring with the Regenerate Newcastle Partnership. These include:

- A north-west expansion of the Northumbria University heat network to connect into the Newcastle University Hadrian Bridge scheme.
- A Claremont heat network. Two options were presented: (i) to connect the Kings Road Newcastle University network and the Royal Victoria Infirmary; and (ii) to connect the Royal Victoria Infirmary to the Helix network. This latter option would likely be supported by a new energy centre on Claremont Road.

3.1.3) Newcastle Centre - Initial Zone Opportunities

Four discrete IZOs were identified in the Newcastle Centre zone. Potential routing[6] for the IZOs is shown in and summary statistics provided in Table 2.

Table 2: Newcastle Centre - Summary statistics for Initial Zone Opportunities[7]

CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
~£300m	175GWh/yr	60km	30ktCO_{2e}/yr	~9MWh/m	River WSHPs & ASHPs

[6] Routes can be expected to change as a better understanding of local constraints is developed through design.
[7] Please see Appendix 3 – Glossary, “Specific definitions” of the main report for definitions related to Table 2.

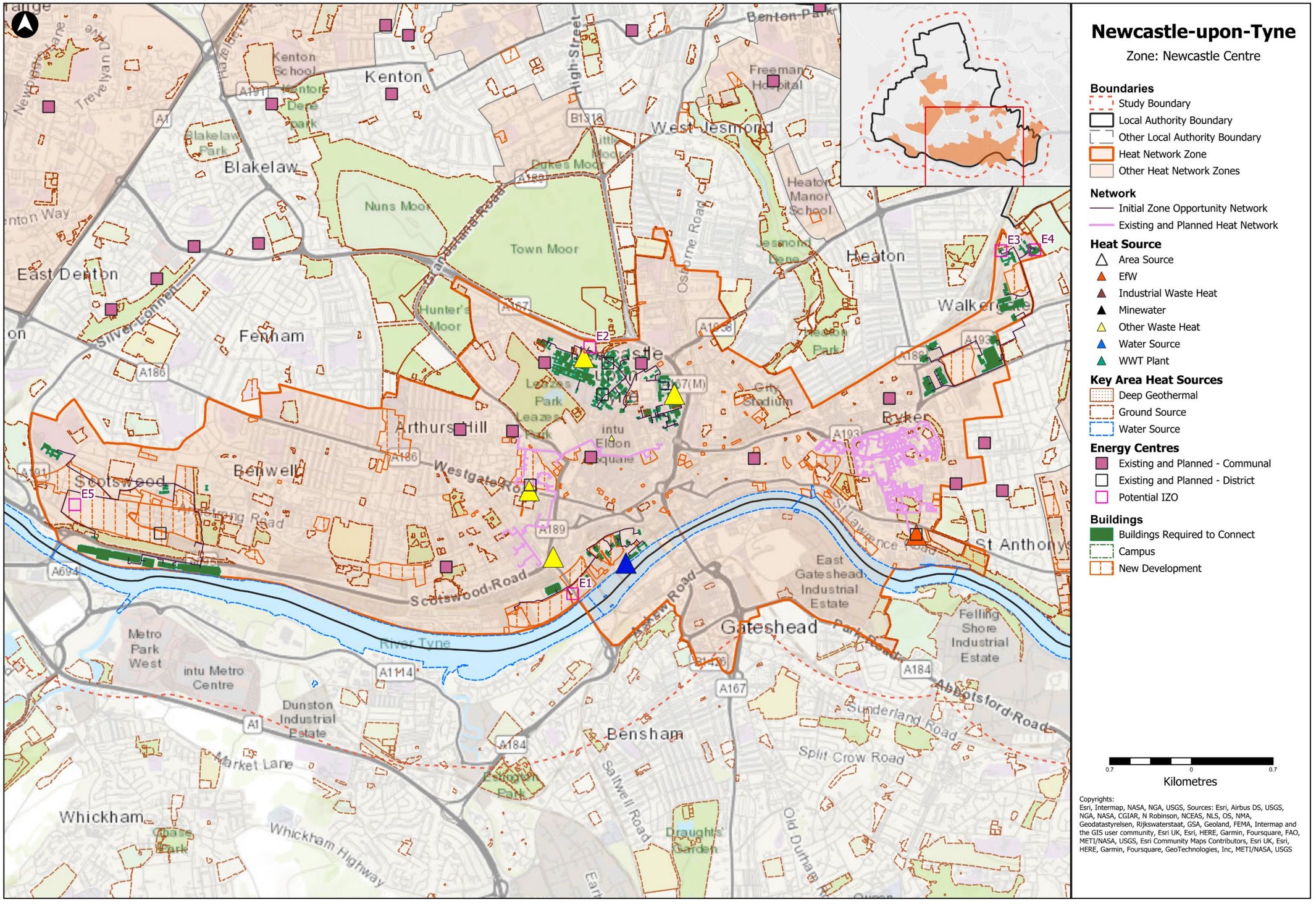
The **Claremont IZO** is located along the northern boundary of the Newcastle Centre zone, south of the Town Moor. The key buildings that may be required to connect include the Royal Victoria Infirmary and Newcastle University campus buildings. The relative proximity of these high demand buildings creates an opportunity for efficient provision of heat via a new network. Low-carbon heat opportunities are limited, however there is some potential for either geothermal or mine water heat extraction from the nearby Town Moor. Further studies and feasibility analysis are required to assess the potential of these. Otherwise, large scale ASHPs are likely to support the preferred low-carbon heat solution.

The **Benfield IZO** is in the north-east edge of the Newcastle Centre zone. It is bound by the A187 and A188 on its southern and western edges, and by the East Coast Main Line and Heaton Train Depot to the north. The key buildings required to connect within the IZO include Walkergate Park Hospital, Benfield School, and several commercial buildings in Benfield Business Park. This cluster of diverse non-domestic loads provides an efficient opportunity for a network to supply decarbonised heat. Low-carbon heat opportunities within the IZO are limited. However, there are some open green spaces which may provide opportunity for geothermal heat extraction, particularly to the south of Walkergate Park Hospital and to the east of Benfield School. Otherwise, large scale ASHPs are likely to be the preferred solution.

The **Forth Yards IZO** contains a significant Homes England residential development called Forth Yards, with a current estimated heat demand of approximately 8GWh/yr. NCC have expressed ambitions for this site to form the foundation of a low temperature heat network, and there are several commercial properties and hotels along the Quayside which could support an eastward expansion. The River Tyne has been identified as a low-carbon heat source opportunity. The reinforced riverbank adjacent to the Forth Yards development provides river access which is resilient to tidal changes in water level. Additional potential has been identified in sewer waste heat recovery, from a main sewer accessible near to the Forth Yards development. The Forth Yards IZO forms part of the AZP studies in Newcastle.

The **Scotswood IZO** is to the west of the Newcastle Centre zone and bound by the River Tyne to the south and Denton Road to the west. Key buildings potentially required to connect within the cluster include Excelsior Academy and a series of retail units lets along the River Tyne. There are several planned new developments, some of which are under construction that could be connected to this IZO. Notably, The Rise development is delivering 1,800 new homes. The River Tyne has been identified as a low-carbon heat source opportunity and geothermal heat extraction from the associated river gravels. However, further examination of the geology is required. Otherwise, there are limited low-carbon heat sources available and large-scale ASHPs are likely to support the preferred low-carbon heat solution.

Figure 6: Initial Zone Opportunities in Newcastle Centre HNZ



3.1.4) Newcastle Centre – IZO Heat Demands

The heat demands identified within the IZO are described below. The Pilot programme used several sources including local data collected from building owners; national energy demand datasets; benchmarks applied via the National Zoning Model (NZM); and a standardised approach to estimate the potential heat demands of new development sites. More information is provided in Appendix 4.

Where there are different values between datasets, the methodology prioritised the use of the early prototype version of the National Zoning Model, for consistency. This has led to an overestimation of some commercial and light industrial heat demands presented in this report. Large anchor loads that are already connected to existing district-scale heat networks are not listed.

The key anchor loads for the **Claremont IZO** are the connections at the Royal Victoria Infirmary and Newcastle and Northumbria University campus heat networks. Combined, these bulk connections contribute around 100GWh/yr. This IZO also connects to a small number of new developments which contribute an estimated 200MWh/yr. There are no proposed residential connections. A breakdown of the categorisation of heat demand can be found in Figure 7. Further details of the key heat demands for buildings required to connect in the IZO are provided in Table 4.

Figure 7: Newcastle Centre - Categorisation of Heat Demand for Buildings Required to Connect in Claremont IZO

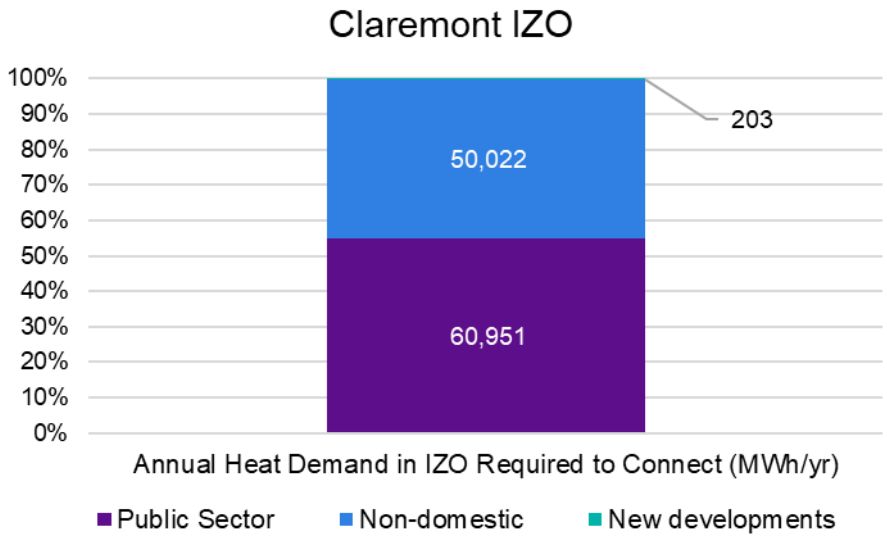


Table 3: Newcastle Centre - Key Heat Demands Required to Connect in the Claremont IZO[8]

Building name	Building category	Number of connections	Annual heat demand (MWh)	Data source
Royal Victoria Infirmary	Public sector	6	58,000	City Centre Masterplan (see Appendix 2)
Northumbria University	Non-domestic	16	12,300	City Centre Masterplan
Newcastle University Kings Road Network	Non-domestic	5	9,000	City Centre Masterplan
Newcastle University Merz Court Network	Non-domestic	12	6,000	City Centre Masterplan
Newcastle University Park View	Non-domestic	1	2,700	City Centre Masterplan

The key anchor loads connected to the **Benfield IZO** include Walkergate Park Hospital and Benfield School with a combined heat demand of around 4GWh/yr, and several new commercial buildings in Benfield Business Park with a combined heat demand estimated at around 7GWh/yr. Further details of the key heat demands for buildings required to connect in the IZO are provided in Figure 8 and Table 4 below.

[8] Please refer to Appendix 3 for definitions related to building categories in this table.

Figure 8: Newcastle Centre - Categorisation of Heat Demand for Buildings Required to Connect in Benfield IZO

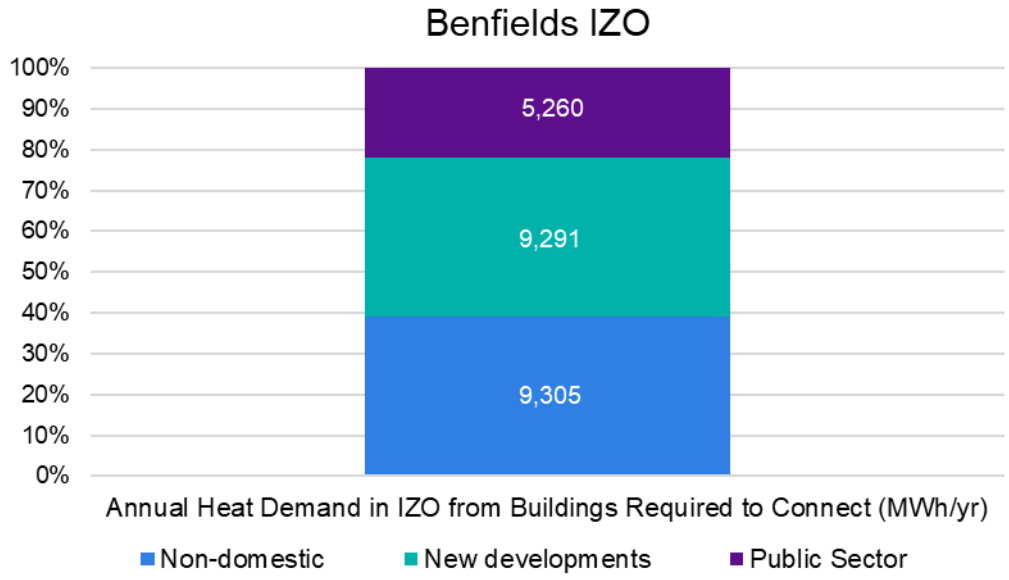


Table 4: Newcastle Centre - Key Heat Demands Required to Connect in the Benfield IZO[9]

Building name	Building category	Number of connections	Annual heat demand (MWh)	Data source
Benfield Business Park	New development – Non-domestic	Unknown	7,100	Pilot methodology
Siemens	Industrial	1	3,700	Benchmark (NZM)
Walkergate Park Hospital	Non-domestic	1	3,000	Benchmark (NZM)
Benfield School (and Sports Centre)	Non-domestic	1	1,300	Benchmark (NZM)
Houghton International	Non-domestic	1	600	Benchmark (NZM)

The key anchor load for the **Forth Yards IZO** is the Homes England residential development Forth Yards. The construction phase of this development presents a strategic opportunity to integrate heat network infrastructure. It could then connect to additional developments along Quayside including Pottery Lane to the east and Newcastle Heliport to the west. Existing

[9] Please refer to Appendix 3 for definitions related to building categories in this table.

buildings identified include the police station, hotels along Quayside and several commercial developments in Central Square. Overall, the IZO offers a diverse and resilient demand, with a balance between existing buildings and new developments. Further details of the key heat demands for buildings required to connect in the IZO are provided in Figure 9 and Table 5.

Figure 9: Newcastle Centre - Categorisation of Heat Demand for Buildings Required to Connect in Forth Yards IZO

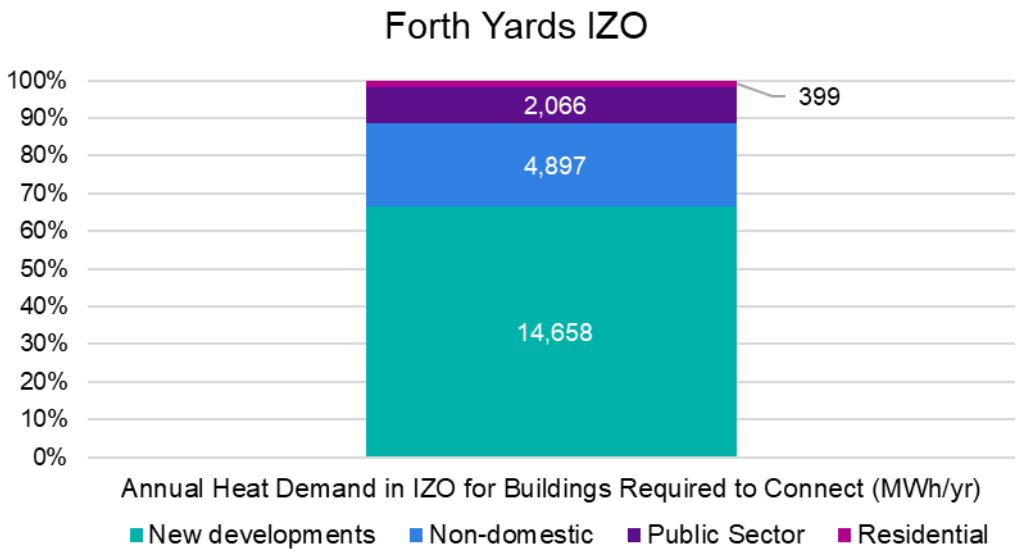


Table 5: Newcastle Centre - Key Heat Demands Required to Connect in the Forth Yards IZO[10]

Building name	Building category	Number of connections	Annual heat demand (MWh)	Data source
Forth Yards	New development - Residential	Unknown	8,000	City Centre Masterplan
Newcastle City Centre Police Station	Public sector	1	1,800	Benchmark (NZM)
Central Square (combined)	Non-domestic	Unknown	1,200	Benchmark (NZM)
Copthorne Hotel	Non-domestic	1	750	Benchmark (NZM)
Travelodge	Non-domestic	1	250	Benchmark (NZM)

[10] Please refer to Appendix 3 for definitions related to building categories in this table.

A significant proportion of the proposed **Scotswood IZO** heat demand is from The Rise, a new residential development. The Rise includes both newly constructed and planned new residential developments. This development is part of a wider investment and development portfolio in Scotswood and further new build developments are anticipated in the next decade.

The IZO also has several existing buildings required to connect which are dispersed throughout the IZO, including the Excelsior Academy in the north-west and BAE Systems along the River Tyne. This helps mitigate some uncertainty around the delivery timescales of the new developments. Further details of the key heat demands for buildings required to connect in the IZO are provided in Table 6, below.

Figure 10: Newcastle Centre - Categorisation of Heat Demand for Buildings Required to Connect in Scotswood IZO

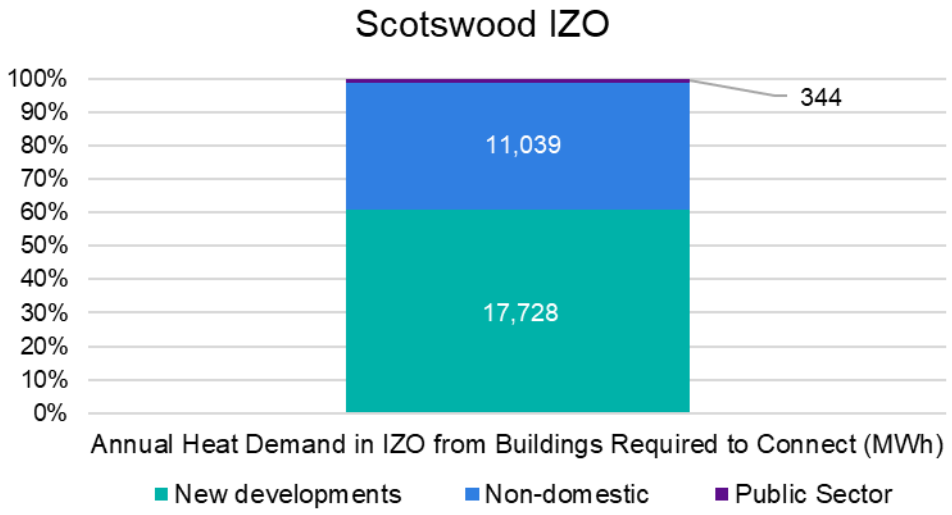


Table 6: Newcastle Centre - Key Heat Demands for Buildings Required to Connect in the Scotswood IZO[11]

Building name	Building category	Number of connections	Annual Heat Demand (MWh)	Data Source
The Rise	New development - Residential	Unknown	18,000	Pilot methodology
BAE Systems	Non-domestic	1	5,000	Benchmark (NZM)
ADM Pressings	Non-domestic	1	3,000	Benchmark (NZM)
Excelsior Academy	Public sector	1	1,500	Benchmark (NZM)

[11] Please refer to Appendix 3 for definitions related to building categories in this table.

3.1.5) Newcastle Centre – IZO Heat Sources

As part of the City Centre Masterplan, NCC assessed several low-carbon heat sources located in the Newcastle Centre zone. These are geographically distributed and relatively low capacity, providing heat on a development, rather than a zone, scale.

Heat recovery from the River Tyne via WSHPs provides the most significant heat source opportunity. There are also secondary opportunities requiring detailed technical feasibility assessments. These include ground source heat pumps (GSHPs), recovering heat from open green spaces throughout the city or from the Ouseburn and Tyne river gravels, mine water heat extraction, deep geothermal extraction from the Town Moor, and sewer waste heat recovery. ASHPs could be used as a default option to supply additional heat requirements.

Table 7 and Table 8 summarise the key heat sources and potential energy centre locations identified for this IZO. These are also shown on Figure 6 in Section 3.1.3 above and Appendix 1: Maps C and G.

Table 7: Newcastle Centre - Key Heat Source Opportunities for the IZOs

Heat source type	Capacity (kWp)	Temperature (ºC)	Potential energy centre location
WSHP			
River Tyne (Forth Yards)	6,600 kWp[12]	6 ºC (winter)	E1
Forth Yards sewers	1,400 kWp	20 °C	E1
Mine water extraction	Unknown	10-15°C	E1, E2, E5
GSHP			
Forth Yards river gravels	Unknown	Unknown	E1

Table 8: Newcastle Centre - Potential IZO Energy Centre Locations

EC ref number	Site type	Name	Size (m^2)[13]	Ownership	Heat source
E1	Car Park	Area beneath Redheugh Bridge	3,800	NCC	WSHP
E2	Car Park	Claremont Road Car Park	5,350	NCC	ASHP
E3	Car Park	Adjacent to Walkergate Park Hospital	750	NHS Tyne and Wear	ASHP

[12] High level estimate
[13] Preliminary estimate based on land areas in council ownership

EC ref number	Site type	Name	Size (m^2)[13]	Ownership	Heat source
E4	Car Park	Adjacent to Benfield School	2,200	Benfield School	ASHP
E5	Land	Adjacent to The Rise development	5,900	NCC	ASHP

*

3.1.6) Newcastle Centre – IZO Heat Distribution

The approach to developing the heat network route considered economic viability, investment scale and returns, decarbonisation impact and deliverability. These criteria were applied in a standardised manner across all opportunities identified in the Pilot programme and therefore may not reflect detailed designs or proposed routes identified in more detailed feasibility work. Routing within the site boundary of a building or campus may not have been included if insufficient information was available. The IZO routing was developed solely around buildings which could be required to connect and did not consider potential voluntary connections.

The purpose of the concept heat network route is to define the scale, potential routing and identified associated constraints within the zone. Further work will be required to undertake a more detailed route assessment to take account of the buried utilities, building connections and other local strategic and local planning considerations. Table 9 below, shows the network statistics for the IZO including the network length and associated cost. Please see Appendix 5 for related methodology statements and assumptions.

Claremont IZO
The proposed location for the Claremont IZO energy centre is on Claremont Road car park. The network then extends in a south easterly direction to connect to the Royal Victoria Infirmary and Newcastle University networks. The proposed routing then extends east, crossing over the Great North Road to connect into the Northumbria University network.

Benfield IZO
The proposed location for the Benfield IZO energy centre is on either the Walkergate Park Hospital or Benfield School campus, forming the starting point of a network which expands south along Benfield Road and west along Shields Road. Here it could connect the large Siemens heat demand and several buildings and planned developments within Benfield Business Park. The network could expand westward from Siemens along the A187 to supply Newcastle Shopping Park at the western edge of the IZO.

Forth Yards IZO
The Forth Yards energy centre could be located adjacent to the River Tyne, beneath the Redheugh Bridge, within the planned Forth Yards development. This would minimise the distance from the river heat source to the heat pumps. The network could route along Pottery Lane, and then towards Forth Lane. From here it could go eastward to supply the Stephenson

Quarter and Central Square before working down towards Quayside via Orchard Street to the Copthorne Hotel and several planned developments.

Scotswood IZO
It is proposed that the network could be routed through the development sites as much as possible to maximise soft dig for the network. To the south of the Scotswood IZO it is proposed that the pipework be routed on secondary roads and within industrial estates where possible. This would minimise routing along the A695 Scotswood Road.

Table 9: Newcastle Centre - Indicative Heat Network Statistics for the IZOs

IZO heat network description	Network length (km)	Network cost (£m)
Claremont	5	20
Benfield	7	30
Forth Yards	10	40
Scotswood	40	100

3.1.7) Newcastle Centre – IZO Key Constraints and Mitigations

There are no major constraints for the proposed IZO network routes.

3.2) Newcastle Walker

3.2.1) Newcastle Walker – HNZ Summary

Newcastle Walker is the second largest HNZ identified by heat demand in Newcastle. The zone covers the Walker and Wallsend areas of the city to the east of the city centre. The zone contains 77 buildings potentially required to connect, representing approximately 10% of the overall existing heat demand of the zone. GE Oil and Gas, Technip FMC and Shepherd Offshore Technology Park represent three of the biggest loads in the zone, all industrial sites located along the riverside. In addition, there are several planned new developments, including the Neptune Energy Park and several sites adjacent to Walker Riverside Park.

The River Tyne represents one of the primary potential heat sources in the zone. There are no major constraints identified within this zone.

3.2.2) Newcastle Walker - Existing Heat Networks

There are several small communal heat networks in the Newcastle Walker zone, namely at Lancefield House, Tree-top Village and a communal network at Keebledale House. These are not considered to be of strategic importance to the development of the zone (see Appendix 1: Map D). Aside from these existing networks, a scoping study was also undertaken for the Walker area in late 2021, investigating the potential for a heat network supplied with heat from the River Tyne in the southern area of the zone. However, this opportunity has not been progressed any further and does not currently form part of NCC's heat network pipeline.

3.2.3) Newcastle Walker - Initial Zone Opportunities

A single IZO was identified in the Newcastle Walker zone. Potential routing[14] for the IZO is shown in Figure 11 and summary statistics provided in Table 10.

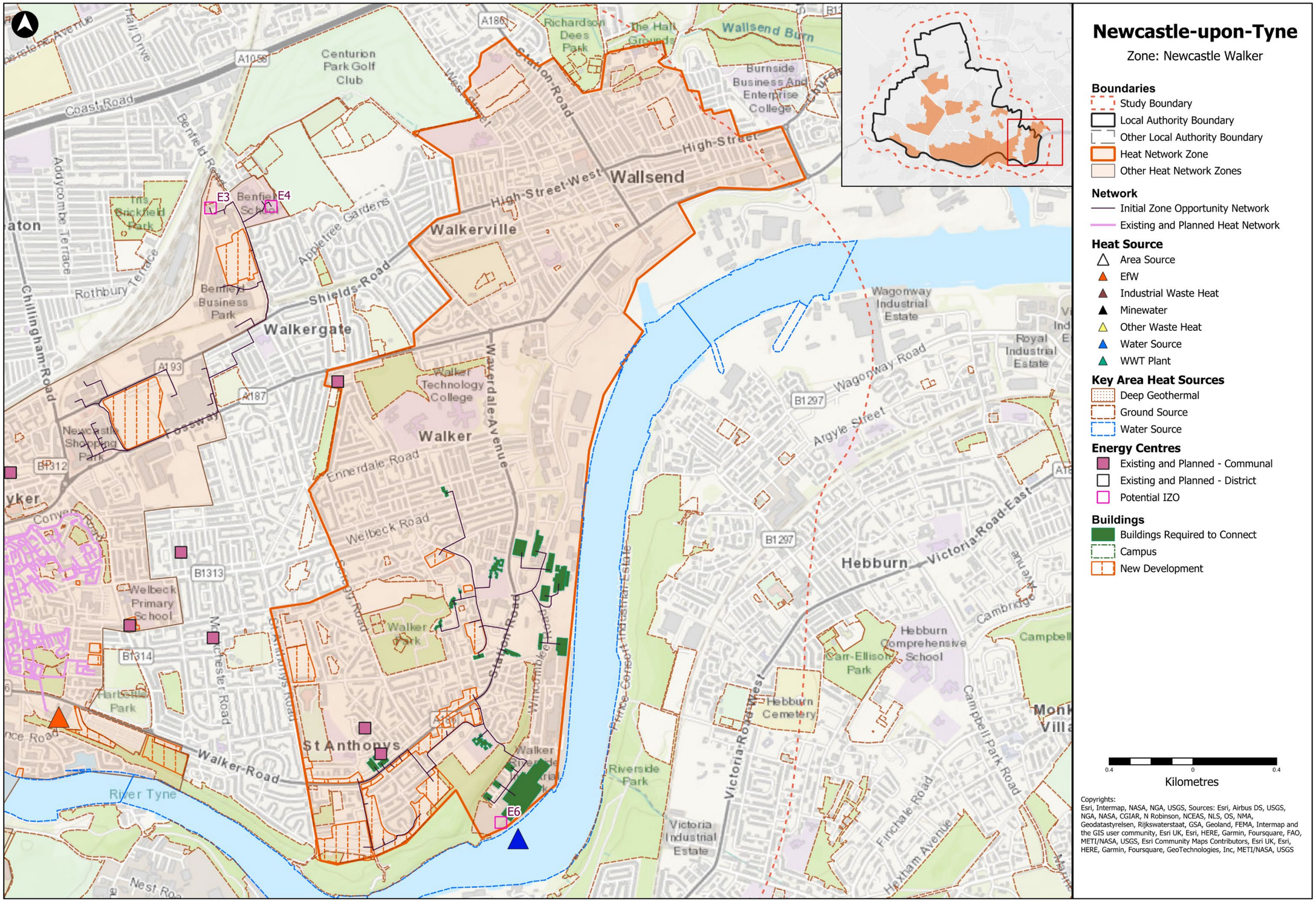
Table 10: Newcastle Walker - Summary Statistics for Initial Zone Opportunities[15]

CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
£45m	25GWh	15km	5ktCO_{2e}/yr	3.2MWh/m	River WSHPs

The identified IZO lies in the south of the Newcastle Walker zone. It is a small network which contains several key buildings potentially required to connect within the zone, including industrial loads along the riverside and several planned suburban developments. The primary heat source opportunity is the abstraction of heat from the River Tyne.

[14] Routes can be expected to change as a better understanding of local constraints is developed through design.
[15] Please see Appendix 3 – Glossary, "Specific definitions" of the main report for definitions related to this table.

Figure 11: Initial Zone Opportunity in Newcastle Walker HNZ



3.2.4) Newcastle Walker – IZO Heat Demands

The key anchor loads for the Walker IZO are the series of industrial buildings close to the proposed energy centre. This area contains most of the largest heat demands[16] potentially required to connect in the zone, including GE Oil and Gas, Technip FMC and a planned development adjacent to Walker Riverside Park. There are also several larger residential connections to sheltered accommodation or communal networks.

Overall, the Walker network offers a diverse and resilient demand, with a balance between existing buildings and new residential developments. Further details of the key heat demands are provided in Figure 12 and Table 11.

Figure 12: Newcastle Walker - Categorisation of Heat Demand for Buildings Required to Connect in IZO

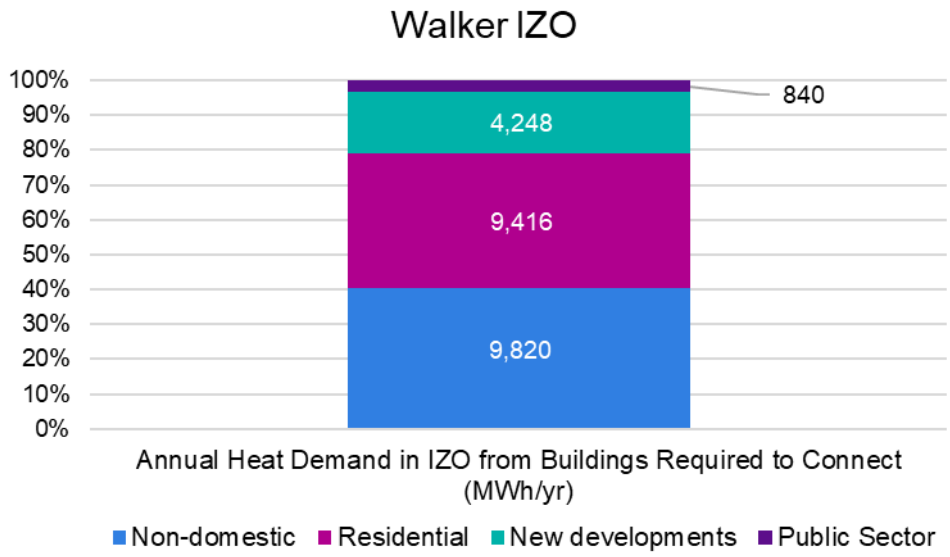


Table 11: Newcastle Walker - Key Heat Demands Required to Connect in the IZO[17]

Building name	Building category	Number of connections	Annual heat demand (MWh)	Data source
GE Oil and Gas	Industrial	Unknown	4,500	Benchmark (NZM)
Walker Riverside Park Development	New development - Residential	Unknown	3,300	Benchmark (NZM)
Technic FMC Umbilicals	Industrial	Unknown	2,200	Benchmark (NZM)

[16] Please refer to section 3.1.4 for a description of IZO heat demands.
[17] Please refer to Appendix 3 for definitions related to building categories in this table.

3.2.5) Newcastle Walker – IZO Heat Sources

The River Tyne represents one of the primary potential heat sources in the zone. Limited other significant heat source potential exists in the zone, aside from some minor potential for geothermal heat using open green space at Walker Riverside Park, and to the north-east and north-west of the zone. The scoping study conducted in 2021 examined the use of waste heat from the Riverside industrial buildings and concluded that the available heat was minimal and difficult to extract. Location-agnostic heat sources such as ASHPs could be used as a default option to supply additional heat requirements.

Table 12 and Table 13 summarise the key heat sources and potential energy centre locations identified for this IZO. These are also shown on Figure 11 and Appendix 1: Map C.

Table 12: Newcastle Walker - Key Heat Source Opportunities for the IZO

Heat source type	Capacity (kWp)[18]	Temperature (ºC)	Potential energy centre location
WSHP River Tyne	6,600[19]	6 ºC (winter)	E1
GSHP Riverside Park	7,300*	10°C (winter)	On-site
Other geothermal (deep geothermal)	Unknown	Unknown	Unknown

Table 13: Newcastle Walker - Potential IZO Energy Centre Locations

EC ref number	Site type	Name	Size (m^2)	Ownership	Heat source
E6	Land	Adjacent to GE Oil and Gas	2,500	NCC	WSHP

3.2.6) Newcastle Walker – IZO Heat Distribution

Table 14 shows the network statistics for the IZO including the network length and associated costs. Please refer to Section 3.1.6 and Appendix 5 for the assumptions used.

For the Walker network, the energy centre is proposed to be located adjacent to the GE Oil & Gas car park on council owned land. The network would travel north to Walker Road where it

[18] The capacity shown in Table 12 is the estimated 'full opportunity capacity' of the heat sources, i.e. the heat available pre-heat pump.
[19] High level estimate

would then branch southwards towards the areas of new development at Walker Riverside, and northwards to supply the other industrial loads along the waterfront and several of the existing inland residential connections.

Table 14: Newcastle Walker - Indicative Heat Network Statistics for the IZO

IZO heat network description	Network length (km)	Network cost (£m)
Walker	15	30

3.2.7) Newcastle Walker – IZO Key Constraints and Mitigations

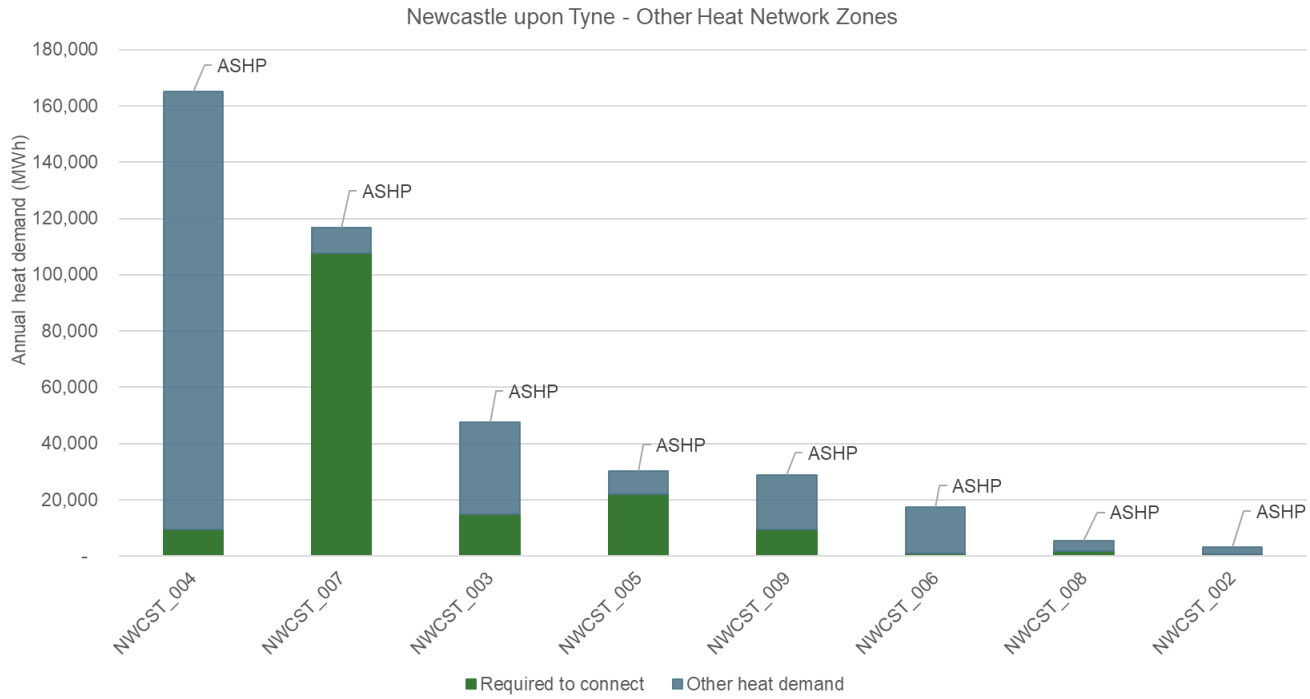
There are no major constraints for the proposed IZO network route.

4) Other Heat Network Zones

This section describes the 'Other' potential heat network zones that were identified in Newcastle. These are areas where heat networks were deemed to offer the lowest carbon route to decarbonising heat but are often much smaller or discrete in nature than the 'Strategic' heat network zones identified. The approach taken in the Pilot programme did not apply a minimum threshold for zone identification and therefore future work will need to consider factors such as size and aggregation to ensure efficient and effective delivery of heat networks in the area.

Figure 13 illustrates the total annual heat demand, and the proportion of which is associated with buildings that may be required to connect within each zone. Where potential heat sources have been identified these are labelled against each bar. A map of all zones can be found in Figure 4.

Figure 13: Total Heat Demand and Proportion Required to Connect in Other HNZs



Newcastle City Airport (NWCST_002): is adjacent to the airport in the north of the city and is anticipated to be subject to significant new development which may provide heat network opportunities. It is not yet advanced enough to form part of the heat demand modelling.

Newcastle North (Kenton - NWCST 003, Westerhope & West Gosforth - NWCST_005, Westfield - NWCST_006, Freeman - NWCST_007, Heaton - NWCST_008): NCC has explored through AZP the concept of a Newcastle North heat network which could connect these areas which are located north of the Town Moor via a strategic heat main. There are several significant demands which could act as anchor loads across these zones, including a

pair of industrial processing sites in Kenton, the Freeman and St Nicholas Hospitals, and a significant re-development in the Benton Park area.

Denton (NWCST_004): is largely made up of suburban residential properties, with additional development planned (some of which has been modelled). It is likely that these developments would provide the best opportunity for heat network deployment in this zone.

Newburn (NWCST_009): relates to the Newburn Riverside Industrial Park in the west of the zone. The proximity to the river presents the opportunity for possible water source extraction from the River Tyne.

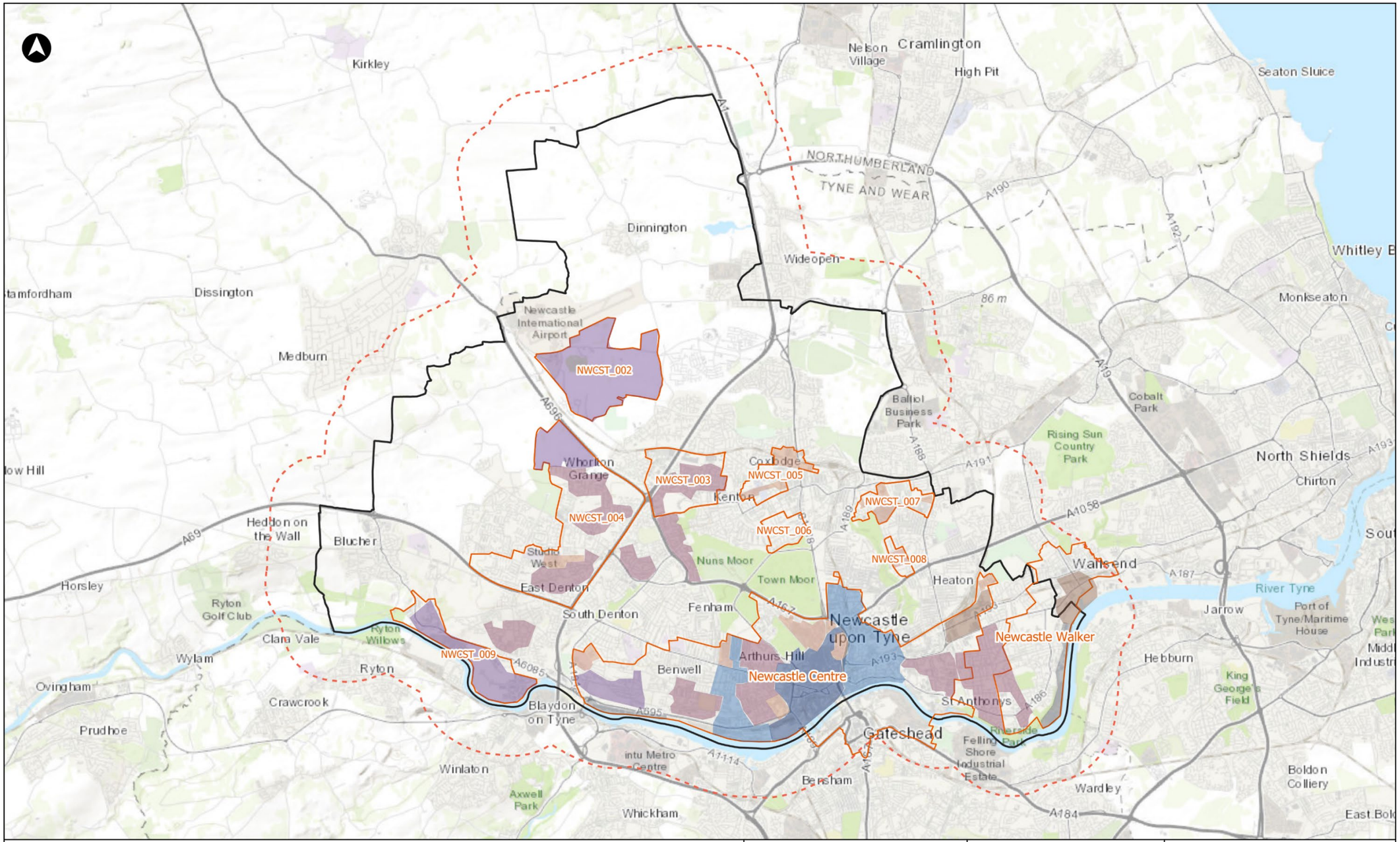
Appendix 1: Maps and Legends

This section provides guidance on interpreting the icons and legends used throughout this report and Maps A-G that follow:

Legend / icon	Relevant map(s)	What this represents on the map	Comments on interpretation
	Report maps	Study boundary	Extends 1km beyond Local Authority boundary to include cross boundary opportunities
	Report maps	Local Authority boundary	
	Report maps	Other Local Authority boundary	
	Report maps	Heat network zones	This includes both Strategic HNZs and Other HNZs.
	Report maps	Other heat network zones	Smaller or discrete heat network zone opportunities
	Report maps	New developments	New development within heat network zones and IZOs that will still be in construction post-2025
Gates Hill	Report maps	Heat network zone name / reference number	‘Strategic’ zones are named; ‘Other’ zones are represented by a reference number
	Report maps	Buildings potentially required to connect	Buildings that could be required to connect (as described in the HNZ Consultation 2023)
	Report maps	Campuses	Multiple buildings owned and operated by the same organisation (e.g. Universities, Hospitals)
	Report maps	Initial Zone Opportunity concept network route	Conceptual heat network pipe routes between buildings that could be required to connect
	Report maps	Existing and Planned Heat Networks	Known existing or planned heat network pipe routes as provided by local stakeholders
	Report maps	Potential energy centre - IZO	Potential energy centre location for an IZO (see section 3)
	Report maps	Existing/planned energy centre - Communal HNs	‘Communal’ energy centres are those operated within a single building or across a campus
	Report maps	Existing/planned energy centre - District HNs	‘District’ energy centres supply multiple buildings across multiple sites
Appendix 1: A – Typology map			
	Appendix 1: Map A	Dense City Centre	Locally recognised as the City or Town centre, where buildings development is most dense
	Appendix 1: Map A	City Centre Fringe	Around the City or Town Centre or at its outskirts, where both building density reduces
	Appendix 1: Map A	Mixed Use District	A variety of building typologies, with no single typology prevailing in the area
	Appendix 1: Map A	Social Housing	Public, private and third sector social housing
	Appendix 1: Map A	Campus (health / education)	Buildings that are owned and operated together (e.g. Universities, Hospitals)

	Appendix 1: Map A	Commercial / business office	Public & private office space
	Appendix 1: Map A	Industrial areas	Primarily used for manufacturing, engineering, and warehousing
Appendix 1: B – Key heat demands			
	Appendix 1: Map B	Top 10 Heat Demands	The largest (anchor) heat loads within the Pilot programme study area (see Section 3)
	Appendix 1: Map B	Local Authority	Buildings owned or operated by the Local Authority
	Appendix 1: Map B	Other public sector	Other buildings owned or operated by the public sector (e.g. hospital, universities, Govt. estates)
	Appendix 1: Map B	Residential with existing communal heating	Residential buildings with existing communal heating systems installed
	Appendix 1: Map B	Non-domestic private	Non-domestic private buildings (e.g. commercial, offices)
	Appendix 1: Map B	Industrial	Mixed industrial sites (e.g. light or heavy industry, manufacturing, warehouses and distribution)
400 - 600	Appendix 1: Map B	Building heat demand (MWh/yr)	Circle size increases with size of heat demand
Appendix 1: C – Key Heat Sources and Potential Energy Centres			
	Appendix 1: Map C	EfW plant	**Point heat sources** have known or likely points of heat offtake/abstraction Mine water and water source ‘points’ indicate potential abstraction points. Other waste heat sources include sewers, electrical substations and other sources of heat. See section 3 for more detail on heat source capacities, where known. On the City-level Map C only, the heat waste symbol is sized according to its scale in GWh/yr
	Appendix 1: Map C	Industrial Waste Heat	
	Appendix 1: Map C	Mine water	
	Appendix 1: Map C	Other Waste Heat	
	Appendix 1: Map C	Water Source	
	Appendix 1: Map C	Waste Water Treatment	
	Appendix 1: Map C	Deep geothermal or mine water heat	**Area heat sources** differ from point-heat sources in that the exact location for extracting heat from the resource is not yet determined
	Appendix 1: Map C	Ground source	
	Appendix 1: Map C	Water source	
Appendix 1: D – Existing and planned heat networks			
	Appendix 1: Map D	Existing and planned heat networks	At this scale the route of an existing HN cannot be displayed, so an area outline is used instead
Appendix 1: E – Physical constraints			
	Appendix 1: Map E	Key constraints	Key heat network routing constraints as described in section 3

A. Newcastle upon Tyne Typology Map



B. Key Heat Demands

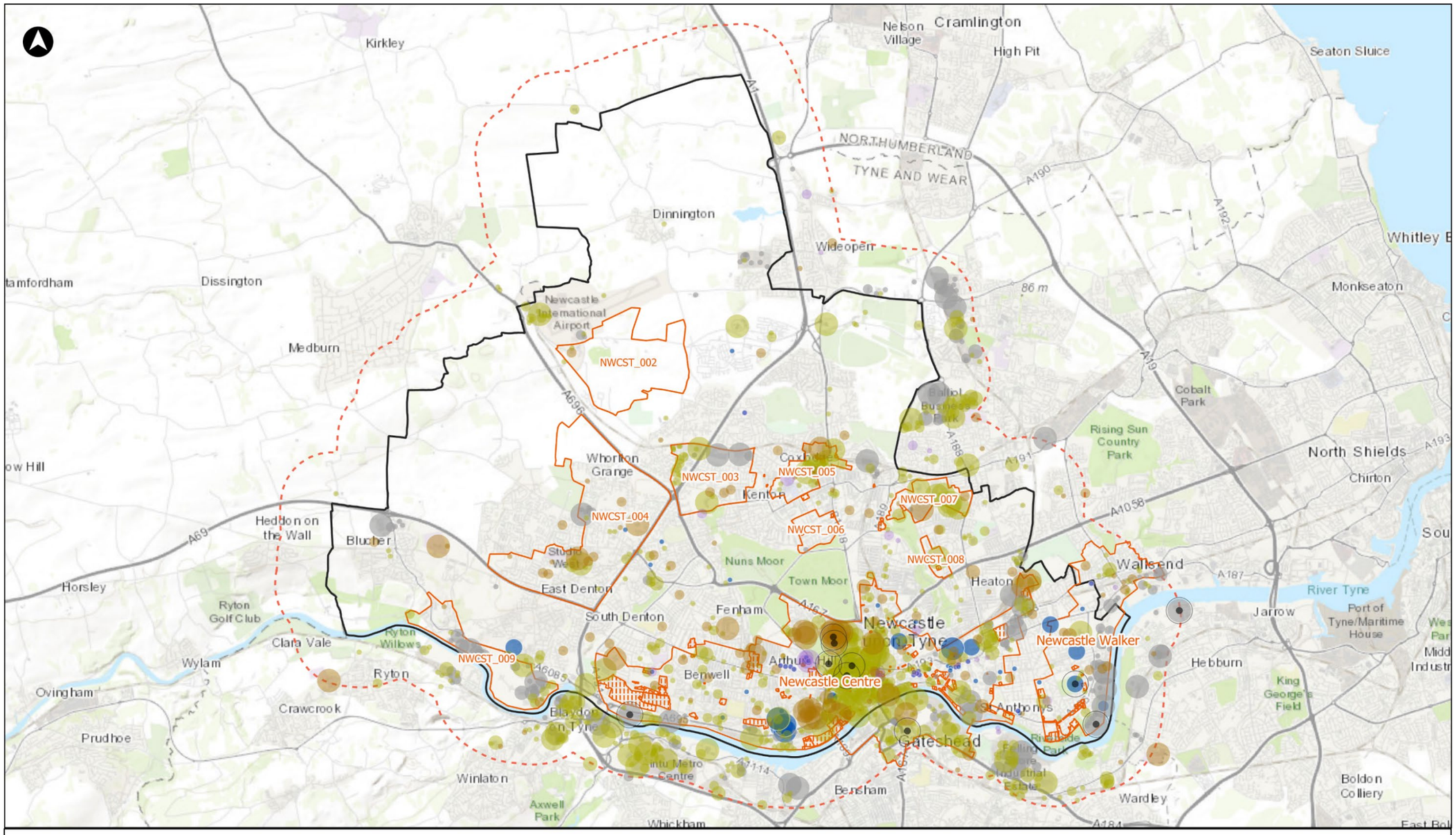
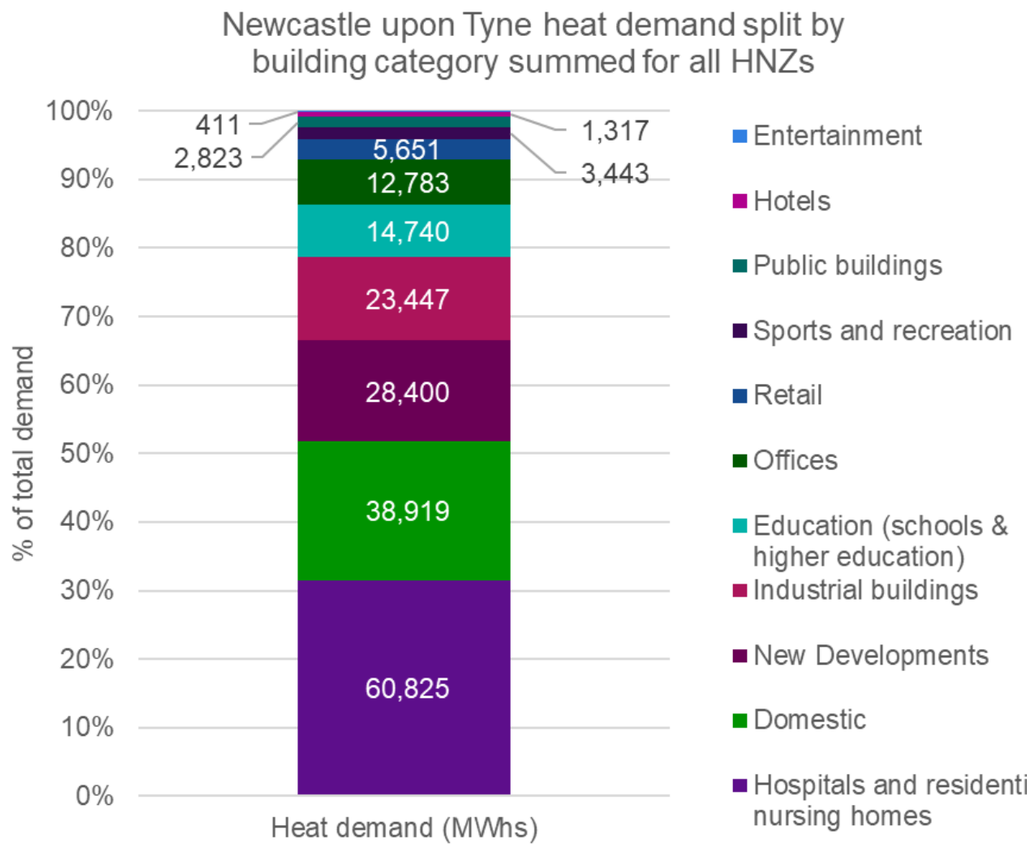


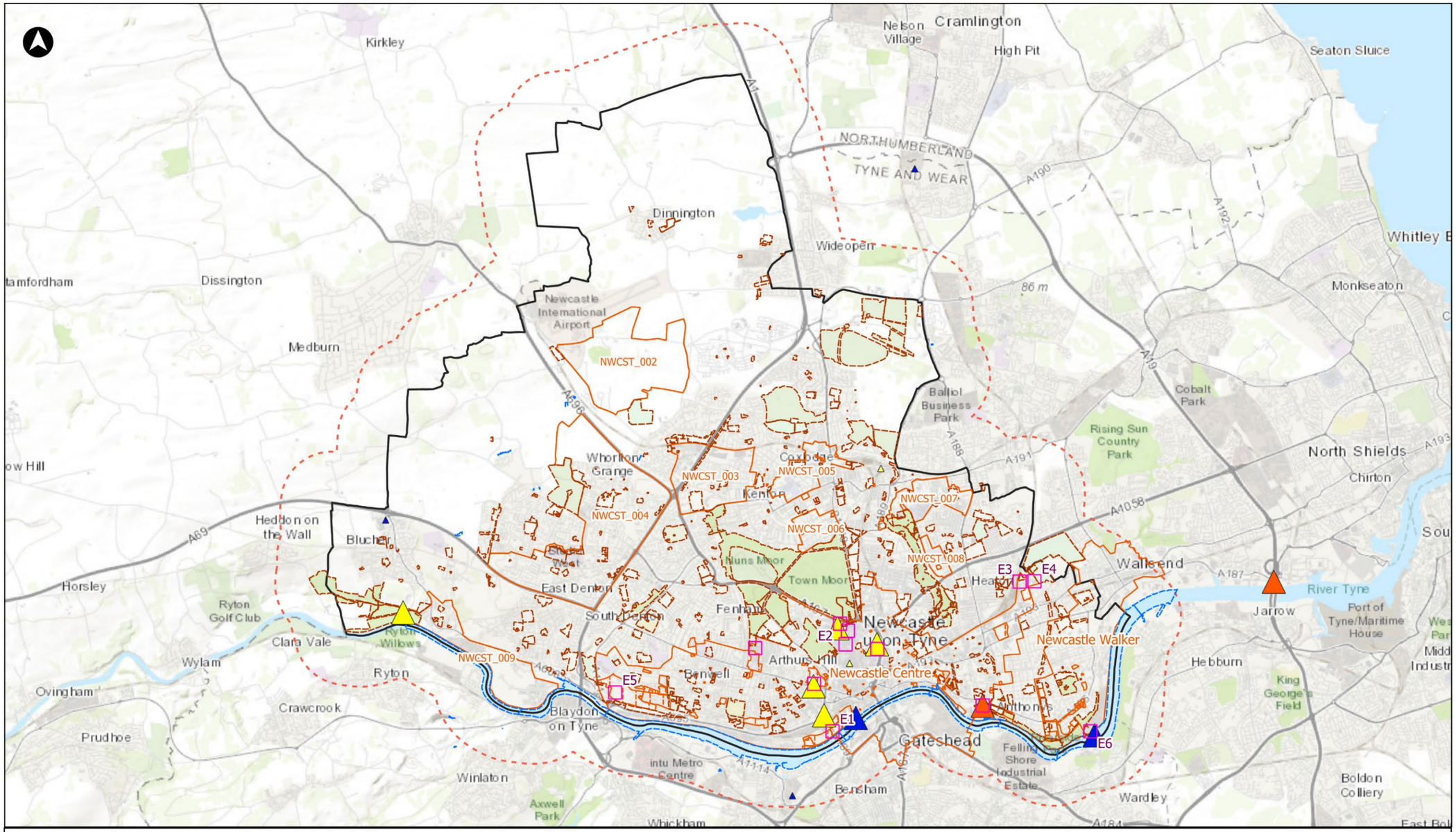
Table 15: Heat Demand split further by Building Categories across all Initial Zone Opportunities identified in Strategic HNZs in the Study Area

Building category	Number of buildings required to connect in this category	Annual Heat Demand of buildings required to connect across IZOs (MWh)
Domestic	43	38,900
Education (schools & higher education)	8	14,750
Entertainment	3	400
Hospitals and residential / nursing homes	7	60,850
Hotels	4	1,300
Industrial buildings	19	23,450
Offices	25	12,800
Public buildings	5	2,800
Retail	16	5,650
Sports and recreation	6	3,450
New Developments	25	28,400
Totals	**161**	**192,750**

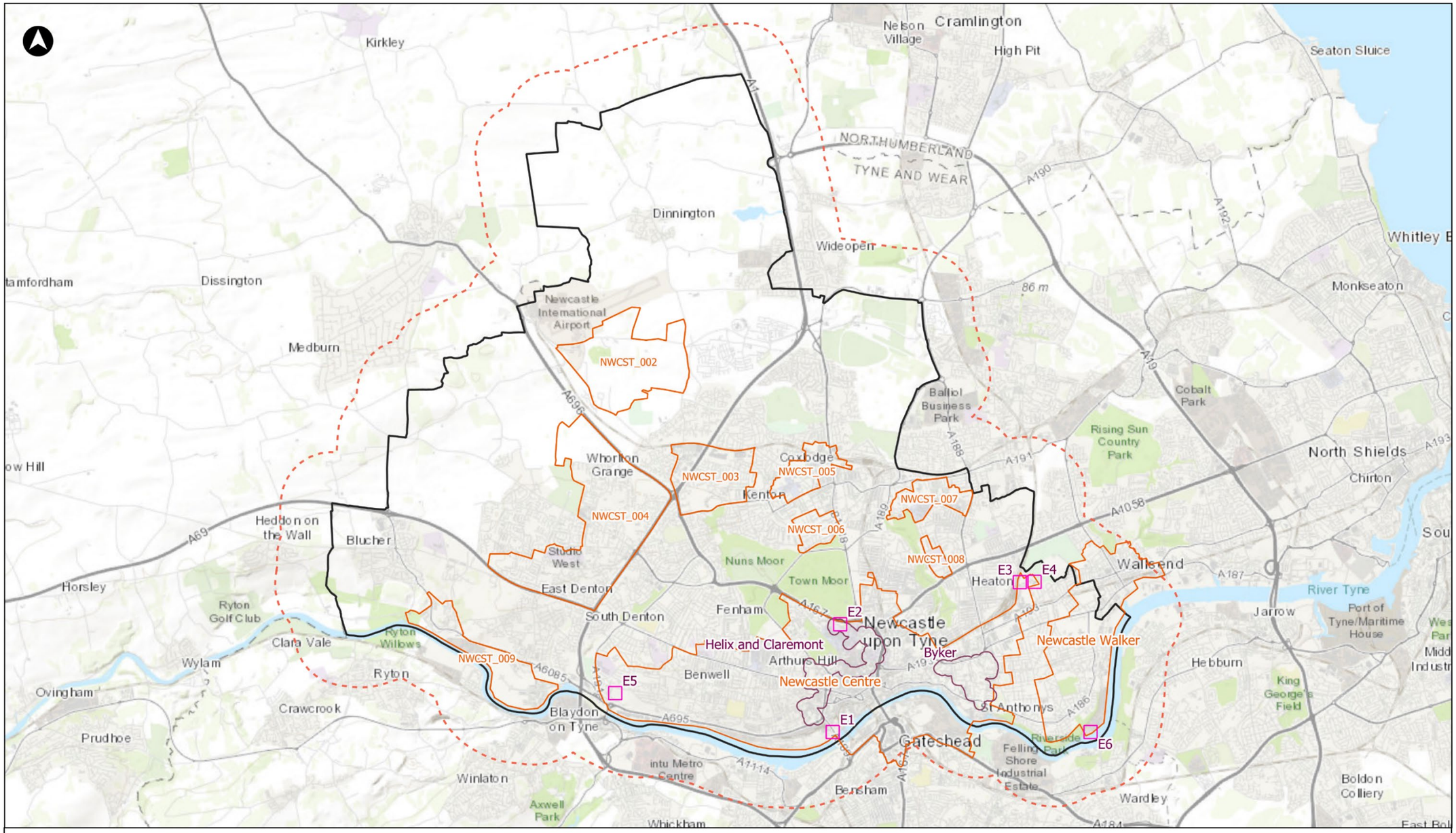


Note: In Newcastle upon Tyne there are ten HNZs with a total of five IZOs identified across them. The table and graph above summarise and categorise the heat demand for buildings required to connect to these IZOs.

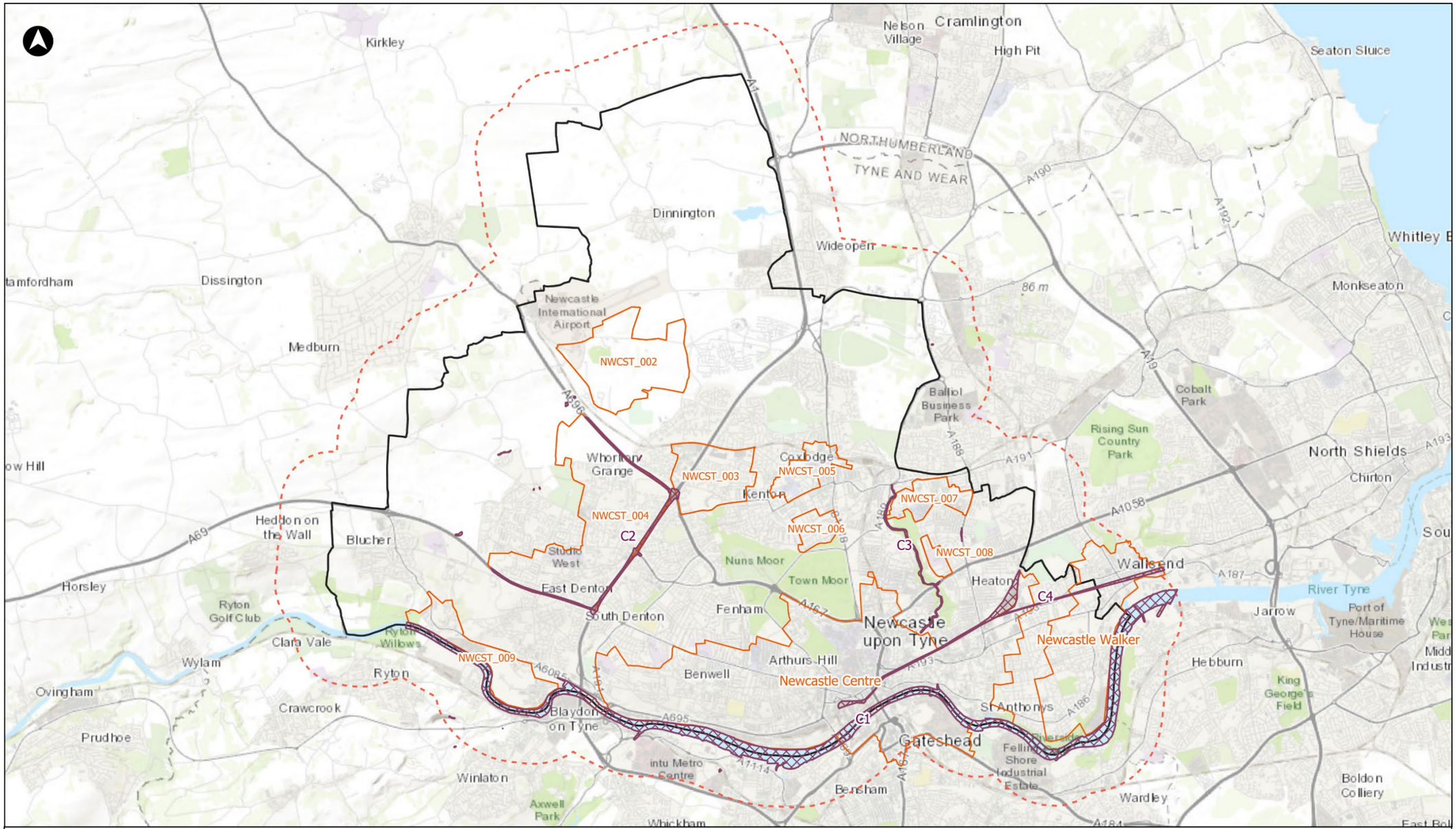
C. Key Heat Sources and Potential Energy Centres



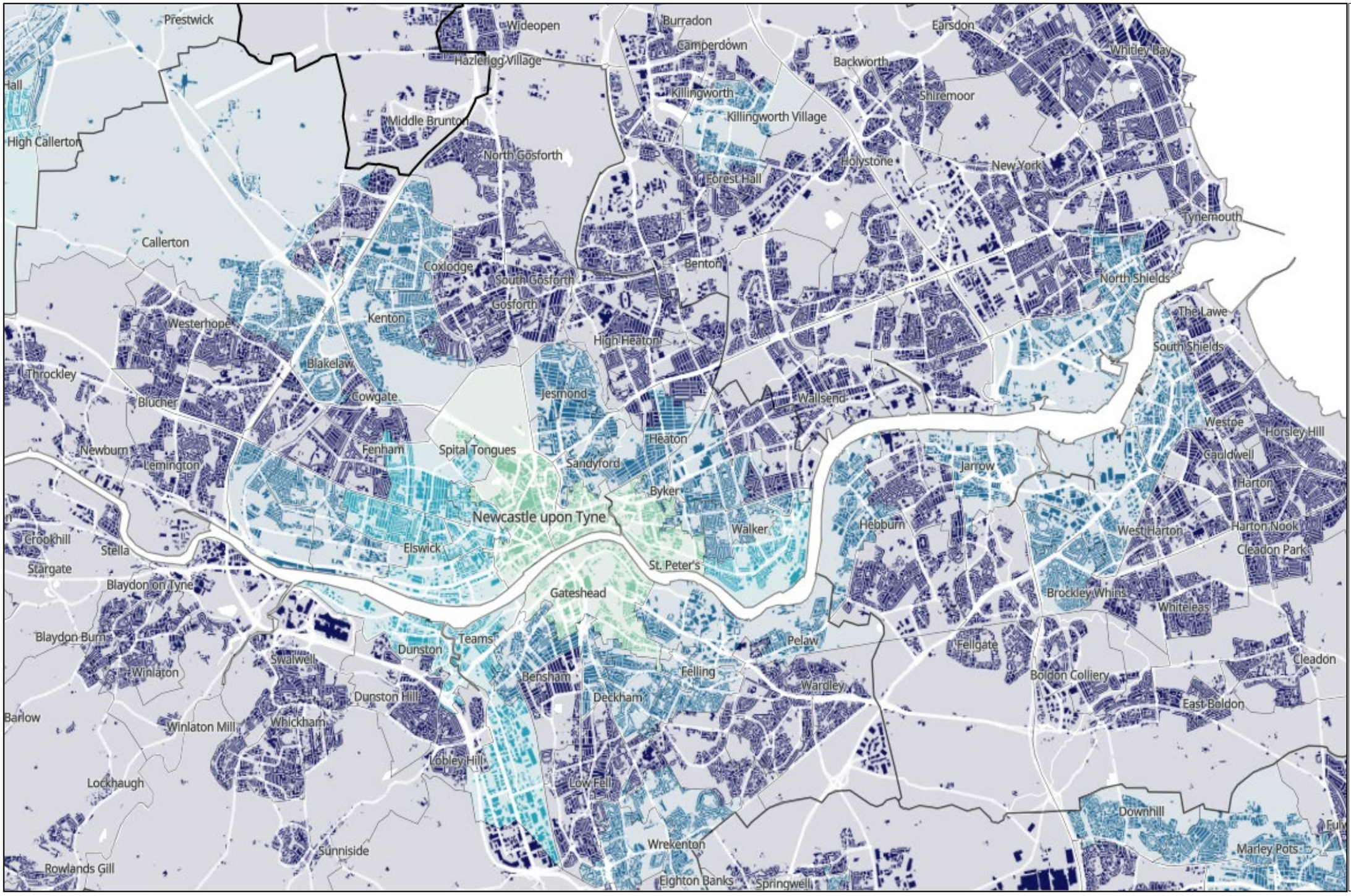
D. Existing and Planned Heat Networks



E. Physical Constraints

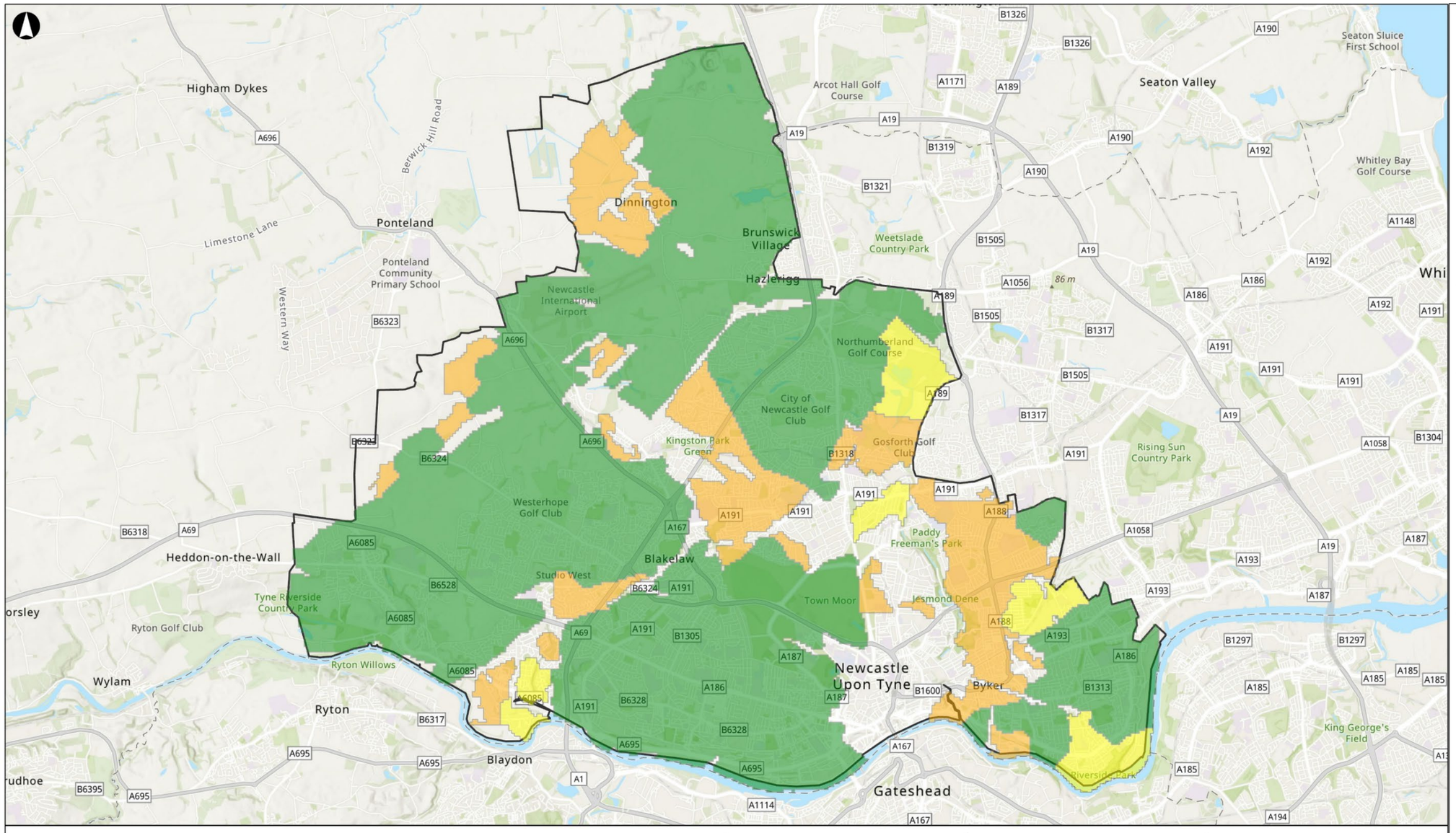


F. Off-Gas Grid Areas in Newcastle upon Tyne



Credit: This is an excerpt from the ONS Census Maps 2021 which is available to explore online. The data shown is subject to Crown copyright protection, is published under the Open Government Licence (OGL) and embeds map data which is copyright of Ordnance Survey and Street maps.

G. Coal Mine Water Map



This mine-water heat opportunity map, developed by The Coal Authority, provides an indication of where water from former mine workings could potentially be extracted to provide a source of heat to supply heat networks. The areas of historic coal mine workings within the Local Authority boundary were assessed and a number of factors, such as depth to workings and water levels, were analysed to identify areas of potential opportunity and classified as either 'Good', 'Possible' or 'Challenging'. This opportunity map can be used in combination with plans for heat network projects to identify specific locations where more detailed feasibility studies could be undertaken.

Appendix 2: Data Room Resources

Throughout the delivery of the Pilot programme, information resources have been compiled for future use in relation to the development of heat network zones.

These resources will remain restricted to DESNZ and the local authority. This is to ensure that the department remains within its Data Privacy Notice as shared with stakeholders providing the information. GIS outputs are not being published alongside the report as they are subject to change.

Table 16: Pilot Programme Standardised Information Resources

Information resource	Description of resource
Stakeholder Directory	A directory listing key stakeholders identified and approached during the Pilot programme, including organisation name, address, or website, contact names, work title and contact details.
Stakeholder meetings log and records	A log of key meetings held and related meeting records.
Datasets Directory	A list of datasets / reports shared by stakeholders cross-referencing who provided the item from the stakeholder directory and a description of the dataset.
Geospatial packages and related geo-coded datasets	Geo-coded datasets and descriptions related to maps produced in this report.

Table 17: Pilot Programme Study-Area-Specific Information Resources

Information resource	Description of resource
City Centre Masterplan	Heat network masterplan produced for NCC outlining potential expansion of existing networks and new network opportunities
Walker Heat Network Scoping Study	Scoping study into potential for a heat network in the Walker area supplied by a WSHP

This publication is available from: https://www.gov.uk/government/collections/heat-networks

If you need a version of this document in a more accessible format, please email alt.formats@energysecurity.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.