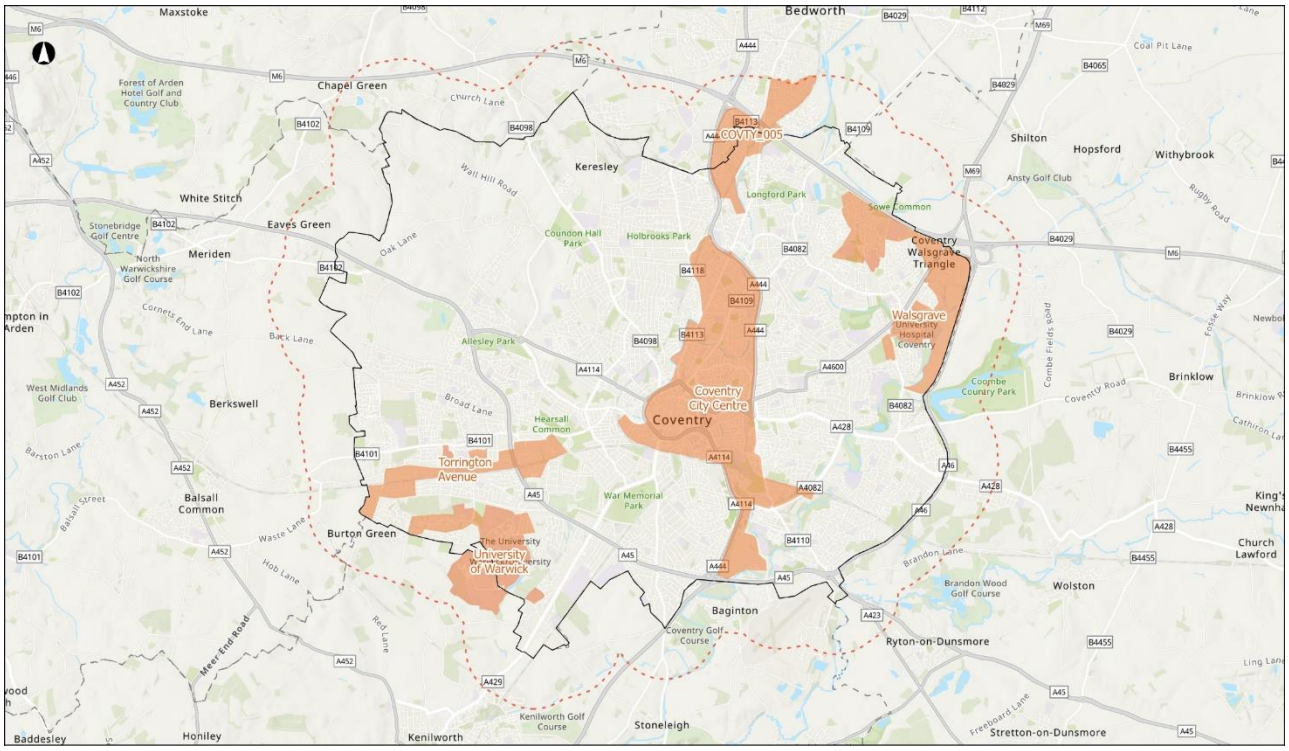
Department for Energy Security & Net Zero

Coventry

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

This document was produced by Arcadis in partnership with Coventry City Council. We are grateful to all stakeholders who participated in the Pilot programme.

Any enquiries regarding this publication should be sent to us at: hnzoning@energysecurity.gov.uk

Contents

Executive Summary

About Coventry: Coventry City Council governs the city, which is situated in the West Midlands. The city has a population of over 450,000 and covers approximately 100km².

Local Energy Policy: Coventry has a draft climate change strategy for 2022-2030, targeting a 55% reduction in carbon emissions by 2030 and net zero by 2041.

Existing heat networks: Coventry has two large existing heat networks, one in the city centre, and another at the University of Warwick. Coventry is an Advanced Zoning Programme (AZP) city.

Zones identified: Five heat network zones were identified in Coventry, with four considered strategic zones. The total annual heat demand for all buildings required to connect within these zones is around 550GWh/yr.

Strategic heat network zones: The largest zone spans the city centre, including the entire area within the Coventry's ring road. The overall heat demand for all buildings required to connect within strategic zones is approximately 475GWh/yr.

Key heat demands: The total annual heat demand for buildings connected to the initial zone opportunities is 375GWh/yr. Some of the largest buildings include the major universities and hospitals within the city centres and in its outskirts.

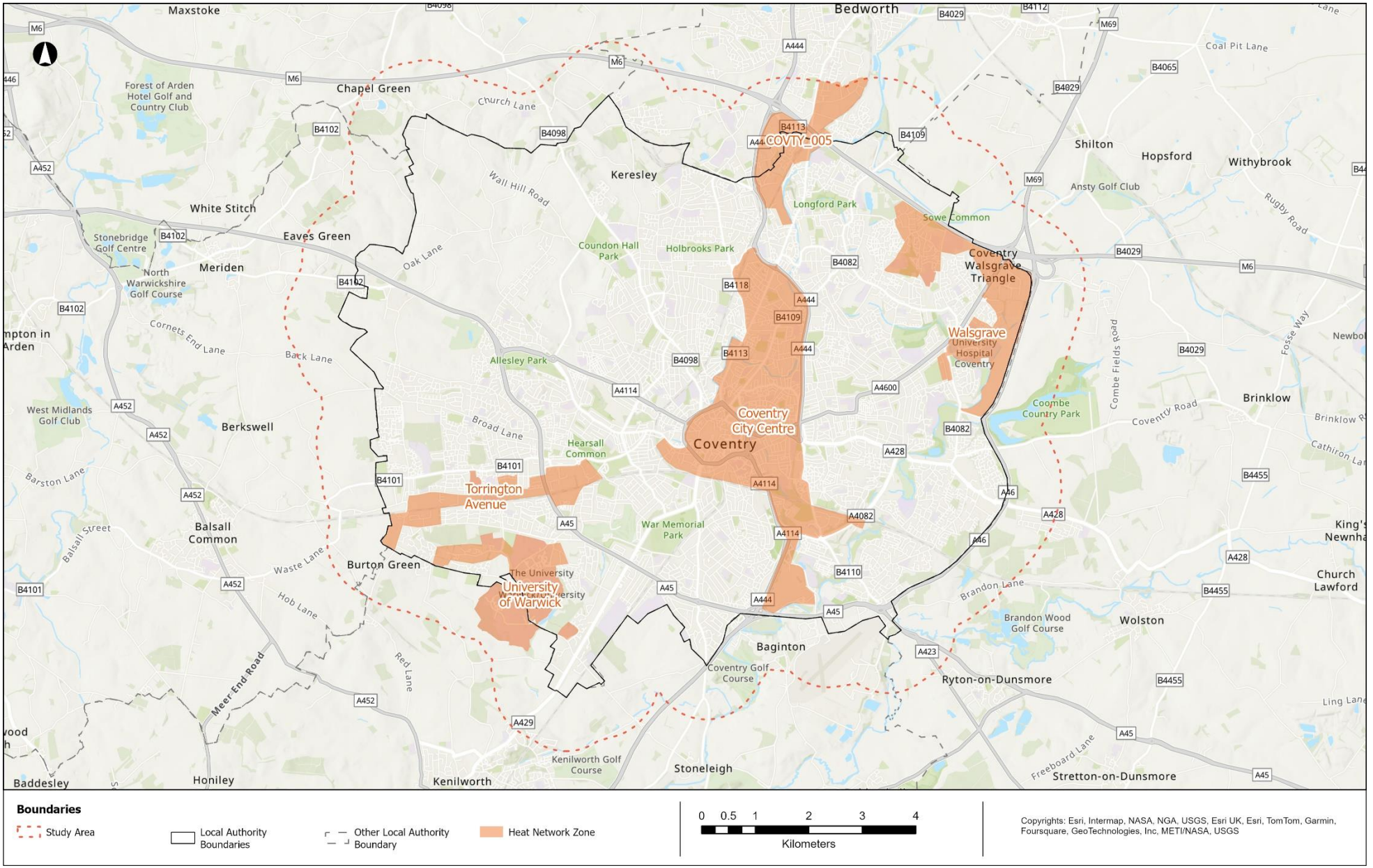
Key heat sources: Potential heat sources include Energy from Waste (EfW), ground source heat pumps, and air source heat pumps. The existing EfW plant is a significant heat source for the city centre network.

Estimated CapEx: The high-level estimate of capital expenditure to network all buildings required to connect in all zones is approximately £550m, of which the initial zone opportunities amount to approximately £375m.

Other heat network zones: Smaller heat network zones include areas like Walsgrave, Torrington Avenue, and the University of Warwick, each with significant heat demands and potential for network development.

Carbon savings: The initial zone opportunities identified could deliver carbon savings of over 70ktCO_{2e} annually.

Figure 1: Overview of Heat Network Zones in Coventry



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 Coventry 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.

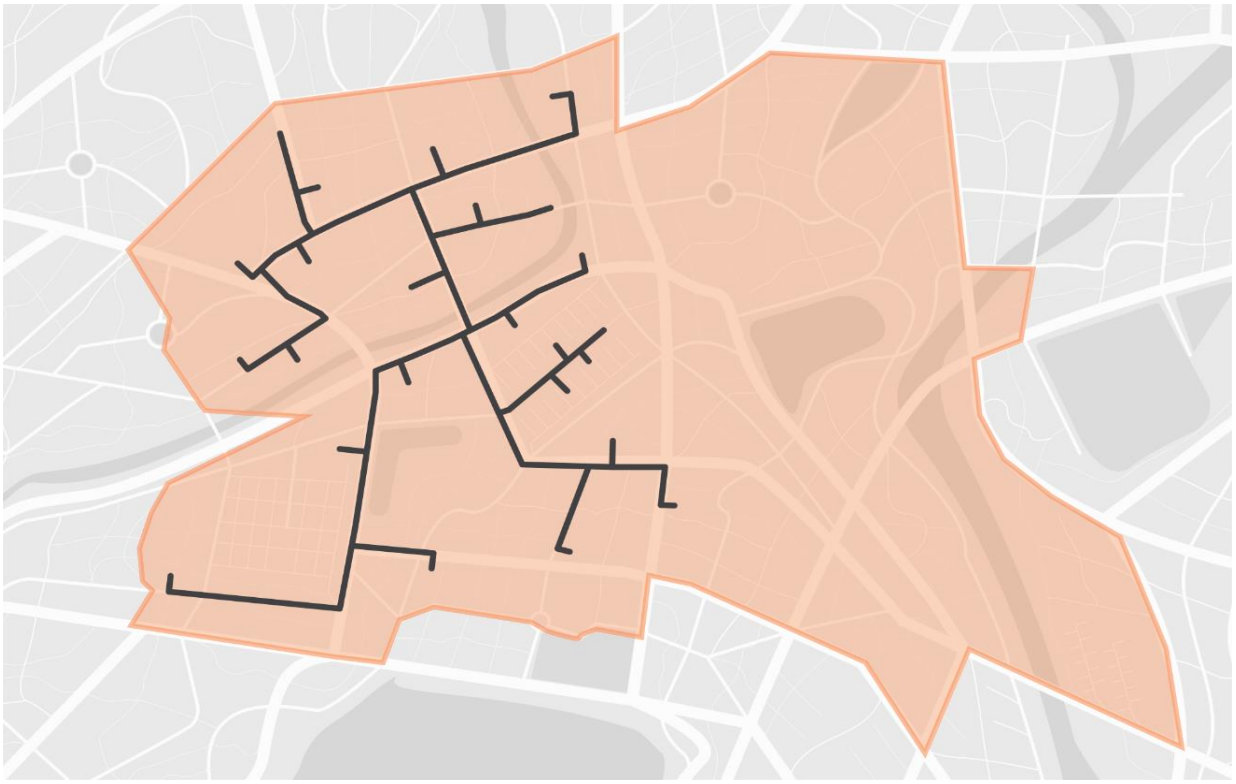
[1] More information can be found in the Heat Network Zoning Methodology Statements (Appendix 3, 4 & 5)

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 Coventry) 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) Coventry Heat Networks Context

2.1) Coventry City Overview

Coventry City Council (CCC) governs the City of Coventry and is a metropolitan authority located within the West Midlands, England. The area has a population of over 450,000 (2023 estimation) over an area of approximately 100km^2 across 19 wards. Coventry is the second largest city in the West Midlands after Birmingham which it is separated from via the Meriden Gap green belt.

There are 36 private registered providers (PRPS) for the 25,588 low-cost rental and supported housing properties within the city. Social housing properties account for around 20% of the total housing stock in the city[3]. Some of the largest providers of housing include Citizen Housing Group Limited, Clarion Housing Association limited and Midland Heart Limited.

CCC awarded a 25-year concession agreement to Bring Energy (formerly Equans) to develop and maintain a low carbon district heating network for the city centre. This is known as the Coventry District Energy Scheme. In September 2023, CCC announced that it had also entered a 15-year-long Strategic Energy Partnership with E.ON, through a long-term joint venture, to deliver energy projects for the wider city. Both provide an opportunity to expand on the development of heat networks in the city.

2.2) Coventry Net Zero Targets and Commitments

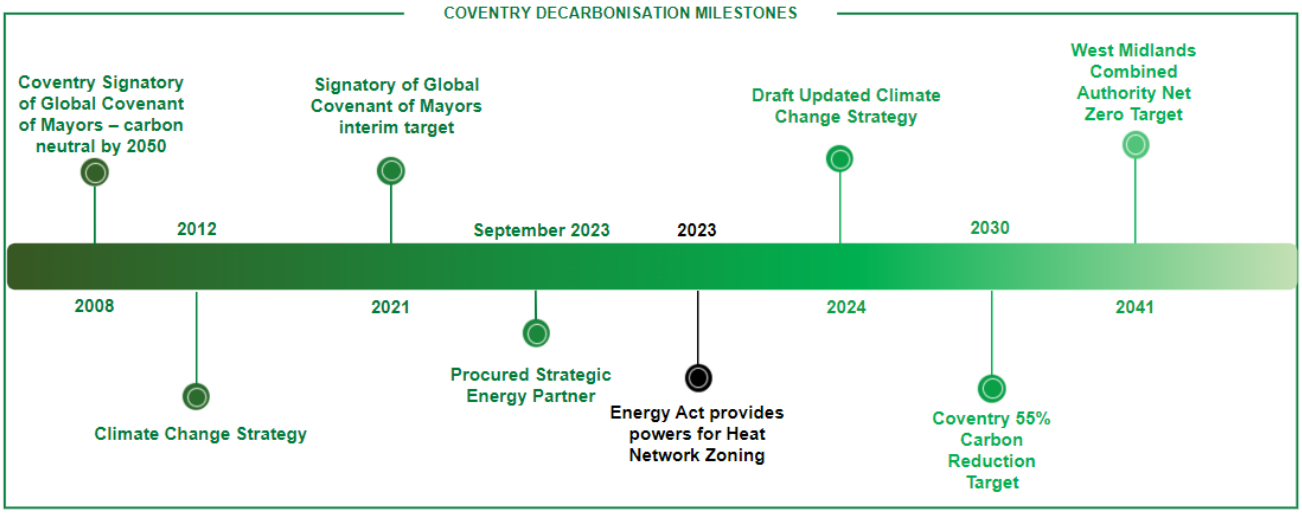
A new version of CCC's climate change strategy covering 2022-2030 is currently in draft[4] and outlines the ambition to make Coventry the UK's leading City for environmental change under a 'One Coventry' approach. It highlights CCC's ambitions for a 55% reduction in carbon emissions by 2030 (vs 1990 levels) and net-zero by 2041, as well as outlining CCC's ambitions to seek partners to invest in their plan and deploy new low carbon technologies.

Figure 3 summarises key dates in the CCC's plans for decarbonisation and demonstrates their progress towards decarbonisation targets.

[3] GOV.UK, (2022)., Registered provider social housing stock and rents in England 2021 to 2022 [online] Available at: https://www.gov.uk/government/statistics/registered-provider-social-housing-stock-and-rents-in-england-2021-to-2022

[4]Coventry City Council. Coventry's draft Climate Change Strategy. [online] Coventry City Council. Available at: https://www.coventry.gov.uk/draftclimatechangestrategy

Figure 3: Coventry Decarbonisation Milestones



2.3) Delivering Heat Networks in Coventry

There are two existing heat networks in Coventry, a city centre network and one located on the University of Warwick campus.

The city centre heat network is called Heatline which is operated by Coventry District Energy Company (CDEC) on a 25-year concession agreement with CCC. The concession is to develop and maintain a low-carbon heat network for the city centre and will run until 2041. In September 2023, CDEC's parent company was sold to a consortium formed by Swiss Life Asset Managers and Schroders Greencoat LLP and is now managed and operated by Bring Energy.

Heat is supplied from an Energy from Waste (EfW) plant and transported via a 6.6km network to consumers in the city centre. The EfW plant is owned by an independent waste management company Coventry & Solihull Waste Disposal Company (CSWDC) whose shareholders are CCC, Solihull Metropolitan Borough Council and Warwickshire County Council. Heat and electrical power are generated from 315,000 tonnes per annum of municipal and commercial solid waste.

The other existing heat network in Coventry is located at the University of Warwick and is situated to the south-west of the City Centre. This network is owned and operated by the University and serves several buildings on the campus. The existing heat network has 23km of pipework and is served by three energy centres. The heat network is currently served by gas-fired CHPs and gas boilers, however the University is currently considering decarbonisation plans.

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

2.4) Coventry Heat Network Zones

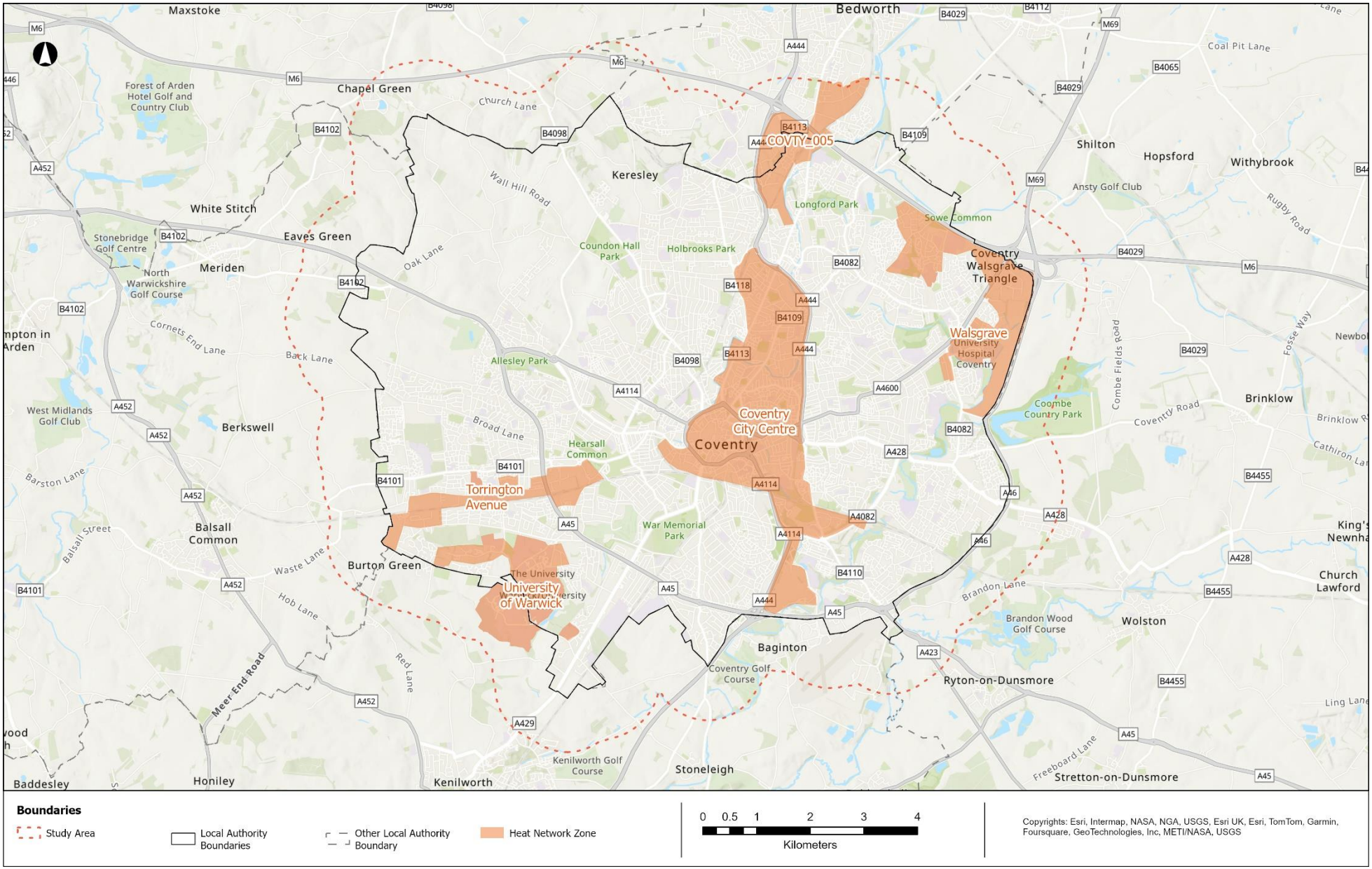
A total of five potential HNZs were identified in Coventry, with four considered Strategic HNZs. Figure 4, below, shows the study area boundary as well as the boundaries of all HNZs identified within Coventry. Strategic HNZs have been allocated a meaningful name agreed as relevant from a local perspective whilst other HNZs have a reference number allocated instead. In both cases, these names are shown on the map.

City wide maps in Appendix 1 highlight considerations taken to inform the development of HNZs in Coventry. This includes building typology, location of key heat demands, heat sources, energy centres, existing and planned heat networks and physical constraints. Priority was given to expanding existing heat networks with spare heat capacity from existing energy centres and areas of high enough heat demand to develop commercially viable heat networks. In Coventry, educational, retail and hospital buildings were found to have the highest heat demands and form the core of the demands within IZOs identified.

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.

Figure 4: Heat Network Zones Identified within the Coventry Study Area



3) Strategic Heat Network Zones

Strategic HNZs in Coventry

This section examines the four 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 Coventry. 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]	550
All buildings required to connect in strategic zones	475
All buildings connected to the IZOs	375

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 four 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.

Coventry City Centre is the largest potential HNZ identified by area, covering most of the city centre with 404 buildings potentially required to connect, a large proportion of which are industrial, office and educational properties. The HNZ also covers a substantial portion of the same area of the existing Heatline network. The main heat source for this network would be heat available from the existing EfW plant. For more information, please see Section 3.1.

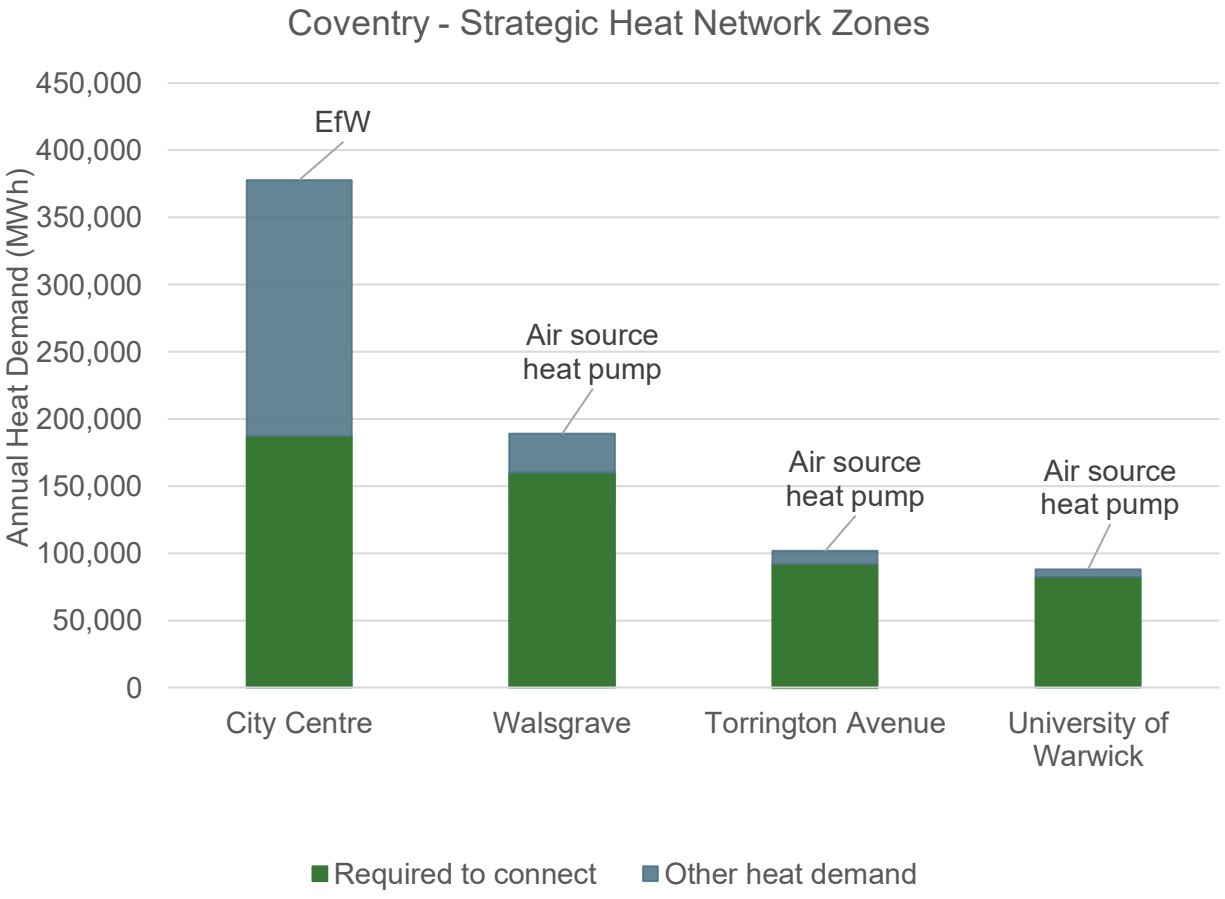
[5] Row 1 is an estimate of heat demand across buildings required to connect in all zones identified. Row 2 is as per row 1, but only within strategic zones. Row 3 includes buildings connected to the IZOs described and largely comprise of buildings potentially required to connect. Figures are generally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

Walsgrave is in the north-east of Coventry, approximately 5 miles from the city centre. The HNZ includes several large potential anchor heat loads, including the University Hospital Coventry, Walsgrave Retail Park, and the Walsgrave Triangle Business Park. For more information, please see Section 3.2.

Torrington Avenue is in a suburban district in the south-west of Coventry, approximately 4 miles from the city centre. The HNZ includes Coventry Business Park, and the Maguire Industrial Estate. For more information, please see Section 3.3.

The University of Warick encompasses the Westwood business park industrial estate, Westwood network rail, University of Warwick and various retail sites. An existing heat network supplies the University which covers a large portion of the HNZ. It is supplied by gas combined heat and power (CHP) plants in the Gibbet Hill, Central Campus and Cryfield energy centres, with plans to decarbonise utilising heat pumps. For more information, please see Section 3.4.

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



3.1) Coventry City Centre

3.1.1) Coventry City Centre – HNZ Summary

Coventry City Centre is the largest HNZ identified by area, covering most of the city centre spanning from the A45 in the south near the Jaguar Land Rover factory to the A444 in the north, by Holbrook Primary School. The strategic zone has a mixed building typology, encompassing residential, commercial, and public sector buildings. It includes several large anchor heat loads such as Coventry University, offices in Friargate, and retail precincts including West Orchards Shopping Centre and Sherbourne Arcade. The estimated annual heat demand for the entire zone, including the planned future developments at City Centre South and Friargate, is over 375GWh/yr.

3.1.2) Coventry City Centre - Existing Heat Networks

There is one operational heat network in Coventry City Centre HNZ, described below and shown in Appendix 1: Map D.

Operational Heat Networks and Planned Expansions

Heatline
Heatline is the city centre heat network which is operated by Coventry District Energy Company (CDEC) on a 25-year concession agreement with CCC. The concession is to develop and maintain a low-carbon heat network for the city centre and will run until 2041. In September 2023, CDEC's parent company was sold to a consortium formed by Swiss Life Asset Managers and Schroders Greencoat LLP, and CDEC is now managed and operated by Bring Energy.

Heat is supplied from an EfW plant and transported via a 6.6km network to consumers in the city centre. The EfW plant is owned by an independent waste management company (CSWDC) whose shareholders are CCC, Solihull Metropolitan Borough Council and Warwickshire County Council. Heat and electrical power are generated from 315kt/yr of municipal and commercial solid waste.

The municipal waste processing produces waste heat in the form of steam at 17.5 bar and 208˚C. The steam feeds two steam turbine generators, producing 12.9MW and 4.8MW of electricity for internal power needs and is also exported to the National Grid. CSWDC provides heat to the CDEC which then provides to the network of buried pipes to consumers in the city centre. The EfW facility provides 9.2GWh/yr with a 9.1MW Peak. The maximum supply from the EfW has been calculated to be around 200GWh/yr and a peak heat demand of 21MW. Peak demand calculations for networks are undiversified and the numbers are based on 120˚C flow, 95˚C return and steam velocity of 40 m/s.

The network includes a 600m^3 thermal storage vessel with space available for an additional store of the same size. It provides customers with a carbon saving of approximately 89% compared with a conventional stand-alone gas-fired system.

There are plans for future expansion to the Heatline heat network scheme over the next few years. These plans include connections to additional existing buildings along or near the existing network and to connect the new Friargate development, where an extension to the heat network for one building within this development has already been made. There are also plans to connect to the new developments encompassing the City Centre South redevelopment scheme.

3.1.3) Coventry City Centre - Initial Zone Opportunities

A single IZO was identified in the HNZ. Potential routing[6] for the IZO is shown in Figure 6 and summary statistics provided in Table 2.

Table 2: Coventry City Centre – Summary Statistics for Initial Zone Opportunities[7]

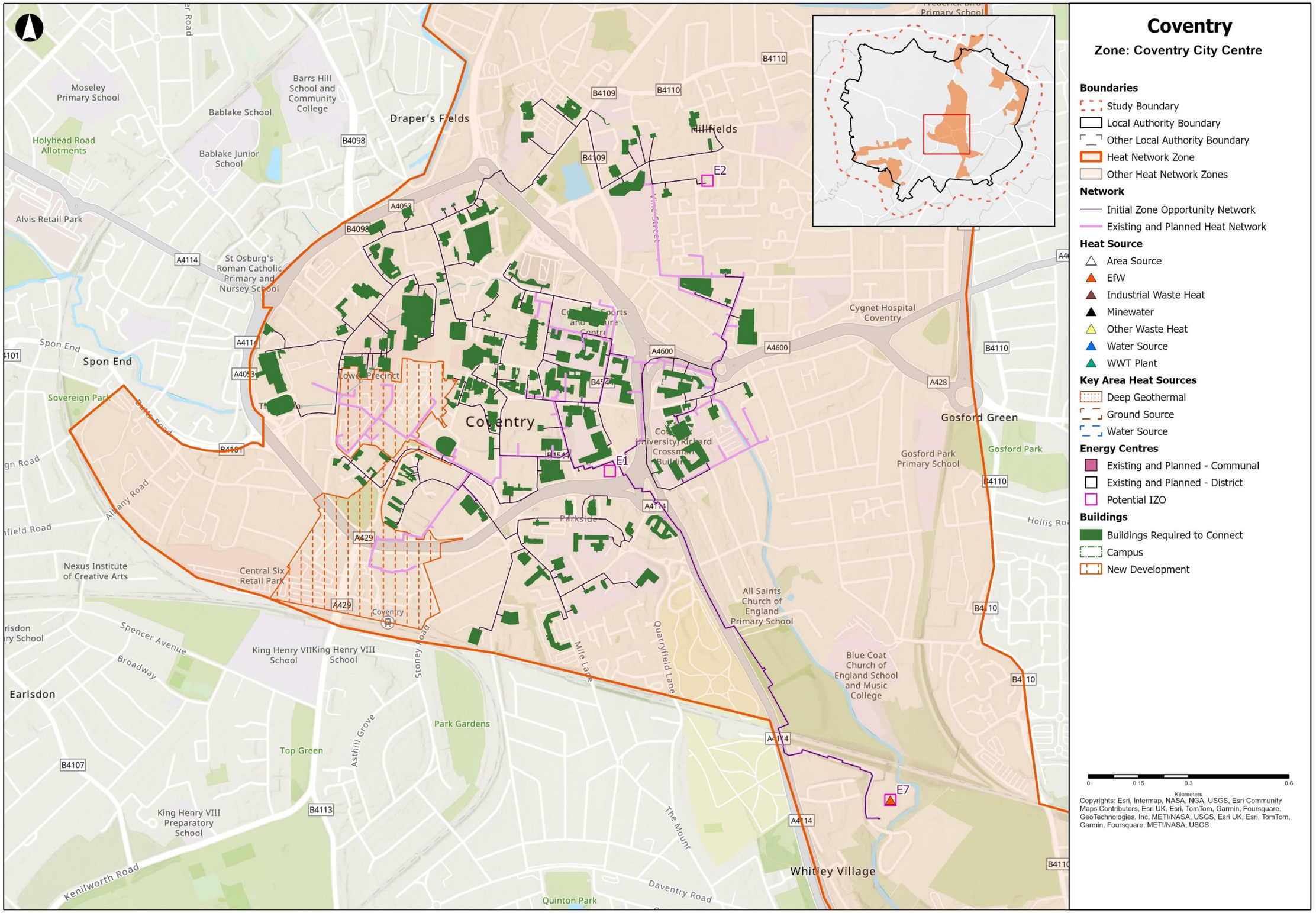
CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
£150m	100GWh/yr	21km	15ktCO_{2e}/yr	5MWh/m	EfW and other heat sources

The identified IZO stretches across a significant portion of Coventry's inner ring road, covering a substantial area within the city where there is a high heat demand density. The IZO largely covers the same footprint as the existing Heatline network, but then expands to connect to two major new developments at City Centre South and Friargate. Overall, the IZO connects to 213 buildings that are potentially required to connect, with a total heat demand of 100GWh/yr. This is equivalent to approximately 50% of the heat demand from buildings potentially required to connect in the zone.

The heat source proposed to supply the IZO is based on spare capacity from the EfW plant, with an additional energy centre assumed to be required to provide gas boiler peaking plant and resilience to the network. The analysis suggests that 21MW can be provided by the EfW facility, which is sufficient to provide 65% of the annual heat load, alongside 4MW of additional gas boiler plant, which will provide 12% of the annual heat load. The remaining 22% will be covered by peaking plant.

[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.

Figure 6: Initial Zone Opportunities in Coventry City Centre



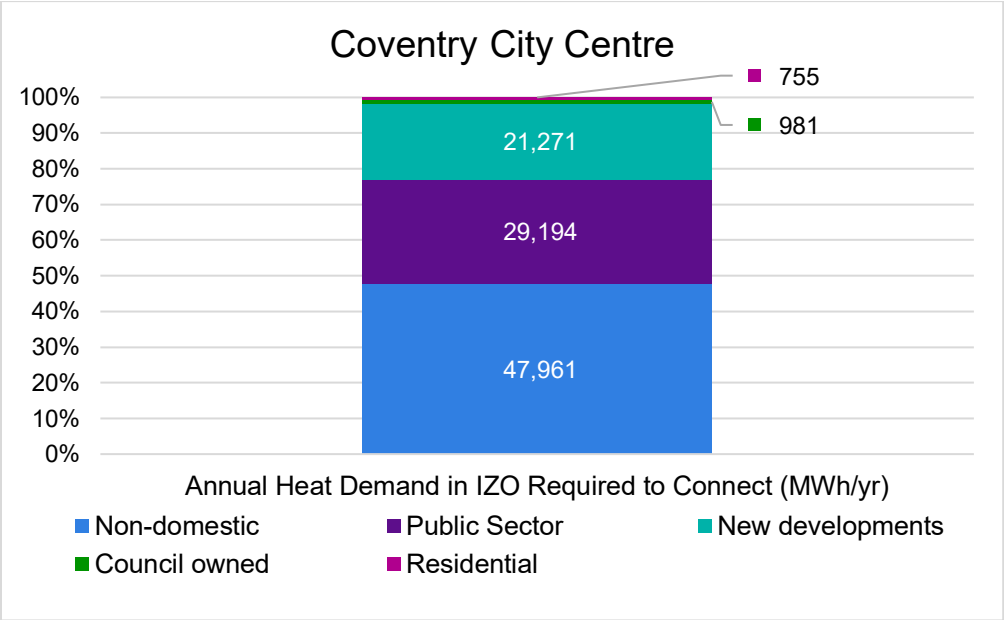
3.1.4) Coventry City Centre – IZO Heat Demands

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 IZO comprises several key building typologies. The largest categories in terms of number of buildings required to connect is offices and retail with a total of 54 and 40 buildings respectively. Retail buildings represent the largest contributor to the heat demand with an estimated 24GWh/yr (24%). This is followed by education buildings (mostly Coventry University) with an estimated 20GWh/yr (20%) and office buildings with 17GWh/yr (17%). Figure 7 provides a breakdown of heat demand per building typology.

Figure 7: Coventry City Centre - Categorisation of Heat Demand for Buildings Required to Connect in the IZO



Further details of the key heat demands for buildings that may be required to connect in the IZO are provided in Table 3. The top 11 anchor loads identified cover an estimated 40GWh/yr. The distribution of estimated annual heat demand between non-domestic, public sector, new developments, council owned, and residential buildings are 49%, 29%, 21%, 1%, and 1% respectively.

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

Building name	Building category	Number of connections	Annual Heat Demand (MWh)	Data Source
Friargate Commercial	New Development	11	8,300	Pilot methodology
Sherbourne Arcade	Retail	1	4,850	Other - benchmark[9]
Friargate Residential	New Development	8	3,900	Pilot methodology
Coventry City Centre South Mixed-use Phase 1	New Development	14	3,450	Pilot methodology
Coventry City Centre South Retail Phase 2	New Development	9	3,100	Pilot methodology
West Orchards Shopping Centre	Non-domestic	1	4,150	Other - benchmark[9]
Frederick Lanchester Building	Public Sector	1	2,500	Stakeholder metering data[10]
Bishop Gate	Public Sector	1	2,450	Stakeholder metering data[10]
The Skydome	Non-domestic	1	2,400	Other - benchmark[9]
Godiva Place	Public Sector	1	2,300	Stakeholder metering data[10]
City Centre South Mixed-use Phase 2	New Development	10	2,050	Other - benchmark[9]

[8] Please refer to Appendix 3 for definitions related to building categories in this table.
[9] Other – Benchmark: In each of these cases the data has been taken from the heat zoning model
[10] The annual heat demand has been estimated using stakeholder metering data and typical efficiencies for the plant

3.1.5) Coventry City Centre – IZO Heat Sources

There is an existing heat network that already utilises heat from an EfW plant. It is therefore proposed that the primary heat source is heat recovery technology at the existing EfW plant. To meet the additional demand of the heat network, additional gas boiler plant is also proposed and additional energy centre space would be required. Table 4 and Table 5 in this section summarise the key heat source and potential energy centre locations. These are also shown on the zone-level map in Figure 6 in Section 3.1.3 and on the city-level Map C in Appendix 1.

The existing EfW (reference E7) is located on Bar Road (CV3 4AN) and two additional proposed energy centres are located at White Friars Street (E1) and Wellington Street (E2) on existing council car parks. Other potential energy centre locations could be located within the Friargate or City Centre South developments, but further engagement would be required with developers of these areas. The table below provides the full opportunity capacity, i.e. the available peak at the EfW plant which is currently not all being utilised.

Table 4: Coventry City Centre - Key Heat Source Opportunities for the IZO

Heat source type	Capacity (kWp)	Temperature (ºC)	Potential Energy Centre [Ref number]
EfW	21,000	120[11]	E7

Table 5: Coventry City Centre - Potential IZO Energy Centre Locations

EC Ref number	Site type	Size (m^2)	Ownership	Heat Source
E1	Car Park	3,000	CCC	Peaking plant
E2	Car Park	2,000	CCC	Peaking plant
E7	Existing EfW	21,000	CSWDC	EfW

3.1.6) Coventry City 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

[11] The temperature at which existing energy centre plant supplies heat to heat offtakers

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 6 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.

Table 6: Coventry City Centre - Indicative Heat Network statistics for the IZO

IZO Heat Network description	Network length (km)	Network cost (£m)
Coventry City Centre	21	<100

3.1.7) Coventry City Centre – IZO Key Constraints and Mitigations

[C1] Heat source: Further engagement and understanding of the long-term heat availability, costs and resilience is required for the existing heat source. Mitigation measures would include further studies to assess waste heat alternatives and develop a long-term strategy for heat supply beyond the expected end of life of the current source.

3.2) Walsgrave

3.2.1) Walsgrave – HNZ Summary

Walsgrave is a suburban district located in the north-east of Coventry, approximately 5 miles from the city centre. The strategic zone has a mixed building typology, encompassing residential, commercial, and public sector buildings. Several large potential anchor heat loads are situated here, including the University Hospital Coventry, Walsgrave Retail Park, and the Walsgrave Triangle Business Park. The estimated annual heat demand, including the planned future development at Walsgrave Hill, is over 175GWh/yr.

3.2.2) Walsgrave – Existing Heat Networks

There are no existing, planned or proposed heat networks identified in the Walsgrave HNZ.

3.2.3) Walsgrave – Initial Zone Opportunities

A single IZO was identified in the HNZ. Potential routing[12] for the IZO is shown in Figure 8 and summary statistics provided in Table 7.

Table 7: Walsgrave - Summary Statistics for Initial Zone Opportunities[13]

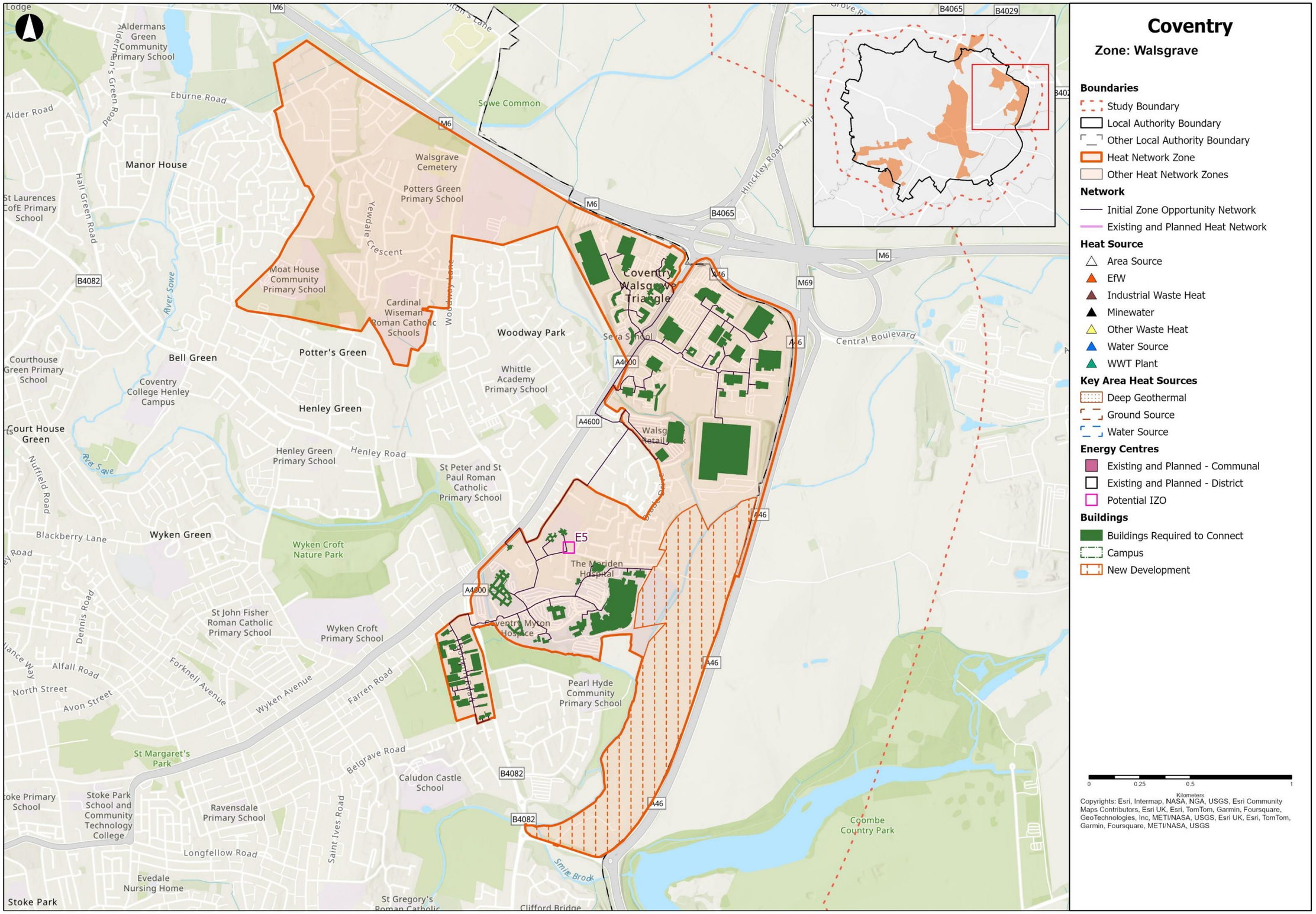
CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
£100m	~150GWh/yr	16km	16 ktCO_{2e}/yr	9MWh/m	ASHPs

The identified IZO spans from Bodmin Road in the south of the strategic zone to North View Road in the north-east of the zone. This area includes a high heat demand density and includes demands such as the University Hospital Coventry and 900 dwellings within the new planned development at Walsgrave Hill. Overall, the IZO connects to a total heat demand of approximately 150GWh/yr, equivalent to approximately 90% of the heat demand from buildings potentially required to connect in the zone.

The analysis suggests that 30.7MW air source heat pumps (ASHPs) will be sufficient to provide 84% of the annual heat load, with the remaining 16% being covered by peaking plant.

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

Figure 8: Initial zone opportunity in Walsgrave HNZ



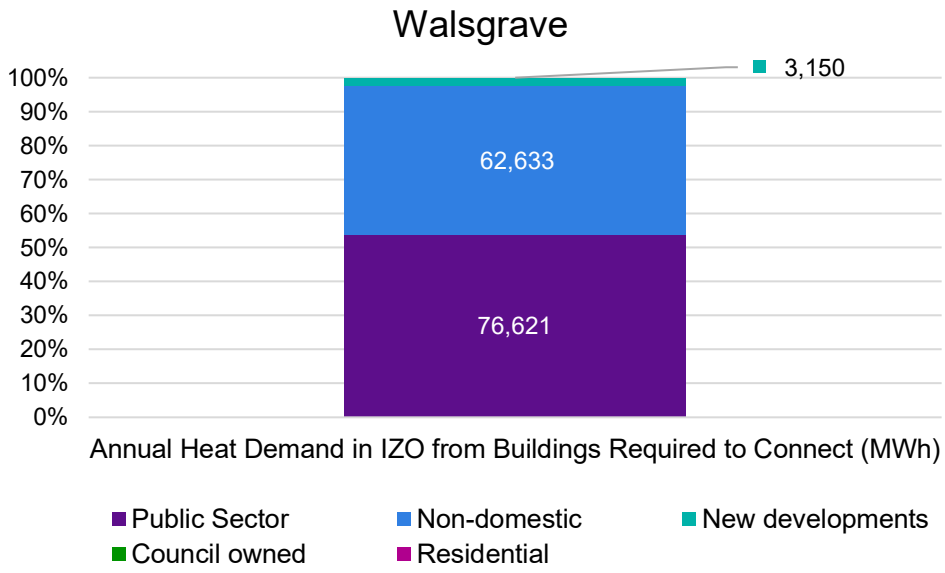
3.2.4) Walsgrave – IZO Heat Demands

Within the IZO, there is a diverse range of key building typologies including 900 dwellings within the new planned development at Walsgrave Hill. Additionally, it includes 28 industrial buildings, 14 retail buildings, and 10 large hospital/residential nursing home buildings.

Hospitals and residential/nursing homes buildings represent the largest contributor to the heat demand in this IZO, with an estimated 76Wh/yr (53.2%) of heat demand. This is followed by retail buildings with an estimated 38GWh/yr (26.2%), and industrial buildings with an estimated 18GWh/yr[14] (12.7%). The planned new development at Walsgrave Hill contributes an estimated 3GWh/yr to the heat demand (2.2%).

Figure 9 shows the distribution of estimated annual heat demand between public sector, non-domestic, and new developments at 54%, 44%, and 2% respectively. Further details of the key heat demand for buildings potentially required to connect in the IZO are provided in Table 8. The top 10 anchor loads identified cover 114GWh of heat demand, accounting for approximately 80% of the heat demand that may be required to connect.

Figure 9: Walsgrave - Categorisation of Heat Demand for Buildings Required to Connect in the IZO



[14] Please refer to section 3.1.4 for a description of IZO heat demands.

Table 8: Walsgrave - Key Heat Demands Required to Connect in the IZO[15]

Building name	Building category	Number of connections	Annual Heat Demand (MWh)	Data Source
University Hospital Coventry	Public sector	1	67,500	Stakeholder metering data[16]
Lodge Farm Distribution Centre	Non-domestic	1	21,150	Other - Benchmark
Former Sainsbury's Supermarkets Ltd Distribution Centre	Non-domestic	1	5,450	Other - Benchmark
Walsh Western UK Ltd, Cross Point Business Park	Non-domestic	1	4,050	Other - Benchmark
The Caludon Centre	Public sector	1	3,550	Other - Benchmark
Clinical Sciences Building, University Hospital Coventry	Public sector	1	3,500	Other - Benchmark
Walsgrave Triangle Business Park	Non-domestic	1	3,000	Other - Benchmark
Batleys Ltd, Cross Point Business Park	Non-domestic	1	2,100	Other - Benchmark
Asda Stores Ltd, Cross Point Business Park	Non-domestic	1	2,000	Other - Benchmark
Tesco, Cross Point Business Park	Non-domestic	1	1,900	Other - Benchmark

[15] Please refer to Appendix 3 for definitions related to building categories in this table.
[16] The annual heat demand has been estimated using stakeholder metering data and typical efficiencies for the plant

3.2.5) Walsgrave – IZO Heat Sources

The primary heat source for this IZO are large ASHPs. This technology is location agnostic and suitable for installation on any land available for development. Potential locations could be the land at School House and Farber Road. Table 9 and Table 10 summarise the key heat sources and potential energy centre locations identified. These are also shown on the zone-level map in Figure 8 in Section 3.2.3 and Appendix 1: Map C.

Table 9: Walsgrave - Key Heat Source Opportunities for the IZO

Heat source type	Opportunity Capacity (kWp)	Temperature (ºC)	Potential Energy Centre (Ref number)
ASHP	30,700	~ 50	E5

Table 10: Walsgrave - Potential IZO Energy Centre Locations

Ref #	Site type	Size (m^2)	Ownership	Heat Source
E5	Land	440	CCC	ASHP

3.2.6) Walsgrave – IZO Heat Distribution

Table 11 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.

Table 11: Walsgrave - Indicative Heat Network Statistics for the IZO

IZO Heat Network description	Network length (km)	Network cost (£m)
Walsgrave	16	<50

3.2.7) Walsgrave – IZO Key Constraints and Mitigations

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

3.3) Torrington Avenue

3.3.1) Torrington Avenue – HNZ Summary

Torrington Avenue is in the south-west of Coventry, 4 miles from the city centre. It exhibits a mixed building typology, encompassing residential and commercial buildings. There are several large potential anchor heat loads in this area, including the Coventry Business Park, and the Maguire Industrial Estate. The estimated annual heat demand in the strategic zone, including the planned future development at West Cromwell Lane, is 100GWh/yr.

3.3.2) Torrington Avenue – Existing Heat Networks

There are no existing, planned or proposed heat networks identified in the Torrington Avenue HNZ.

3.3.3) Torrington Avenue – Initial Zone Opportunities

A single IZO was identified in the HNZ. Potential routing[17] for the IZO is shown in Figure 10 and summary statistics provided in Table 12.

Table 12: Torrington Avenue - Summary Statistics for Initial Zone Opportunities[18]

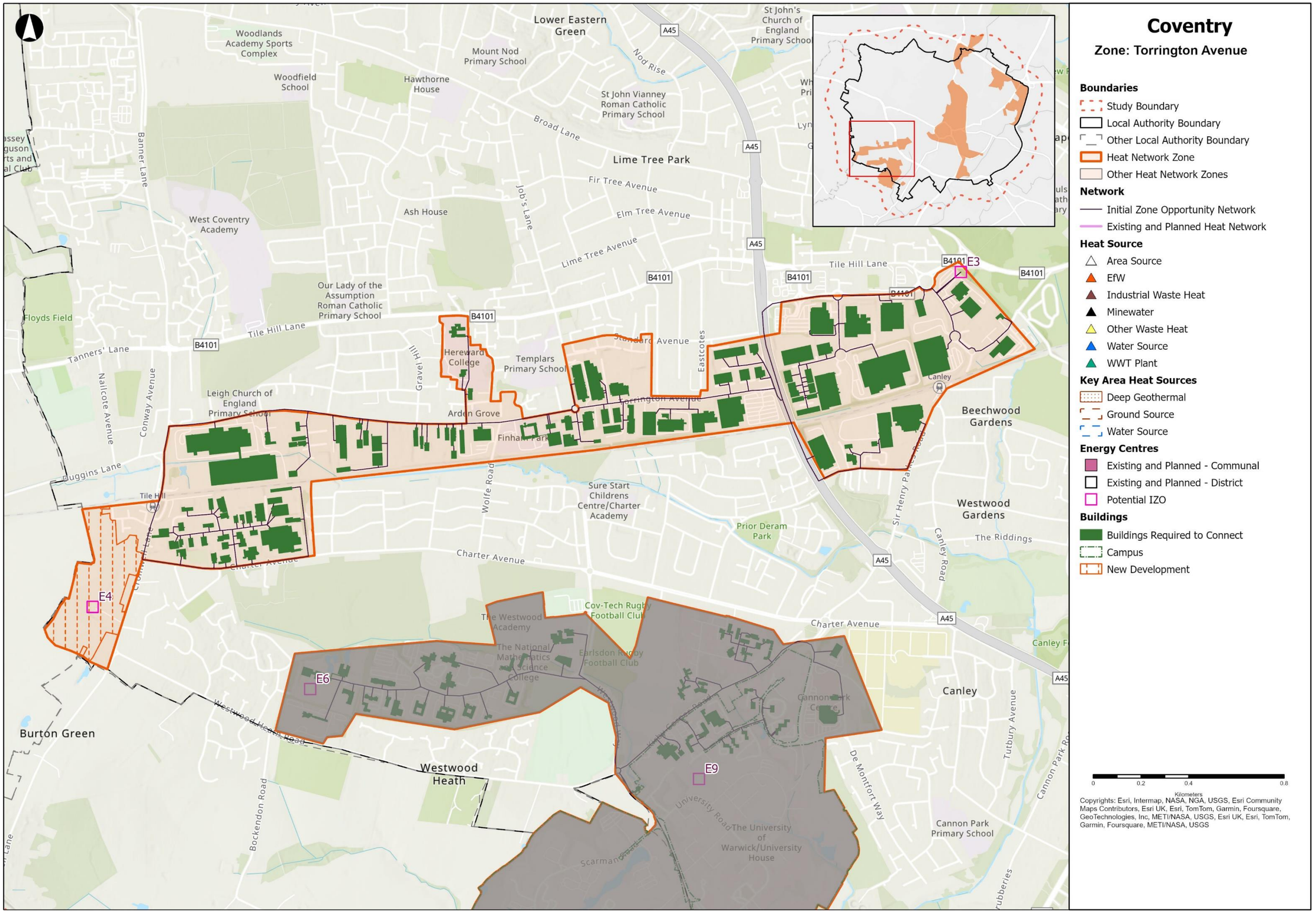
CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
£100m	>90GWh/yr	16km	15ktCO_{2e}/yr	6.4MWh/m	ASHPs

The identified IZO spans from Cromwell Lane in the west to Dolomite Avenue in the east of the zone. Areas of high heat demand include the Coventry Business Park, Amco Group, Costco Coventry, and the West Cromwell Lane development. The IZO has an estimated annual heat demand of over 90GWh/yr.

The analysis suggests that 20MW ASHPs would be sufficient to provide 80% of the annual heat load via two energy centres, with the remaining 20% being covered by peaking plant.

[17] Routes can be expected to change as a better understanding of local constraints is developed through design.
[18] Please see Appendix 3 – Glossary, “Specific definitions” of the main report for definitions related to Table 12.

Figure 10: Initial Zone Opportunity in Torrington Avenue HNZ

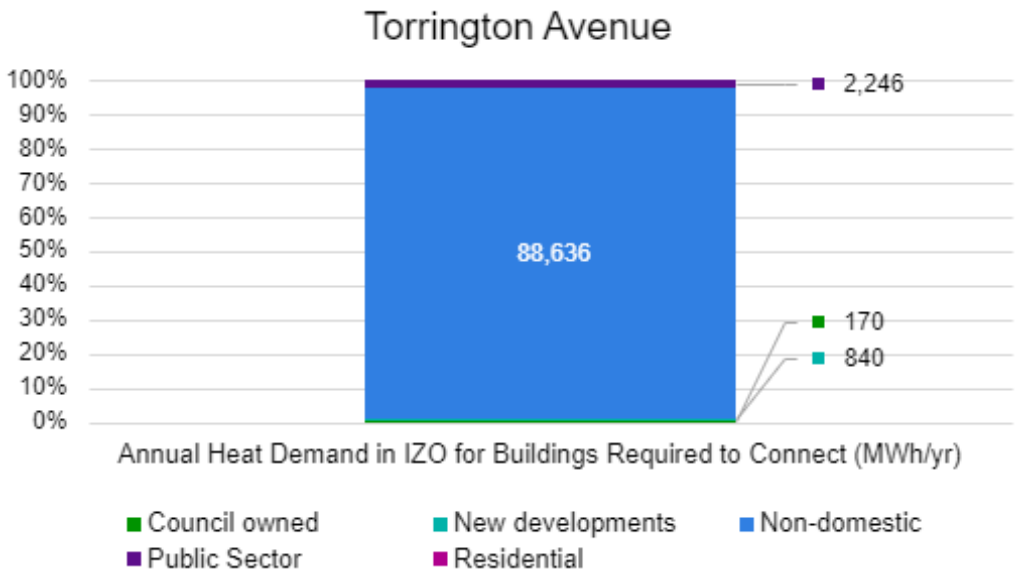


3.3.4) Torrington Avenue – IZO Heat Demands

There is a diverse range of building typologies including 240 dwellings in the new planned development at West Cromwell Lane. Industrial buildings represent the largest contributor to the heat demand with an estimated 76GWh/yr[19] (82.6%). This is followed by retail buildings with an estimated 11GWh/yr (11.5%). The planned new development at West Cromwell Lane contributes an estimated 850MWh/yr to the heat demand (0.9%).

Figure 11 shows the distribution of estimated annual heat demand between non-domestic, public sector, new developments, and council owned buildings are 96%, 2%, 1%, and <1% respectively. Further details of the key heat demand for buildings potentially required to connect in the IZO are provided in Table 13. The top 10 anchor loads identified cover 46GWh/yr of heat demand, accounting for approximately 50% of the heat demand that may be required to connect.

Figure 11: Torrington Avenue - Categorisation of Heat Demand for Buildings Required to Connect in the IZO



[19] Please refer to section 3.1.4 for a description of IZO heat demands.

Table 13: Torrington Avenue - Key Heat Demands Required to Connect in the IZO[20]

Building name	Building category	Number of connections	Annual Heat Demand (MWh)	Data Source
Amco Global	Non-domestic	1	12,850	Other - Benchmark[21]
UYT Ltd	Non-domestic	1	7,450	Other - Benchmark
Palmer & Harvey McLane Ltd	Non-domestic	1	5,400	Other - Benchmark
Whitefurze Ltd	Non-domestic	1	3,650	Other - Benchmark
Parkwood House	Non-domestic	1	3,600	Other - Benchmark
Kautex Unipart	Non-domestic	1	2,900	Other - Benchmark
Your Vets	Non-domestic	1	2,800	Other - Benchmark
Costco Wholesale	Non-domestic	1	2,700	Other - Benchmark
Liberty Pressing Solutions	Non-domestic	1	2,550	Other - Benchmark
Covrad Automotive Divlsion	Non-domestic	1	2,000	Other - Benchmark

3.3.5) Torrington Avenue – IZO Heat Sources

The primary heat source for this IZO are large ASHPs. This technology is location agnostic and suitable for installation on any land available for development. Shortlisted energy centre locations include the land West of Canley Road (reference E3) and the West Cromwell Lane development (E4).

Table 14 and Table 15 summarise the key heat sources and potential energy centre locations. These are also shown on the zone-level map in Figure 10 in Section 3.3.3 and Appendix 1: Map C.

[20] Please refer to Appendix 3 for definitions related to building categories in this table.
[21] Other – Benchmark: In each of these cases the data has been taken from the heat zoning model

Table 14: Torrington Avenue - Key Heat Source Opportunities for the IZO

Heat source type	Capacity (kWp)	Temperature (ºC)	Potential Energy Centre (Ref number)
ASHP	23,900	~ 50	E3
ASHP	200	~ 50	E4

Table 15: Torrington Avenue - Potential IZO Energy Centre Locations

Ref #	Site type	Size (m^2)	Ownership	Heat Source
E3	Land	1,750	CCC	ASHP
E4	Land	127,350	Heyford Developments	ASHP

3.3.6) Torrington Avenue – IZO Heat Distribution

Table 16 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.

Table 16: Torrington Avenue - Indicative Heat Network Statistics for the IZO

IZO Heat Network description	Network length (km)	Network cost (£m)
Torrington Avenue	16	<50

3.3.7) Torrington Avenue – IZO Key Constraints and Mitigations

[C1] Rail crossing: The proposed heat network crosses a national railway line in two places; towards Tile Hill Station, and towards Canley Station. The necessary infrastructure and engineering works required for these crossings can be complex and expensive, involving coordination with railway authorities, ensuring compliance with safety standards, and potentially requiring modifications to existing railway infrastructure. Overcoming these challenges will require feasibility assessments, and close collaboration with relevant stakeholders.

3.4) University of Warwick

3.4.1) University of Warwick – HNZ Summary

The University of Warwick zone includes the university located southwest of Coventry, approximately 4 miles from the city centre. It exhibits a mixed building typology, encompassing residential, commercial, and public sector buildings and the existing heat network at the university. The estimated heat demand in the zone, including the existing heat network, is around 100GWh/yr. The key opportunity to decarbonise the network is large scale ASHPs.

3.4.2) University of Warwick – Existing Heat Networks

There is one operational heat network in the University of Warwick HNZ, described below and shown in Appendix 1: Map D.

Operational Heat Networks and Planned Expansions

The University of Warwick Heat Network

The University of Warwick operates a campus heat network that serves multiple buildings on their estate to which they are the sole recipient of heat. The network has been operational since 2001 and has undergone multiple expansions and redevelopments. There are several existing energy centres, located at Gibbet Hill Campus, Central Campus, and Cryfield, which are powered by gas CHP plant producing 25.4MW of heat alongside 8.5MW of electricity.

3.4.3) University of Warwick – Initial Zone Opportunities

A single IZO was identified in the HNZ. Potential routing[22] for the IZO is shown in Figure 12 and summary statistics provided in Table 17.

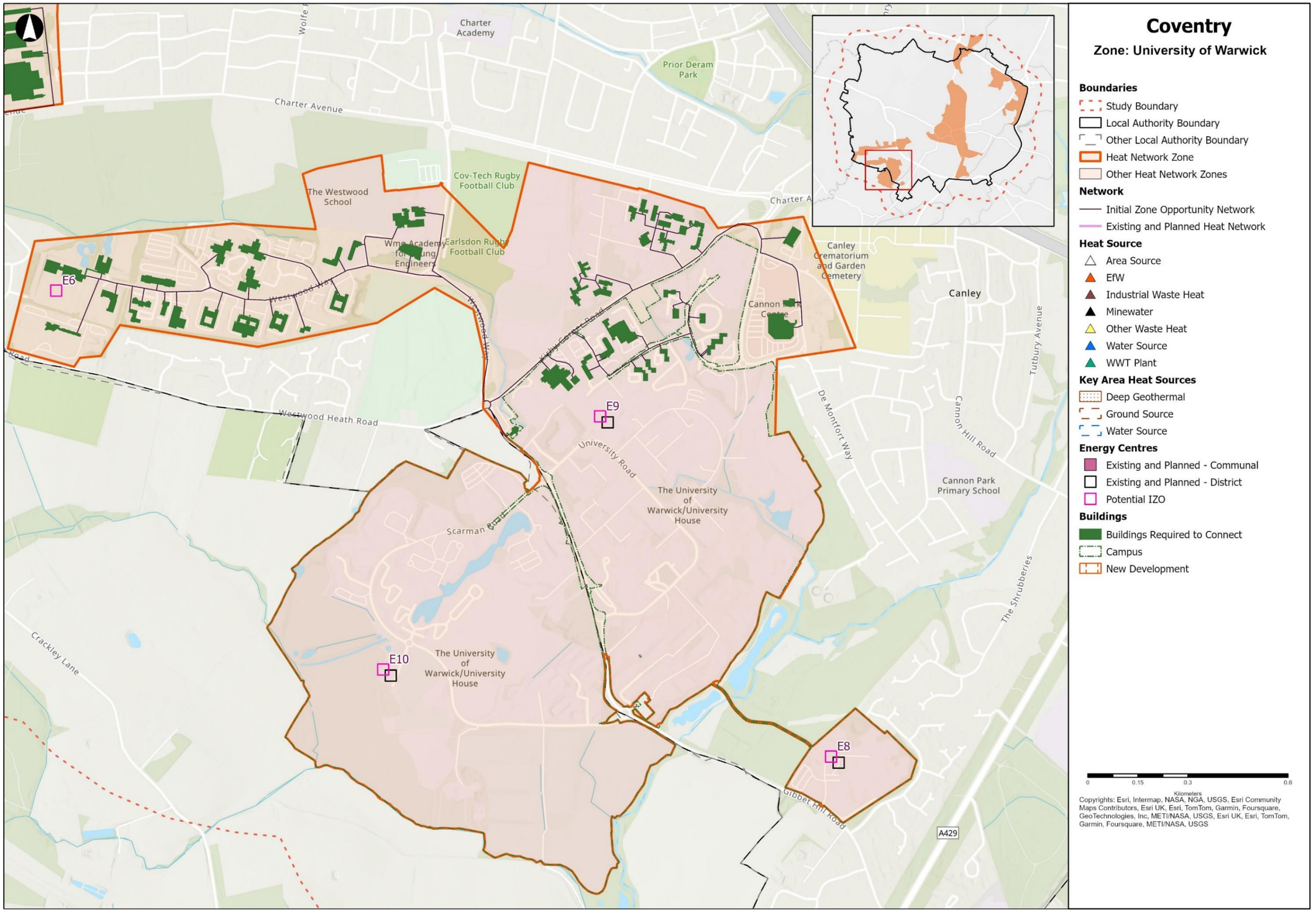
Table 17: University of Warwick - Summary Statistics for Initial Zone Opportunities[23]

CapEx	Heat	Network	CO_{2e} savings	Linear Heat Density	Heat Sources
£75m	75GWh/yr	7km	10ktCO_{2e}/yr	11.4MWh/m	ASHPs

The IZO spans from Westwood Way in the north-west of the strategic zone to the Canon Park Shopping Centre in the north-east of the zone. This area was identified as an IZO due to the high heat demand density, with an estimated annual heat demand of approximately 75GWh/yr, and connection to the existing university heat network. The analysis suggests that 21MW ASHPs will be sufficient to provide 80% of the annual heat load, with the remaining 20% being covered by the peaking plant.

[22] Routes can be expected to change as a better understanding of local constraints is developed through design.
[23] Please see Appendix 3 – Glossary, “Specific definitions” of the main report for definitions related to Table 17.

Figure 12: Initial Zone Opportunity in the University of Warwick HNZ



3.4.4) University of Warwick – IZO Heat Demands

Within the IZO, there is a diverse range of building typologies. Education buildings represent the largest contributor to the heat demand in this IZO, with an estimated heat demand of 61GWh/yr[24](78.7%). This is followed by office buildings with an estimated 13GWh/yr (17.1%).

Figure 13: University of Warwick - Categorisation of Heat Demand for Buildings Required to Connect in the IZO

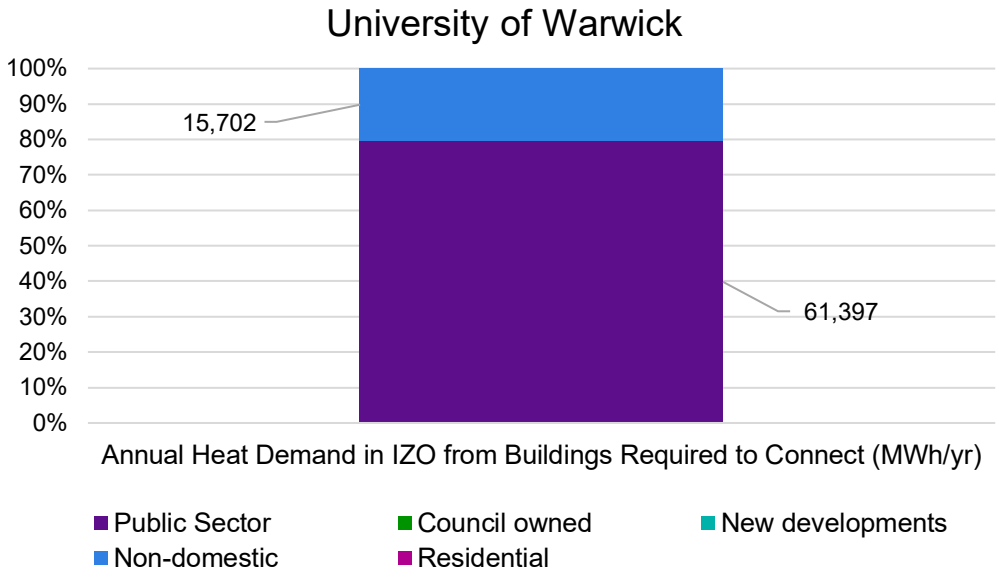


Figure 13 shows the distribution of estimated annual heat demand between public sector and non-domestic buildings, at 80% and 20% respectively. Further details of the key heat demands for buildings potentially required to connect in the IZO are provided in Table 18. The top 10 anchor loads identified cover 58 GWh/yr, equivalent to 78% of the demand connected to the IZO.

[24] Please refer to section 3.1.4 for a description of IZO heat demands.

Table 18: University of Warwick - Key Heat Demands Required to Connect in the IZO[25]

Building name	Building category	Number of connections	Annual Heat Demand (MWh)	Data Source
The University of Warwick	Public sector	1	>50,000	Other benchmark[26]
E.ON UK	Non-domestic	1	1,250	Other benchmark[26]
Greenwood House	Non-domestic	1	1,200	Other benchmark[264]
Tesco, Cannon Park Shopping Centre	Non-domestic	1	1,050	Other benchmark[264]
Milburn House – University of Warwick	Public sector	1	900	Other benchmark[264]
Progress House	Non-domestic	1	850	Other benchmark[26]
Avon House	Non-domestic	1	800	Other benchmark[26]
Swift House	Non-domestic	1	750	Other benchmark[26]
Shell Energy House	Non-domestic	1	750	Other benchmark[26]
WMG Academy for Young Engineers	Non-domestic	1	750	Other benchmark[26]

3.4.5) University of Warwick – IZO Heat Sources

In the IZO, there is an existing heat network with three existing energy centres located across the University of Warwick campus in Gibbet Hill (reference E8), Central Campus (E9) and

[25] Please refer to Appendix 3 for definitions related to building categories in this table.
[26] Other – Benchmark: In each of these cases the data has been taken from the heat zoning model

Cryfield (E10). The primary heat source for this IZO are large ASHPs. This technology could replace the CHP at the University of Warwick to decarbonise the network and support low carbon growth of new network. The existing energy centre locations are planned to be used.

Table 19 and Table 20 summarise the key heat sources and potential energy centre locations. These are shown on the zone-level map in Figure 12 in Section 3.4.3 and Appendix 1: Map C.

Table 19: University of Warwick - Key Heat Source Opportunities for the IZO

Heat source type	Capacity (kWp)	Temperature (ºC)	Potential Energy Centre Location (Ref number)
ASHP	9,750	~ 50	E6
ASHP	400	~ 50	E8
ASHP	1,350	~ 50	E9
ASHP	9,000	~ 50	E10

Table 20: University of Warwick - Potential IZO Energy Centre Locations

Ref #	Site type	Size (m^2)	Ownership	Heat Source
E6	Green Space	16,000	CCC	ASHP

3.4.6) University of Warwick – IZO Heat Distribution

Table 21 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.

Table 21: University of Warwick - Indicative Heat Network statistics for the IZO

IZO Heat Network description	Network length (km)	Network cost (£m)
University of Warwick	7	<25

3.4.7) University of Warwick – IZO Key Constraints and Mitigations

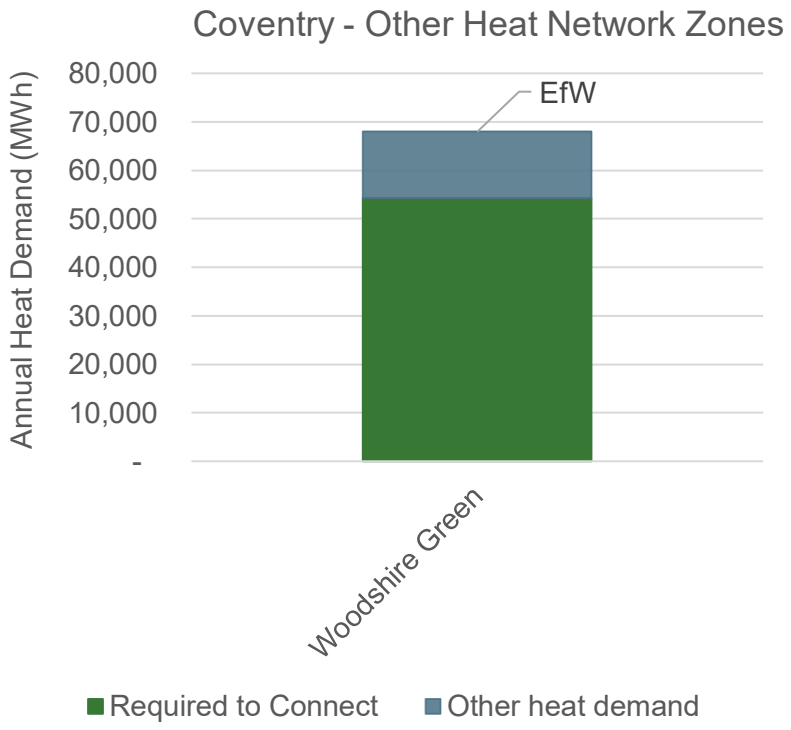
There are no major constraints identified for the proposed IZO network route.

4) Other Heat Network Zones

This section describes the 'Other' potential heat network zones that were identified in Coventry. 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 14 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 14: Total Heat Demand and Proportion Required to Connect in Other HNZs



Woodshire Green (COVTY_005): is a HNZ situated to the North of the city centre and is not considered strategic because it is of lower scale in terms of heat demand and heat density. The area is of mixed building typology including residential and commercial buildings and contains key anchor loads including the Coventry Building Society Arena, the Arena Business Park, and the Gallagher Business Park.

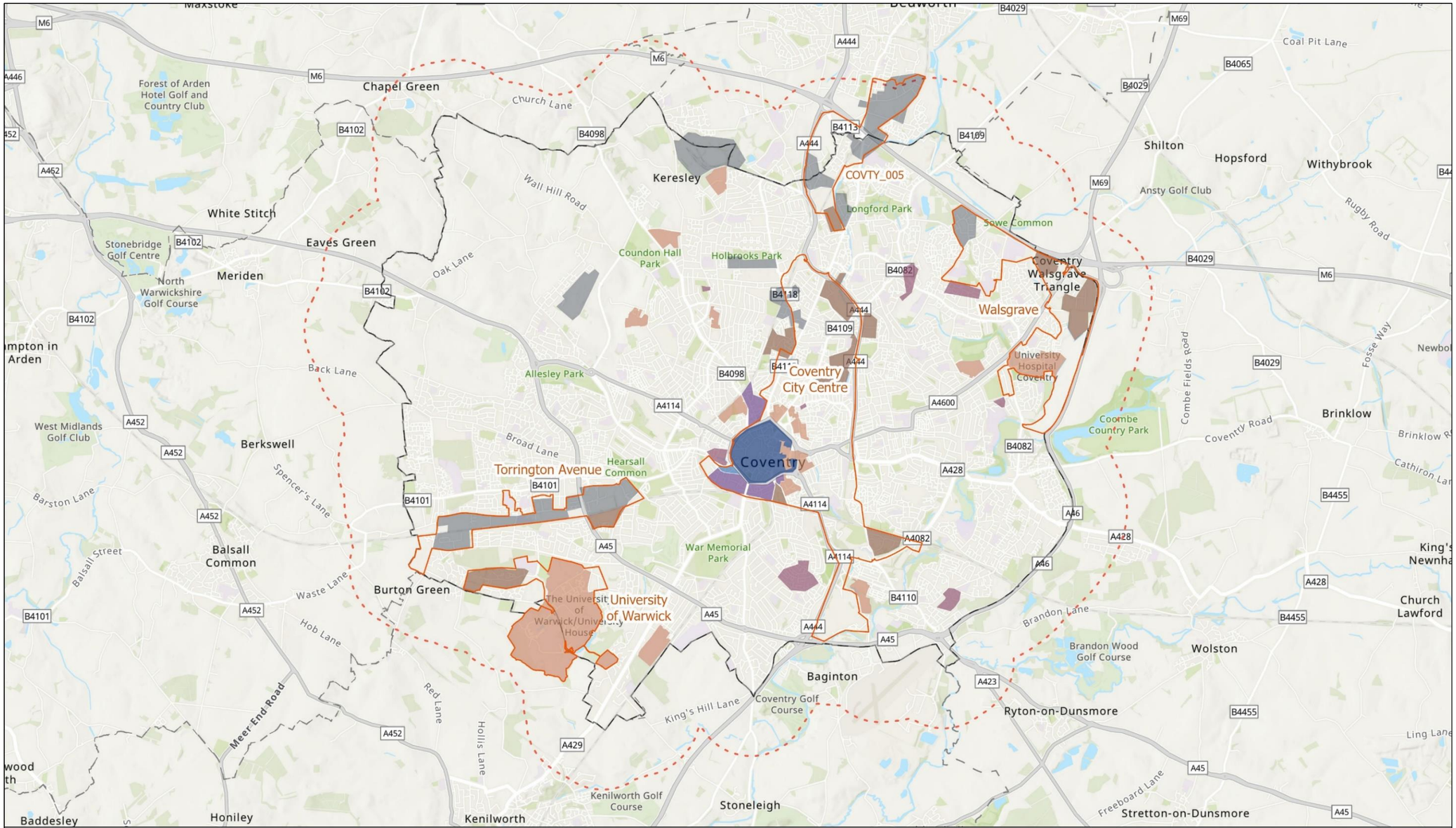
Appendix 1: Maps and Legends

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. Coventry Typology Map



B. Key Heat Demands

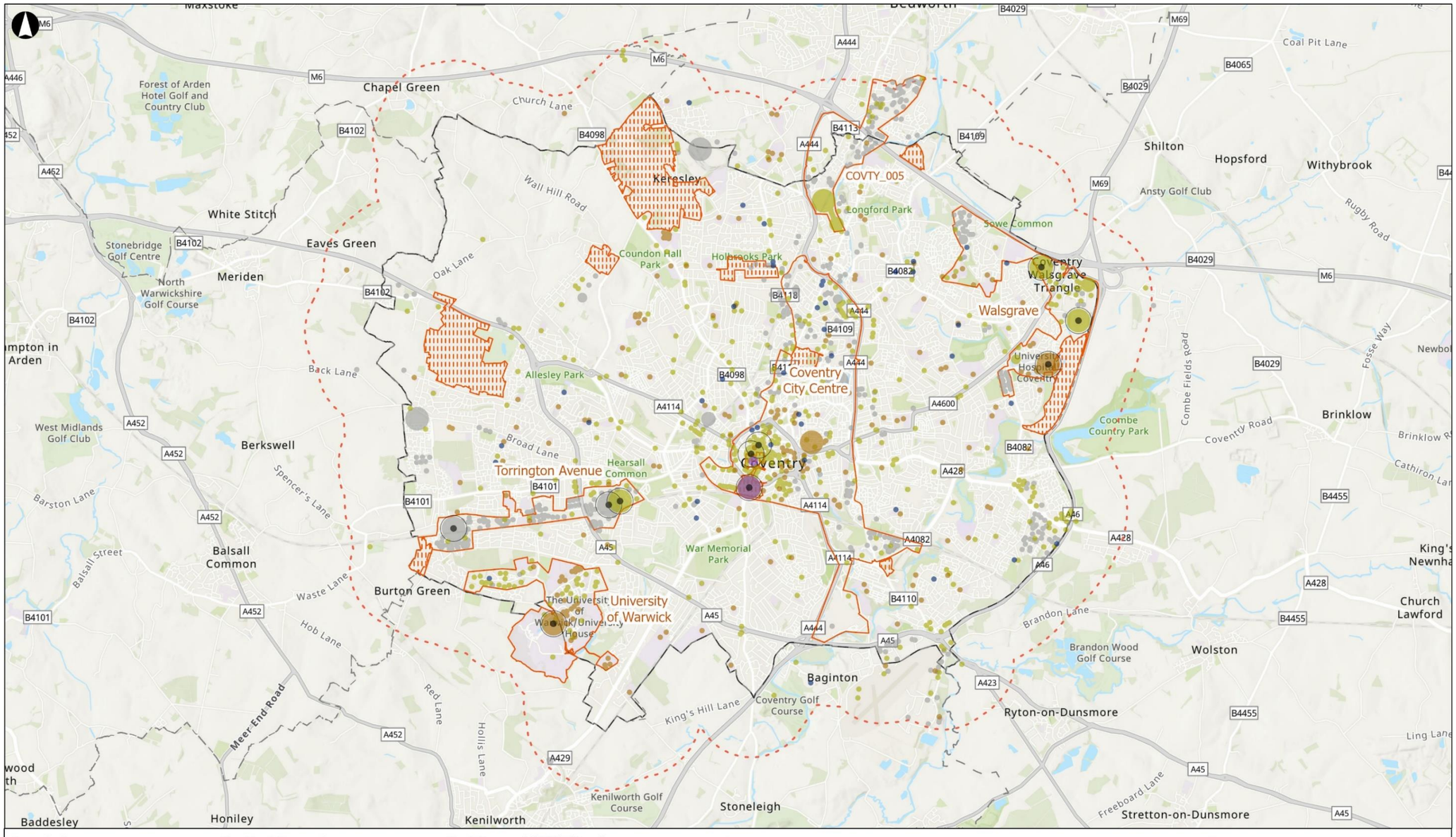
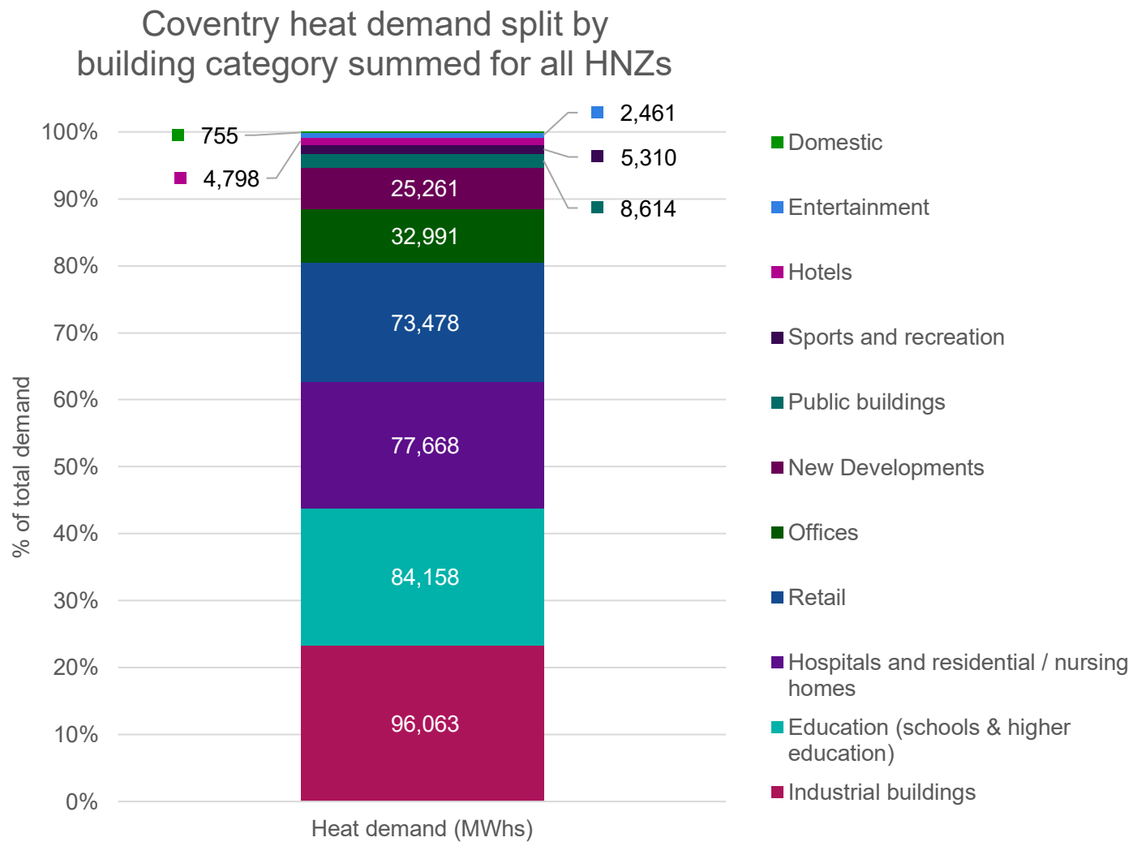


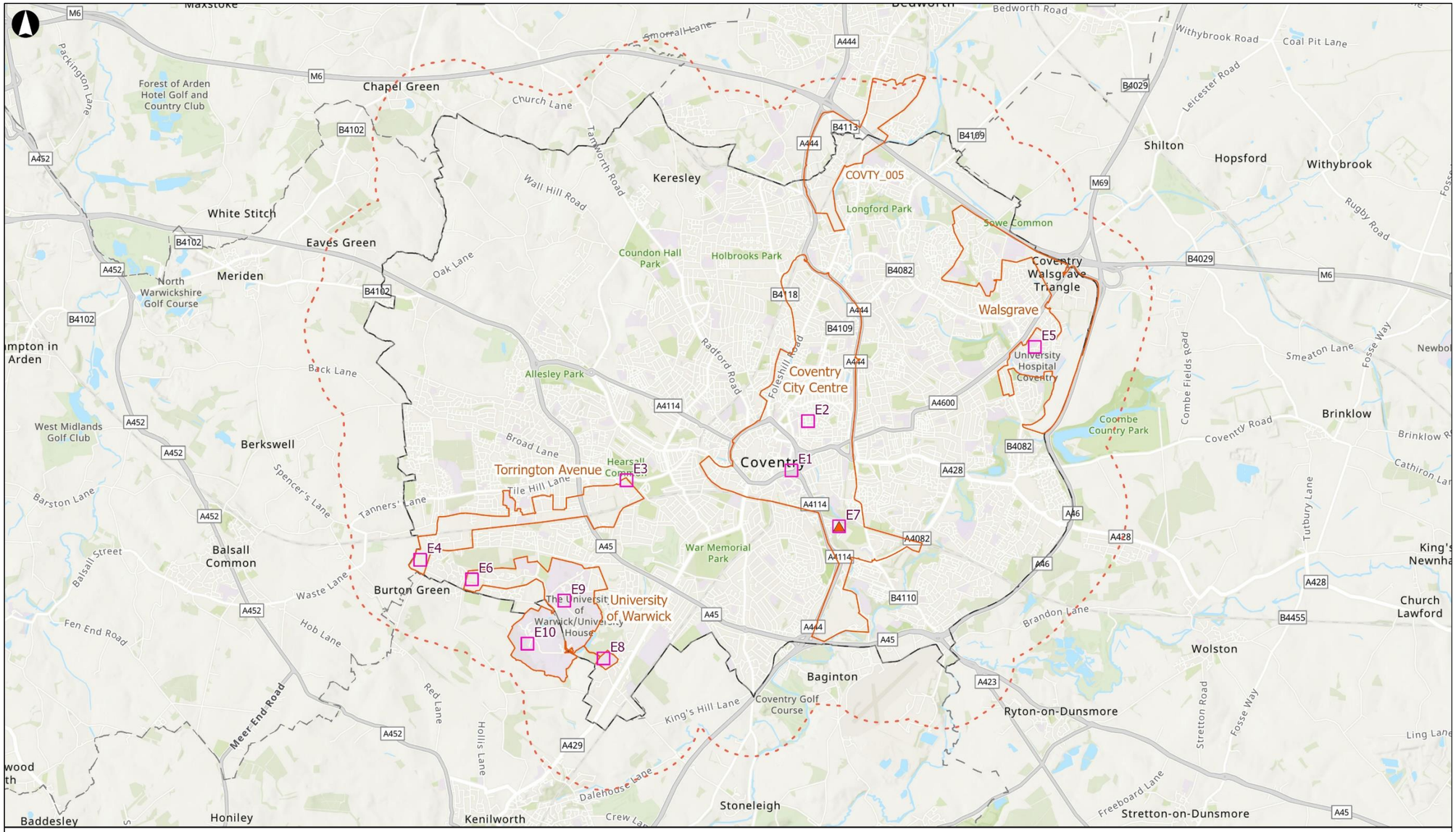
Table 22: Heat Demand split further by Building Categories across all Initial Zone Opportunities identified in Strategic HNZs in the Study Area

Building category	Number of buildings required to connect in this category	Annual Heat Demand of buildings required to connect across IZOs (MWh)
Industrial buildings	133	96,063
Education (schools & higher education)	52	84,158
Hospitals and residential/nursing homes	13	77,668
Retail	63	73,478
Offices	94	32,991
New developments	1,191	25,261
Public buildings	21	8,614
Sports and recreation	7	5,310
Hotels	7	4,798
Entertainment	4	2,461
Totals	**1,591**	**411,558**

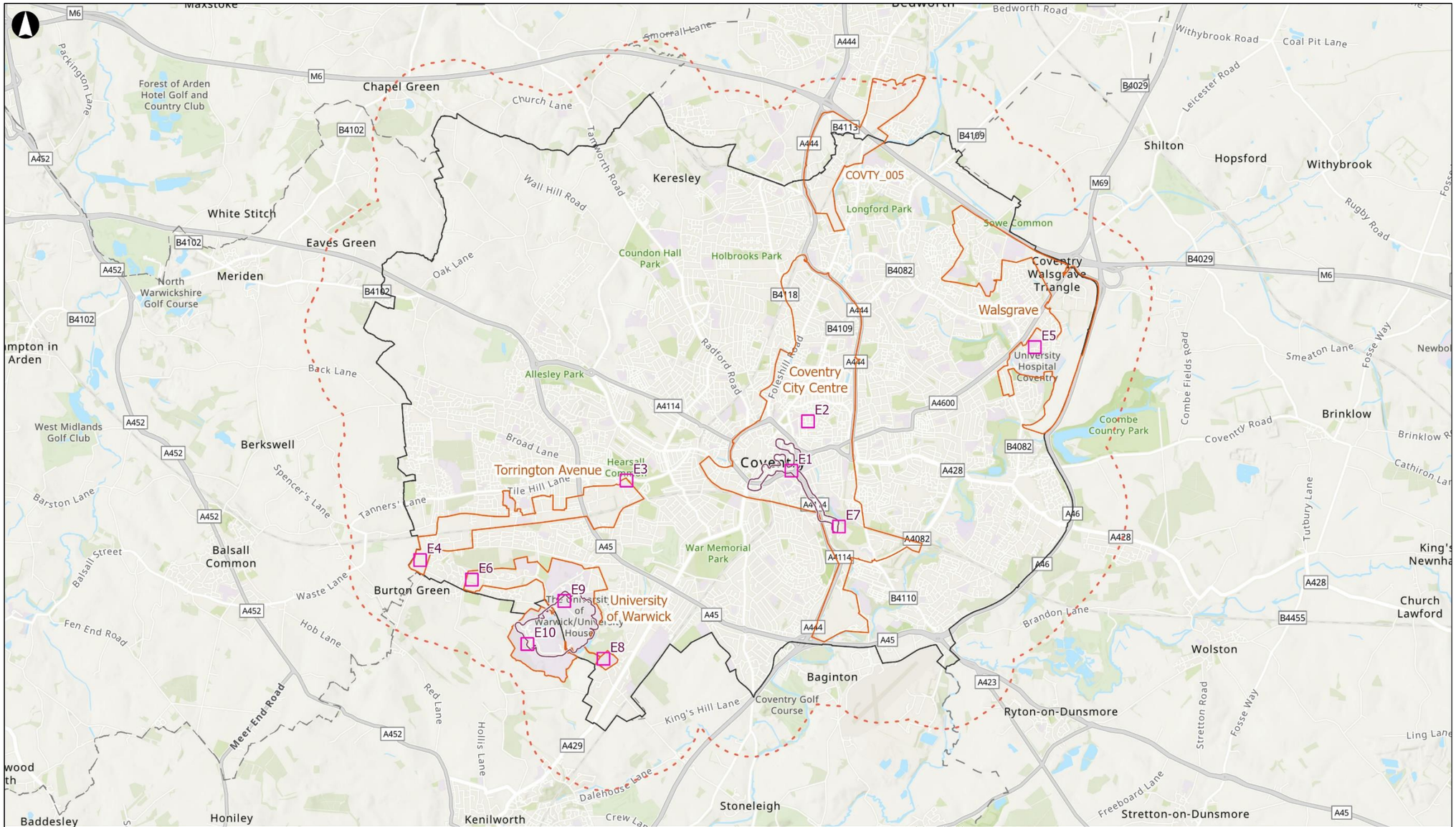


Note: In Coventry there are 5 HNZs with a total of 4 IZOs identified across them. The table and graph above summarise the heat demand for buildings required to connect to these IZOs.

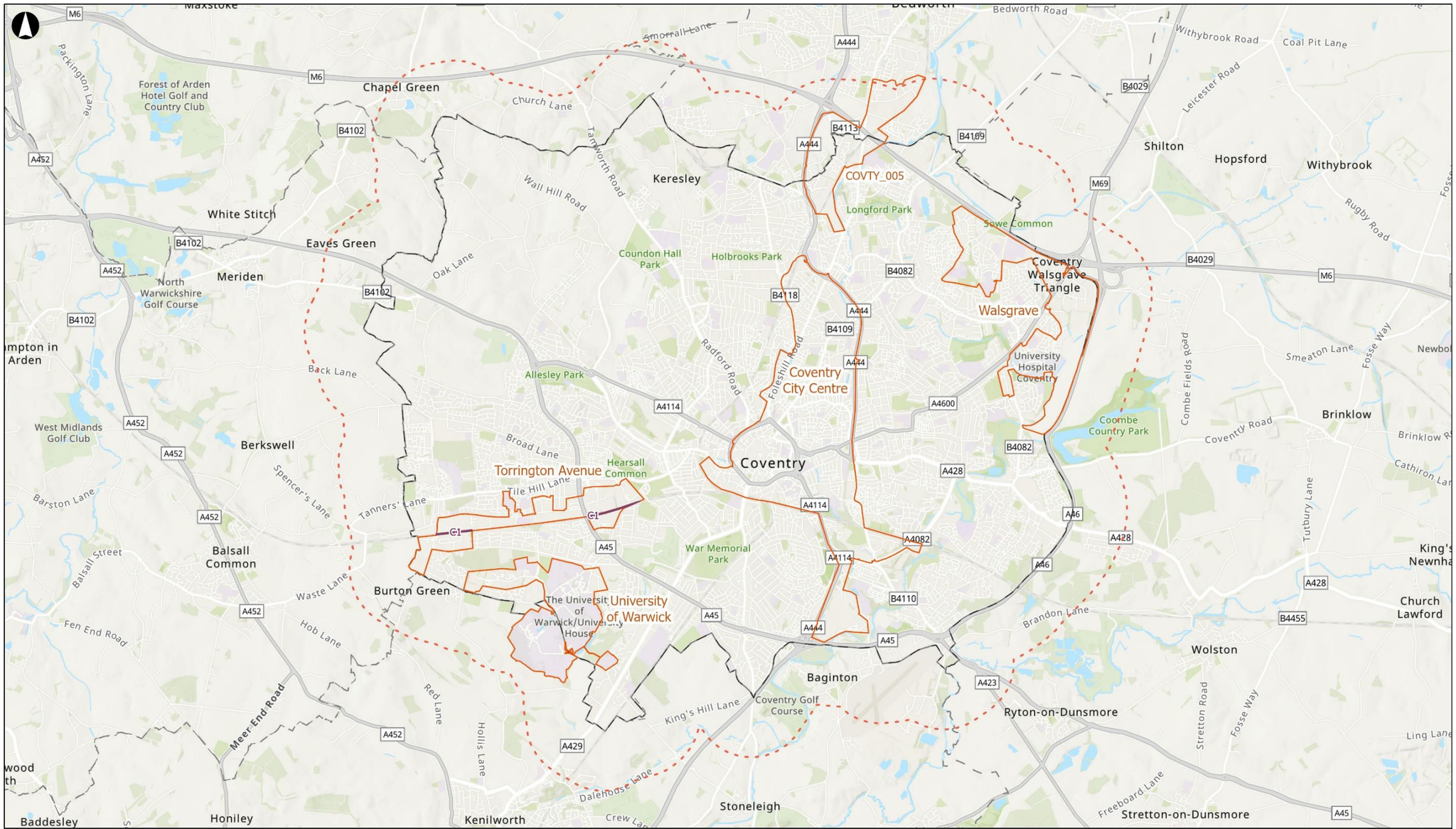
C. Key Heat Sources and Potential Energy Centres



D. Existing and planned heat networks



E. Physical constraints



Boundaries

- Study Boundary
- Local Authority Boundary
- Other Local Authority Boundary
- Heat Network Zones

Key Constraints

0 0.75 1.5 3
Kilometers

Scale: 1:65,500

Coordinate System: British National Grid

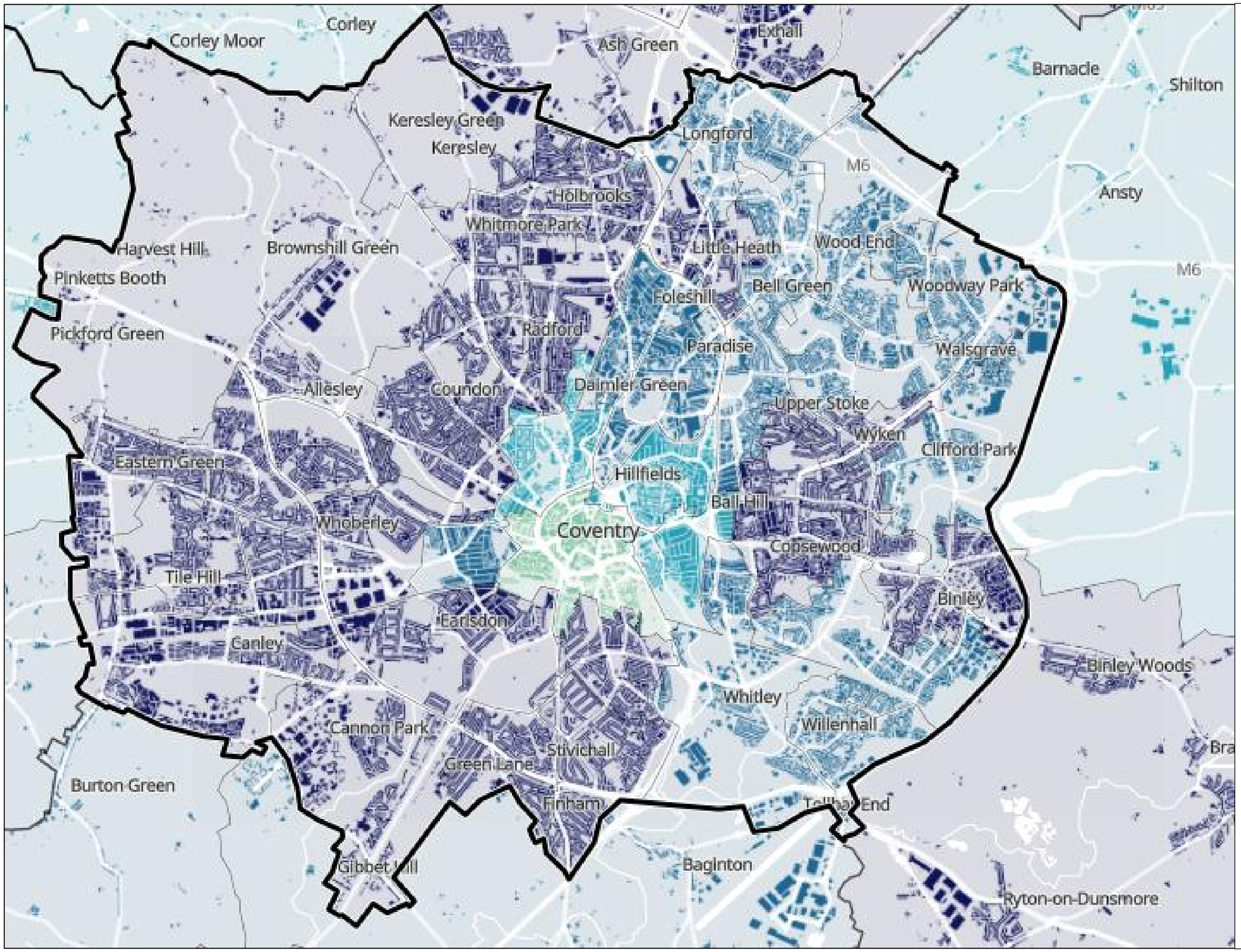
Department for Energy Security & Net Zero

Coventry

Map E

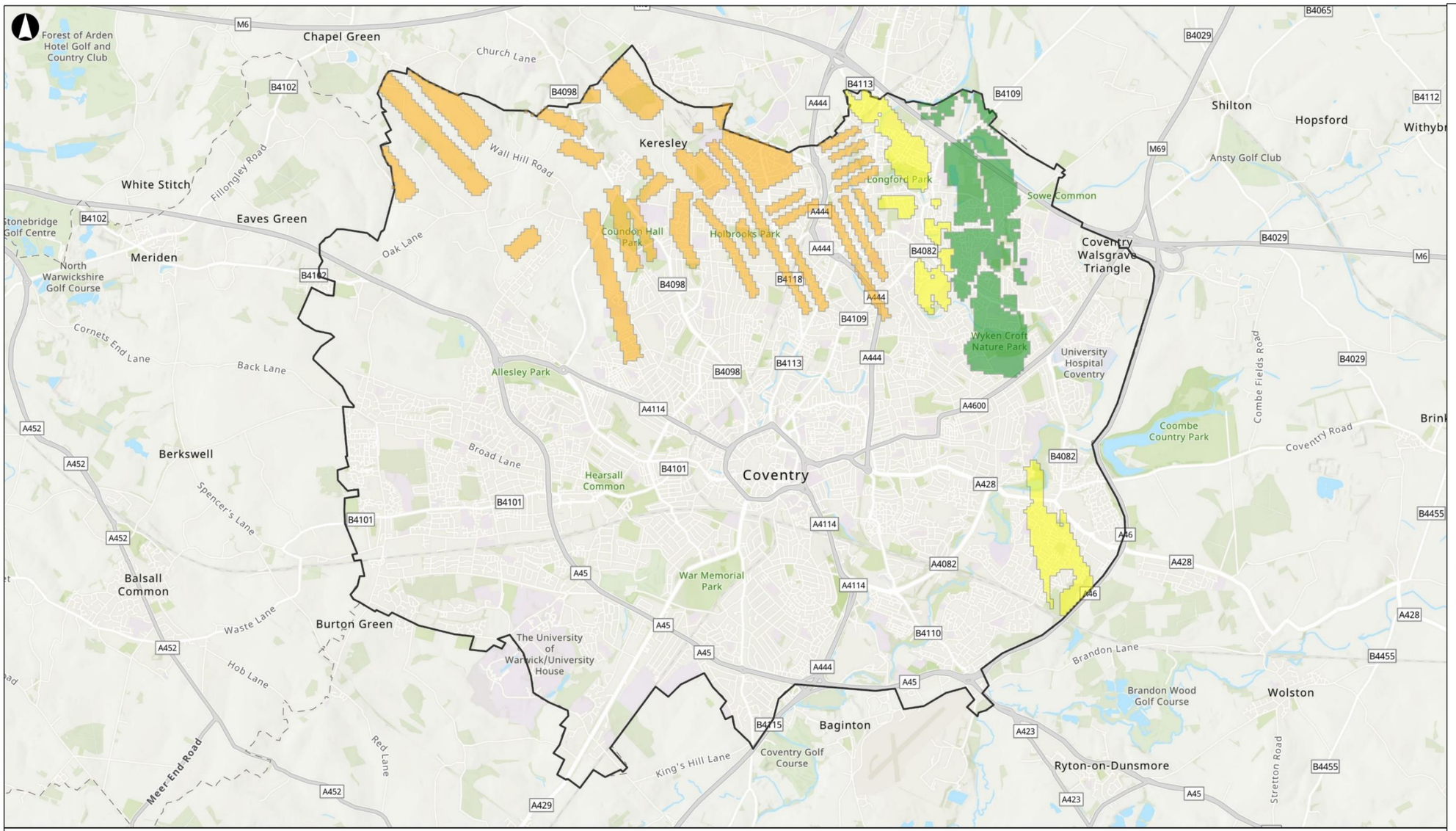
Physical Constraints

F. Off-Gas Grid areas in Coventry



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 Authority 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 several 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 23: Pilot Programme Standardised Information Resources

Information resource	Description of resource
Stakeholder Directory	Lists key stakeholders identified in collaboration with CCC. Provided stakeholders both within and external to the Council.
Stakeholder meetings log and records	Records of engagement with stakeholders, time spent on engagement and the results of these activities.
Datasets Directory	Summary of the key datasets used in the analysis.
Geospatial packages and related geo-coded datasets	Mapping information based on the results of engagement activities.

Table 24: Pilot Programme Study-Area-Specific Information Resources

Information resource	Description of resource
Bring Energy (formerly Equans)	Provided information on current heat network (Heatline) planned future connections and decarbonisation strategies.
HNDU (2020)	Coventry – Heat Network and Mapping and Masterplanning Study.
Innovate UK (2021)	Regional Energy System Operator (RESO) – Synthesis Report, Summary of Findings.
Demand Datasets	Information from various stakeholders on buildings and heat demand and heat sources.

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.