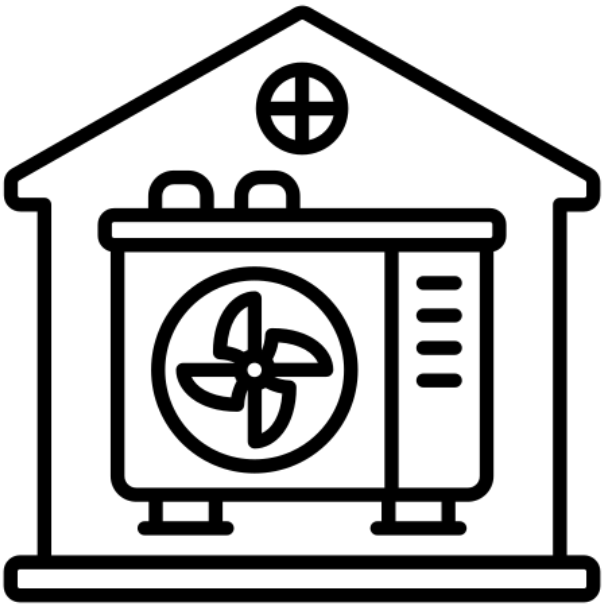
The City of Edinburgh Council

Edinburgh Local Heat and Energy Efficiency Strategy Delivery Plan: 2024 – 2028



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2. Introduction to the Delivery Plan

2.1. Overview of the Delivery Plan

2.1.1. This document, published by the City of Edinburgh Council, is the Delivery Plan for the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES). It should be read in conjunction with the Edinburgh LHEES itself.

2.1.2. The Delivery Plan sets out how the Edinburgh LHEES is to be implemented, with a focus on actions over the period 2024 to 2028, particularly "no regrets" / "low regrets" actions that are deliverable in the current policy context and given existing funding and powers.

2.1.3. The Delivery Plan has been prepared at a time of great flux, with a rapidly evolving regulatory climate and considerable uncertainty around the financial climate for delivery of the Edinburgh LHEES. Given this, the focus of the inaugural Delivery Plan has been drawn relatively tightly to focus on the actions that the Council has greatest influence over and where there is greatest certainty over funding. It is envisaged that future iterations of the Delivery Plan will have a wider focus as the context for delivery becomes clearer, subject to resources.

2.1.4. There are two key themes the Council has considered to guide the development of this Delivery Plan. These are intended to maximise the effectiveness of delivery:

- Lead with Council assets
    - The most deliverable projects, and those within the Council's direct responsibility, are its involving own buildings. This can be the most effective way to encourage and launch wider action across an area.
- Pragmatism and flexibility
    - The Council will continue to highlight to the Scottish Government the resource constraints facing the ambition. In the meantime, it will do its best to facilitate delivery with the modest existing resources.
    - The Edinburgh LHEES is a complex and multi-faceted strategy. It is also a novel approach. The Council will therefore prioritise the most urgent and important elements. It will also use this as an opportunity to learn and to prepare to scale-up action.

2.2. Role of the Delivery Plan

2.2.1. The role of the Delivery Plan is to help translate the opportunities identified in the Edinburgh LHEES into actions. As set out in the Edinburgh LHEES, there is not currently a comprehensive funding strategy for delivering the Edinburgh LHEES and in practice many of the prospective interventions are not deliverable at this time due to financial and other considerations. Accordingly, the Delivery Plan focuses on areas of greatest short-term opportunity.

2.2.2. The Delivery Plan is based on the foundations of existing activity and progress. The Council will continue to build on current and use these to spearhead further work, while also exploring ways in which it can link and expand these programmes, all of which are recognised as potential key contributors to the delivery of the Edinburgh LHEES. The Delivery Plan takes a programmatic approach to delivery where the Council has highlighted the aspiration to establish an "LHEES Office" providing various types of support to facilitate delivery, including bringing stakeholders together to align efforts.

2.2.3. The Delivery Plan outlines a potential pathway for upscaling activity, beginning with preparation and organisation, followed by a phase of learning and piloting approaches before activity can be scaled up with confidence as resources permit. This is also realistically aligned with supply chain capacity due to challenges to the delivery of large-scale schemes such as a lack of skilled workforce, but it can grow to support activity with time.

2.2.4. At the time of writing, no new funding has been made available for the delivery of the Edinburgh LHEES, other than an annual allocation of £75,000 (which it is envisaged will largely be utilised for overheads as well as for the preparation of the second iteration of the Edinburgh LHEES). Further, many of the existing key funding streams are not confirmed to continue beyond the end of the current parliamentary term in 2026. Additionally, at the time of writing, the Green Heat Finance Taskforce – charged with developing "a portfolio of innovative financial solutions for building owners in Scotland" – had not yet published any recommendations. The statutory timescales for the preparation of the Edinburgh LHEES and Delivery Plan also preclude alignment with the Council's budgetary process. As a result, actions set out in the Delivery Plan are restricted to areas where there is greatest certainty over funding. However, the Delivery Plan identifies where additional activity could be taken forward should the appropriate resources and powers be made available to the Council.

2.2.5. The actions in the Delivery Plan overlap to some degree with those set out in the Council's 2030 Climate Strategy. However, the Climate Strategy has a wider and more strategic focus, whereas the Delivery Plan focuses on actions concerning heat decarbonisation and energy efficiency that are judged to be able to be taken forward during the Delivery Plan period.

2.3. Content of the Delivery Plan

2.3.1. The Delivery Plan sets out a proposed programmatic approach to implementing the Edinburgh LHEES. It outlines the concept of an "LHEES Office" – a dedicated project management office – as the vehicle for coordinating delivery.

2.3.2. The Delivery Plan draws together a portfolio of projects in Edinburgh across the themes of heat decarbonisation and energy efficiency that the Council considers are capable of being delivered, or at least progressed, over the period 2024 to 2028. Given the limited budget available for the delivery of the Edinburgh LHEES at this time, coupled with the still evolving regulatory regime, new projects are restricted to those where there is greatest certainty around the ability to progress them in the current context.

2.3.3. The Delivery Plan sets out Delivery Areas: areas that are proposed to be the focus of interventions. These interventions, and the related Delivery Areas, are aligned to three thematic areas aligned to the two main national priorities of net zero and fuel poverty: improving energy efficiency in areas with the greatest risk of fuel poverty; piloting works to heat pump-ready homes; and rolling-out heat networks across Edinburgh.

2.3.4. The Delivery Plan also identifies the funding resources that are judged to be relevant to the delivery, albeit while noting that these are not regarded as being adequate to support the scale of interventions required, and while noting the limitations of a grant funding approach.

2.4. Future of the Delivery Plan

2.4.1. The Delivery Plan covers the period 2024 to 2028 in line with the statutory timescales set out in The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022. However, it is recognised that, given the ongoing flux in terms of policies and regulations around energy

efficiency and heat decarbonisation, coupled with uncertainty about the longer-term funding landscape, updates to the Delivery Plan will likely be required prior to 2028.

- **ACTION 01: Update and revise the Delivery Plan as required.**

2.4.2. The Edinburgh LHEES and Delivery Plan have initially been published as static documents. However, the scope for (and benefits of) displaying the maps and outputs in a more interactive fashion, for example utilising GIS or StoryMaps, is recognised.

- **ACTION 02: Publish the outputs from the Edinburgh LHEES and Delivery Plan in a map-based format.**
- **ACTION 03: Integrate data from the Edinburgh LHEES with other Council datasets.**

2.4.3. In line with the statutory timescales set out in The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022, a second iteration of the Edinburgh LHEES and the Delivery Plan will require to be formally published within five years of the first iteration.

- **ACTION 04: Publish a second iteration of the Edinburgh LHEES and the Delivery Plan by the statutory deadline of December 2028.**

3. Delivery mechanism

3.1. A programmatic approach

3.1.1. For the Edinburgh LHEES to be delivered, the Council's aspiration is to develop an "LHEES Office": a well-equipped and well-resourced programme management office. As a priority, the Council will seek support from the Scottish Government to enable the full establishment of an LHEES Office. Without support, much of the ambition around the Edinburgh LHEES will remain aspirational with the Council only able to take on limited additional activity.

3.1.2. The LHEES Office is envisaged as overseeing further analysis, planning, and implementation of projects in Delivery Areas and Heat Network Zones. It will leverage the expertise of multiple Council service areas and external stakeholders to deliver holistic area-based interventions, supporting property owners to incentivise and encourage retrofit.

3.1.3. At present, the Council has appointed an Energy Officer dedicated to taking forward the Edinburgh LHEES and Delivery Plan. This officer will administer the £75,000 of annual funding committed from the Scottish Government until 2027/28. At present, this capacity and resource represents the entirety of the LHEES Office (potentially supplemented by the work of other Council officers and a modest financial contribution from existing Council budgets). However, coordinating the delivery of a programme of the scale in question will require significant additional capacity in terms of dedicated personnel and budget.

3.1.4. The below sections set out the Council's vision for how the LHEES Office would optimally be set-up and how it would operate. Again, it is noted that, without the necessary resources, the capacity of the LHEES Office will be greatly reduced.

- **ACTION 05: Establish an LHEES Office on a skeleton basis.**
- **ACTION 06: Engage with the Scottish Government around the case for revenue funding for the full establishment of an LHEES Office.**

Operating model

3.1.5. The LHEES Office will require an appropriate operating model to enable operational efficiency and capability to delivery.

3.1.6. The Council will establish a clear cross-service operating model with the roles and responsibilities of officers within the LHEES Office, as well as those who will collaborate with the LHEES Office. This includes reporting, governance, working arrangements, and cross-programme relationships.

3.1.7. The LHEES Office will lead on the delivery of the Edinburgh LHEES as resources permit. It will also manage and refresh the datasets and plans underpinning the Edinburgh LHEES.

3.1.8. Overall responsibility for the delivery of the Edinburgh LHEES will rest with a member of the Council's senior management team, ultimately falling within the remit of the Council's Policy and Sustainability Committee which will agree progress reporting cadence and content.

- **ACTION 07: Develop appropriate governance structures for the delivery, monitoring, and evaluation of the Edinburgh LHEES and Delivery Plan.**
- **ACTION 08: Assess the potential role of Energy for Edinburgh Limited – the Council's energy services company – as part of the LHEES Office.**

Stakeholder engagement and communication

3.1.9. The Edinburgh LHEES identifies key stakeholders relevant to delivery. The LHEES Office will develop this into a stakeholder engagement programme which entails the following:

- Keeping the stakeholder mapping work updated.
- Establishing clear working relationships with key external stakeholders, including putting in place memoranda of understanding, data sharing agreements, and other protocols where required.
- In particular, the Council will seek to strengthen its links with SP Energy Networks in relation to the Edinburgh LHEES delivery. This will involve further engagement and planning in relation to the Delivery Areas and Heat Network Zones. The Council will aim to both positively influence decisions taken by SP Energy Networks while amending the Delivery Plan to reflect constraints highlighted by SP Energy Networks.
- Developing a stakeholder engagement plan with reference to the relevant Delivery Areas and/or Heat Network Zones.

3.1.10. The ambition of the LHEES Office is to enable all relevant stakeholders to be involved in the delivery of the Edinburgh LHEES and promote the achievement of its targets. The stakeholder engagement initiative will aim to establish a two-way communication channel to promotes active involvement of stakeholders.

3.1.11. Concepts such as heat pumps, heat networks, and building retrofit are not always well understood by people not involved in these spheres. To gain buy-in from residents and organisations, consistent, simple, and factual messaging about topics surrounding the Edinburgh LHEES is essential. The LHEES Office will be well-placed to deliver a communications programme at area-wide and city-wide levels to raises awareness of the topics, educate about options and actions, and encourage action.

- **ACTION 09: Maintain an up-to-date register of key stakeholders.**
- **ACTION 10: Establish and/or develop relationships with key stakeholders.**
- **ACTION 11: Develop a stakeholder engagement plan.**
- **ACTION 12: Develop proposals for communications activity around the Edinburgh LHEES.**

Procurement and supply chain

3.1.12. One of the main barriers to the delivery of the Edinburgh LHEES is the shortage of suppliers with the necessary skills, for example tradespersons qualified to install and maintain heat pumps. This issue is faced by most types of projects across tenures and building types. Resolving this will require concerted national action. However, the Council can play a supportive role, including delivering training, re-skilling, and apprenticeship schemes and supporting consumer confidence via schemes such as Trusted Traders. There may also be scope for the Council to develop demand aggregation programmes which allow property owners to procure high-quality and standard-driven work at a more competitive price. Taking action in this area will not only aid in delivering the Edinburgh LHEES, but will also stimulate the local economy via job creation, upskilling, and the emergence of new sectors.

- **ACTION 13: Produce a People Strategy and Strategic Workforce Plan to support the recruitment, retention, and development/training of staff for delivery of retrofit works.**
- **ACTION 14: Conduct an audit of the market in Edinburgh in terms of heat pump installers.**
- **ACTION 15: Engage with Scottish Enterprise around the scope to stage "meet the buyer" events to stimulate the supply chain for zero direct emissions heating solutions.**
- **ACTION 16: Assess the scope to pilot demand aggregation schemes for retrofit works.**

Funding and investment

3.1.13. Existing interventions around energy efficiency are heavily focused on areas of need, e.g. low income households at risk of fuel poverty. These households can in many cases access extensive grant funding. However, available pots of grant funding will not be capable of funding retrofit works to all homes in Edinburgh in the timescales in question. It is anticipated that delivering these will require developing new financial models, likely entailing upfront funding of works by institutional funders with repayment being made from savings on heating bills.

3.1.14. The current finance landscape limits property owners' options and is not convenient. Financing a retrofit is still significantly more complex than many other similarly priced endeavour (e.g. financing a car) and can often be more complicated than securing a mortgage. This is due to many issues, including the structure and application processes of existing grant and loan schemes and a lack of well-designed private finance products, e.g. Heat as a Service (HaaS) / Comfort as a Service (CaasS) and other innovative models that have proven successful elsewhere in the world. It is anticipated that the outputs of the Green Heat Finance Taskforce will inform the development of these models that address these challenges. However, the Council also recognises there might be a role it can play to better facilitate finance access for property owners. For example, the Council may hold forums with private investors to help them shape and target their products based on the focus of the Edinburgh LHEES. The Council will invite engagement from potential investors to generate interest. In time, the Council will aim to present investible heat network opportunities into the market. It is not yet clear what model or shape these will take, but this clarity will be provided to develop certainty and investor confidence in the market.

- **ACTION 17: Maintain a watching brief on the outputs of the Green Heat Finance Taskforce.**
- **ACTION 18: Engage with financial providers with a presence in Edinburgh to better understand their products with respect to retrofit and energy efficiency, for example green mortgages.**[1]
- **ACTION 19: Engage with potential investors to help them understand the nature and scale of opportunity associated with the Edinburgh LHEES.**

[1] Preferential mortgage terms offered on homes with greater energy efficiency.

- **ACTION 20: Engage with Home Energy Scotland, Business Energy Scotland, and Local Energy Scotland to identify opportunities to jointly increase awareness in Edinburgh of the advice and resources these services can offer.**

3.1.15. For the Council itself, a key challenge is that much of the funding available to it is available on a grant funding basis. While welcome, these pots of money are generally time bound and ring fenced, and require significant work in terms of applications. This is not conducive to a programme approach to delivering the Edinburgh LHEES. Accordingly, the Council would wish to explore a move away from pots of grant funding towards an approach that provides the Council with greater certainty over long-term income streams, potentially on a contractual basis with the Council entering into a long-term funding agreement with the Scottish Government that would enable it to draw down funding on the basis of agreed results.[2]

- **ACTION 21: Engage with the Scottish Government around the scope to migrate capital funding for Council projects away from grants towards a contractual model providing greater certainty.**

3.2. Heat network delivery programme

Approach to heat network delivery

3.2.1. Supporting the delivery of an Edinburgh-wide heat network (or "network of networks") is a major ambition which will require significant ongoing resource, including technical skills the Council currently does not have, or only has to a limited degree. To achieve this ambition, it is envisaged that the LHEES Office would require officers who have skills and experience matching the complexity and scale of the undertaking. Developing a heat network is a major infrastructure investment, and delivering a city-wide heat network is akin to delivering a new city-wide transportation or utility system.

3.2.2. It is noted that the development of the Granton Waterfront heat network project – the most advanced of the heat network projects the Council is currently involved with – has taken several years, necessitated significant time inputs from six Council officers, and entailed approximately £300,000 of expenditure on technical and feasibility studies, design works, and business cases. While in the case of the Granton Waterfront heat network project these inputs have largely been able to be met from the resources of the wider Granton Waterfront programme team, it will not be possible to replicate this approach for all other Heat Network Zones identified in the Delivery Plan. Further, it is noted that the Granton Waterfront heat network is being delivered using a concession model; an alternative model wherein the Council played a more direct role would have still higher costs.

3.2.3. The LHEES Office will approach the heat network delivery programme in two phases.

Phase 1: Heat network delivery framework

3.2.4. The first phase will involve the development of a detailed framework for the heat network delivery programme, taking forward the work of the Edinburgh LHEES and this Delivery Plan. The purpose will be to establish a long-term plan and approach for rolling out heat networks. This will inform the set-up of the programme by addressing the following:

- An options appraisal of delivery models and vehicles for supporting the roll-out of heat networks in Edinburgh.

[2] The Green Growth Accelerator is considered to be an interesting model in this respect.

- A feasibility review of the prospective Heat Network Zones identified in the Edinburgh LHEES using a transparent and effective appraisal:
    - Gathering real-world consumption data via engagement with heat off-takers and anchor load operators.
    - Establishing a real picture of heat supply profile by engaging with waste heat site operators, Scottish Water Horizons, The Coal Authority, and other suppliers.
    - Accounting for electricity grid upgrades and location of energy centres.
    - Projecting future energy demand profiles, in particular vis-à-vis anchor loads.
    - Thoroughly assessing all constraints on the Heat Network Zone.
    - Develop an overall view of the investment proposition.
- Using the information gathered via the preceding points, refine the prospective Heat Network Zones into final Heat Network Zones, ensuring a balanced distribution of risk and opportunity.
- Develop a customer charter covering all heat networks in Edinburgh that outlines a set of principles that any customer in Edinburgh connected to a heat network should be able to expect.
- **ACTION 22: Develop the heat network delivery framework as resources permit.**

Phase 2: Heat network delivery programme

3.2.5. The second phase will involve the set-up of the heat network delivery programme as per the recommendations of the framework. However, there are some aspects of the programme which can be considered without the masterplan. It is proposed the heat network delivery programme will see the LHEES Office:

- Lead on all policies relating to heat networks.
- Establish close working relationships with various Council services to support heat network delivery or connections (e.g. Planning, Housing, Operational Property, etc).
- Establish relationships with external stakeholders (in particular the Heat Network Support Unit, SP Energy Networks, and registered social landlords) to gain and/or provide the appropriate support.
- Lead on the ambition to roll-out the Edinburgh-wide heat network according to the delivery model outlined in the masterplan, and promote and monitor the delivery of heat networks in Edinburgh.
- Seek to ensure proper execution and delivery of heat networks, such as the enforcement of the customer charter developed as part of the masterplan.
- Work to embed the delivery of heat networks with other initiatives within the wider Edinburgh LHEES programme.
- Act as a neutral liaison between heat suppliers and heat off-takers.
- Fulfilling the Council's responsibilities as set out in the Heat Network (Scotland) Act 2021, including:
    - The overall regulatory compliance function (where it has been delegated from the Scottish Government).

        - Managing the lodgement of Building Assessment Reports, and using these to feed into heat network delivery.
        - Supporting the formal designation of Heat Network Zones.
        - Administering the consenting regime for heat networks.
    - Initiate and deliver, or support, pre-capital feasibility studies, outline business cases, and commercialisation activities for each Heat Network Zone to de-risk and attract investment.

3.2.6. It is reiterated that the above will largely not be possible without significant additional resources.

- **ACTION 23: Develop the heat network delivery programme as resources permit.**

4. Portfolio of projects

4.1. Approach to projects

4.1.1. This section of the Delivery Plan introduces a portfolio of projects that could potentially be delivered, or at least initiated/progressed, during the Delivery Plan period (2024 to 2028), subject to the necessary resources and powers being available.

4.1.2. The Delivery Plan has identified eight Delivery Areas on the theme of energy efficiency; 10 Delivery Areas on the theme of transition to heat pumps; and a further 17 prospective Heat Network Zones: a total of 35 Delivery Areas and Heat Network Zones, each representing an existing or potential project.

4.2. Background to Delivery Areas (and Heat Network Zones)

4.2.1. The Council has identified three forms of Delivery Area (and Heat Network Zone):

- Areas targeting households in high level of fuel poverty and the 20% most deprived areas as per the Scottish Index of Multiple Deprivation. These are the areas of greatest need in terms of fuel poverty/deprivation, and so are a natural area to focus interventions aimed at improving energy efficiency (and thus reducing heating costs). These Delivery Areas could form the basis of retrofits to the Council's own housing stock, delivery of the Mixed Tenure Improvement Service, the delivery of Area-Based Schemes, and other measures.
- Areas with the largest numbers of homes (both on-gas grid and off-gas grid) that that are "heat pump ready". These areas represent potential "quick wins" in terms of heat decarbonisation and potential launchpads to build further momentum. These Delivery Areas could form the basis of retrofits to the Council's own housing stock and support for other owners to install heat pumps.[3]
- Prospective Heat Network Zones: these are the areas of Edinburgh identified as having greatest potential for the development of heat networks.[4]

[3] The category 1 'heat pump ready' delivery areas were developed GIS techniques to generate potential areas by using the same indicators and weightings used in the development of outputs in the Edinburgh LHEES. The databases used to generate the maps are Home Analytics, Non-Domestic Analytics, and the Address Gazetteer data, depending on the type of property (domestic, non-domestic, mixed use). This consisted of using the postcode level domestic database (Home Analytics) property counts to generate heat maps. The maps are generated by using the property counts to create a continuous 100 metre × 100 metre grid defining areas of high density of different properties. Zones of high concentration were defined by using a 2× standard deviation method. This means that, when a value falls outside 2× the standard deviation of a cluster, the boundary is defined at the limit of that grid cell.

[4] An initial range of potential Heat Network Zones was identified using linear heat density and the radii-buffering approach. A filter was then applied to identify zones with a threshold number of anchor loads to indicate likely heat network viability. Drawing from these prioritised potential zones, the appropriate scale of zones was defined manually using different criteria such as the characteristic of the area (dense urban, urban, suburban). Thereafter, development proposals, planned heat networks, and constraints in parallel with stakeholder engagement were used to refine the selected prioritised zones; this information was used to combine zones, expand the boundaries of zones to account for opportunities in near proximity, or split zones where the development of a single heat network was deemed technically difficult. Finally, the zones were divided with the aim of creating zones with common characteristics based on knowledge of the local area and building typology. These form the prospective Heat Network Zones.

4.2.2. The Delivery Areas were developed in consultation with the Council's Housing & Homelessness service which already manages a substantial programme of social housing retrofits, Mixed Tenure Improvement Service retrofits, and Area-Based Schemes.

4.2.3. It is expected that the Delivery Areas will continue to undergo an iterative process which updates them on an ongoing basis, reflecting shifting priorities and policies, ongoing stakeholder engagement, new local knowledge and changing scope of possibilities. Any adjustments to the Delivery Areas will be addressed within the aforementioned updates to the Delivery Plan.

4.2.4. An overview plan of the 35 Delivery Areas and Heat Network Zones is set out in section 5.1. It is noted that there is some overlap between the Heat Network Zones and the heat pump Delivery Areas, i.e. in the locations in question both heat networks and heat pumps are identified as potential solutions. In these situations, decisions will be needed on a case-by-case basis as to which is the optimal solution. Under the fifth generation heat network model, homes with exiting heat pumps could potentially be integrated into heat networks as "prosumers": both supplying and consuming heat to/from the heat network.

4.3. Energy efficiency Delivery Areas

4.3.1. The eight Delivery Areas on the theme of energy efficiency (in relation to fuel poverty) are summarised in the below table, which sets out the number of homes within each Delivery Area, the average cost of the retrofit works, and the savings these works could be expected to deliver in terms of both heating bills (via reduced usage) and CO_2 emissions.

4.3.2. It is noted that these costs are based on the Energy Saving Trust's Portfolio Energy Analysis Tool (PEAT) in line with the LHEES Methodology. The Council's experience is that actual costs are likely to be significantly higher, suggesting the PEAT cost data may not be robust.

Table 01: Energy efficiency Delivery Areas

#	Name	Homes	Average retrofit cost	Average annual bill savings	Average annual CO_2 savings (kg)
01	Restalrig & Lochend	2,147	£8,389	£293.03	730.38
02	Bingham & Magdalene	1,575	£13,000	£327.04	1,510
03	Restalrig & Craigentinny	810	£5,557	£221.45	546.73
04	The Calders	1,456	£5,319	£206.25	415.94
05	Granton, Wardieburn & Royston	2,041	£5,028	£169.27	415.4
06	Niddrie & Craigmillar	3,005	£8,113	£195.75	821.55
07	Clovenstone & Wester Hailes	1,393	£6,862	£180.30	611.38
08	Muirhouse	2,427	£7,439	£245.24	668.94

4.3.3. A cursory comparison of the bill savings with the retrofit costs indicates that the interventions will not pay for themselves, and therefore these interventions would likely require to be partly or wholly subsidised.

4.3.4. The Council currently has three interrelated programmes for improving the energy efficiency of homes in Edinburgh:

- The Whole House Retrofit (WHR) programme of works to the Council's own high-rise housing estate, aimed at bringing homes in line with the Energy Efficiency Standard for Social Housing (EESSH2) via a fabric-first approach.
- The Area-Based Scheme (ABS) programme of works to mixed tenure blocks including private homes at risk of fuel poverty.
- The Mixed Tenure Improvement Service (MTIS) pilot programme of area-based works to low-rise blocks containing a mix of Council-owned and privately-owned homes.

4.3.5. The eight energy efficiency Delivery Areas are proposed to be areas of focus for interventions under the above programmes over the course of the Delivery Plan period, utilising existing Council resources as well as external funding opportunities such as the Social Housing Net Zero Heat Fund. The Delivery Areas include multiple datazones ranked in the 10% most deprived as of the 2020 Scottish Index of Multiple Deprivation (SIMD). Council ownership of homes within the Delivery Areas ranges from 21% to 56%, meaning the Council will require to work closely with owner-occupiers, private landlords, and housing associations to plan and deliver the interventions.

- **ACTION 24: Identify and progress retrofit projects for the energy efficiency Delivery Areas.**
- **ACTION 25: Produce a Retrofitting Strategy to steer the retrofit of the Council's housing estate.**
- **ACTION 26: Make the case to Scottish Government for additional resources to support the WHR programme, MTIS programme, and other retrofit works.**
- **ACTION 27: Maintain a watching brief on the EESSH2 review.**

4.4. Heat pump Delivery Areas

4.4.1. The eight Delivery Areas on the theme of heat pumps (as a route to heat decarbonisation) are summarised in the below table. The table sets out the number of homes within each Delivery Area, the average cost of the retrofit works, and the projected savings these works could be expected to deliver in terms of both heating bills (via reduced usage) and CO_2 emissions.

Table 02: Heat pump Delivery Areas

#	Name	Homes	Average retrofit cost	Average annual bill savings	Average annual CO_2 savings (kg)
09	Lochend Butterfly Way	971	£631	£17.10	67.26
10	Waterfront Park	752	£915	£16.07	88.73
11	Robertson Avenue	685	£2,204	£44.19	129.9
12	Fountainbridge	684	£804	£17.73	45.68
13	Oxgangs Avenue	668	£4,622	£120.43	409.64
14	West Pilton Grove	106	£4,337	£223.55	244.86
15	Craigour Place	86	£4,300	£212.71	234.12
16	Elgin Street	79	£3,794	£134.25	147.52

#	Name	Homes	Average retrofit cost	Average annual bill savings	Average annual CO_2 savings (kg)
17	Morrison Crescent	73	£4,086	£149.89	149.48
18	Craighouse Gardens	69	£4,042	£193.54	196.13

4.4.2. The 10 above areas represent clusters of homes with the greatest potential to migrate to heat pumps, as the homes in question are generally well suited to heat pumps with limited retrofit required.

4.4.3. The scope for interventions in these 10 Delivery Areas at this time is less clear than in the prior eight Delivery Areas. The Council does not consider that the conditions to support a large-scale roll out of heat pumps in Edinburgh are in place at this time. Challenges include:

- The existing electricity price regime, which in many cases makes heat pumps unattractive relative to gas from a running cost perspective.
- The ability of households to continue to choose gas boilers (with the most recent date quoted for a ban on the installation of replacement boilers being 2035).
- Limited capacity in the market for the supply, installation, and maintenance of heat pumps.
- Pressures on the electricity grid.
- The need for extensive retrofit to many properties to make heat pumps a functional solution, including the need to put in place a hot water solution.
- A general lack of awareness of heat pumps amongst residents.

4.4.4. Notwithstanding the above, there may be scope to take forward pilot / demonstrator projects in the Delivery Areas aimed at developing a workable model for rolling-out heat pump retrofit whilst raising awareness and interest. A key consideration will be the ability of the electricity grid to accommodate the heat pumps.

- **ACTION 28: Assess the scale of any upgrades required for the electricity grid to be able to accommodate heat pumps in the Delivery Areas.**
- **ACTION 29: Assess the scope to offset the running costs of heat pumps within the Delivery Areas via the installation of solar panels.**

4.4.5. For homes in Council ownership, the Council is well placed to carry out interventions, and resources such as the Social Housing Net Zero Heat Fund would help offset the capital costs of these. However, consideration would need to be given to disruption to tenants, impacts on heating bills, and the working life of the existing heating solution.

- **ACTION 30: Assess the scope for heat pump retrofit pilot projects on Council-owned homes within the Delivery Areas.**

4.4.6. For homes not in Council ownership, the ability of the Council to act is extremely limited. The Council cannot compel other property owners to switch to heat pumps, and the decision on which heating solution they wish to employ rests with them. The Council must also be cautious about advising other property owners to convert to heat pumps where this could result in higher heating bills and/or reduced comfort, i.e. the Council cannot endorse heat pumps without a full understanding of the specific situation. Further consideration as to how

these Delivery Areas are progressed is required. Home Energy Scotland is a key stakeholder in this respect given its role in providing advice and funding to households.

- **ACTION 31: Engage with Home Energy Scotland to discuss the scope for instigating heat pump retrofit projects on homes owned by third parties within the Delivery Areas.**

4.4.7. With respect to a wider scale roll-out of heat pumps, it is considered that the Council will require to wait until such time as national policy decisions have been taken that make transition to heat pumps more viable.

- **ACTION 32: Maintain a watching brief on the ban of replacement gas boilers.**
- **ACTION 33: Maintain a watching brief on the electricity pricing regime in view of the UK Government pledge to "rebalance" gas and electricity costs.**

4.4.8. The role of the Council with respect to each Delivery Area will depend upon a number of considerations, most significantly the extent of Council ownership. Further information is set out in Chapter 5.

4.5. Prospective Heat Network Zones

4.5.1. The Edinburgh LHEES identifies the areas of Edinburgh assessed as having the greatest potential for the roll-out of heat networks. 17 prospective Heat Network Zones have been identified, representing a combined demand of 3,404,609 megawatt hours per annum. The prospective Heat Network Zones are summarised in the below table:

Table 03: Prospective Heat Network Zones

ID	Name	Screening criteria	Annual heat demand (MWh / year)	Anchor loads
01	New Town	▪ LHD level: 8,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	112,025	37
02	Leith Walk	▪ LHD level: 8,000 kWh / meter / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	439,127	43
03	Old Town & Southside	▪ LHD level: 8,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	706,174	149
04	Gorgie & Dalry	▪ LHD level: 8,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	630,021	14
05	Craigleith	▪ LHD level: 8,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	287,103	33
06	Granton	▪ LHD level: 4,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	190,383	26
07	Leith	▪ LHD level: 8,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	119,369	32

ID	Name	Screening criteria	Annual heat demand (MWh / year)	Anchor loads
08	Portobello & Seafield	▪ LHD level: 4,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	88,143	10
09	Morningside	▪ LHD level: 8,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	283,938	17
10	South East Edinburgh	▪ LHD level: 4,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	187,528	38
11	Colinton Mains	▪ LHD level: 4,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	11,675	5
12	South West Edinburgh	▪ LHD level: 8,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	119,474	27
13	Heriot-Watt	▪ LHD level: 4,000 kWh / metre / year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	68,751	17
14	Sighthill & Gyle	▪ LHD level: 4,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	138,136	45
15	Ingliston	▪ LHD level: 4,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	90,287	34
16	South Queensferry	▪ LHD level: 4,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	75,742	8
17	Second New Town	▪ LHD level: 8,000 kWh / metre /year ▪ LHD anchor load prioritisation count: ≥ 2 ▪ Anchor load definition: 500 MWh / year	185,446	10

4.5.2. There are live heat network projects in various stages of development in several of the 17 prospective Heat Network Zones. These include 06: Granton (being led upon by the City of Edinburgh Council); 12: South East Edinburgh (being led upon by Midlothian Energy Limited); and 15: Ingliston (being led upon by Edinburgh Airport).

4.5.3. The prospective Heat Network Zones are proposed to form the basis of statutory Heat Network Zones as designated in line with the Heat Networks (Scotland) Act 2021 ("the Act"). The statutory Heat Network Zones will in turn underpin the permitting regime being developed by the Scottish Government, which will offer exclusivity to heat network operators.

4.5.4. The Council essentially has three separate (but intersecting) roles with regards to the roll-out of heat networks in Edinburgh, as set out below.

4.5.5. Firstly, in its capacity as the local authority for Edinburgh, the Council is under a duty to review and designate Heat Network Zones as set out in the Act and the Heat Networks (Heat Network Zones and Building Assessment Reports) (Scotland) Regulations 2023 "(the

Regulations)". The Act also places a duty on the Council to receive copies of Building Assessment Reports for buildings in Edinburgh. Additionally, the Council has agreed to make an application to the Scottish Government to be designated the Consent Authority for Edinburgh in line with the Act.

- **ACTION 34: Publish a Heat Network Zone review statement in line with legislation to support the designation of statutory Heat Network Zones.**
- **ACTION 35: Engage with neighbouring local authorities around the scope for cross-boundary Heat Network Zones.**
- **ACTION 36: Prepare a Strategic Environmental Assessment to support the review statement.**
- **ACTION 37: Work with the Scottish Government to develop a consenting regime for Edinburgh, including making a case for fees for heat network consents being set on a full cost recovery basis and for provision to be made for developer contributions.**
- **ACTION 38: Compile data from Building Assessment Reports received by the Council and develop a process for sharing these with prospective developers.**
- **ACTION 39: Engage with the Scottish Government around the strategy for resourcing the costs associated with the Council's duties under the Heat Networks (Scotland) Act 2021.**
- **ACTION 40: Publish, consult on, and adopt updates to the Edinburgh Design Guidance containing information relating to the development of heat networks.**
- **ACTION 41: Seek to coordinate excavation works for heat networks with other utility works, travel infrastructure works, and other relevant works to maximise efficiencies and minimise disruption.**
- **ACTION 42: Participate in the Danish-Scottish District Heating Mentoring Programme.**

4.5.6. Secondly, as one of Edinburgh's largest property owners, the Council is itself a major consumer of heat. Given this, the Council could potentially help make heat network developments eligible via its buildings acting as anchor loads. The preparation of Building Assessment Reports for all Council-owned buildings with a demand of 73 megawatt hours per year or greater will inform where the Council's estate has the greatest potential to play a catalytic role.

- **ACTION 43: Prepare Building Assessment Reports for all eligible Council buildings.**

4.5.7. Thirdly, in line with its target to make Edinburgh a net zero city by 2030, the Council has a potential role in supporting the roll-out of heat networks in Edinburgh, as well as in supporting the overhauling of existing heat networks to become zero direct emissions. The specific role of the Council with respect to each Heat Network Zone will depend upon a number of considerations, most significantly the extent of Council ownership (further information on each Heat Network Zone is set out in Chapter 5).

- **ACTION 44: Appoint a concessionaire to deliver the Granton Waterfront heat network.**
- **ACTION 45: Produce a business case looking at the scope to connect Council buildings to a proposed southeast Edinburgh heat network.**
- **ACTION 46: Identify a preferred model for supporting the roll-out of future Council-led heat networks in Edinburgh.**

- **ACTION 47: Develop a business case looking at the scope for Energy for Edinburgh Limited to deliver heat network projects on a joint venture approach, to include exploration of embedding cooperative principles and community wealth building.**
- **ACTION 48: Develop and support proposals for heat networks in further Heat Network Zones where resources permit.**
- **ACTION 49: Promote the integration of heat network suitability analysis with all new construction and development proposals.**
- **ACTION 50: Develop a more detailed database of existing heat networks in Edinburgh and engage with operators around their future plans in terms of overhaul and/or expansion and/or integration into/with other existing or new heat networks.**
- **ACTION 51: Maintain a watching brief on proposals for mandatory connections to heat networks.**

4.6. Other projects

4.6.1. This section of the Delivery Plans sets out various projects that do not sit within specific Delivery Areas, but which form part of the delivery of the Edinburgh LHEES.

High-rise housing retrofit

4.6.2. The Council plans to retrofit the 50 high-rise housing blocks in Edinburgh in which it has an interest over the next 10-15 years. It is anticipated that design and development for each block will take approximately 12 months, with a subsequent construction period of approximately 12–24 months. The Council aims to have up to four projects in design and development and a further four projects under construction at any given time. An indicative programme for the first tranche of high-rise housing blocks over the course of the Delivery Plan period is set out in the below table.

Table 04: Indicative high-rise housing retrofit programme

Block	Homes	Design and development	Construction
Craigmillar Court	57	2022/23	2023/24
Peffermill Court	57	2022/23	2023/24
Oxcars Court	76	2022/23	2023/24
Inchmickery Court	75	2022/23	2023/24
Cables Wynd House	212	2023/24	2024/25
Linksview House	95	2023/24	2024/25
Marytree House	91	2023/24	2024/25
Moncrieffe House	91	2023/24	2024/25
Moredun House	91	2023/24	2024/25
Castleview House	91	2023/24	2025/26
Forteviot House	91	2023/24	2025/26
Little France House	91	2023/24	2025/26
Inchcolm Court	60	2024/25	2025/26

Block	Homes	Design and development	Construction
Inchgarvie Court	60	2024/25	2025/26
Restalrig House	76	2025/26	2026/27
Lochend House	76	2025/26	2026/27
Greendykes House	86	2025/26	2026/27
Wauchope House	86	2025/26	2026/27
Birnies Court	56	2026/27	2027/28
Fidra Court	56	2026/27	2027/28
Hawkhill Court	85	2026/27	2027/28
Nisbett Court	85	2026/27	2027/28
Cobbinshaw House	136	2027/28	2028/29
Dunsyre House	136	2027/28	2028/29
Medwin House	136	2027/28	2029/30
Kilncroft	87	2027/28	2028/29
Drovers Bank	87	2027/28	2028/29
Midcairn	86	2027/28	2029/30
Inchkeith Court	60	2028/29	2029/30
Northview Court	61	2028/29	2029/30

- **ACTION 52: Deliver a programme of retrofit works to the first tranche of high-rise housing blocks in Edinburgh, beginning with Craigmillar Court and Peffermill Court, followed by Inchmickery Court and Oxcars Court.**

Non-domestic property retrofit

4.6.3. The information base on non-domestic buildings in Edinburgh is much more limited than for homes, and accordingly fewer projects targeting this segment have been identified at this time. It is anticipated that the Heat in Buildings Bill, which is expected to set mandatory standards for non-domestic buildings in terms of energy efficiency, will shape future action in this area.

- **ACTION 53: Deliver the Enerphit-informed retrofit pilot of Council operational buildings.**
- **ACTION 54: Prepare improvement plans to identify the necessary measures to improve the sustainability of the Council's Investment portfolio.**
- **ACTION 55: Prepare a schedule of 100 of the most complex non-domestic buildings in Edinburgh and engage with owners about future plans for each.**
- **ACTION 56: Participate in the consultation on the Heat in Buildings Bill.**

Historic buildings

4.6.4. As set out in the Edinburgh LHEES, the prevalence of historic buildings in Edinburgh is one of the major challenges to delivery. The Strategic Zone plans set out in the Edinburgh LHEES

indicate that this historicity is one of the major drivers of poor energy efficiency in Edinburgh.

- **ACTION 57: Work with Edinburgh World Heritage to take forward a pilot project looking at a whole house retrofit approach to "hard-to-treat" historic homes.**
- **ACTION 58: Maintain a watching brief on work by the Edinburgh Climate Change Institute to develop building archetypes to inform retrofit.**
- **ACTION 59: Engage with the Scottish Government around the scope to amend the Tenements (Scotland) Act 2004 to make it easier for residents to agree to instruct energy efficiency upgrades and changes to heating systems within tenements.**
- **ACTION 60: Work with Edinburgh World Heritage, Historic Environment Scotland, and the University of Edinburgh to consider how to effectively communicate the information on the net zero retrofit of historical properties to the public.**
- **ACTION 61: Publish a refreshed version of the "Guidance for Listed Buildings and Conservation Areas", including a specific focus on net zero retrofit works.**

Green heat

4.6.5. The decarbonisation of heat in Edinburgh will require identifying a myriad of heat sources that are alternatives to gas and other fossil fuels. Work can be progressed to increase understanding of opportunities for green heat (and, where relevant, green power).

- **ACTION 62: Support work by the City Heat & Energy Partnership to develop a city-wide Heat and Energy Masterplan.**
- **ACTION 63: Further develop the ParkPower project looking at the potential to export heat from green and blue spaces in Edinburgh.**
- **ACTION 64: Engage with waste heat sources in Edinburgh to improve understanding of the scope to utilise their waste heat for heating buildings.**
- **ACTION 65: Engage with Scottish Water Horizons to improve understanding of the scope to utilise wastewater heat for heating buildings.**
- **ACTION 66: Engage with The Coal Authority to improve understanding of the scope to utilise mine water for heating buildings (and heat storage).**
- **ACTION 67: Explore opportunities to increase solar installations as a means of offsetting electricity costs associated with heat decarbonisation.**
- **ACTION 68: Maintain a watching brief on the H100 pilot and on hydrogen policy.**
- **ACTION 69: Maintain a watching brief on proposals to extend Permitted Development Rights for micro-renewable technologies.**

New developments

4.6.6. As set out in the Edinburgh LHEES, new developments represent the most straightforward segment of Edinburgh's building stock to decarbonise given the ability to design-in net zero elements from the outset.

- **ACTION 70: Via City Plan 2030 and subsequent policy and guidance documents, set increasingly rigorous net zero standards for new developments in Edinburgh.**
- **ACTION 71: Ensure where possible that all new Council developments utilise zero direct emissions heating sources and are designed on a fabric first basis.**

- **ACTION 72: Ensure where possible that all new buildings developed by the Council are designed to operate with a maximum supply/flow temperature of 55°C.**

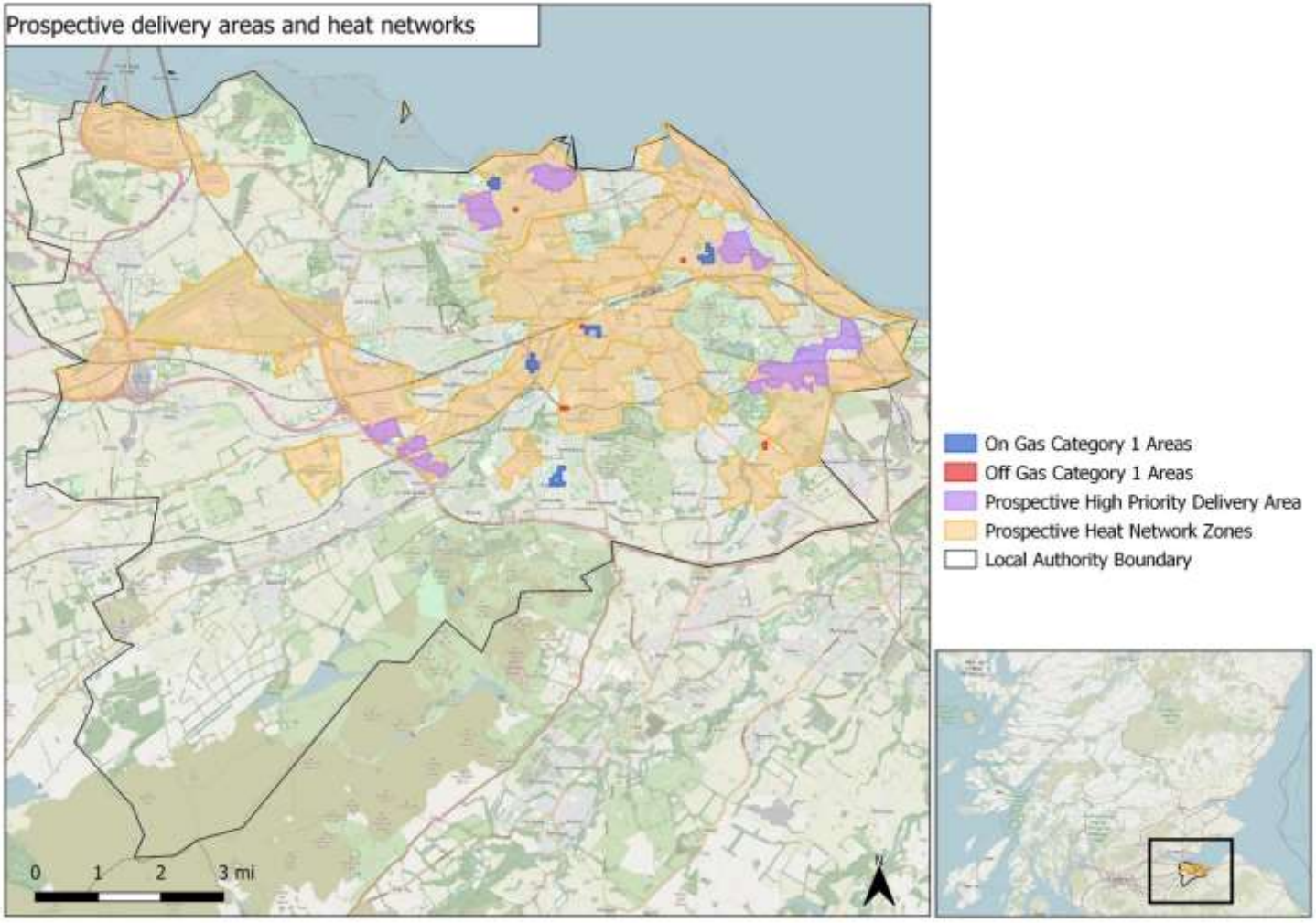
Other housing retrofit measures

4.6.7. In addition to the items set out above, there are other potential interventions that can be taken forward at this time with regards to housing retrofit.

- **ACTION 73: Deliver phase two of the Net Zero Communities pilot, providing detailed archetype modelling of measures and costs of net zero interventions including evaluation of community energy generation potential and deep modelling of "comfort as a service" potential.**
- **ACTION 74: Support the installation of smart meters in all Council-owned homes in Edinburgh.**
- **ACTION 75: Explore with partners the scope to create a Net Zero Community Hub as a means of educating residents of Edinburgh about decarbonisation and energy efficiency.**
- **ACTION 76: Explore with partners the scope to take forward low-cost interventions with disproportionately great impacts on energy efficiency, e.g. carpeting uncarpeted floors to reduce air leakage.**

5. Delivery Areas and Heat Network Zones

5.1. Overview plan of Delivery Areas and Heat Network Zones



5.2. Delivery Area 01: Restalrig & Lochend (energy efficiency)

5.2.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.2.2. Delivery Area 01: Restalrig & Lochend includes **2,147** homes in northeast Edinburgh. The majority of homes are low rise properties dating from the early twentieth century, but the Delivery Area also includes three 1960s high rise blocks of flats (Hawkhill Court, Nisbet Court, and Restalrig House).

5.2.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£8,389**; this would be expected to deliver average annual energy bill savings of **£293.03** and average annual CO_2 savings of **730.38** kilogrammes.

5.2.4. The below table summarises the breakdown of tenure in this Delivery Area. The Council is the largest owner, but there are significant numbers of homes across all tenures.

Table 05: Tenure of homes in Delivery Area 01: Restalrig & Lochend

Tenure	Count
Housing association	273
Local authority	929
Owner occupied	760
Privately rented	185

5.2.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.[5]

Table 06: Recommended interventions to homes in Delivery Area 01: Restalrig & Lochend

Intervention	Quantity
Cavity wall insulation required	475
Internal wall insulation required	55
External wall insulation required	467
Less than 100mm loft insulation	381
Flat roof insulation	6
Room in the loft insulation	2
Single glazing upgrade	72
Double glazing upgrade	2,121
Solar PV suitable	170
Suspended floor insulation	498
Solid floor insulation	28
Total	**4,275**

5.2.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.

[5] It is noted that this sets out the full suite of potential interventions as recommended by the PEAT. The actual interventions to be taken forward will be determined by the Council on a case-by-case basis based upon practical site-specific considerations, for example cost and disruption to residents.


1. Restalrig & Lochend
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0
0.05
0.1 mi
N

5.3. Delivery Area 02: Bingham & Magdalene (energy efficiency)

5.3.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.3.2. Delivery Area 02: Bingham & Magdalene includes **1,575** homes in southeast Edinburgh. The majority of homes in this Delivery Area are low rise properties dating from the 1960s and from the late twentieth century.

5.3.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£12,941**; this would be expected to deliver average annual energy bill savings of **£327.04** and average annual CO_2 savings of **1,510.27** kilogrammes.

5.3.4. The below table summarises the breakdown of tenure in this Delivery Area. The Council is the largest owner, followed by owner occupiers.

Table 07: Tenure of homes in Delivery Area 02: Bingham & Magdalene

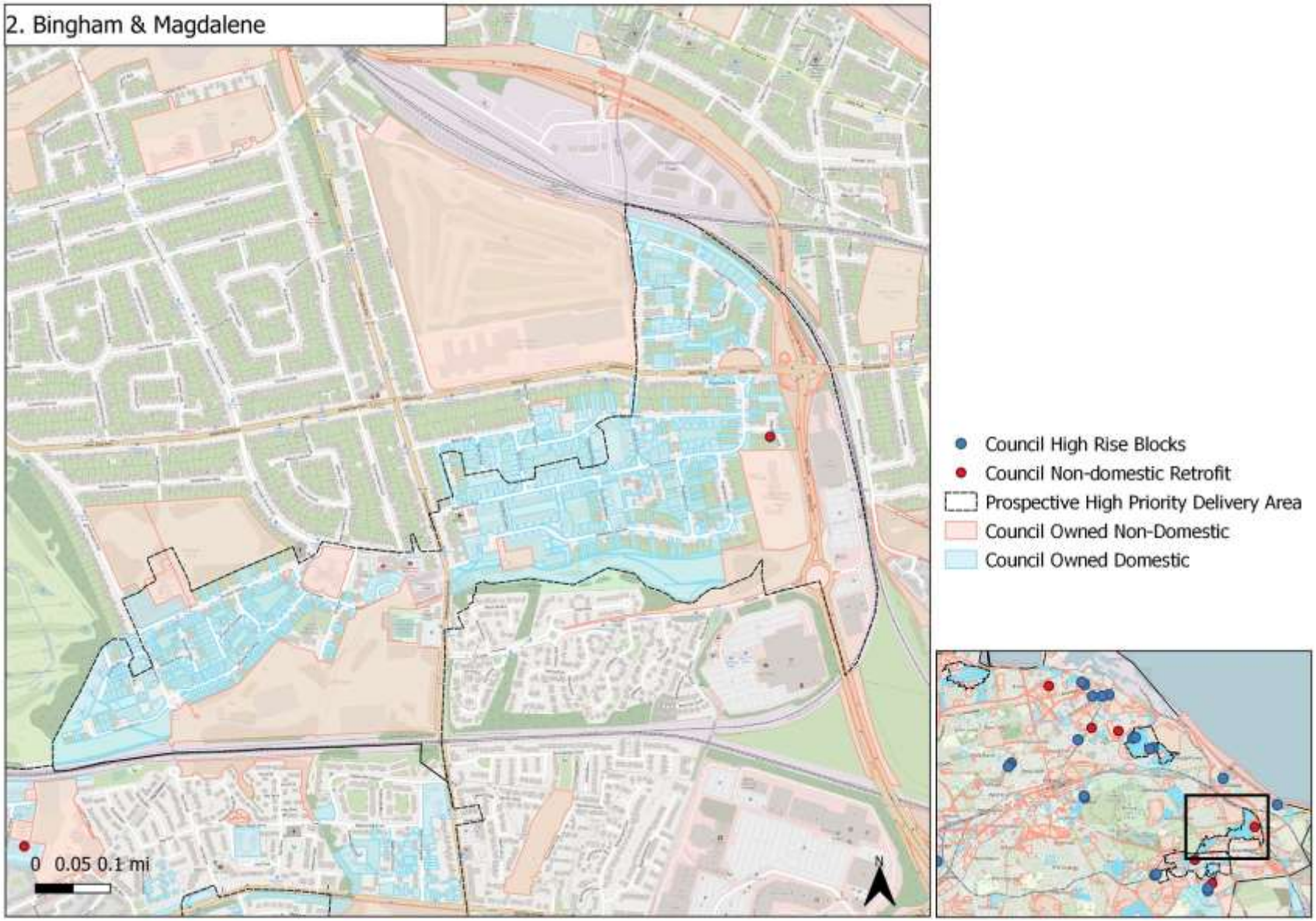
Tenure	Count
Housing association	65
Local authority	834
Owner occupied	575
Privately rented	101

5.3.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 08: Recommended interventions to homes in Delivery Area 02: Bingham & Magdalene

Intervention	Quantity
Cavity wall insulation required	148
Internal wall insulation required	1
External wall insulation required	16
Less than 100mm loft insulation	355
Flat roof insulation	3
Room in the loft insulation	15
Single glazing upgrade	73
Double glazing upgrade	1,489
Solar PV suitable	462
Suspended floor insulation	770
Solid floor insulation	16
Total	**3,348**

5.3.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


2. Bingham & Magdalene
0 0.05 0.1 mi
N
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic

5.4. Delivery Area 03: Restalrig & Craigentinny (energy efficiency)

5.4.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.4.2. Delivery Area 03: Restalrig & Craigentinny includes **810** homes in northeast Edinburgh. The majority of homes in this Delivery Area are mid-rise properties built in phases from the 1930s to the 2000s.

5.4.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£5,557**; this would be expected to deliver average annual energy bill savings of **£221.45** and average annual CO_2 savings of **546.75** kilogrammes.

5.4.4. The below table summarises the breakdown of tenure in this Delivery Area. The largest number of homes are owner occupied, followed closely by Council-owned homes.

Table 09: Tenure of homes in Delivery Area 03: Restalrig & Craigentinny

Tenure	Count
Housing association	33
Local authority	306
Owner occupied	354
Privately rented	117

5.4.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 10: Recommended interventions to homes in Delivery Area 03: Restalrig & Craigentinny

Intervention	Quantity
Cavity wall insulation required	383
Internal wall insulation required	3
External wall insulation required	30
Less than 100mm loft insulation	91
Flat roof insulation	1
Room in the loft insulation	2
Single glazing upgrade	205
Double glazing upgrade	785
Solar PV suitable	8
Suspended floor insulation	35
Solid floor insulation	0
Total	**1,543**

5.4.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


3. Restalrig & Craigentinny
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0
0.05
0.1 mi
N

5.5. Delivery Area 04: The Calders (energy efficiency)

5.5.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.5.2. Delivery Area 04: The Calders includes **1,456** homes in southwest Edinburgh. The majority of homes in this Delivery Area are mid-rise flats dating from the 1960s. The area also includes six high-rise blocks of flats also dating from the 1960s (Cobbinshaw House North; Cobbinshaw House South; Dunsyre House North; Dunsyre House South; Medwin House North; and Medwin House South).

5.5.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£5,319**; this would be expected to deliver average annual energy bill savings of **£206.25** and average annual CO_2 savings of **415.94** kilogrammes.

5.5.4. The below table summarises the breakdown of tenure in this Delivery Area. The largest number of homes are Council-owned homes, followed by owner occupied homes.

Table 11: Tenure of homes in Delivery Area 04: The Calders

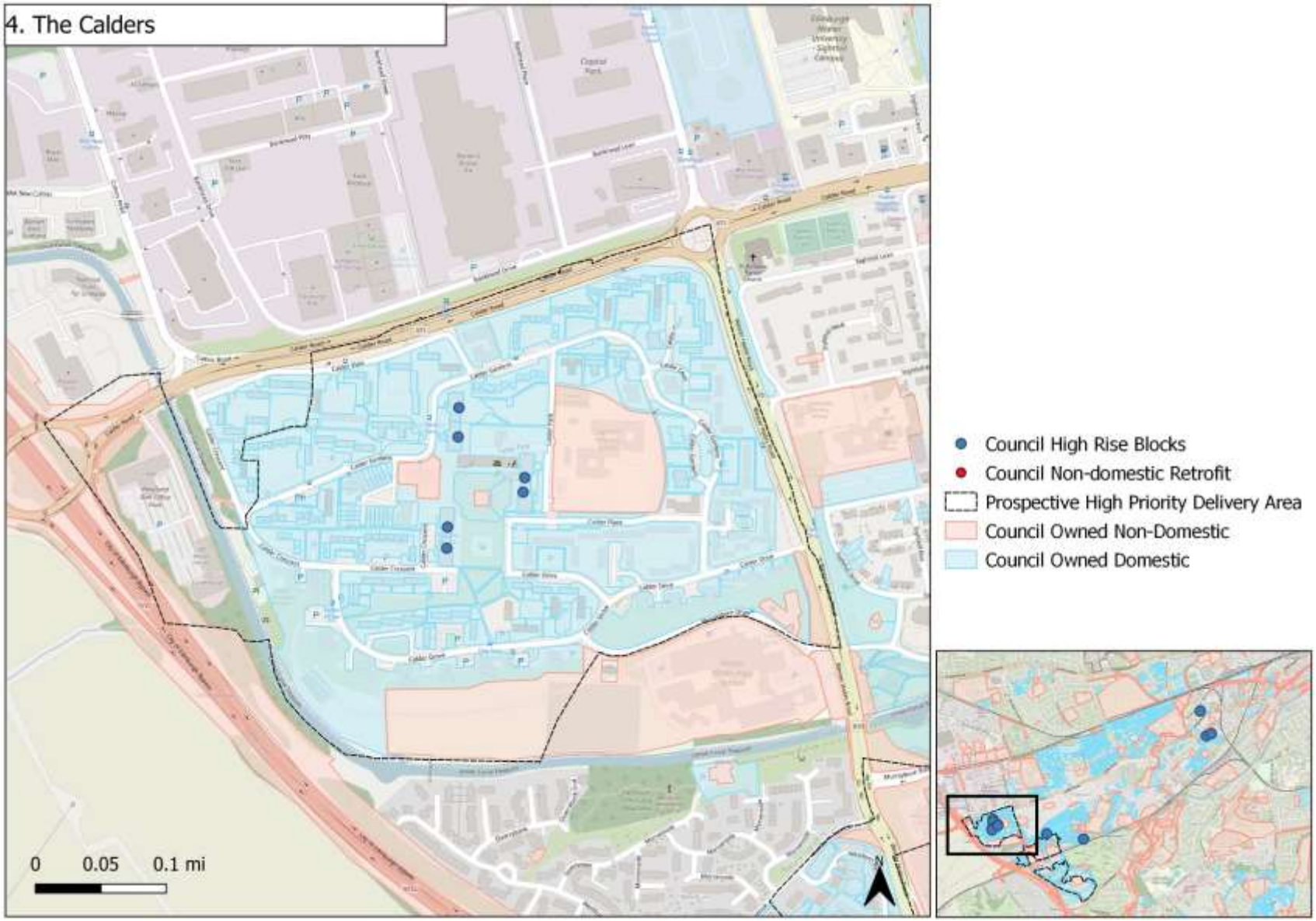
Tenure	Count
Housing association	48
Local authority	889
Owner occupied	379
Privately rented	140

5.5.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 12: Recommended interventions to homes in Delivery Area 04: The Calders

Intervention	Quantity
Cavity wall insulation required	174
Internal wall insulation required	1
External wall insulation required	100
Less than 100mm loft insulation	95
Flat roof insulation	2
Room in the loft insulation	0
Single glazing upgrade	37
Double glazing upgrade	1,384
Solar PV suitable	3
Suspended floor insulation	137
Solid floor insulation	28
Total	**1,961**

5.5.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


4. The Calders
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0
0.05
0.1 mi

5.6. Delivery Area 05: Granton, Wardieburn & Royston (energy efficiency)

5.6.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.6.2. Delivery Area 05: Granton, Wardieburn & Royston includes **2,041** homes in north Granton. The majority of homes in this Delivery Area are mid-rise flats dating from the 1940s-1950s.

5.6.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£5,028**; this would be expected to deliver average annual energy bill savings of **£169.27** and average annual CO_2 savings of **415.40** kilogrammes.

5.6.4. The below table summarises the breakdown of tenure in this Delivery Area. The majority of homes are Council-owned homes.

Table 13: Tenure of homes in Delivery Area 05: Granton, Wardieburn & Royston

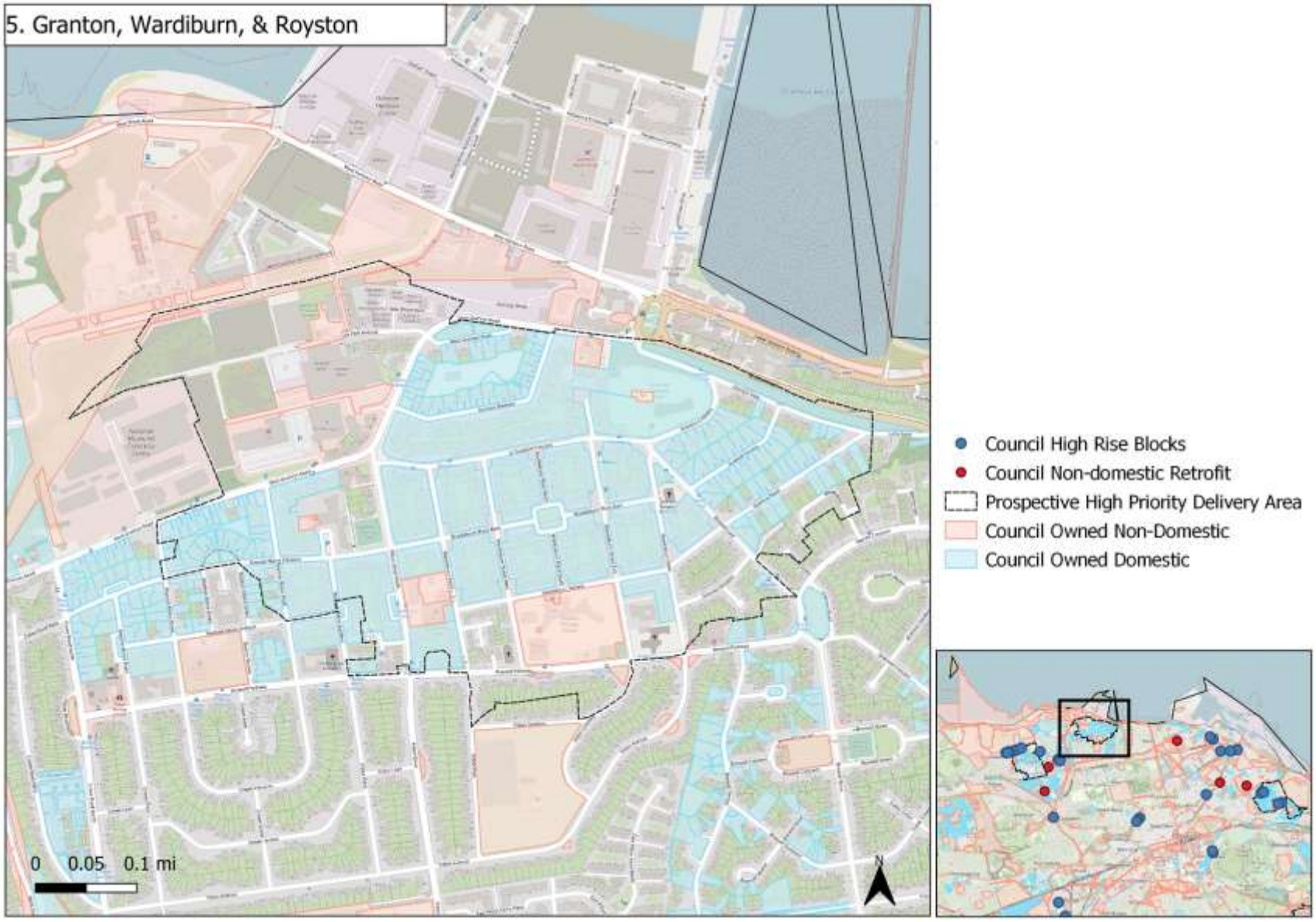
Tenure	Count
Housing association	175
Local authority	1,362
Owner occupied	400
Privately rented	104

5.6.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 14: Recommended interventions to homes in Delivery Area 05: Granton, Wardieburn & Royston

Intervention	Quantity
Cavity wall insulation required	171
Internal wall insulation required	7
External wall insulation required	6
Less than 100mm loft insulation	245
Flat roof insulation	6
Room in the loft insulation	14
Single glazing upgrade	175
Double glazing upgrade	1,869
Solar PV suitable	21
Suspended floor insulation	320
Solid floor insulation	4
Total	**2,838**

5.6.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


5. Granton, Wardiburn, & Royston
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0 0.05 0.1 mi
N

5.7. Delivery Area 06: Niddrie & Craigmillar (energy efficiency)

5.7.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.7.2. Delivery Area 06: Niddrie & Craigmillar includes **3,005** homes in east Edinburgh. It includes a wide variety of properties, ranging from period houses to modern flats, among them two 1960s high rise blocks (Craigmillar Court and Peffermill Court).

5.7.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£8,113**; this would be expected to deliver average annual energy bill savings of **£195.75** and average annual CO_2 savings of **821.55** kilogrammes.

5.7.4. The below table summarises the breakdown of tenure in this Delivery Area. The largest number of homes are owned by housing associations, with a significant number also owned by the Council and owner occupied.

Table 15: Tenure of homes in Delivery Area 06: Niddrie & Craigmillar

Tenure	Count
Housing association	1,074
Local authority	870
Owner occupied	844
Privately rented	217

5.7.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 16: Recommended interventions to homes in Delivery Area 06: Niddrie & Craigmillar

Intervention	Quantity
Cavity wall insulation required	131
Internal wall insulation required	63
External wall insulation required	134
Less than 100mm loft insulation	536
Flat roof insulation	25
Room in the loft insulation	32
Single glazing upgrade	123
Double glazing upgrade	1,697
Solar PV suitable	430
Suspended floor insulation	347
Solid floor insulation	53
Total	**3,571**

5.7.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


6. Niddrie & Craigmillar
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0 0.05 0.1 mi
N

5.8. Delivery Area 07: Clovenstone & Wester Hailes (energy efficiency)

5.8.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.8.2. Delivery Area 07: Clovenstone & Wester Hailes includes **1,393** homes in southwest Edinburgh. The majority of homes in this Delivery Area are mid-rise flats built in phases from the late twentieth century.

5.8.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£6,862**; this would be expected to deliver average annual energy bill savings of **£180.30** and average annual CO_2 savings of **611.38** kilogrammes.

5.8.4. The below table summarises the breakdown of tenure in this Delivery Area. The majority of homes are Council-owned.

Table 17: Tenure of homes in Delivery Area 07: Clovenstone & Wester Hailes

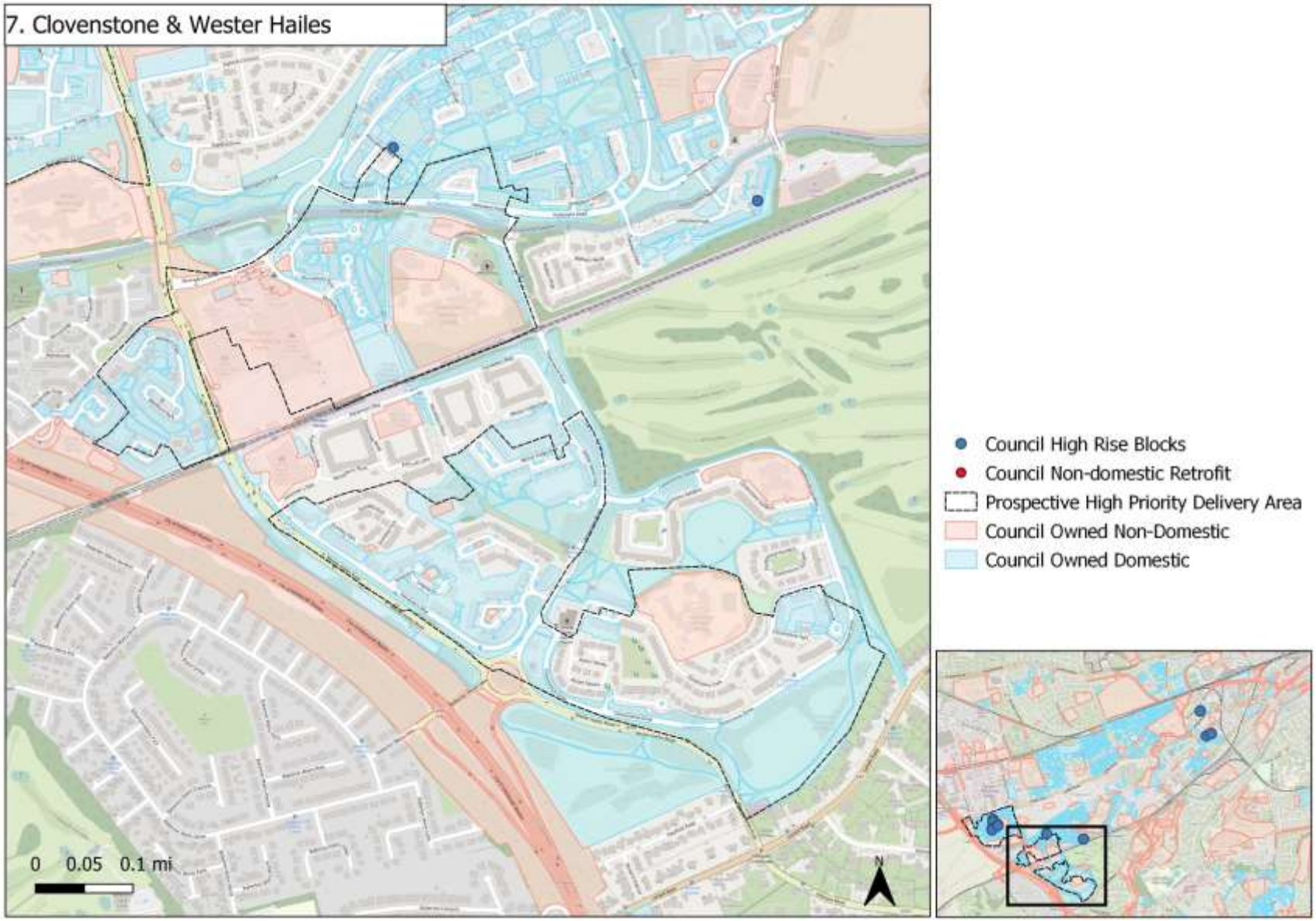
Tenure	Count
Housing association	341
Local authority	776
Owner occupied	202
Privately rented	74

5.8.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 18: Recommended interventions to homes in Delivery Area 07: Clovenstone & Wester Hailes

Intervention	Quantity
Cavity wall insulation required	164
Internal wall insulation required	1
External wall insulation required	70
Less than 100mm loft insulation	189
Flat roof insulation	1
Room in the loft insulation	3
Single glazing upgrade	25
Double glazing upgrade	1,312
Solar PV suitable	147
Suspended floor insulation	120
Solid floor insulation	11
Total	**2,043**

5.8.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


7. Clovenstone & Wester Hailes
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0 0.05 0.1 mi
N

5.9. Delivery Area 08: Muirhouse (energy efficiency)

5.9.1. This Delivery Area relates to the retrofit of homes to improve their energy efficiency.

5.9.2. Delivery Area 08: Muirhouse includes **2,427** homes in north Edinburgh. The Delivery Area comprises a mix of low-rise and mid-rise properties dating from the 1960s to the 2020s. It includes multiple high-rise flats.

5.9.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£7,439**; this would be expected to deliver average annual energy bill savings of **£245.24** and average annual CO_2 savings of **668.94** kilogrammes.

5.9.4. The below table summarises the breakdown of tenure in this Delivery Area. The majority of homes are Council owned, followed by housing association owned.

Table 19: Tenure of homes in Delivery Area 08: Muirhouse

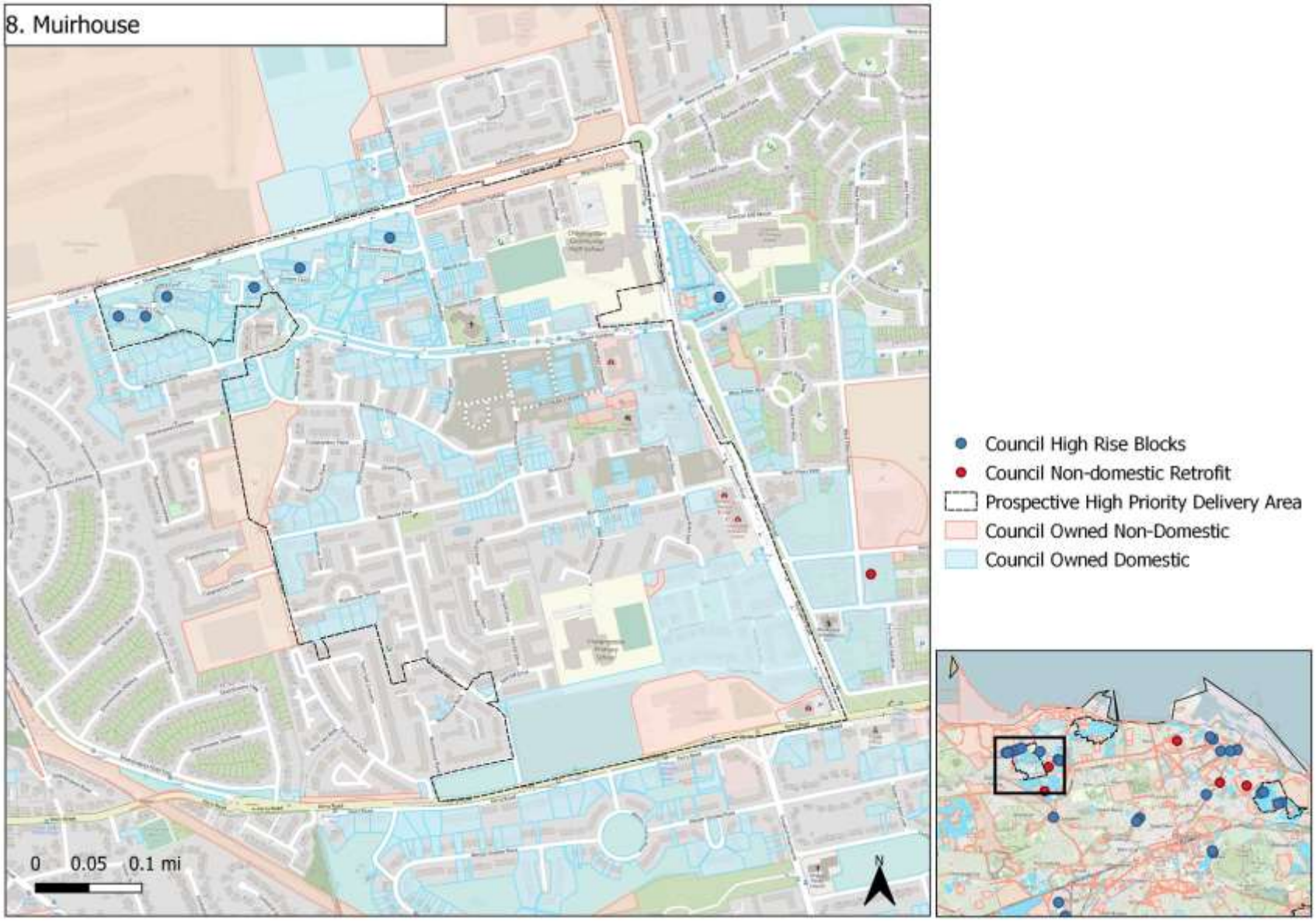
Tenure	Count
Housing association	737
Local authority	1,241
Owner occupied	377
Privately rented	72

5.9.5. The below table summarises the recommended interventions in this Delivery Area. These cover a wide range, with the most common item being double glazing upgrades.

Table 20: Recommended interventions to homes in Delivery Area 08: Muirhouse

Intervention	Quantity
Cavity wall insulation required	45
Internal wall insulation required	10
External wall insulation required	306
Less than 100mm loft insulation	562
Flat roof insulation	2
Room in the loft insulation	3
Single glazing upgrade	18
Double glazing upgrade	1,480
Solar PV suitable	160
Suspended floor insulation	239
Solid floor insulation	68
Total	**2,893**

5.9.6. Interventions in this Delivery Area are proposed to be taken forward via the WHR programme, ABS programme, and MTIS.


8. Muirhouse
Council High Rise Blocks
Council Non-domestic Retrofit
Prospective High Priority Delivery Area
Council Owned Non-Domestic
Council Owned Domestic
0 0.05 0.1 mi
N

5.10. Delivery Area 09: Lochend Butterfly Way (heat pumps)

5.10.1. This Delivery Area relates to the retrofit of homes from gas boilers to heat pumps.

5.10.2. Delivery Area 09: Lochend Butterfly Way includes **971** homes. This Delivery Area comprises a cluster of mid-rise blocks of flats dating from the 2000s and 2010s, located between Easter Road football stadium and Lochend Park.

5.10.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£631**; this would be expected to deliver average annual energy bill savings of **£17.10** and average annual CO_2 savings of **67.26** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.10.4. The below table summarises the breakdown of tenure in this Delivery Area. This area is dominated by owner occupied and privately rented homes, with very limited Council and housing association-owned properties.

Table 21: Tenure of homes in Delivery Area 09: Lochend Butterfly Way

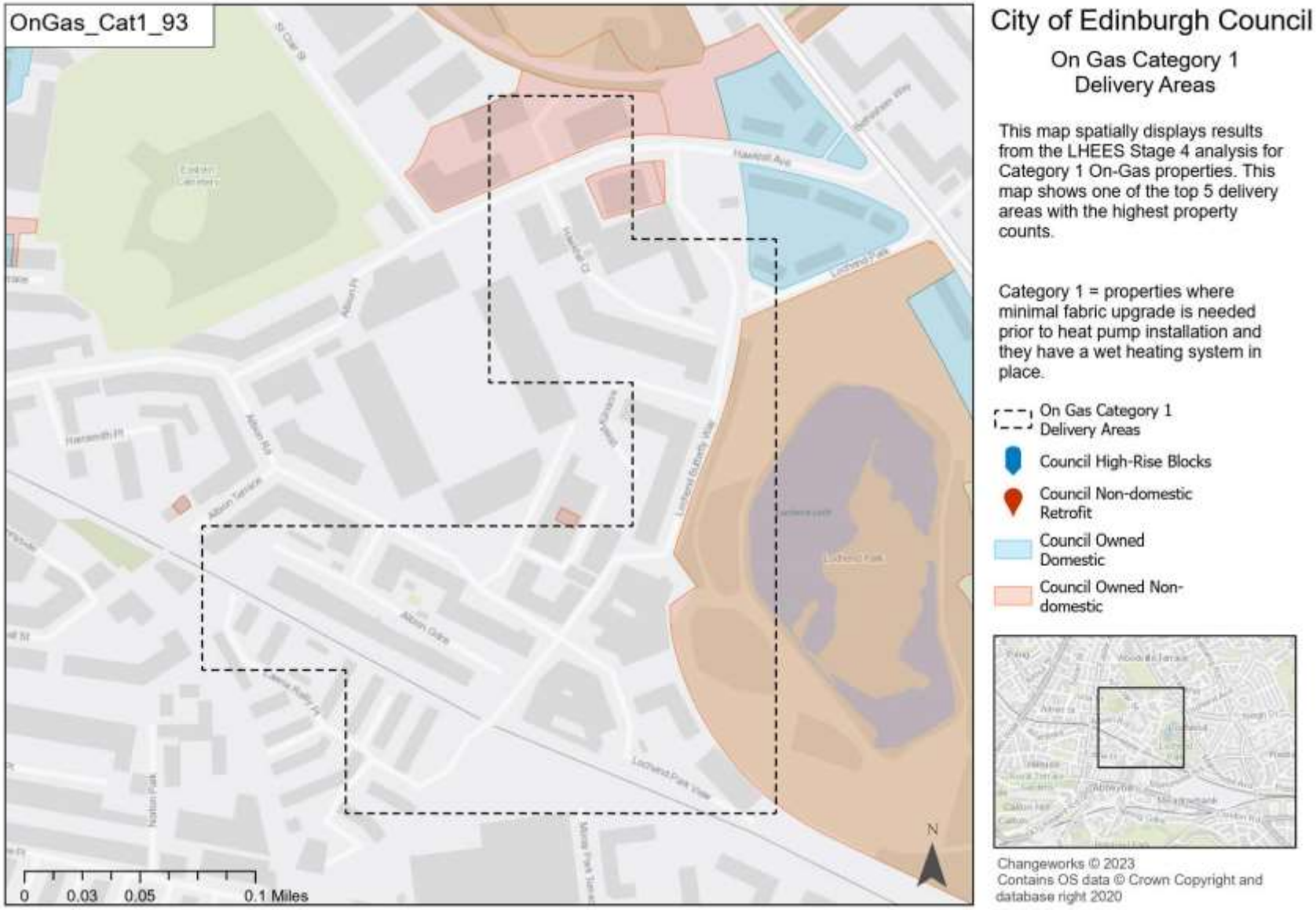
Tenure	Count
Housing association	10
Local authority	2
Owner occupied	571
Privately rented	388

5.10.5. The below table summarises the recommended interventions in this Delivery Area in order to render the homes in question suitable for the installation of heat pumps. The number of interventions is relatively low, primarily comprising improvements to loft insulation and upgrading of single glazed windows.

Table 22: Recommended interventions to homes in Delivery Area 09: Lochend Butterfly Way

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	50
Flat roof insulation	5
Room in the loft insulation	0
Single glazing upgrade	2
Double glazing upgrade	30
Solar PV suitable	1
Suspended floor insulation	16
Solid floor insulation	0
Total	**104**

5.10.6. Given the limited Council ownerships in this area, any project aimed at rolling out heat pumps would entail working with the private owners/landlords in the area to deploy them.


OnGas_Cat1_93
City of Edinburgh Council
On Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 On-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties where minimal fabric upgrade is needed prior to heat pump installation and they have a wet heating system in place.
On Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
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5.11. Delivery Area 10: Waterfront Park (heat pumps)

5.11.1. This Delivery Area relates to the retrofit of homes from gas boilers to heat pumps.

5.11.2. Delivery Area 10: Waterfront Park includes **752** homes. This Delivery Area comprises a cluster of mid-rise blocks of flats dating from the 2000s, located between West Granton Road and Forthquarter Park, adjacent to the Council's regeneration area. It falls within the Granton Waterfront prospective Heat Network Zone.

5.11.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£915**; this would be expected to deliver average annual energy bill savings of **£16.07** and average annual CO_2 savings of **88.73** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.11.4. The below table summarises the breakdown of tenure in this Delivery Area. The bulk of homes are privately owned, but with a significant number of homes owned by the West Granton Housing Co-operative.

Table 23: Tenure of homes in Delivery Area 10: Waterfront Park

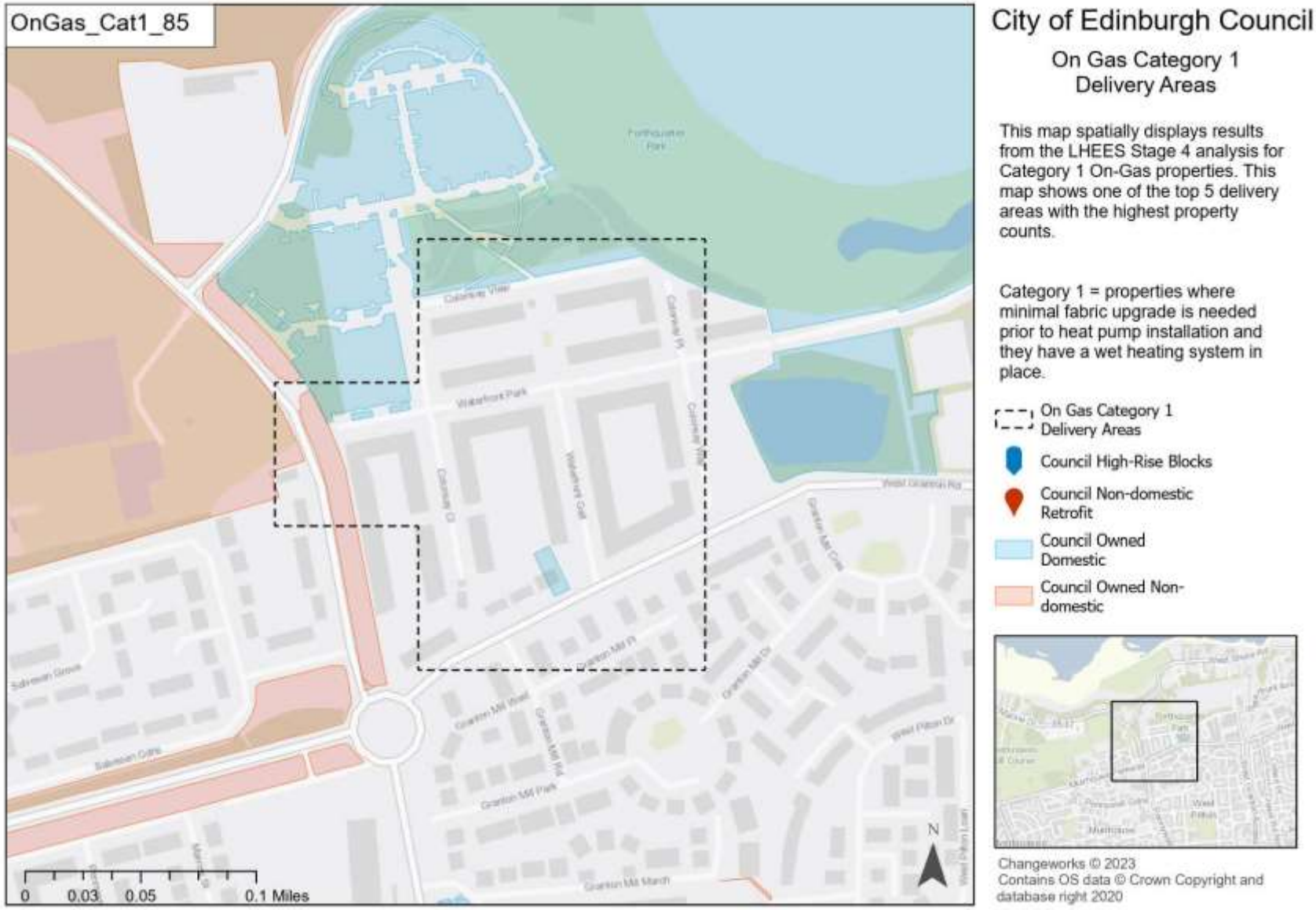
Tenure	Count
Housing association	117
Local authority	17
Owner occupied	427
Privately rented	191

5.11.5. The below table summarises the recommended interventions in this Delivery Area. The number of interventions is relatively low, primarily comprising double glazing and loft insulation. Multiple flats are identified as being suitable for solar PV.

Table 24: Recommended interventions to homes in Delivery Area 10: Waterfront Park

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	14
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	1
Double glazing upgrade	39
Solar PV suitable	23
Suspended floor insulation	6
Solid floor insulation	3
Total	**86**

5.11.6. A pragmatic approach to this Delivery Area would be to engage with the West Granton Housing Co-operative to explore the scope for installing heat pumps in their properties.


OnGas_Cat1_85
City of Edinburgh Council
On Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 On-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties where minimal fabric upgrade is needed prior to heat pump installation and they have a wet heating system in place.
On Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
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5.12. Delivery Area 11: Robertson Avenue (heat pumps)

5.12.1. This Delivery Area relates to the retrofit of homes from gas boilers to heat pumps.

5.12.2. Delivery Area 11: Robertson Avenue includes **685** homes. This Delivery Area comprises a cluster of mid-rise blocks of flats dating from the 2000s and 2010s, located around Robertson Avenue in the Slateford neighbourhood of Edinburgh.

5.12.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£2,204**; this would be expected to deliver average annual energy bill savings of **£44.19** and average annual CO_2 savings of **129.9** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.12.4. The below table summarises the breakdown of tenure in this Delivery Area. This area is dominated by owner occupied and privately rented homes, with very limited Council and housing association-owned properties.

Table 25: Tenure of homes in Delivery Area 11: Robertson Avenue

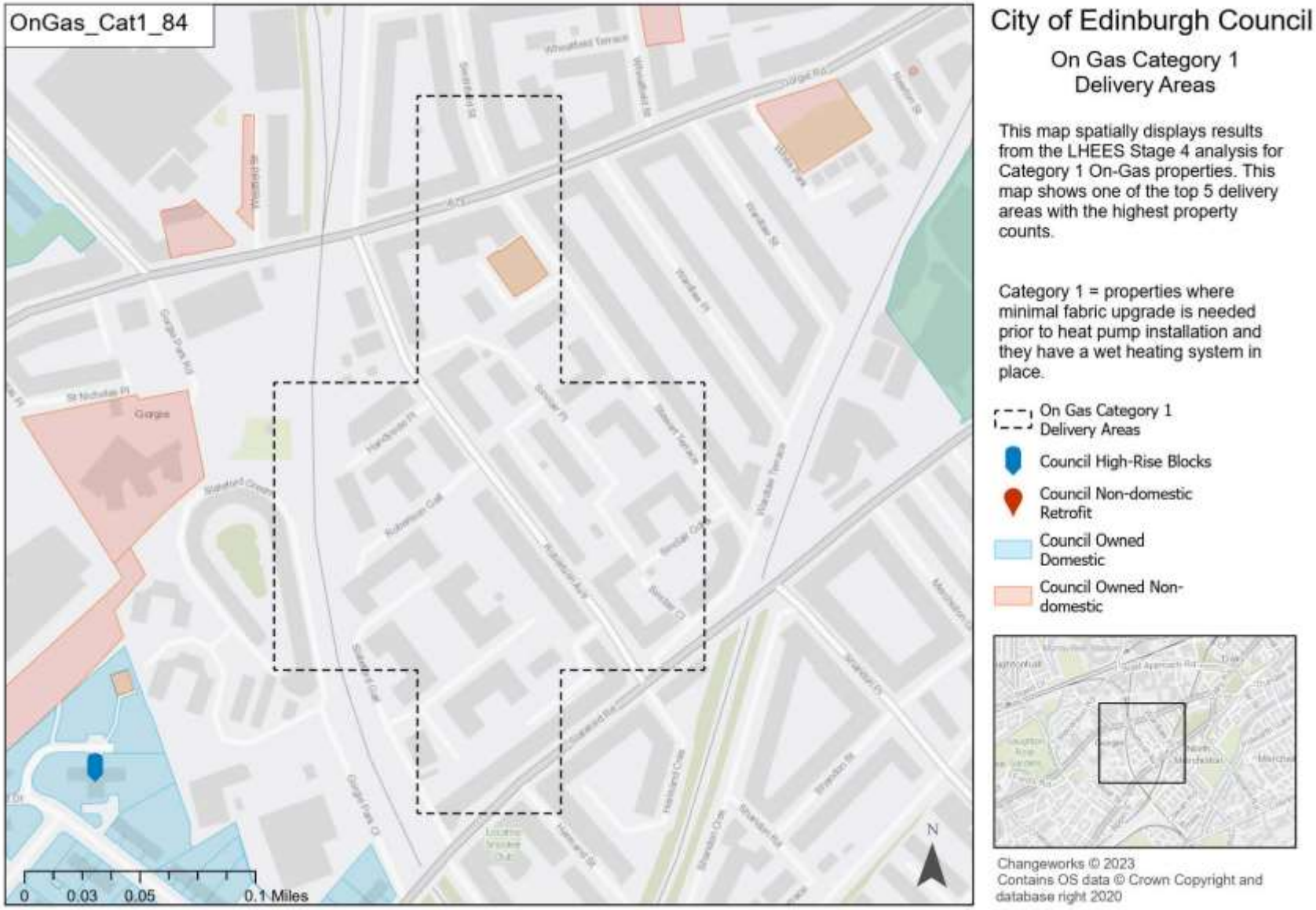
Tenure	Count
Housing association	1
Local authority	12
Owner occupied	433
Privately rented	239

5.12.5. The below table summarises the recommended interventions in this Delivery Area. The vast majority of interventions concern upgrading to double glazing.

Table 26: Recommended interventions to homes in Delivery Area 11: Robertson Avenue

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	38
Flat roof insulation	6
Room in the loft insulation	0
Single glazing upgrade	2
Double glazing upgrade	321
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**367**

5.12.6. Given the limited Council ownerships in this area, any project aimed at rolling out heat pumps would entail working with the private owners/landlords in the area to deploy them.


OnGas_Cat1_84
City of Edinburgh Council
On Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 On-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties where minimal fabric upgrade is needed prior to heat pump installation and they have a wet heating system in place.
On Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
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5.13. Delivery Area 12: Fountainbridge (heat pumps)

5.13.1. This Delivery Area relates to the retrofit of homes from gas boilers to heat pumps.

5.13.2. Delivery Area 12: Fountainbridge includes **684** homes. This Delivery Area comprises a cluster of mid-rise blocks of flats mainly dating from the 2000s, located in the Fountainbridge neighbourhood of Edinburgh to the northeast of the major regeneration areas.

5.13.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£804**; this would be expected to deliver average annual energy bill savings of **£17.73** and average annual CO_2 savings of **45.68** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.13.4. The below table summarises the breakdown of tenure in this Delivery Area. The bulk of homes are privately owned, but with some housing association-owned homes.

Table 27: Tenure of homes in Delivery Area 12: Fountainbridge

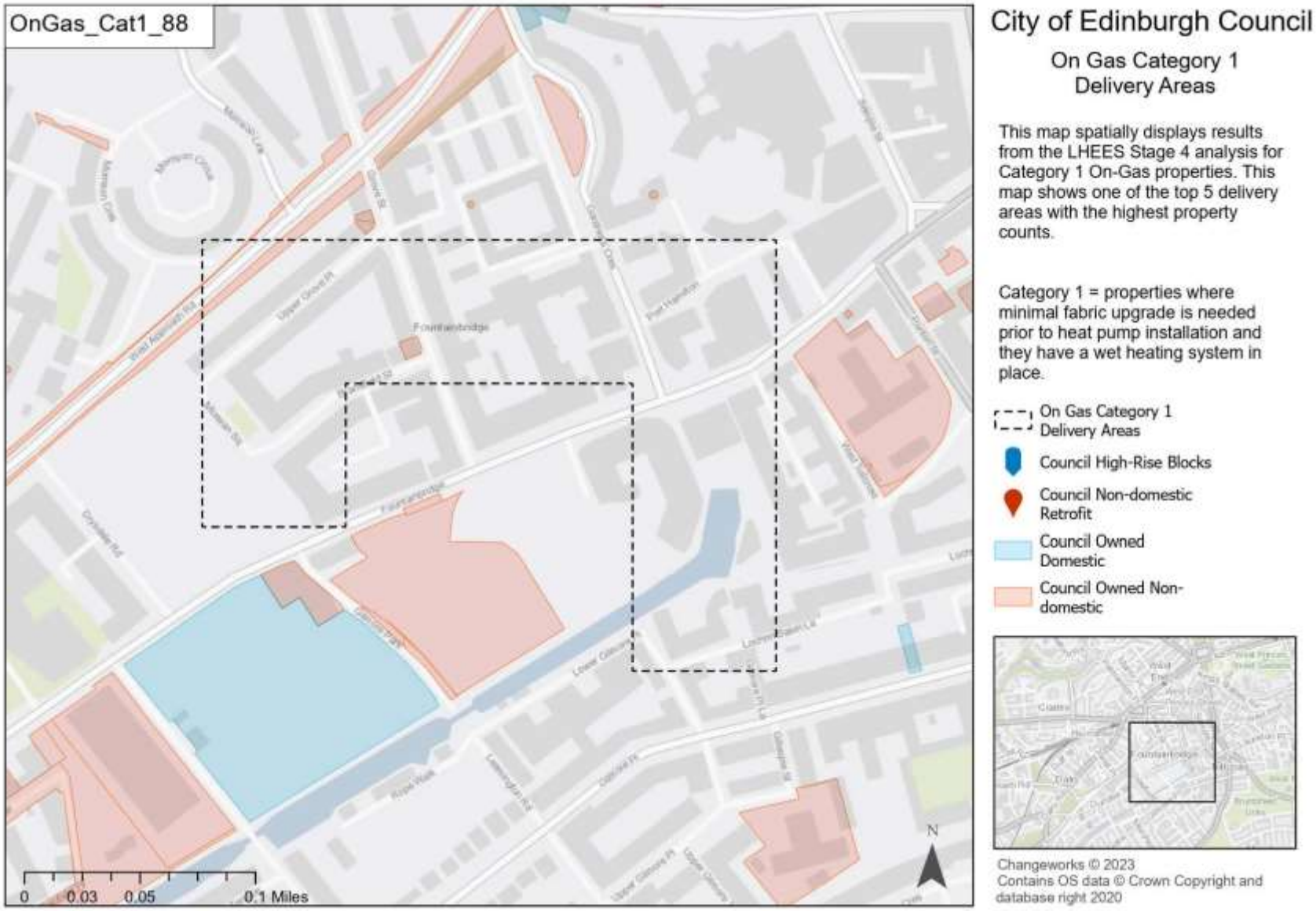
Tenure	Count
Housing association	64
Local authority	3
Owner occupied	235
Privately rented	382

5.13.5. The below table summarises the recommended interventions in this Delivery Area. The vast majority of interventions concern upgrading to double glazing.

Table 28: Recommended interventions to homes in Delivery Area 12: Fountainbridge

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	4
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	1
Double glazing upgrade	115
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**120**

5.13.6. A pragmatic approach to this Delivery Area would be to engage with housing associations to explore the scope for installing heat pumps in their properties.


OnGas_Cat1_88
City of Edinburgh Council
On Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 On-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties where minimal fabric upgrade is needed prior to heat pump installation and they have a wet heating system in place.
On Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
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5.14. Delivery Area 13: Oxgangs Avenue (heat pumps)

5.14.1. This Delivery Area relates to the retrofit of homes from gas boilers to heat pumps.

5.14.2. Delivery Area 13: Oxgangs Avenue includes **668** homes. This Delivery Area comprises a cluster of mid-rise blocks of flats mainly dating from the mid-20th century, located in the Oxgangs neighbourhood of Edinburgh.

5.14.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£4,622**; this would be expected to deliver average annual energy bill savings of **£120.43** and average annual CO_2 savings of **409.64** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.14.4. The below table summarises the breakdown of tenure in this Delivery Area. The Council is the largest owner of homes in this area, with a significant number of homes also owned by various housing associations.

Table 29: Tenure of homes in Delivery Area 13: Oxgangs Avenue

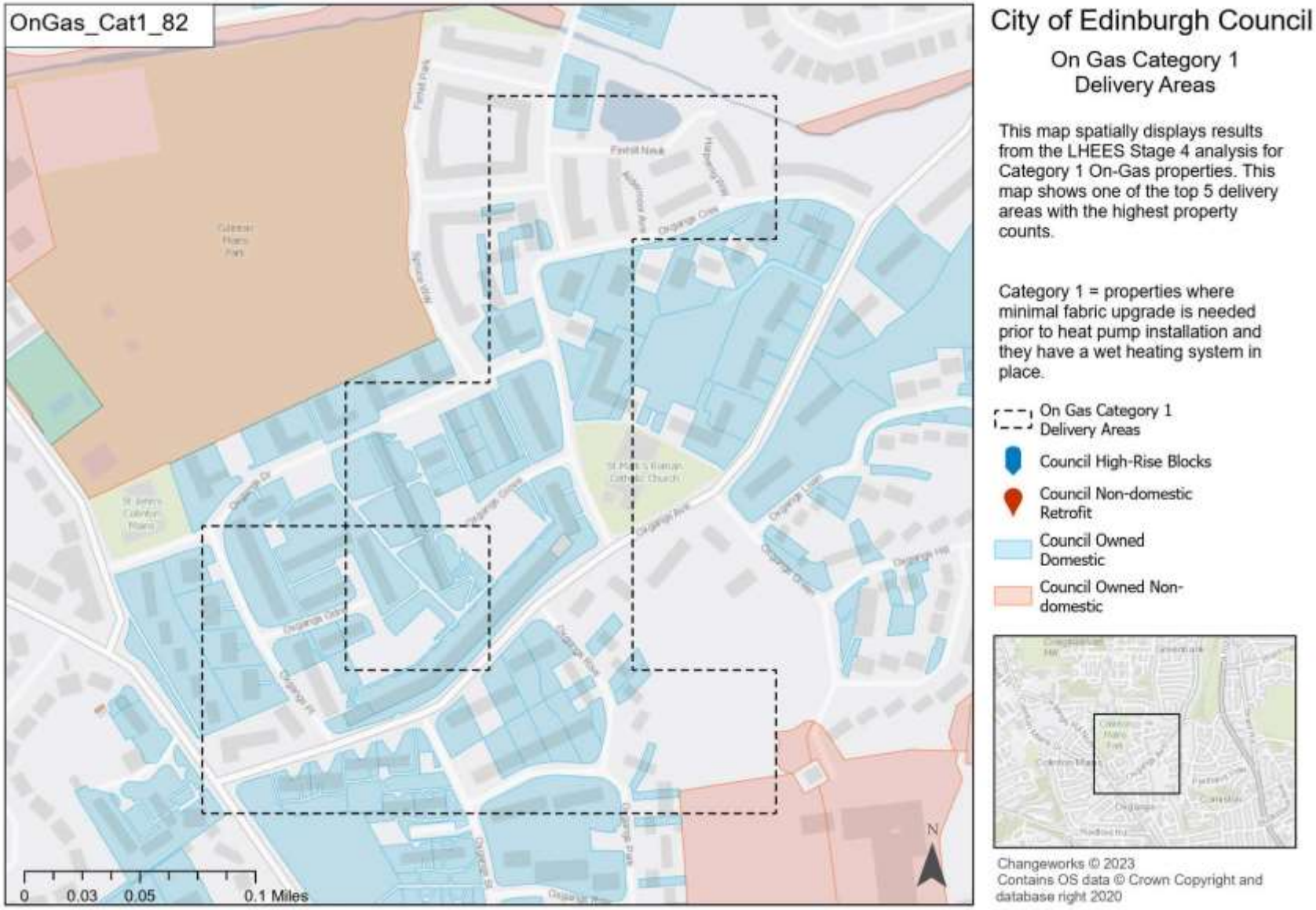
Tenure	Count
Housing association	152
Local authority	282
Owner occupied	187
Privately rented	47

5.14.5. The below table summarises the recommended interventions in this Delivery Area. The vast majority of interventions concern upgrading to double glazing and loft insulation.

Table 30: Recommended interventions to homes in Delivery Area 13: Oxgangs Avenue

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	101
Flat roof insulation	0
Room in the loft insulation	1
Single glazing upgrade	25
Double glazing upgrade	448
Solar PV suitable	35
Suspended floor insulation	37
Solid floor insulation	8
Total	**655**

5.14.6. Given the high proportion of Council-owned homes in this Delivery Area, the Council is well-placed to take forward interventions focusing on its own stock.


OnGas_Cat1_82
City of Edinburgh Council
On Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 On-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties where minimal fabric upgrade is needed prior to heat pump installation and they have a wet heating system in place.
On Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
Changeworks © 2023
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5.15. Delivery Area 14: West Pilton Grove (heat pumps)

5.15.1. This Delivery Area relates to the retrofit of homes not currently connect to the gas grid to heat pumps.

5.15.2. Delivery Area 14: West Pilton Avenue includes **120** homes. This Delivery Area comprises two 1950s high-rise blocks (Inchcolm Court and Inchgarvie Court) in Pilton. As set out in section 4.6, these properties are scheduled to be subject to energy efficiency retrofit works.

5.15.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£4,337**; this would be expected to deliver average annual energy bill savings of **£225.55** and average annual CO_2 savings of **244.86** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.15.4. The below table summarises the breakdown of tenure in this Delivery Area. All homes bar one are owned by the Council.[6]

Table 31: Tenure of homes in Delivery Area 14: West Pilton Grove

Tenure	Count
Housing association	0
Local authority	119
Owner occupied	1
Privately rented	0

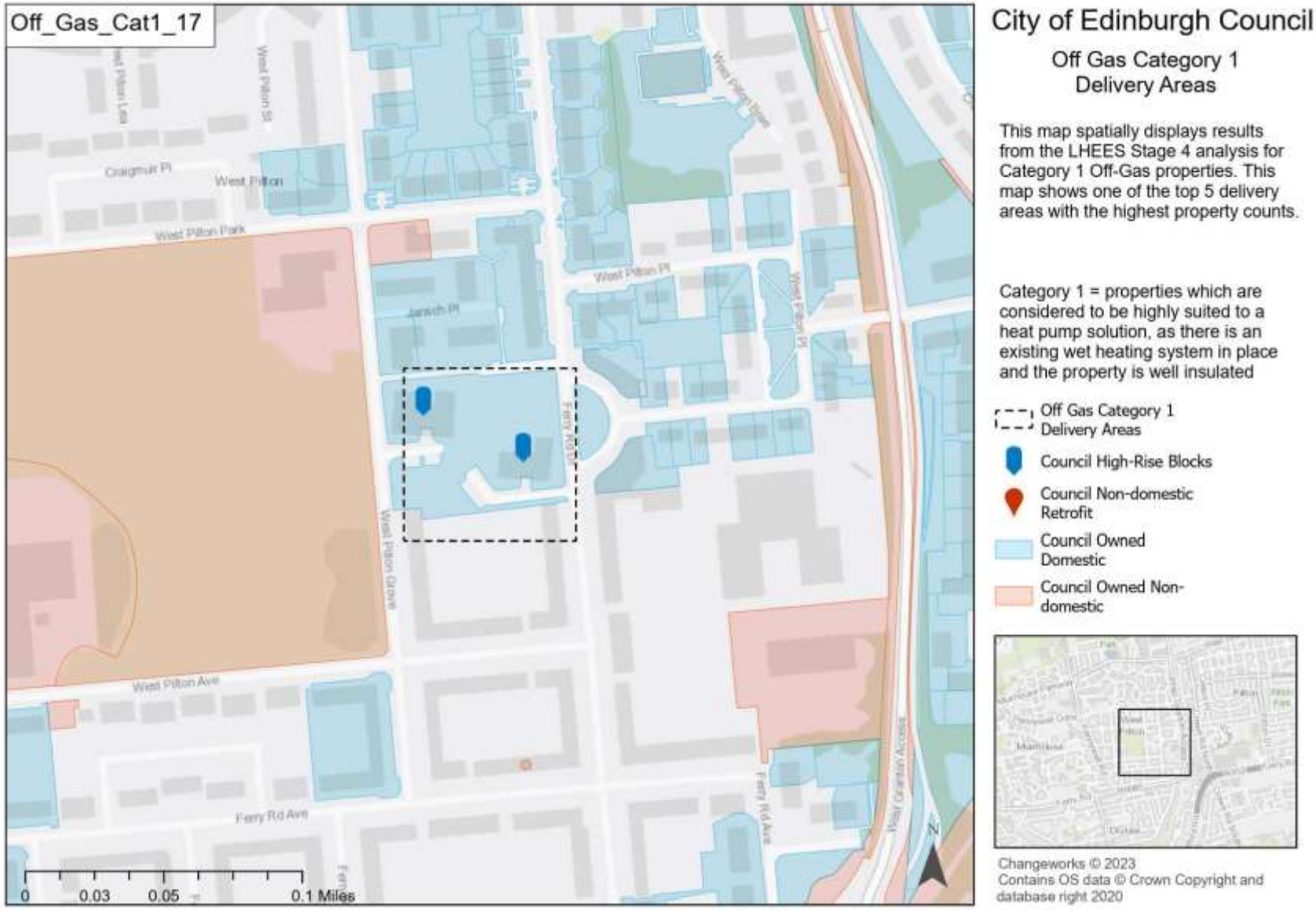
5.15.5. The below table summarises the recommended interventions in this Delivery Area. Virtually all the interventions concern upgrading to double glazing.

Table 32: Recommended interventions to homes in Delivery Area 14: West Pilton Grove

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	5
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	1
Double glazing upgrade	106
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**112**

5.15.6. Given the high proportion of Council-owned homes in this Delivery Area, the Council is well-placed to take forward interventions focusing on its own stock.

[6] These figures are the Council's own figures as the figures produced by the LHEES Methodology are incorrect.



City of Edinburgh Council

Off Gas Category 1 Delivery Areas

This map spatially displays results from the LHEES Stage 4 analysis for Category 1 Off-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.

Category 1 = properties which are considered to be highly suited to a heat pump solution, as there is an existing wet heating system in place and the property is well insulated

- Off Gas Category 1 Delivery Areas
- Council High-Rise Blocks
- Council Non-domestic Retrofit
- Council Owned Domestic
- Council Owned Non-domestic

5.16. Delivery Area 15: Craigour Place (heat pumps)

5.16.1. This Delivery Area relates to the retrofit of homes not currently connect to the gas grid to heat pumps.

5.16.2. Delivery Area 15: Craigour Place includes **86** homes. This Delivery Area comprises four high-rise blocks of flats dating from the 1960s (Castleview House, Little France House, Marytree House, Moredun House) in the Craigour neighbourhood. As set out in section 4.6, these properties are scheduled to be subject to energy retrofit works.

5.16.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£4,300**; this would be expected to deliver average annual energy bill savings of **£212.71** and average annual CO_2 savings of **234.12** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.16.4. All homes bar 11 in this Delivery Area are owned by the Council.[7]

Table 33: Tenure of homes in Delivery Area 15: Craigour Place

Tenure	Count
Housing association	0
Local authority	353
Owner occupied	11
Privately rented	0

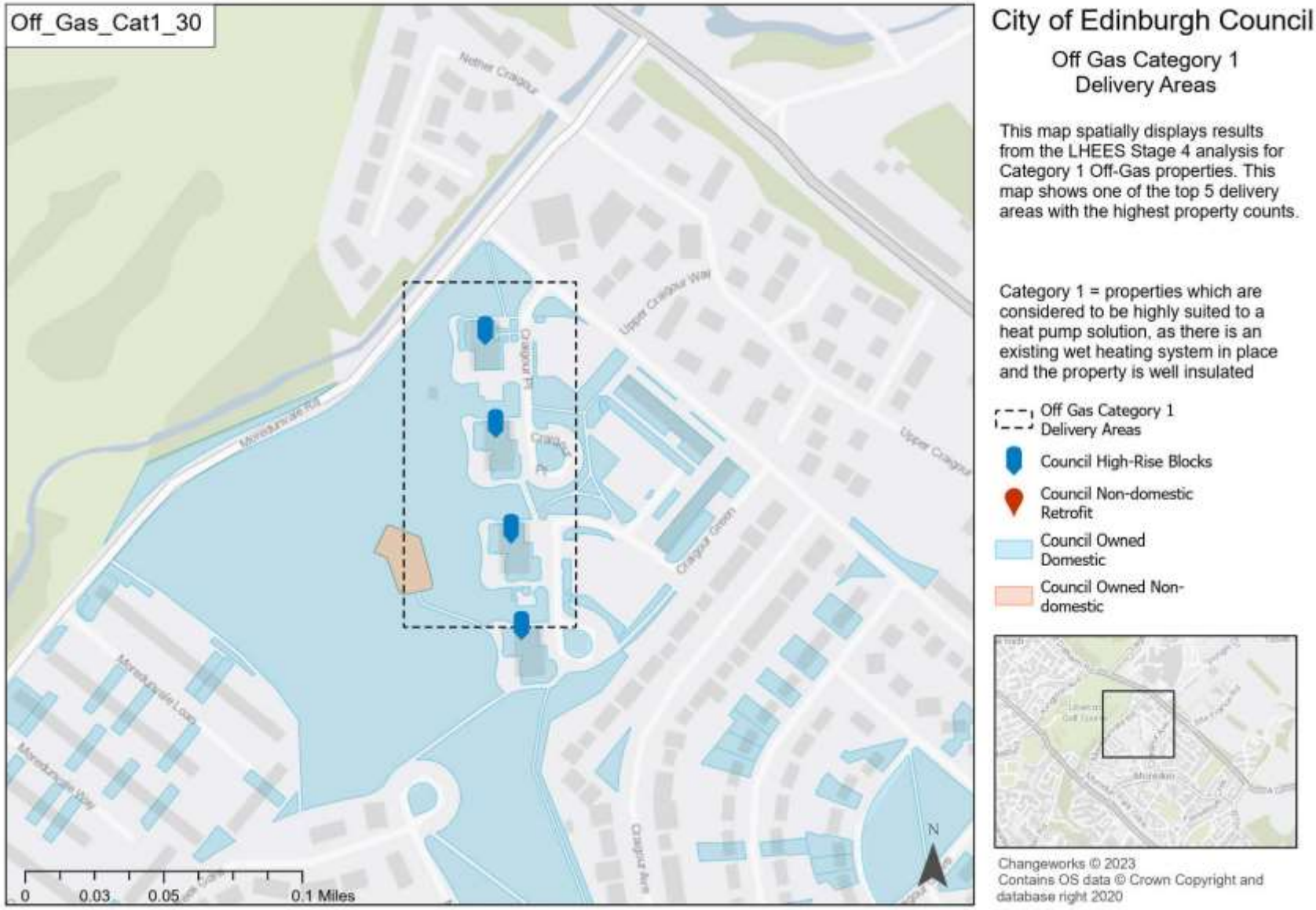
5.16.5. The below table summarises the recommended interventions for Little France House only. All interventions were around double-glazing upgrades.

Table 34: Recommended interventions to homes in Delivery Area 15: Craigour Place

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	0
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	0
Double glazing upgrade	86
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**86**

5.16.6. Given the high proportion of Council-owned homes in this Delivery Area, the Council is well-placed to take forward interventions focusing on its own stock.

[7] These figures are the Council's own figures as the figures produced by the LHEES Methodology are incorrect.


Off_Gas_Cat1_30
City of Edinburgh Council
Off Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 Off-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties which are considered to be highly suited to a heat pump solution, as there is an existing wet heating system in place and the property is well insulated
Off Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0
0.03
0.05
0.1 Miles
N
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5.17. Delivery Area 16: Elgin Street (heat pumps)

5.17.1. This Delivery Area relates to the retrofit of homes not currently connect to the gas grid to heat pumps.

5.17.2. Delivery Area 16: Elgin Street includes **79** homes. This Delivery Area comprises blocks of mid-rise retirement flats dating from the 1990s between Leith Walk and Easter Road.

5.17.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£3,794**; this would be expected to deliver average annual energy bill savings of **£134.25** and average annual CO_2 savings of **147.52** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.17.4. All homes in this Delivery Area are owned by the housing association Harbour Homes.

Table 35: Tenure of homes in Delivery Area 16: Elgin Street

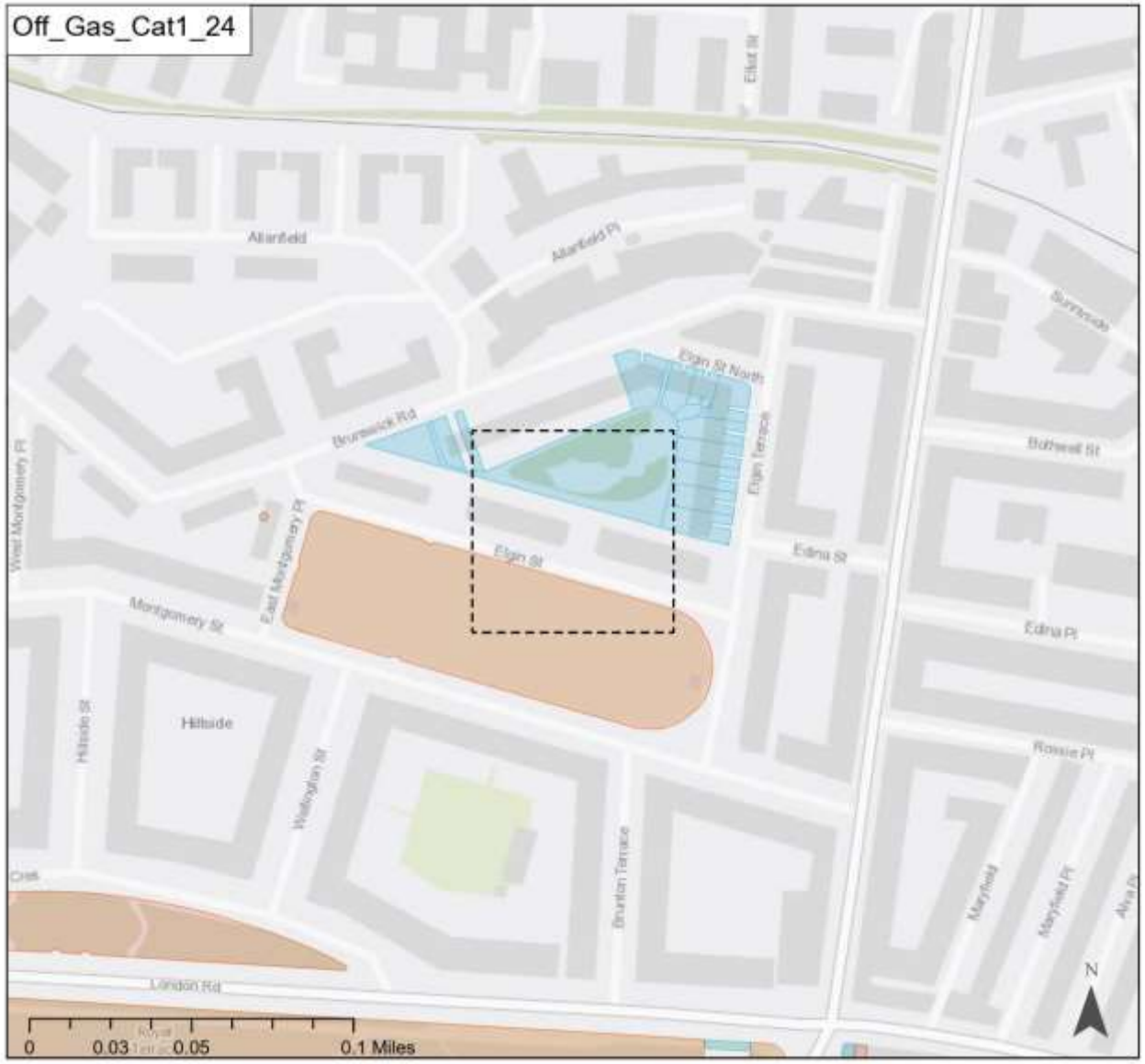
Tenure	Count
Housing association	79
Local authority	0
Owner occupied	0
Privately rented	0

5.17.5. The below table summarises the recommended interventions in this Delivery Area. The vast majority of interventions relate to double glazing upgrades.

Table 36: Recommended interventions to homes in Delivery Area 16: Elgin Street

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	4
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	1
Double glazing upgrade	79
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**84**

5.17.6. Taking forward heat pump projects in this Delivery Area will require engagement with Harbour Homes.



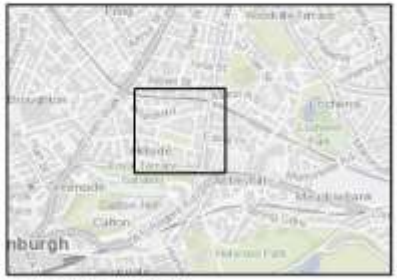
City of Edinburgh Council

Off Gas Category 1 Delivery Areas

This map spatially displays results from the LHEES Stage 4 analysis for Category 1 Off-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.

Category 1 = properties which are considered to be highly suited to a heat pump solution, as there is an existing wet heating system in place and the property is well insulated

- Off Gas Category 1 Delivery Areas
- Council High-Rise Blocks
- Council Non-domestic Retrofit
- Council Owned Domestic
- Council Owned Non-domestic



5.18. Delivery Area 17: Morrison Crescent (heat pumps)

5.18.1. This Delivery Area relates to the retrofit of homes not currently connect to the gas grid to heat pumps.

5.18.2. Delivery Area 17: Morrison Crescent includes **73** homes. This Delivery Area comprises blocks of mid-rise flats dating from the 1990s in Edinburgh city centre.

5.18.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£4,086**; this would be expected to deliver average annual energy bill savings of **£149.89** and average annual CO_2 savings of **149.48** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.18.4. The below table summarises the breakdown of tenure in this Delivery Area. The majority of homes are owned by housing associations.

Table 37: Tenure of homes in Delivery Area 17: Morrison Crescent

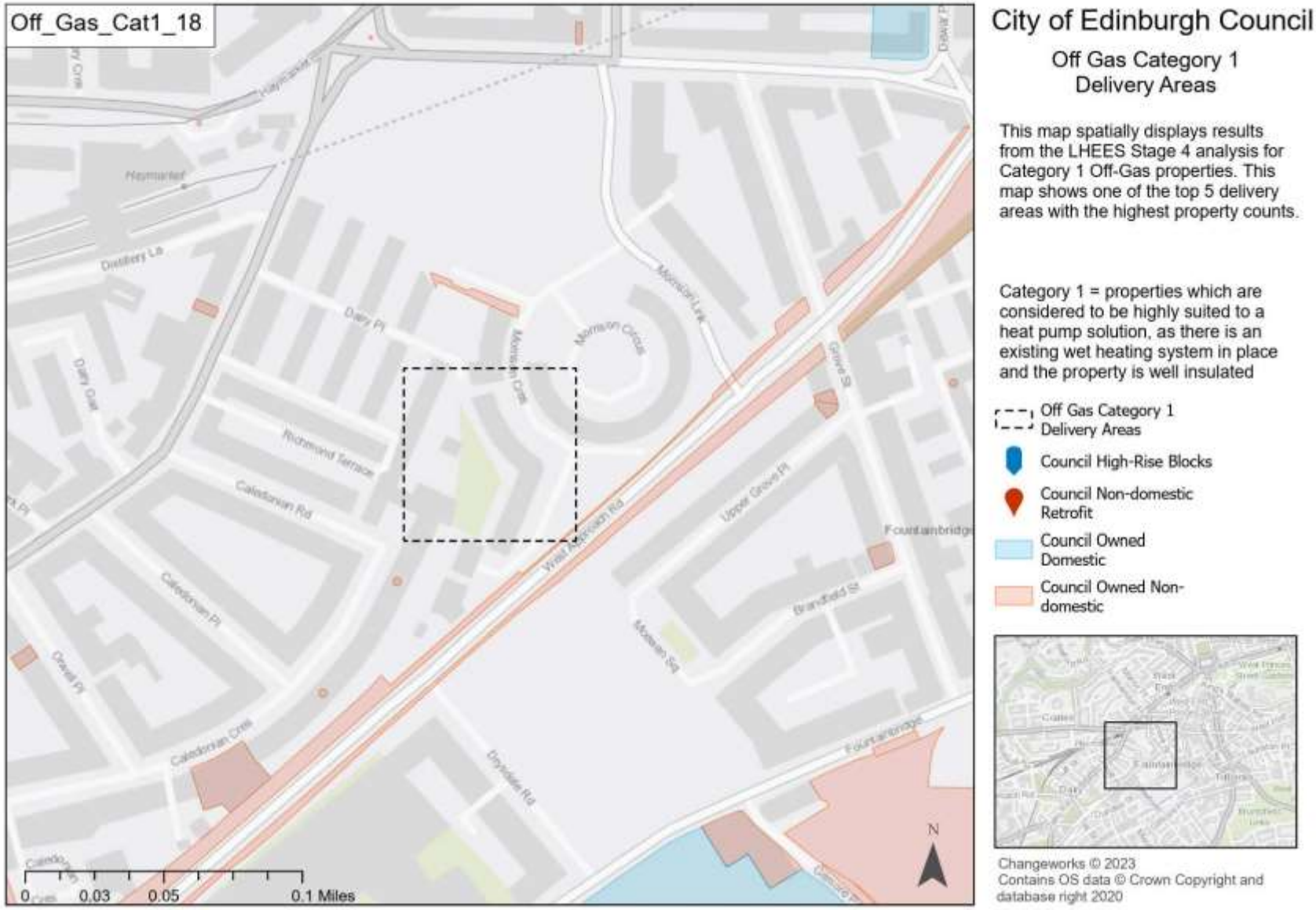
Tenure	Count
Housing association	64
Local authority	0
Owner occupied	5
Privately rented	4

5.18.5. The below table summarises the recommended interventions in this Delivery Area. All interventions relate to double glazing upgrades.

Table 38: Recommended interventions to homes in Delivery Area 17: Morrison Crescent

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	0
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	0
Double glazing upgrade	73
Solar PV suitable	0
Suspended floor insulation	0
Solid floor insulation	0
Total	**73**

5.18.6. A pragmatic approach to this Delivery Area would be to engage with housing associations to explore the scope for installing heat pumps in their properties.


Off_Gas_Cat1_18
City of Edinburgh Council
Off Gas Category 1
Delivery Areas
This map spatially displays results from the LHEES Stage 4 analysis for Category 1 Off-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.
Category 1 = properties which are considered to be highly suited to a heat pump solution, as there is an existing wet heating system in place and the property is well insulated
Off Gas Category 1 Delivery Areas
Council High-Rise Blocks
Council Non-domestic Retrofit
Council Owned Domestic
Council Owned Non-domestic
0 0.03 0.05 0.1 Miles
N
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5.19. Delivery Area 18: Craighouse Gardens (heat pumps)

5.19.1. This Delivery Area relates to the retrofit of homes not currently connect to the gas grid to heat pumps.

5.19.2. Delivery Area 18: Craighouse Gardens includes **69** homes. This Delivery Area comprises blocks of mid-rise flats dating from the 1980s in the Craighouse area of Edinburgh.

5.19.3. The estimated average cost of energy efficiency interventions in this Delivery Area is **£4,042**; this would be expected to deliver average annual energy bill savings of **£193.54** and average annual CO_2 savings of **196.13** kilogrammes. This does not include the cost of the heat pump itself, only the interventions required for the heat pump to function optimally.

5.19.4. The below table summarises the breakdown of tenure in this Delivery Area. All homes were privately owned.

Table 39: Tenure of homes in Delivery Area 18: Craighouse Gardens

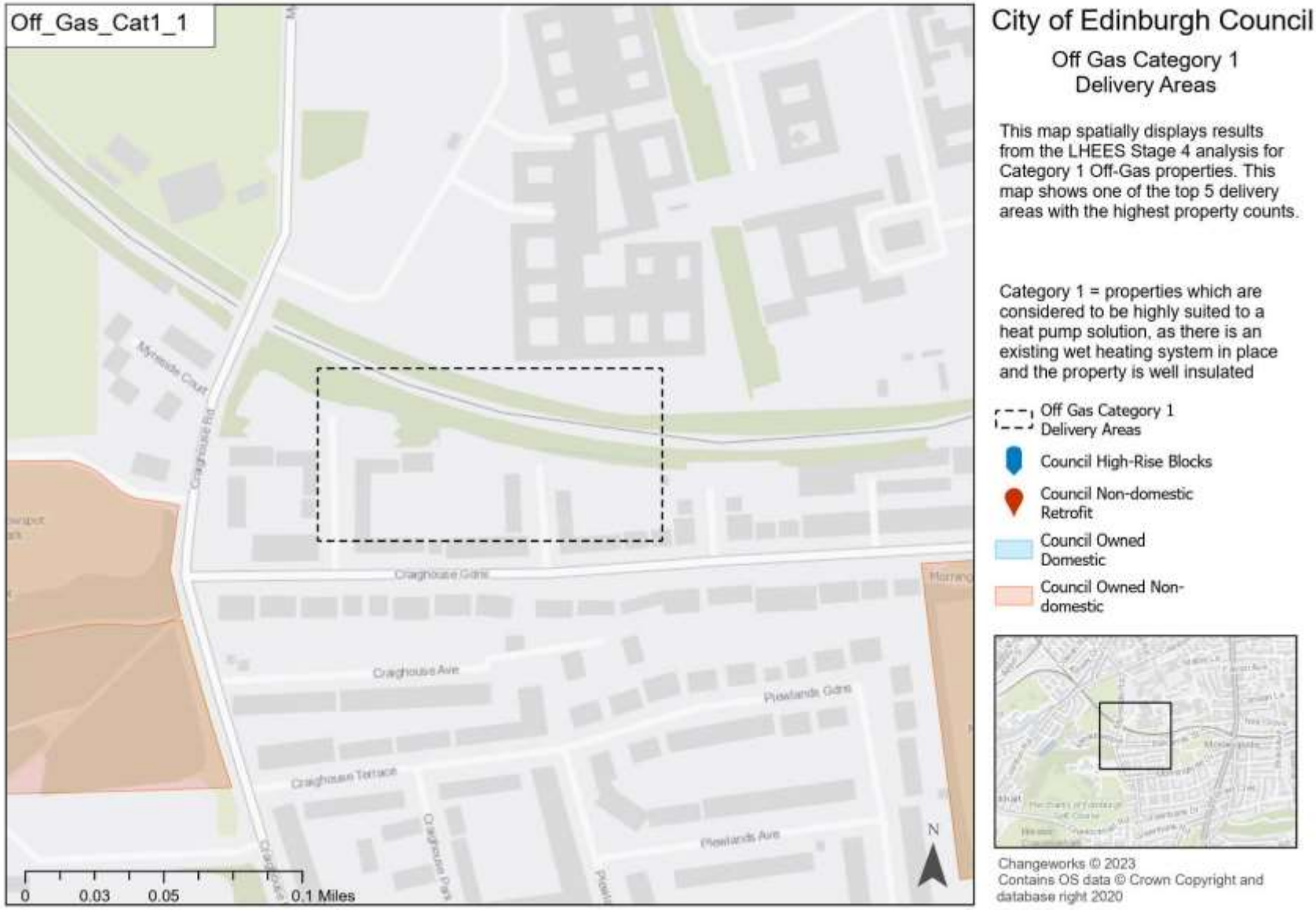
Tenure	Count
Housing association	0
Local authority	0
Owner occupied	56
Privately rented	13

5.19.5. The below table summarises the recommended interventions in this Delivery Area. The vast majority of interventions relate to double glazing upgrades.

Table 40: Recommended interventions to homes in Delivery Area 18: Craighouse Gardens

Intervention	Quantity
Cavity wall insulation required	0
Internal wall insulation required	0
External wall insulation required	0
Less than 100mm loft insulation	10
Flat roof insulation	0
Room in the loft insulation	0
Single glazing upgrade	1
Double glazing upgrade	69
Solar PV suitable	0
Suspended floor insulation	1
Solid floor insulation	1
Total	**82**

5.19.6. Given the limited Council ownerships in this area, any project aimed at rolling out heat pumps would entail working with the private owners/landlords in the area to deploy them.



City of Edinburgh Council

Off Gas Category 1 Delivery Areas

This map spatially displays results from the LHEES Stage 4 analysis for Category 1 Off-Gas properties. This map shows one of the top 5 delivery areas with the highest property counts.

Category 1 = properties which are considered to be highly suited to a heat pump solution, as there is an existing wet heating system in place and the property is well insulated

- Off Gas Category 1 Delivery Areas
- Council High-Rise Blocks
- Council Non-domestic Retrofit
- Council Owned Domestic
- Council Owned Non-domestic

5.20. Heat Network Zone 01: New Town

5.20.1. Headline information on the first prospective Heat Network Zone, “New Town”, is set out in the below table:

Table 41: Headline information on Heat Network Zone 01: New Town

LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	112,025
Total loads	1,560
Anchor loads	37
Area	52 hectares

5.20.2. This Heat Network Zone encompasses Edinburgh’s first New Town, along with the adjacent St James Quarter. It includes multiple large buildings, including shops, hotels, offices, and civic buildings such as General Register House. The Council has relatively few building ownerships in this Heat Network Zone with the most significant being the Assembly Rooms complex on George Street.

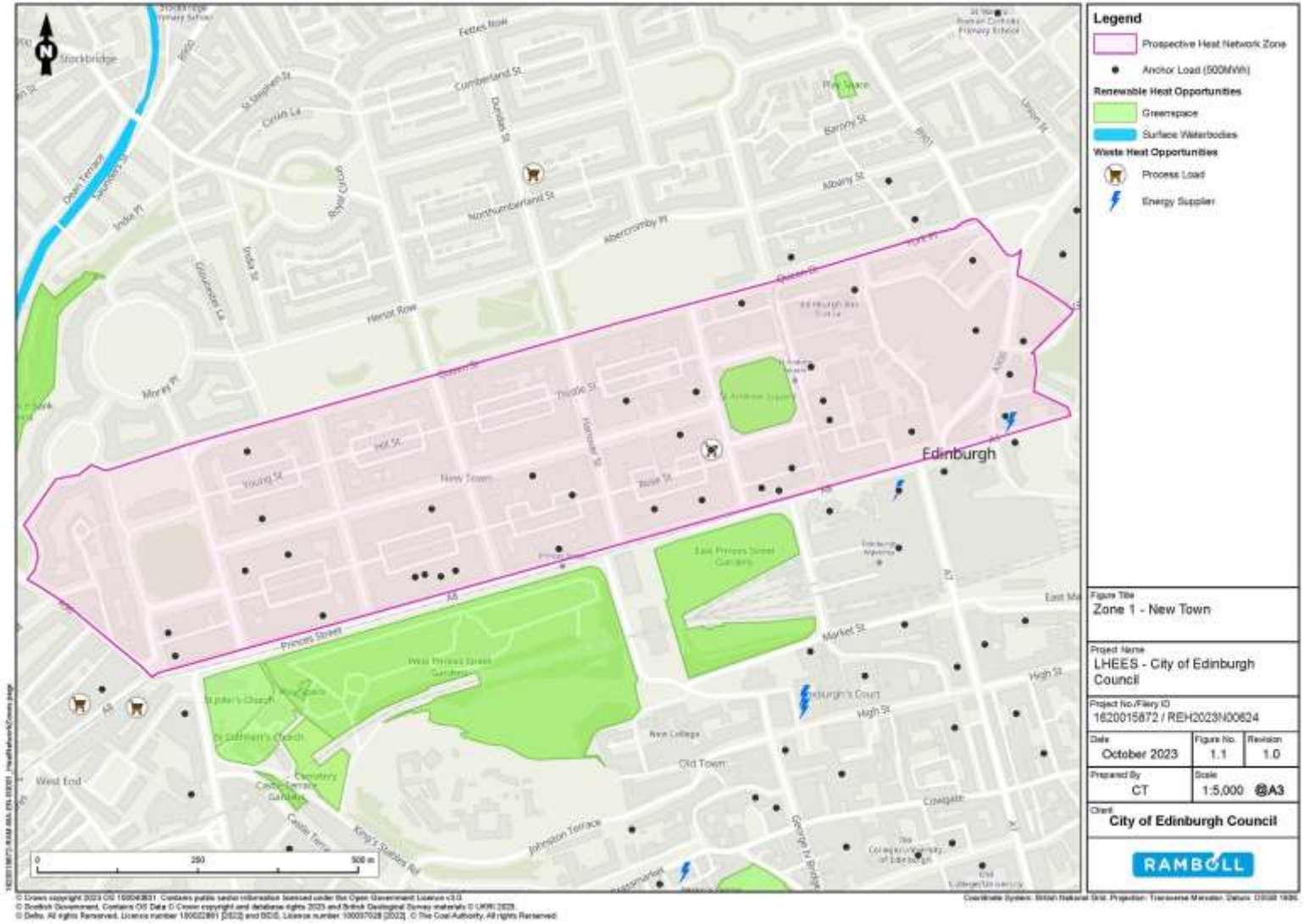
5.20.3. Potential heat sources within this Heat Network Zone include the Sainsbury's supermarket on St Andrew Square, a major sewer running beneath Princes Street Gardens, and green spaces such as Charlotte Square and St Andrew Square.

5.20.4. This Heat Network Zone forms part of the largest potential Heat Network Zone in Edinburgh identified in the First National Assessment.

5.20.5. The key challenges associated with the delivery of a heat network in this area concern its historical character. The bulk of buildings in the area are listed, making any interventions complex. The subterranean conditions are particular complex with shallow basements, utilities, and old concrete tram sleepers. The heavily built-up nature of the New Town, coupled with its protected character, may also make finding a suitable location for an energy centre challenging.

5.20.6. The planned public realm works to George Street may represent an opportunity to future proof via the installation of ducts for pipes. Consideration would be needed as to whether this represents the optimal route for pipes.

5.20.7. A preliminary assessment of this Heat Network Zone suggests that it may have potential, but that the practical challenges and the Council’s limited ownerships may prove significant impediments.



5.21. Heat Network Zone 02: Leith Walk

5.21.1. Headline information on the second prospective Heat Network Zone, "Leith Walk", is set out in the below table:

Table 42: Headline information on Heat Network Zone 02: Leith Walk

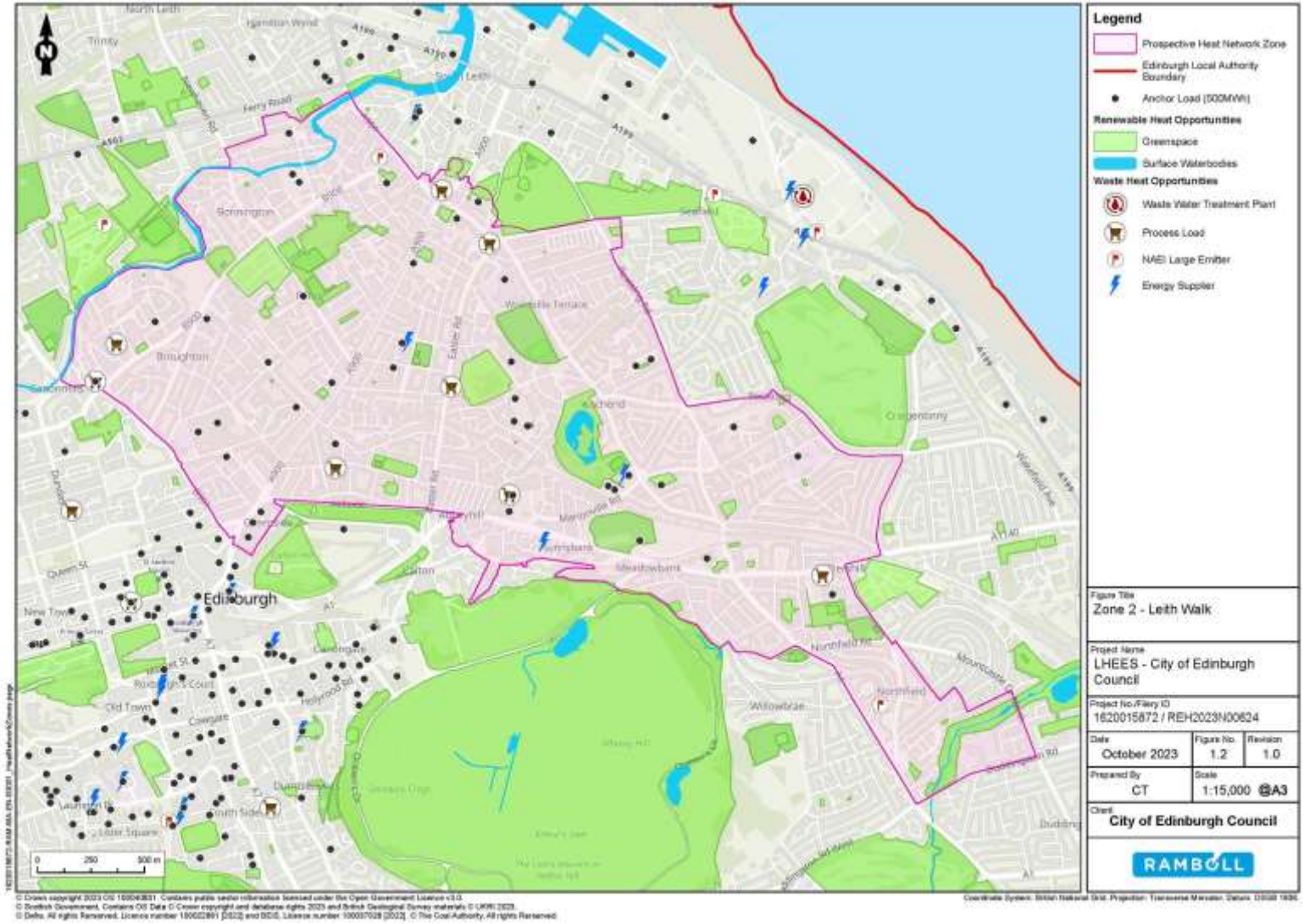
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	439,127
Total loads	15,149
Anchor loads	43
Area	551 hectares

5.21.2. This Heat Network Zone encompasses the urban corridor between Edinburgh city centre and Leith. This is a heavily built-up area that includes some of the most densely populated parts of Scotland. The anchor loads across the site include a number of industrial properties which it is judged may came forward for redevelopment in future so further analysis would be required to identify a refined list of anchor loads offering the greatest certainty. The anchor loads are relatively dispersed across the Heat Network Zone meaning there is no obvious nexus for a heat network in this location. Key Council-owned buildings in this Heat Network Zone include Drummond Community High School and Leith Academy.

5.21.3. Potential heat sources in this Heat Network Zone include multiple supermarkets; multiple major sewers running beneath the site (particularly a sewer running east-west across the site with a flow rate of over 832.24 litres per second); green spaces such as Lochend Park and Pilrig Park; and water bodies such as the Water of Leith.

5.21.4. The area in question is densely developed with many historical properties. The route for pipes will be a key consideration. It is recognised that Leith Walk in particular has seen extensive works in recent years and any further excavations would cause additional disruption.

5.21.5. A preliminary assessment of this Heat Network Zone suggests that it may have potential, but that the scattered nature of the anchor loads may make delivery complex.



5.22. Heat Network Zone 03: Old Town & Southside

5.22.1. Headline information on the third prospective Heat Network Zone, "Old Town & Southside", is set out in the below table:

Table 43: Headline information on Heat Network Zone 03: Old Town & Southside

LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	706,174
Total loads	12,736
Anchor loads	149
Area	568 hectares

5.22.2. This Heat Network Zone encompasses Edinburgh's Old Town, along with the modern Exchange District and Fountainbridge neighbourhoods to the west. It stretches south to the University of Edinburgh's King's Buildings campus. This Heat Network Zone includes a wide variety of anchor loads, including hotels, offices, and civic buildings. The University of Edinburgh is a key stakeholder within this Heat Network Zone with its various central campuses, the aforementioned King's Buildings campus, and the Pollock Halls student accommodation area falling within the Zone. Key Council-owned buildings include the Royal Lyceum Theatre; Tollcross Primary School; and Usher Hall.

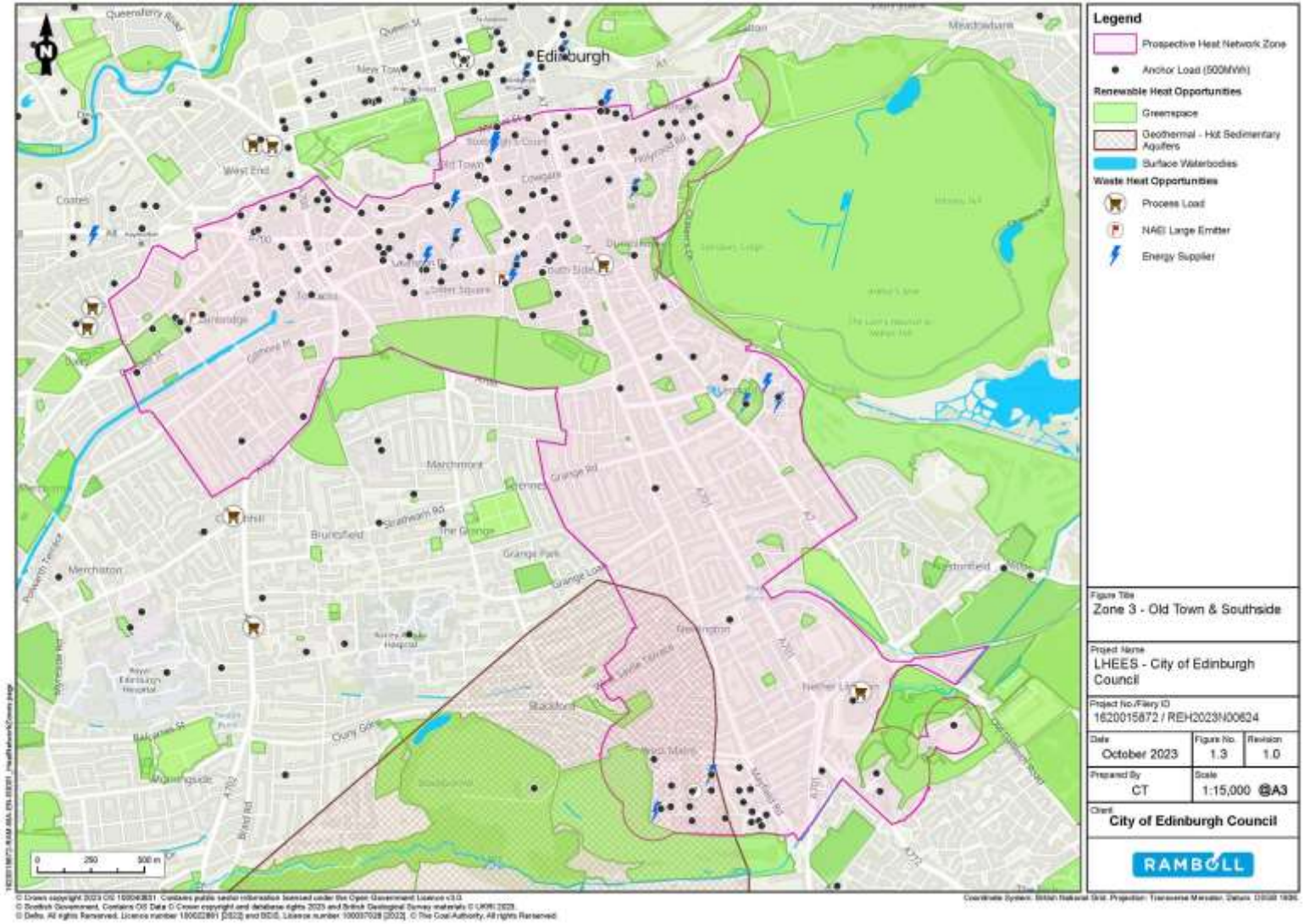
5.22.3. The anchor loads in this Heat Network Zone are somewhat clustered around the arterial roads running west to east from Dundee Street to Holyrood Road, suggesting this may represent a logical pipe route, potentially with a spur running up Lothian Road. Planning public realm and active travel works at Fountainbridge and Lothian Road may represent an opportunity to future proof via the installation of ducts for pipes. A connection to the southern part of the site may prove more challenging.

5.22.4. Potential heat sources within this Heat Network Zone include supermarkets; multiple major sewers; the Union Canal; green spaces such as the Meadows; substations; and potential geothermal resources to the south.

5.22.5. This Heat Network Zone forms part of the largest potential Heat Network Zone in Edinburgh identified in the First National Assessment.

5.22.6. The key challenges associated with the delivery of a heat network in this area concern its historical character coupled with challenging subterranean conditions.

5.22.7. A preliminary assessment of this Heat Network Zone suggests that it has strong potential given the clustering of anchor loads and the range of potential heat sources.



5.23. Heat Network Zone 04: Gorgie & Dalry

5.23.1. Headline information on the fourth prospective Heat Network Zone, “Gorgie & Dalry”, is set out in the below table:

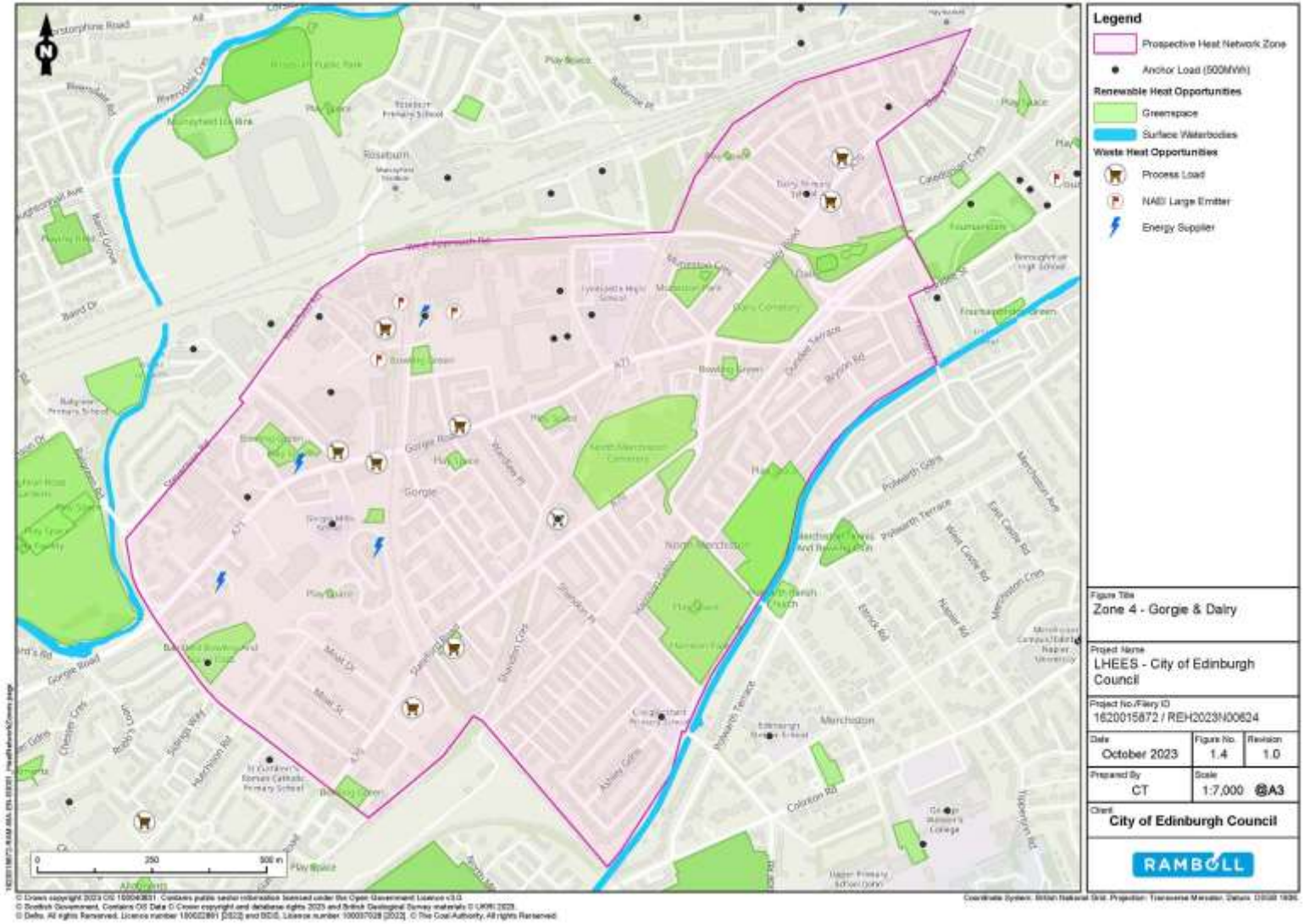
Table 44: Headline information on Heat Network Zone 04: Gorgie & Dalry

LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	630,021
Total loads	3,846
Anchor loads	14
Area	168 hectares

5.23.2. This Heat Network Zone encompasses neighbourhoods to the southwest of Edinburgh city centre. It has relatively few anchor loads, with such loads as there are being primarily located to the north of the site. Key Council-owned buildings include Tynecastle High School and Craiglockhart Primary School.

5.23.3. Potential heat sources within this Heat Network Zone include multiple supermarkets; major industrial uses at Wheatfield Road; the Union Canal; and green spaces such as Harrison Park.

5.23.4. A preliminary assessment of this Heat Network Zone suggests that it may have lesser potential than other Zones due primarily to the relatively low number of anchor loads.



5.24. Heat Network Zone 05: Craigleith

5.24.1. Headline information on the fifth prospective Heat Network Zone, “Craigleith”, is set out in the below table:

Table 45: Headline information on Heat Network Zone 05: Craigleith

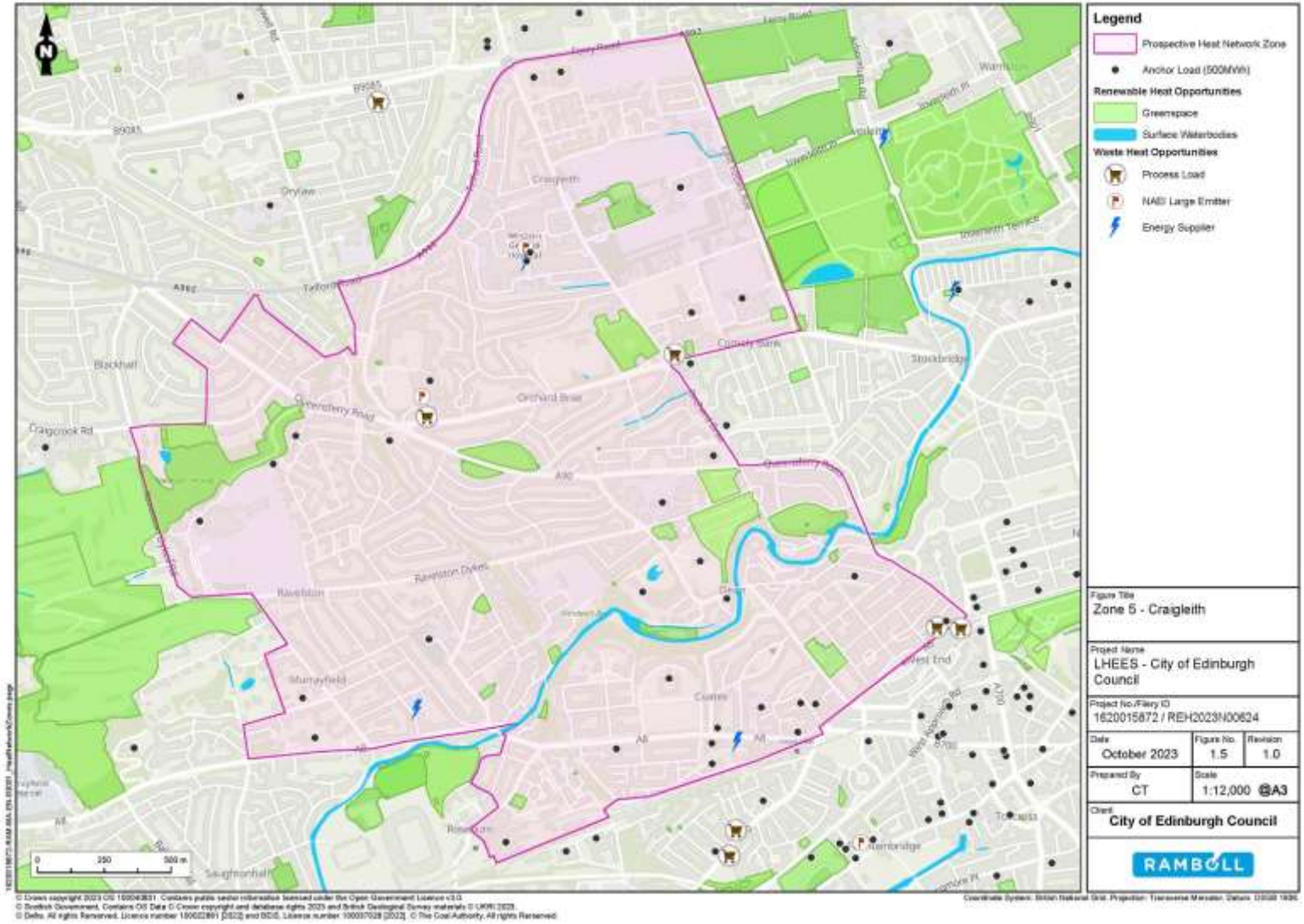
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	287,103
Total loads	7,589
Anchor loads	33
Area	506 hectares

5.24.2. This Heat Network Zone encompasses neighbourhoods to the northwest of Edinburgh city centre. Anchor loads in this Heat Network Zone including the Western General Hospital. Key Council-owned buildings include Broughton High School.

5.24.3. The anchor loads in this Heat Network Zone are relatively dispersed.

5.24.4. Potential heat sources within this Heat Network Zone include supermarkets and the Water of Leith.

5.24.5. A preliminary assessment of this Heat Network Zone suggests that it may have lesser potential than other Zones due primarily to scattered nature of the anchor loads.



5.25. Heat Network Zone 06: Granton

5.25.1. Headline information on the sixth prospective Heat Network Zone, "Granton", is set out in the below table:

Table 46: Headline information on Heat Network Zone 06: Granton

LHD level	4,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	190,383
Total loads	8,425
Anchor loads	26
Area	522 hectares

5.25.2. This Heat Network Zone encompasses the Granton Waterfront regeneration area in north Edinburgh – including brownfield land in and around the former Granton Gasworks – along with the housing estates of Muirhouse, Pennywell, and Pilton to the south. The Council itself has significant land and property ownerships in this area.

5.25.3. The anchor loads in this Heat Network Zone are somewhat clustered to the north of West Granton Road, with a smaller cluster around Ferry Road. The project developed by the Council focuses on the northern cluster, with the potential to add links to the southern cluster. In principle, the heat network could be expanded organically in future to encompass the other areas of the wider Heat Network Zone. A key aspect of this Heat Network Zone is the large-scale new housing and other development led by the Council planned for the Granton Waterfront regeneration area, with the intention being that these new properties will connect to the heat network from the outset.

5.25.4. Potential heat sources within this Heat Network Zone include the Firth of Forth; major sewers; supermarkets; and substations. Assessments commissioned by the Council suggest that the preferred solution would be a 4-megawatt heat pump utilising heat from the sewer running beneath Granton Waterfront, supplemented by two 10 megawatt electric boilers.

5.25.5. This Heat Network Zone is currently the subject of a live project, with the Council aiming to have a concessionaire to design, build and operate a heat network fully appointed by Q1 2025 and the first phase of the heat network operational in 2026. The development of this heat network is expected to inform projects to roll out heat networks in other Zones.

5.26. Heat Network Zone 07: Leith

5.26.1. Headline information on the seventh prospective Heat Network Zone, “Leith”, is set out in the below table:

Table 47: Headline information on Heat Network Zone 07: Leith

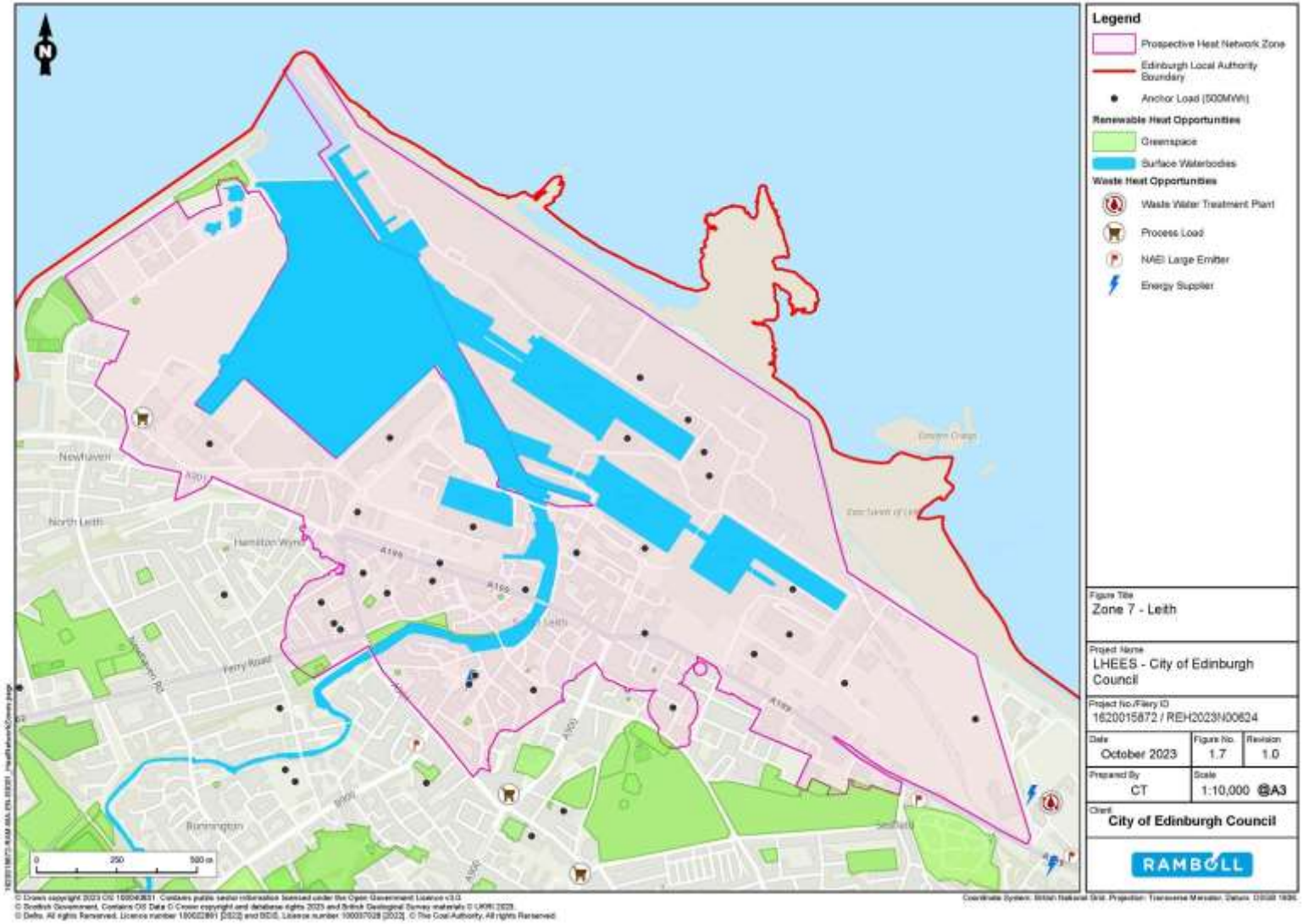
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	119,369
Total loads	2,047
Anchor loads	32
Area	273 hectares

5.26.2. This Heat Network Zone encompasses the Port of Leith along with surrounding residential and commercial areas.

5.26.3. The anchor loads in this Heat Network Zone are primarily within the Port of Leith, along with buildings such as the Ocean Terminal shopping centre, the Victoria Quay office building (home to Scottish Government officers), and other commercial properties.

5.26.4. Potential heat sources within this Heat Network Zone include the Firth of Forth, major sewers, and the Seafield Waste Water Treatment Plant immediately to the east.

5.26.5. Forth Ports, as the owner and operator of the Port of Leith, would be a key partner in the development of a heat network in this area.



5.27. Heat Network Zone 08: Portobello & Seafield

5.27.1. Headline information on the eighth prospective Heat Network Zone, "Portobello & Seafield", is set out in the below table:

Table 48: Headline information on Heat Network Zone 08: Portobello & Seafield

LHD level	4,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	88,143
Total loads	2,975
Anchor loads	10
Area	218 hectares

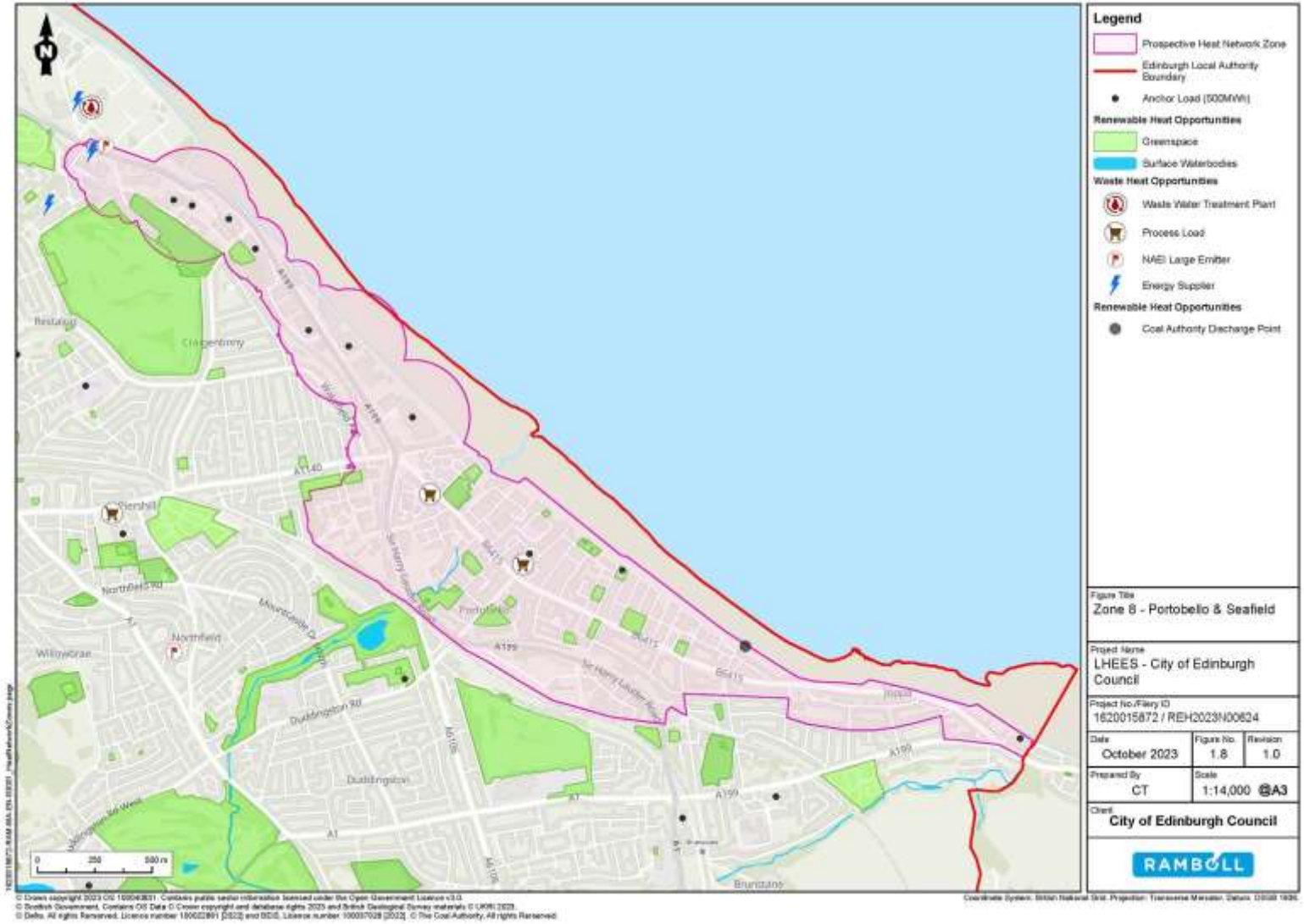
5.27.2. This Heat Network Zone encompasses a strip of land along the coast of Edinburgh between Seafield and Joppa. It includes the historical suburbs of Portobello and Joppa along with land at Seafield primarily occupied by industrial units and retail warehouses. The land at Seafield is proposed to be largely redeveloped to deliver a new residential-led mixed-use neighbourhood., which could in principle be connected to a heat network from the outset.

5.27.3. The anchor loads in this Heat Network Zone are generally located to the northeast of Seafield Road East and Portobello High Street, suggesting that this may be a local pipe route.

5.27.4. Potential heat sources within this Heat Network Zone include the Firth of Forth; a major sewer running under the Zone; and the Seafield Waste Water Treatment Plant. As part of early work around the redevelopment, initial assessment has been carried out into the scope to utilise waste heat from the Treatment Plant.

5.27.5. Many of the anchor loads in this area are existing commercial uses in Seafield, which as set out above is earmarked as a potential strategic redevelopment area. Any development of a heat network in this Zone would need to be integrated with development proposals, including any excavation works associated with active travel upgrades and other projects.

5.27.6. This Heat Network Zone may offer potential for a cross-boundary Heat Network Zone as it abuts Musselburgh in East Lothian.



5.28. Heat Network Zone 09: Morningside

5.28.1. Headline information on the ninth prospective Heat Network Zone, “Morningside”, is set out in the below table:

Table 49: Headline information on Heat Network Zone 09: Morningside

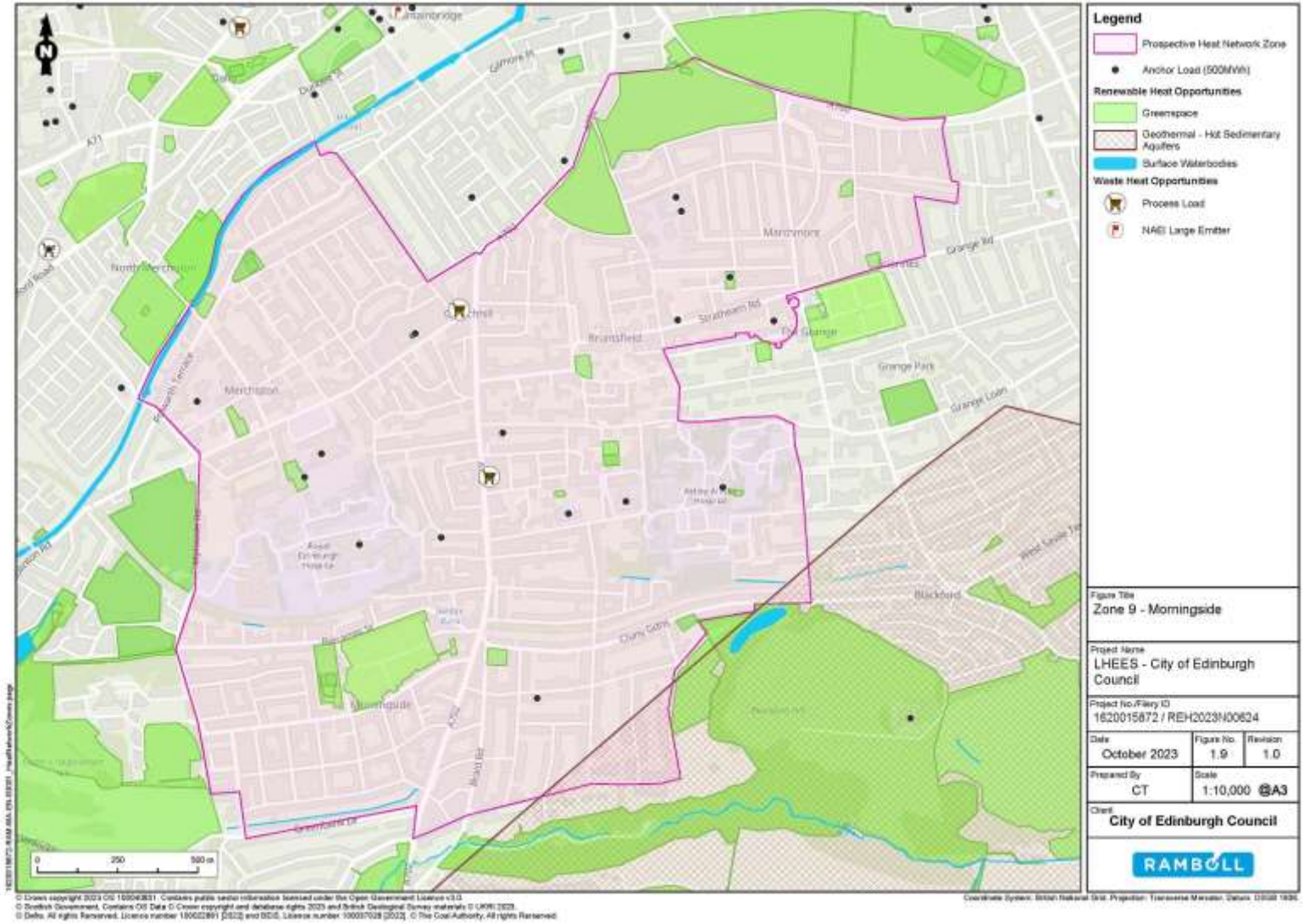
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	283,938
Total loads	7,306
Anchor loads	17
Area	373 hectares

5.28.2. This Heat Network Zone encompasses suburban neighbourhoods such as Bruntsfield, Marchmont, Merchiston, and Morningside to the east and west of Morningside Road. It is primarily residential, with ground-floor commercial uses.

5.28.3. The anchor loads in this Heat Network Zone include the Royal Edinburgh Hospital, the Merchiston campus of Edinburgh Napier University, and George Watson’s College. Key Council ownerships include James Gillespie's High School. The Astley Ainslie Hospital is earmarked for closure and represents a redevelopment opportunity.

5.28.4. Potential heat sources within this Heat Network Zone include a major sewer and supermarkets, with geothermal potential identified to the south of the Zone.

5.28.5. Engagement with NHS Lothian, Edinburgh Napier University, and other key stakeholders would be essential in bringing forward a heat network in this area.



5.29. Heat Network Zone 10: South East Edinburgh

5.29.1. Headline information on the tenth prospective Heat Network Zone, "South East Edinburgh", is set out in the below table:

Table 50: Headline information on Heat Network Zone 10: South East Edinburgh

LHD level	4,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	187,528
Total loads	8,422
Anchor loads	38
Area	809 hectares

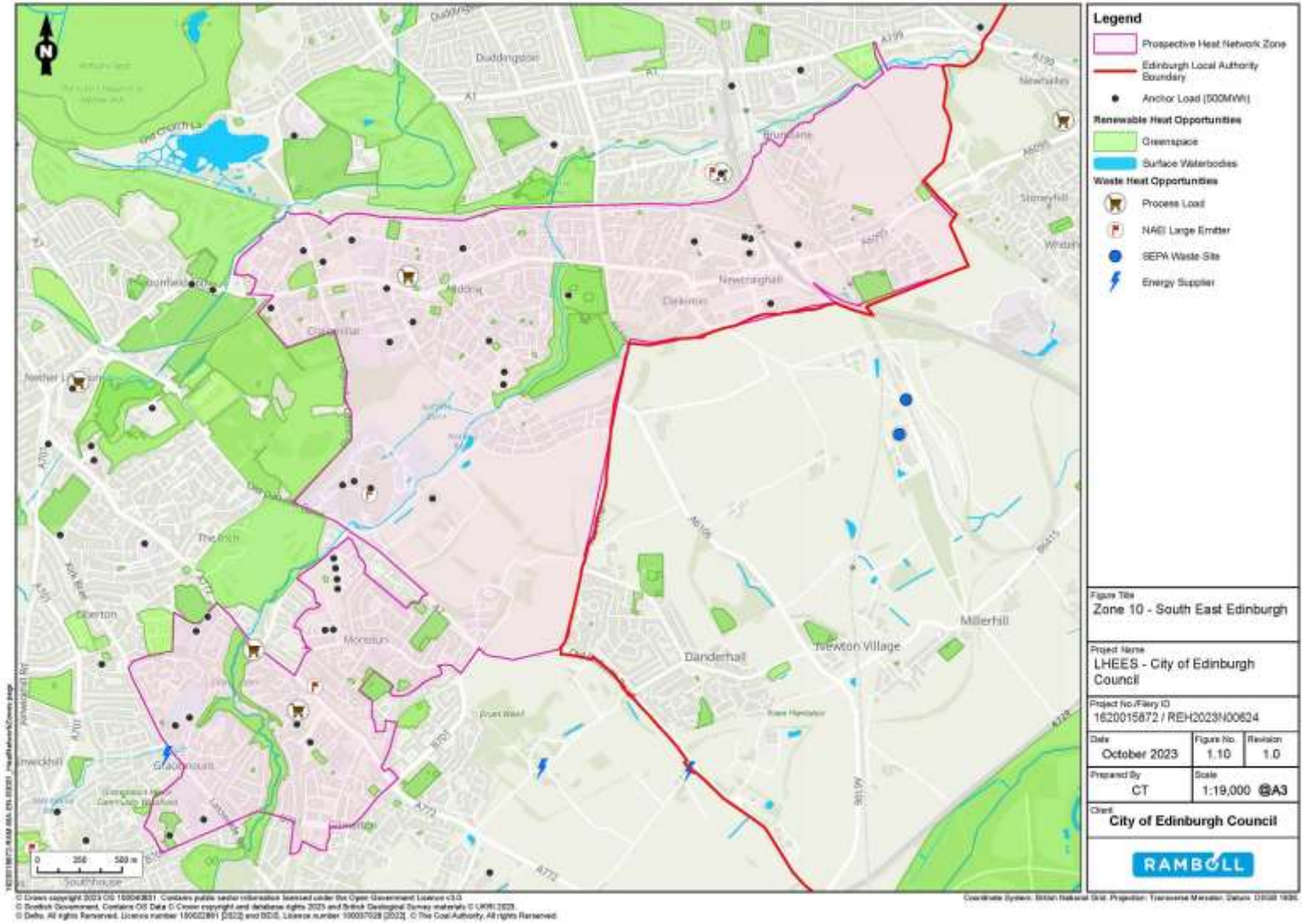
5.29.2. This Heat Network Zone encompasses land in southeast Edinburgh, including the suburbs of Gracemount and Moredun; Edinburgh BioQuarter; the residential neighbourhoods of Craigmillar, Greendykes, and Niddrie; and Fort Kinnaird retail park. It includes major development areas such as Edinburgh BioQuarter and Brunstane.

5.29.3. There are a large number of anchor loads in this Heat Network Zone with multiple small clusters including Council buildings at Gracemount and Craigmillar, Edinburgh BioQuarter (particularly the Royal Infirmary of Edinburgh), and Fort Kinnaird.

5.29.4. Potential heat sources within this Heat Network Zone include supermarkets and water courses along with the Millerhill Recycling and Energy Recovery Centre (MRERC) to the southeast.

5.29.5. Significant work has been undertaken to date around the prospect for a heat network in this area. The Council has worked with NHS Lothian and the University of Edinburgh to explore the scope for a heat network operated by Midlothian Energy Limited and fed by the MRERC to serve Edinburgh BioQuarter and the surrounding area. Separately, the Council has previously explored the scope for a heat network serving a cluster of Council and NHS Lothian-owned buildings in Gracemount using a closed loop 750-kilowatt ground source heat pump with a 2,300-kilowatt electric boiler top-up.

5.29.6. This Heat Network Zone may offer potential for a cross-boundary Heat Network Zone as it abuts both Midlothian and East Lothian.



5.30. Heat Network Zone 11: Colinton Mains

5.30.1. Headline information on the eleventh prospective Heat Network Zone, “Colinton Mains”, is set out in the below table:

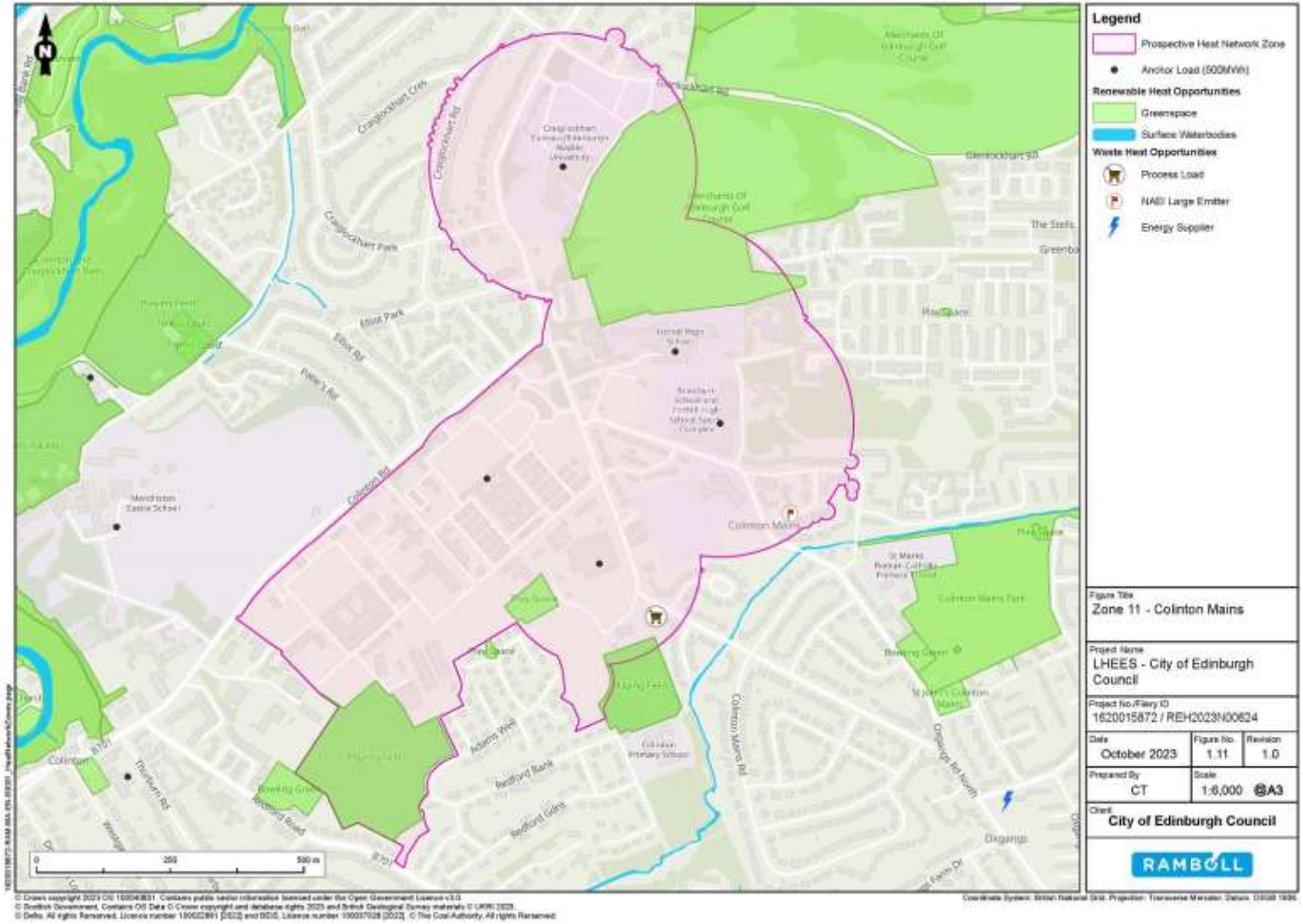
Table 51: Headline information on Heat Network Zone 11: Colinton Mains

LHD level	4,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	11,675
Total loads	312
Anchor loads	5
Area	81 hectares

5.30.2. This Heat Network Zone encompasses land in southwest Edinburgh. It is based upon a cluster of five anchor loads: Redford Barracks, a Tesco supermarket at Colinton Mains Drive, the Craiglockhart campus of Edinburgh Napier University, Firrhill School, and Braidburn School.

5.30.3. Relatively few potential heat sources have been identified within this Heat Network Zone.

5.30.4. Given the low number of anchor loads within this Heat Network Zone, buy-in from all anchor loads will likely be necessary to take forward delivery of a heat network here. Consideration would also require to be given to the heat source for any network.



5.31. Heat Network Zone 12: South West Edinburgh

5.31.1. Headline information on the twelfth prospective Heat Network Zone, "South West Edinburgh", is set out in the below table:

Table 52: Headline information on Heat Network Zone 12: South West Edinburgh

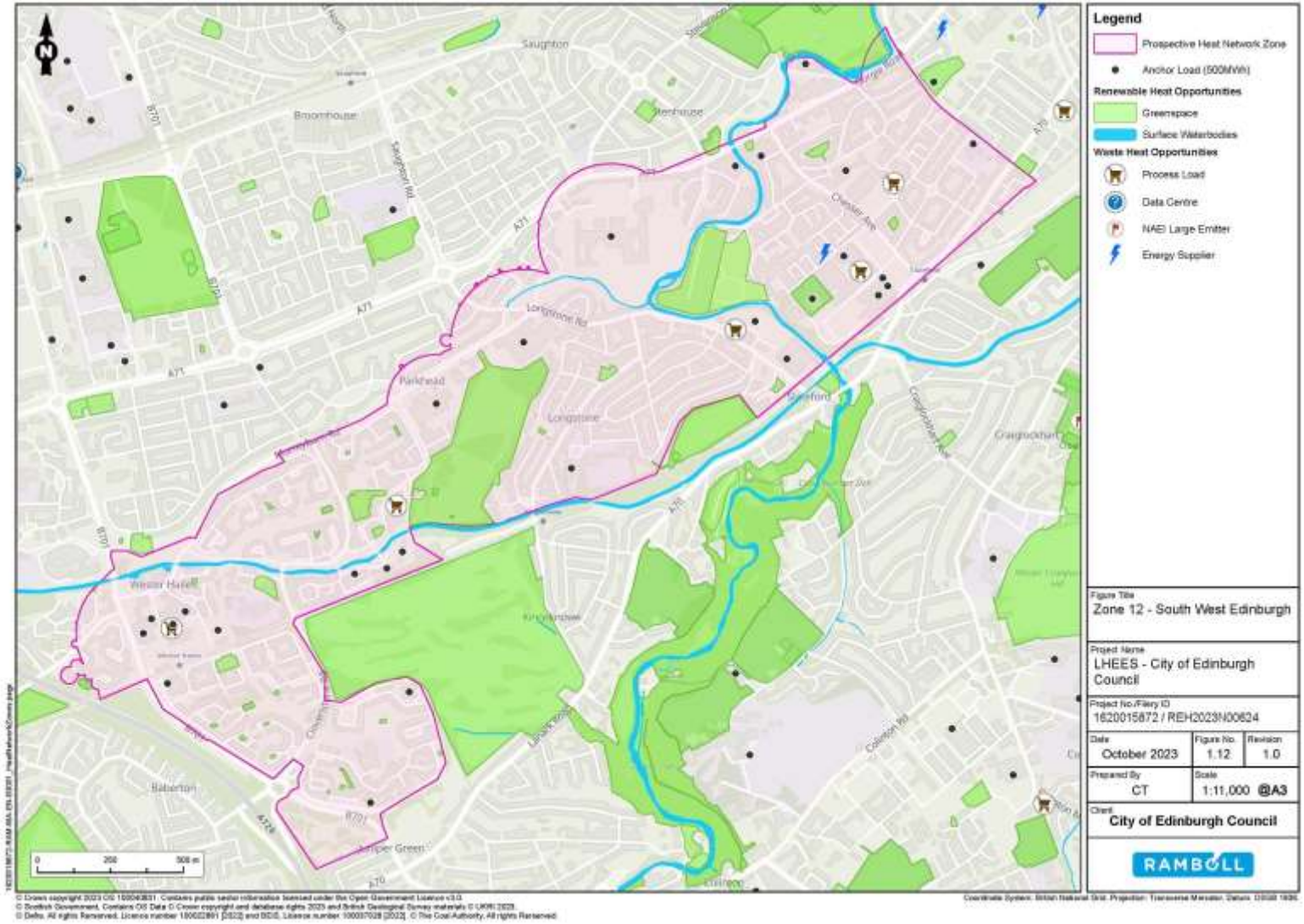
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	119,474
Total loads	4,214
Anchor loads	27
Area	276 hectares

5.31.2. This Heat Network Zone encompasses a wedge of land in southwest Edinburgh stretching from Wester Hailes to Slateford. This area is primarily residential but also includes Westside Plaza shopping centre, industrial units at Murrayburn, HMP Edinburgh, and a cluster of retail and leisure units in Slateford.

5.31.3. The anchor loads in this Heat Network Zone are relatively scattered with multiple small clusters. Council ownerships include Longstone Primary School.

5.31.4. Potential heat sources within this Heat Network Zone include supermarkets and potentially also the Union Canal and Water of Leith.

5.31.5. A preliminary assessment of this Heat Network Zone suggests that it may have lesser potential than other Zones given the scattered distribution of anchor loads.



5.32. Heat Network Zone 13: Heriot-Watt

5.32.1. Headline information on the thirteenth prospective Heat Network Zone, "Heriot-Watt", is set out in the below table:

Table 53: Headline information on Heat Network Zone 13: Heriot-Watt

LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	68,751
Total loads	80
Anchor loads	17
Area	153 hectares

5.32.2. This Heat Network Zone encompasses Heriot-Watt University's campus at Riccarton, Edinburgh. The land includes various teaching and research buildings, along with student accommodation, commercial buildings within Heriot-Watt Research Park, and the Oriam sports facility. The Zone includes significant amounts of land earmarked for future development.

5.32.3. Potential heat sources within this Heat Network Zone include green spaces, watercourses, and a major sewer to the east. The quantum of land may also create opportunities for large-scale solar installations.

5.32.4. Any development of a heat network in this Zone will be at the discretion of Heriot-Watt University, with the Council supporting as required.

5.33. Heat Network Zone 14: Sighthill & Gyle

5.33.1. Information on the fourteenth prospective Heat Network Zone, “Sighthill & Gyle”, is set out in the below table:

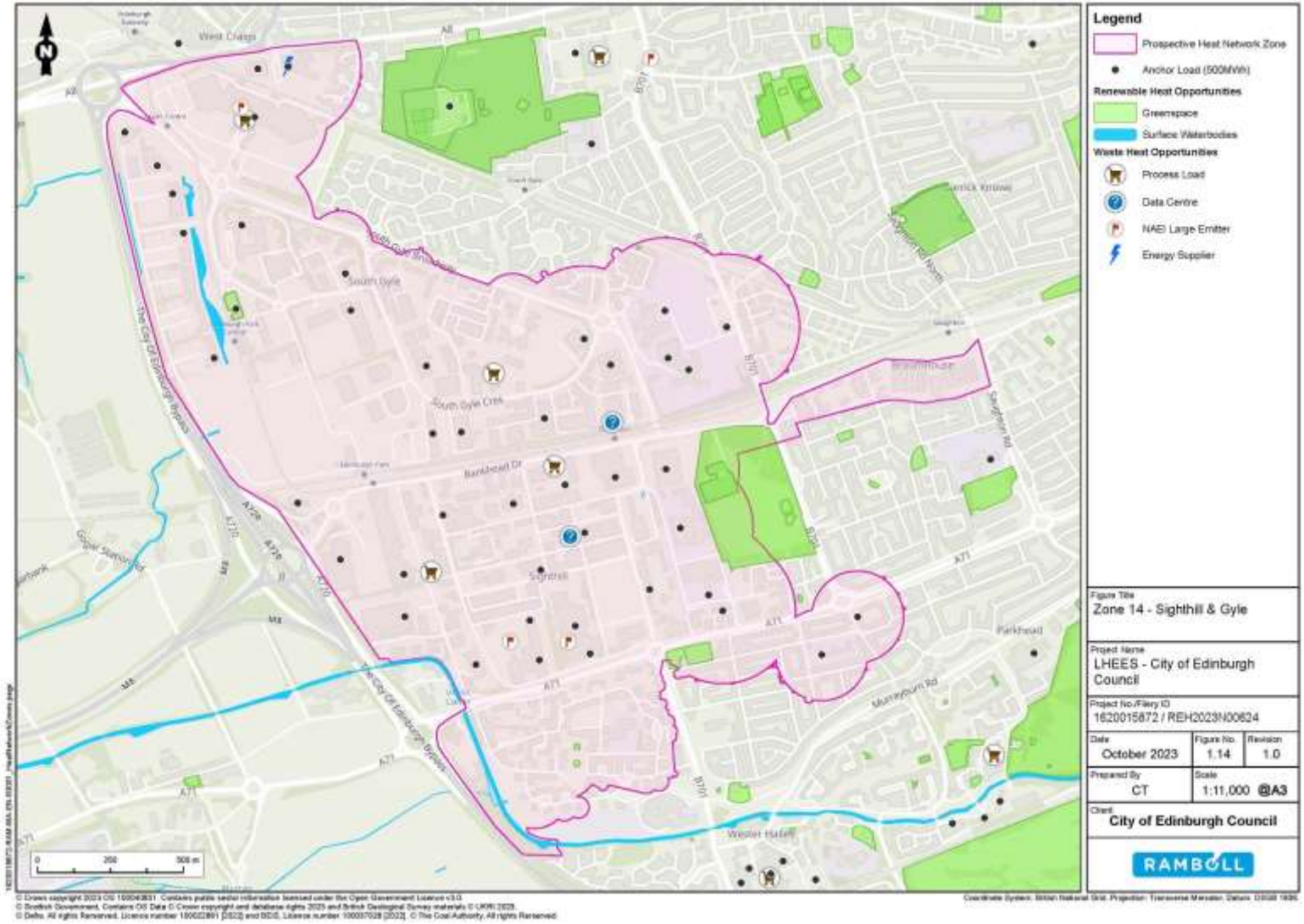
Table 54: Headline information on Heat Network Zone 14: Sighthill & Gyle

LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	138,136
Total loads	2,148
Anchor loads	45
Area	369 hectares

5.33.2. This Heat Network Zone encompasses the Sighthill and South Gyle areas of Edinburgh. It includes a variety of different areas, including industrial units, large office buildings, housing estates, a cluster of public sector buildings in the southeast, the Gyle shopping centre, Hermiston Gait retail park, and hotels. The Zone is relatively densely populated with anchor loads, with a number of smaller clusters. Significant new development is planned for the southern phase of Edinburgh Park.

5.33.3. Potential heat sources within this Heat Network Zone include data centres, supermarkets, major sewers, industrial buildings, and watercourses.

5.33.4. A preliminary assessment of this Heat Network Zone suggests that it has strong potential given the number and variety of anchor loads and the range of potential heat sources.



5.34. Heat Network Zone 15: Ingliston

5.34.1. Headline information on the fifteenth prospective Heat Network Zone, “Ingliston”, is set out in the below table:

Table 55: Headline information on Heat Network Zone 15: Ingliston

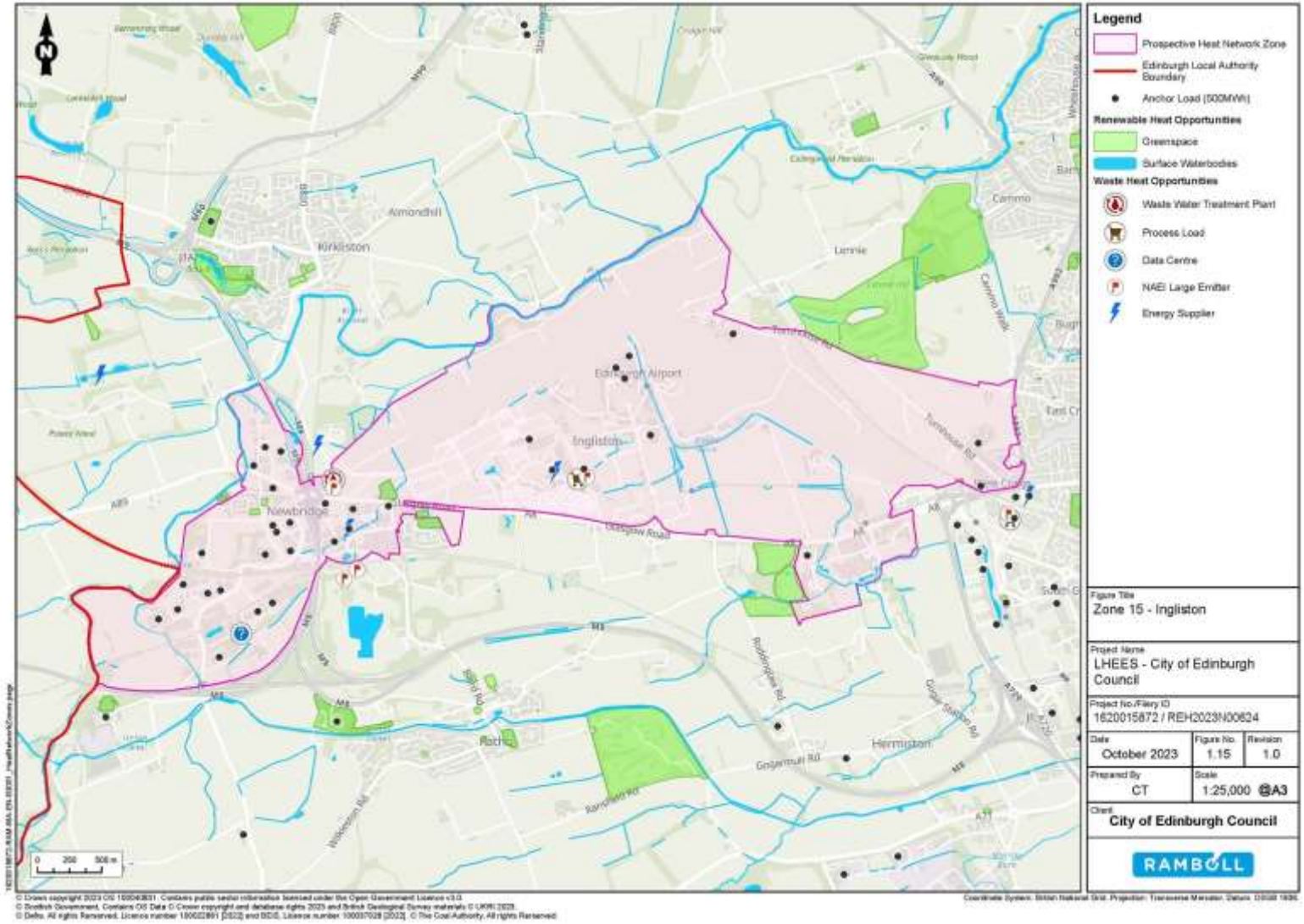
LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	90,287
Total loads	614
Anchor loads	34
Area	1,049 hectares

5.34.2. This Heat Network Zone is centred on Edinburgh Airport; it also includes the Royal Highland Showground, large areas of residential development land, the Gogarburn office complex, and the village of Newbridge, which includes a significant quantum of industrial space along with residential areas.

5.34.3. The anchor loads in this Heat Network Zone include the Airport itself along with Gogarburn and multiple industrial properties in Newbridge.

5.34.4. Potential heat sources within this Heat Network Zone include watercourses and various industrial uses and data centres in Newbridge. The quantum of land may also create opportunities for large-scale solar installations.

5.34.5. Edinburgh Airport is currently exploring the development of a heat network that would initially serve the Airport, but with scope for future expansion.



5.35. Heat Network Zone 16: South Queensferry

5.35.1. Headline information on the sixteenth prospective Heat Network Zone, “South Queensferry”, is set out in the below table:

Table 56: Headline information on Heat Network Zone 16: South Queensferry

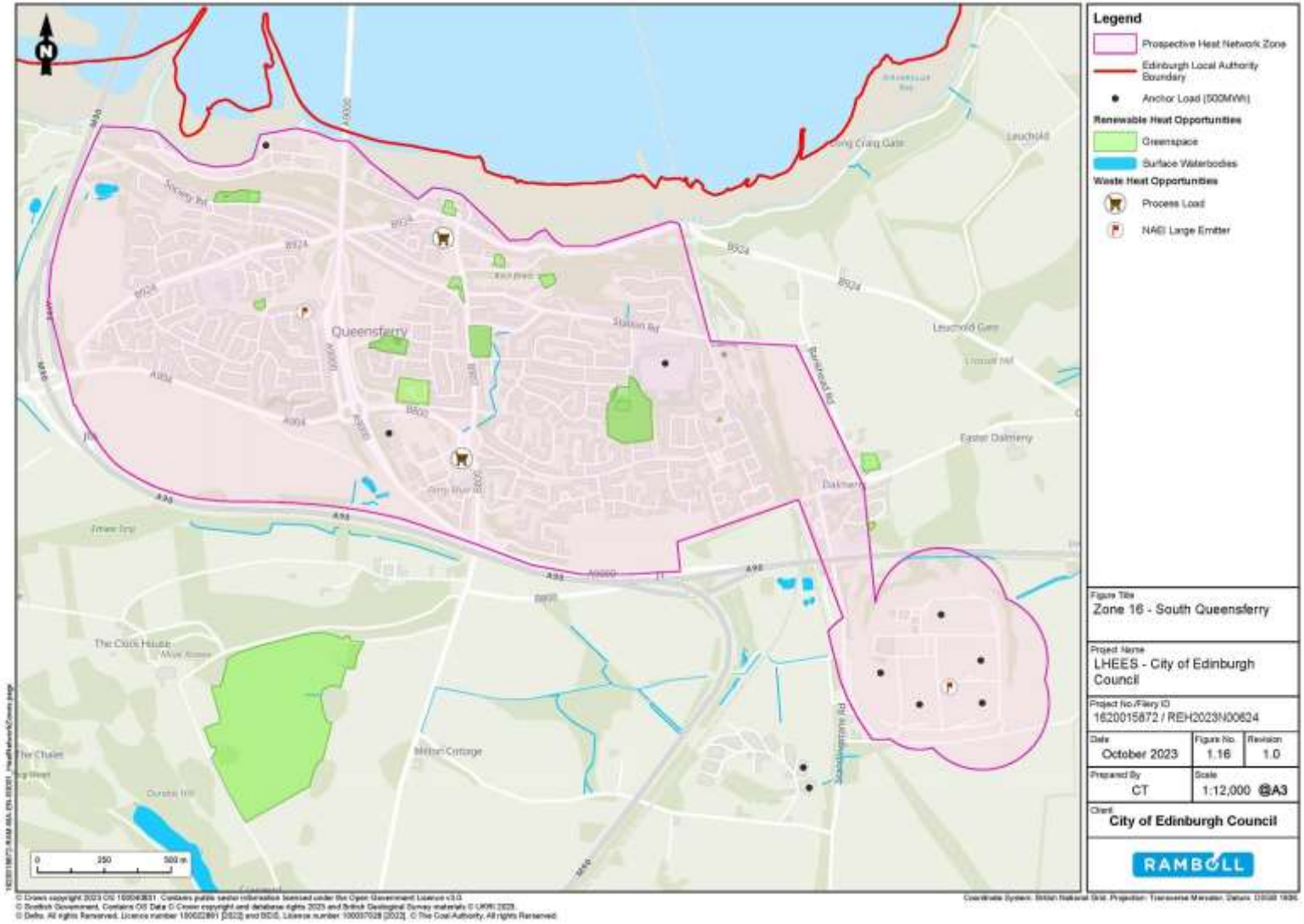
LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	75,742
Total loads	4,253
Anchor loads	8
Area	389 hectares

5.35.2. This Heat Network Zone encompasses the town of South Queensferry along with the adjacent village of Dalmeny. The area is primarily residential.

5.35.3. Anchor loads in this Heat Network Zone are concentrated in the Dalmeny Tank Farm in the southeast of the site, a facility owned by INEOS used for oil storage. Other anchor loads include Queensferry High School.

5.35.4. Potential heat sources within this Heat Network Zone include the Firth of Forth along with waste heat sources such as the Dalmeny Tank Farm.

5.35.5. Any development of a heat network in this area will requirement engagement with INEOS given the importance of the Dalmeny Tank Farm.



5.36. Heat Network Zone 17: Second New Town

5.36.1. Headline information on the seventeenth and final prospective Heat Network Zone, "Second New Town", is set out in the below table:

Table 57: Headline information on Heat Network Zone 17: Second New Town

LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	185,446
Total loads	6,284
Anchor loads	10
Area	150 hectares

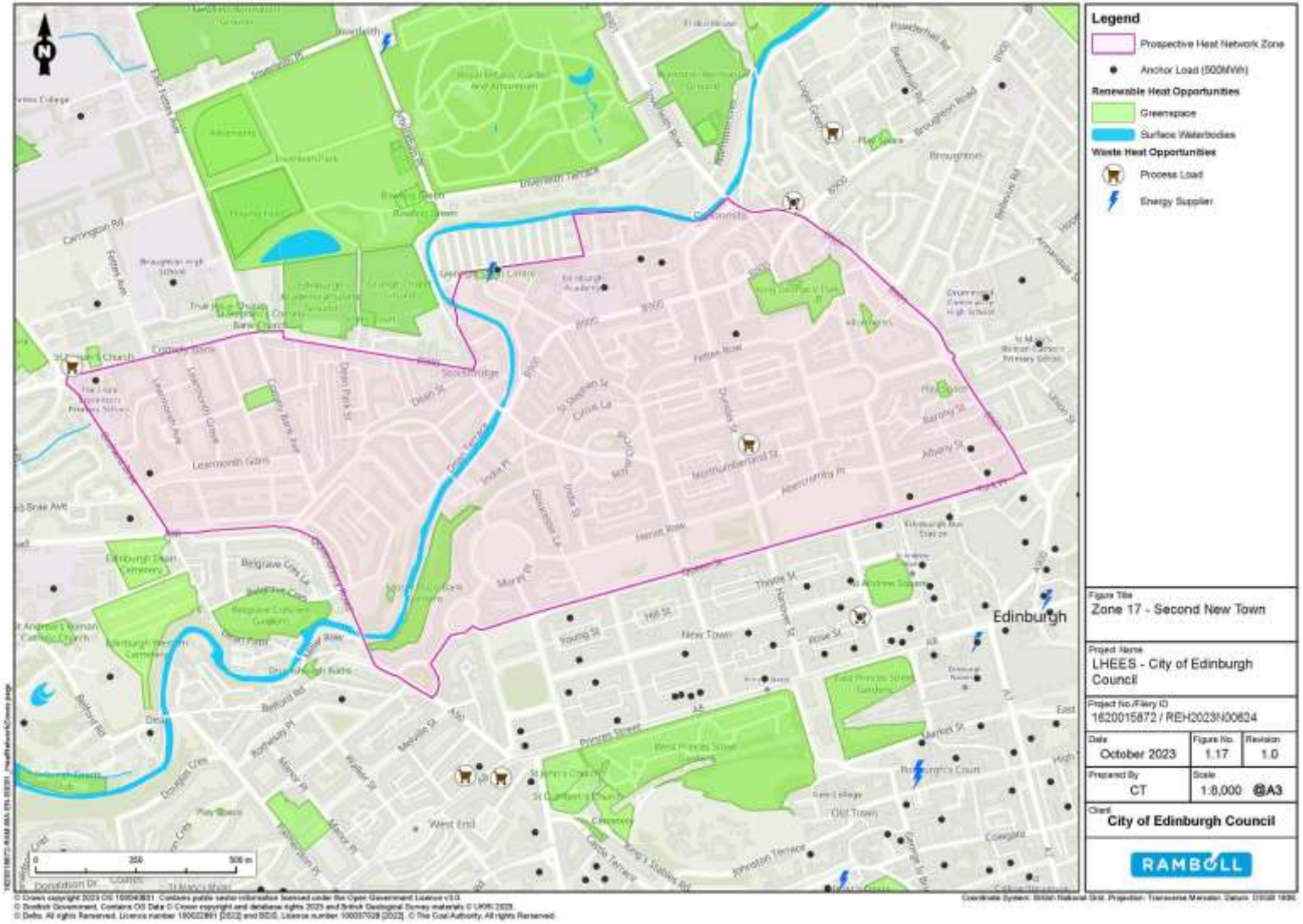
5.36.2. This Heat Network Zone includes Edinburgh's Second New Town, as developed in the early 19th century, and surrounding areas. The Water of Leith runs diagonally through the site.

5.36.3. The anchor loads in this Heat Network Zone are somewhat fragmented with no clear pipe route presenting itself.

5.36.4. Potential heat sources within this Heat Network Zone include a major sewer that runs under the Zone and, potentially, the Water of Leith.

5.36.5. The key challenge associated with the delivery of a heat network in this area concern its historical character coupled with the physical barrier of the Water of Leith.

5.36.6. A preliminary assessment of this Heat Network Zone suggests that it may have lesser potential than other Zones due primarily to scattered nature of the anchor loads coupled with practical difficulties associated with the historicity of the area and the Water of Leith.



6. Monitoring of actions

Table 58: Schedule of actions

#	Action	Lead Council service	Key partners	Deadline	Considerations
1	Update and revise the Delivery Plan as required.	LHEES Office	N/A	Ongoing	1,2,3,4,5,6
2	Publish the outputs from the Edinburgh LHEES and Delivery Plan in a map-based format.	LHEES Office	N/A	Q4 2024	1,2,3,4,5,6
3	Integrate data from the Edinburgh LHEES with other Council datasets.	LHEES Office	N/A	Ongoing	1,2,3,4,5,6
4	Publish a second iteration of the Edinburgh LHEES and the Delivery Plan by the statutory deadline of December 2028.	LHEES Office	N/A	Q4 2028	1,2,3,4,5,6
5	Establish an LHEES Office on a skeleton basis.	Housing & Regeneration	N/A	Q2 2024	1,2,3,4,5,6
6	Engage with the Scottish Government around the case for revenue funding for the full establishment of an LHEES Office.	Housing & Regeneration	Scottish Government	Q2 2024	1,2,3,4,5,6
7	Develop appropriate governance structures for the delivery, monitoring, and evaluation of the Edinburgh LHEES and Delivery Plan.	LHEES Office	N/A	Q1 2024	1,2,3,4,5,6
8	Assess the potential role of Energy for Edinburgh Limited – the Council's energy services company – as part of the LHEES Office.	LHEES Office	Energy for Edinburgh Limited	Q2 2024	1,2,3,4,5,6
9	Maintain an up-to-date register of key stakeholders.	LHEES Office	Various	Ongoing	1,2,3,4,5,6
10	Establish and/or develop relationships with key stakeholders.	LHEES Office	Various	Ongoing	1,2,3,4,5,6
11	Develop a stakeholder engagement plan.	LHEES Office	Various	Q2 2024	1,2,3,4,5,6
12	Develop proposals for communications activity around the Edinburgh LHEES.	LHEES Office	N/A	Q2 2024	1,2,3,4,5,6
13	Produce a People Strategy and Strategic Workforce Plan to support the recruitment, retention, and development/training of staff for delivery of retrofit works.	Housing and Homelessness	N/A	Ongoing	4,5
14	Conduct an audit of the market in Edinburgh in terms of heat pump installers.	LHEES Office	N/A	Q3 2024	1,2
15	Engage with Scottish Enterprise around the scope to stage "meet the buyer" events to stimulate the supply chain for zero direct emissions heating solutions.	LHEES Office	Scottish Enterprise	Q3 2024	1,2,3

16	Assess the scope to pilot demand aggregation schemes for retrofit works.	LHEES Office	N/A	Q2 2026	1,2,4,5,6
17	Maintain a watching brief on the outputs of the Green Heat Finance Taskforce.	LHEES Office	Green Heat Finance Taskforce	Ongoing	1,2,3,4,5,6
18	Engage with financial providers with a presence in Edinburgh to better understand their products with respect to retrofit and energy efficiency, for example green mortgages.	LHEES Office	Various	Ongoing	1,2,3,4,5,6
19	Engage with potential investors to help them understand the nature and scale of opportunity associated with the Edinburgh LHEES.	LHEES Office	Various	Ongoing	1,2,3,4,5,6
20	Engage with Home Energy Scotland, Business Energy Scotland, and Local Energy Scotland to identify opportunities to jointly increase awareness in Edinburgh of the advice and resources these services can offer.	LHEES Office	Business Energy Scotland; Home Energy Scotland; Local Energy Scotland	Q2 2024	1,2,4,5,6
21	Engage with the Scottish Government around the scope to migrate capital funding for Council projects away from grants towards a contractual model providing greater certainty.	LHEES Office	Scottish Government	Q2 2024	1,2,3,4,5,6
22	Develop the heat network delivery framework as resources permit.	LHEES Office	Heat Network Support Unit	Ongoing	3
23	Develop the heat network delivery programme as resources permit.	LHEES Office	Heat Network Support Unit	Ongoing	3
24	Identify and progress retrofit projects for the energy efficiency Delivery Areas.	Housing and Homelessness	N/A	Ongoing	4,5
25	Produce a Retrofitting Strategy to steer the retrofit of the Council's housing estate.	Housing and Homelessness	N/A	Ongoing	4,5
26	Make the case to Scottish Government for additional resources to support the WHR programme, MTIS programme, and other retrofit works.	Housing and Homelessness	Scottish Government	Ongoing	4,5
27	Maintain a watching brief on the EESSH2 review.	Housing and Homelessness	Scottish Government	Ongoing	4,5
28	Assess the scale of any upgrades required for the electricity grid to be able to accommodate heat pumps in the Delivery Areas.	LHEES Office	Scottish Power Energy Networks	Q2 2025	1,2

29	Assess the scope to offset the running costs of heat pumps within the Delivery Areas via the installation of solar panels.	LHEES Office	N/A	Q2 2025	1,2
30	Assess the scope for heat pump retrofit pilot projects on Council-owned homes within the Delivery Areas.	LHEES Office	N/A	Q4 2025	1,2
31	Engage with Home Energy Scotland to discuss the scope for instigating heat pump retrofit projects on homes owned by third parties within the Delivery Areas.	LHEES Office	Home Energy Scotland	Q4 2025	1,2
32	Maintain a watching brief on the ban of replacement gas boilers.	LHEES Office	Scottish Government	Ongoing	1,2,3
33	Maintain a watching brief on the electricity pricing regime in view of the UK Government pledge to “rebalance” gas and electricity costs.	LHEES Office	UK Government	Ongoing	1,2,3
34	Publish a Heat Network Zone review statement in line with legislation to support the designation of statutory Heat Network Zones.	LHEES Office	Heat Networks & Non-Domestic Regulations Unit	Q4 2024	3
35	Engage with neighbouring local authorities around the scope for cross-boundary Heat Network Zones.	LHEES Office	Other local authorities	Q1 2024	3
36	Prepare a Strategic Environmental Assessment to support the review statement.	LHEES Office	SEA Gateway	Q2 2024	3
37	Work with the Scottish Government to develop a consenting regime for Edinburgh, including making a case for fees for heat network consents being set on a full cost recovery basis and for provision to be made for developer contributions.	LHEES Office	Heat Networks & Non-Domestic Regulations Unit	Q3 2024	3
38	Compile data from Building Assessment Reports received by the Council and develop a process for sharing these with prospective developers.	LHEES Office	Property owners	Ongoing	3
39	Engage with the Scottish Government around the strategy for resourcing the costs associated with the Council’s duties under the Act.	LHEES Office	Heat Networks & Non-Domestic Regulations Unit	Q3 2024	3
40	Publish, consult on, and adopt updates to the Edinburgh Design Guidance containing information relating to the development of heat networks.	Planning	N/A	Q4 2024	3
41	Seek to coordinate excavation works for heat networks with other utility works, travel infrastructure works, and other relevant works to maximise efficiencies and minimise disruption.	LHEES Office	N/A	Ongoing	3

42	Participate in the Danish-Scottish District Heating Mentoring Programme.	LHEES Office	Heat Network Support Unit	Ongoing	3
43	Prepare Building Assessment Reports for all eligible Council buildings.	Strategic Asset Planning	Heat Networks & Non-Domestic Regulations Unit	Ongoing	3
44	Appoint a concessionaire to deliver the Granton Waterfront heat network.	Edinburgh Waterfront	N/A	Q1 2025	3
45	Produce a business case looking at the scope to connect Council buildings to a proposed southeast Edinburgh heat network.	LHEES Office	Midlothian Energy Limited	Q2 2024	3
46	Identify a preferred model for supporting the roll-out of future Council-led heat networks in Edinburgh.	LHEES Office	Heat Network Support Unit	Q3 2024	3
47	Develop a business case looking at the scope for Energy for Edinburgh Limited to deliver heat network projects on a joint venture approach, to include exploration of embedding cooperative principles and community wealth building.	LHEES Office	Energy for Edinburgh Limited	Q2 2024	3
48	Develop and support proposals for heat networks in further Heat Network Zones where resources permit.	LHEES Office	Heat Network Support Unit	Ongoing	3
49	Promote the integration of heat network suitability analysis with all new construction and development proposals.	LHEES Office	N/A	Ongoing	3
50	Develop a more detailed database of existing heat networks in Edinburgh and engage with operators around their future plans in terms of overhaul and/or expansion and/or integration into/with other existing or new heat networks.	LHEES Office	Heat network operators	Q4 2024	3
51	Maintain a watching brief on proposals for mandatory connections to heat networks.	LHEES Office	Heat Networks & Non-Domestic Regulations Unit	Ongoing	3
52	Deliver a programme of retrofit works to the first tranche of high-rise housing blocks in Edinburgh, beginning with Craigmillar Court and Peffermill Court, followed by Inchmickery Court and Oxcars Court.	Housing and Homelessness	Council tenants	Ongoing	4,5
53	Deliver the Enerphit-informed retrofit pilot of Council operational buildings.	Strategic Asset Planning; Sustainable Construction Delivery	Scottish Government	TBD	1,2,3,4,6

54	Prepare improvement plans to identify the necessary measures to improve the sustainability of the Council's Investment portfolio.	Estates	N/A	Ongoing	1,2,3,4,6
55	Prepare a schedule of 100 of the most complex non-domestic buildings in Edinburgh and engage with owners about future plans for each.	LHEES Office	Various building owners	Q2 2024	1,2,3,4,6
56	Participate in the consultation on the Heat in Buildings Bill.	LHEES Office	Scottish Government	Ongoing	1,2,3,4,5,6
57	Work with Edinburgh World Heritage to take forward a pilot project looking at a whole house retrofit approach to "hard-to-treat" historic homes.	LHEES Office	Edinburgh World Heritage	Q3 2024	6
58	Maintain a watching brief on work by the Edinburgh Climate Change Institute to develop building archetypes to inform retrofit.	LHEES Office	Edinburgh Climate Change Institute	Ongoing	6
59	Engage with the Scottish Government around the scope to amend the Tenements (Scotland) Act 2004 to make it easier for residents to agree to instruct energy efficiency upgrades and changes to heating systems within tenements.	LHEES Office	Scottish Government	Ongoing	6
60	Work with Edinburgh World Heritage, Historic Environment Scotland, and the University of Edinburgh to consider how to effectively communicate the information on the net zero retrofit of historical properties to the public.	Planning	Edinburgh World Heritage; Historic Environment Scotland; University of Edinburgh	TBD	6
61	Publish a refreshed version of the "Guidance for Listed Buildings and Conservation Areas", including a specific focus on net zero retrofit works.	Planning	Edinburgh World Heritage; Historic Environment Scotland; University of Edinburgh	TBD	6
62	Support work by the City Heat & Energy Partnership to develop a city-wide Heat and Energy Masterplan.	Policy and Insight	City Heat & Energy Partnership	Ongoing	1,2,3,4,5,6
63	Further develop the ParkPower project looking at the potential to export heat from green and blue spaces in Edinburgh.	LHEES Office	Greenspace Scotland	Ongoing	1,2,3
64	Engage with waste heat sources in Edinburgh to improve understanding of the scope to utilise their waste heat for heating buildings.	LHEES Office	Various waste heat sources	Ongoing	1,2,3
65	Engage with Scottish Water Horizons to improve understanding of the scope to utilise wastewater heat for heating buildings.	LHEES Office	Scottish Water Horizons	Ongoing	1,2,3

66	Engage with The Coal Authority to improve understanding of the scope to utilise mine water for heating buildings (and heat storage).	LHEES Office	The Coal Authority	Ongoing	1,2,3
67	Explore opportunities to increase solar installations as a means of offsetting electricity costs associated with heat decarbonisation.	LHEES Office	Edinburgh Community Solar Co-operative	Ongoing	1,2,3
68	Maintain a watching brief on the H100 pilot and on hydrogen policy.	LHEES Office	Scotia Gas Networks Limited	Ongoing	1,2,3
69	Maintain a watching brief on proposals to extend Permitted Development Rights for micro-renewable technologies.	Planning	N/A	Ongoing	1,2
70	Via City Plan 2030 and subsequent policy and guidance documents, set increasingly rigorous net zero standards for new developments in Edinburgh.	Planning	N/A	Ongoing	1,2,3,4,5,6
71	Ensure where possible that all new Council developments utilise zero direct emissions heating sources and are designed on a fabric first basis.	Strategic Asset Planning; Sustainable Construction Delivery	N/A	Ongoing	1,2,3,4
72	Ensure where possible that all new buildings developed by the Council are designed to operate with a maximum supply/flow temperature of 55°C.	Strategic Asset Planning; Sustainable Construction Delivery	N/A	Ongoing	1,2,3
73	Deliver phase two of the Net Zero Communities pilot, providing detailed archetype modelling of measures and costs of net zero interventions including evaluation of community energy generation potential and deep modelling of “comfort as a service” potential.	Policy and Insight	Changeworks	TBD	1,2,3,4,5,6
74	Support the installation of smart meters in all Council-owned homes in Edinburgh.	Housing and Homelessness	Utilita Energy Limited	Ongoing	4,5
75	Explore with partners the scope to create a Net Zero Community Hub as a means of educating residents of Edinburgh about decarbonisation and energy efficiency.	LHEES Office	Heriot-Watt University	Ongoing	1,2,3,4,5,6
76	Explore with partners the scope to take forward low-cost interventions with disproportionately great impacts on energy efficiency, e.g. carpeting uncarpeted floors to reduce air leakage.	LHEES Office	Various	Ongoing	4,5,6

7. Financial resources

Grant funding

Energy Efficient Scotland: Area Based Scheme (EES:ABS)

Administered by:	Scottish Government.
Who can apply:	Local authorities.
What is it:	Funding awarded to local authorities to deliver energy efficiency upgrades (primarily solid wall insulation) to private households in areas with high levels of fuel poverty.
How much:	The City of Edinburgh Council received £5.16 million for 2022/23.
When:	Funding is announced annually.
Notes:	The management of the City of Edinburgh Council's EES:ABS works are carried out on its behalf by Changeworks.
Link:	https://www.gov.scot/publications/area-based-schemes https://www.changeworks.org.uk/projects/energy-efficient-scotland-area-based-schemes

Social Housing Net Zero Heat Fund

Administered by:	Scottish Government.
Who can apply:	Local authorities; registered social landlords; ESCOs.
What is it:	Funding for social housing projects delivering zero emission heating systems such as heat pumps and heat networks and energy efficiency works.
How much:	Grant funding equivalent to 45%-50% of eligible costs is available. A total of £200 million is available over five years.
When:	Invitations for bids will be announced annually with quarterly deadlines.
Notes:	N/A.
Link:	https://www.gov.scot/publications/social-housing-net-zero-heat-fund---call-for-funding-applications/pages/overview

Scotland's Public Sector Heat Decarbonisation Fund

Administered by:	Salix Finance.
Who can apply:	Local authorities; universities; arm's-length external organisations.
What is it:	Funding for energy efficiency measures and the installation of zero-emissions heating systems in public sector buildings.
How much:	Grant funding equivalent to 80% of eligible costs is available. A total of £20 million is available.
When:	The first round of applications was held in November – December 2023.
Notes:	N/A.
Link:	https://www.gov.scot/news/new-grant-funding-to-decarbonise-public-sector-buildings/

Home Energy Scotland Grant and Loan (grant element)

Administered by:	Home Energy Scotland.
Who can apply:	Homeowners.
What is it:	Funding for homeowners for energy efficiency improvements and the installation of renewable technologies.
How much:	Grant funding for energy efficiency improvements equivalent to 75% of eligible costs (capped at £7,500); for heat pumps of up to £7,500; and for high heat retention storage heaters of up to £2,500.
When:	Applications can be made at any time.
Notes:	Households in rural areas can access additional funding.
Link:	https://www.homeenergyscotland.org/funding/grants-loans

Warmer Homes Scotland

Administered by:	Local Energy Scotland / Warmworks Scotland.
Who can apply:	Homeowners and tenants of privately-owned properties living in homes with a poor energy rating who are either aged 75+ with no working heating system or 16+ and in receipt of a passport benefit or income-related benefit.
What is it:	Funding for home improvements associated with warming covering 40 measures including insulation, draught-proofing, and heating systems, based upon the recommendations of an assessor.
How much:	Applicants typically receive works to the value of £5,000.
When:	Applications can be made at any time.
Notes:	For more expensive improvements, such as solid wall insulation, the applicant is required to make a contribution; the applicant can access an interest free loan towards this.
Link:	https://www.homeenergyscotland.org/funding/warmer-homes-scotland

ECO4

Administered by:	Large UK energy suppliers.
Who can apply:	Homeowners and tenants who are in receipt of certain benefits and live in properties with an EPC rating of 'D' or below.
What is it:	Support for "fabric first" energy upgrades to homes (e.g. insulation and replacement boilers) that will reduce energy bills for people who are in greatest need, e.g. social housing tenants; people on low incomes; and people in fuel poverty.
How much:	Variable. Typical values are up to £14,000 for external wall insulation and up to £7,000 for first-time central heating.
When:	The fund will run from 1 April 2022 until 31 March 2026.
Notes:	Applications are made via energy suppliers. Local authorities can identify households outwith the national criteria via the "ECO4 Flex" mechanism.
Link:	https://www.ofgem.gov.uk/publications/eco4-guidance-local-authority-administration

Great British Insulation Scheme

Administered by:	Large UK energy suppliers.
Who can apply:	Homeowners. 80% of funding is ring-fenced for households in homes with an EPC rating of D or below and in homes in Council Tax bands A to E. 20% is ring-fenced for the most vulnerable households, e.g. those on means-tested benefits or in fuel poverty.
What is it:	Support for energy upgrades to homes (e.g. insulation) for people who do not currently benefit from other government support. The focus will be on lower cost measures such as loft insulation and cavity wall insulation.
How much:	The fund has been capitalised with £1 billion. The average expenditure per home is expected to be approximately £1,500. Applicants may be required to make a contribution for more expensive measures.
When:	The fund will run from April 2023 until March 2026.
Notes:	Applications are expected to be made via energy suppliers. ECO+ is intended to meet a wider customer base than ECO4.
Link:	https://energysavingtrust.org.uk/what-is-the-uk-governments-eco-scheme

Energy Redress Scheme

Administered by:	Energy Saving Trust.
Who can apply:	Registered charities; community benefit societies; community interest companies; co-operative societies.
What is it:	A grant fund to support vulnerable energy consumers, including via the Carbon Emissions Reduction Fund aimed at reducing households' carbon emissions.
How much:	Variable by funding stream, but up to £200,000.
When:	Future application deadlines are to be confirmed. The scheme will run until 2024.
Notes:	N/A.
Link:	https://energyredress.org.uk

Let's Do Net Zero Community Buildings Fund

Administered by:	Local Energy Scotland.
Who can apply:	Constituted non-profit distributing community organisations who own or lease community buildings.
What is it:	Funding towards the installation of renewable technologies such as heat pumps in community buildings.
How much:	Applicants can receive up to 80% of eligible costs to a maximum of £80,000.
When:	The fund will run until 31 March 2025, subject to funding availability.
Notes:	N/A.
Link:	https://localenergy.scot/funding/lets-do-net-zero-community-buildings-fund

Let's Do Net Zero: Off Electricity Grid Communities Fund

Administered by:	Local Energy Scotland.
Who can apply:	Community organisations who operate independent electricity grids.
What is it:	Funding to decarbonise and futureproof existing local independent electrical grids not connected to the National Grid.
How much:	Capital funding of up to 90% of costs. A total of £4,000,000 is available for 2023/24.
When:	Capital funding is available until March 2023.
Notes:	N/A.
Link:	https://localenergy.scot/funding/lets-do-net-zero-off-electricity-grid-communities-fund

Community Heat Development Programme

Administered by:	Local Energy Scotland.
Who can apply:	Constituted non-profit distributing community organisations; groups of householders. Housing associations, local authorities, and businesses cannot lead bids but can join consortiums.
What is it:	Funding to help develop ideas for locally-generated, low/zero carbon heat project ideas, for example communal heating systems.
How much:	Local Energy Scotland will provide expert advice.
When:	Applications can be made at any time.
Notes:	N/A.
Link:	https://localenergy.scot/funding/community-heat-development-programme

Climate Action Fund – Energy and Climate

Administered by:	National Lottery Community Fund.
Who can apply:	Various community organisations (including charities and SCIOs); schools; universities; community councils; partnerships.
What is it:	Funding to encourage people to use energy in an environmentally friendly way, bring communities together to explore ways to promote energy efficiency, and enable communities to engage with opportunities for clean energy generation. Funding is mainly revenue.
How much:	£500,000 to £1.5 million.
When:	Applications can be made at any time until December 2023.
Notes:	N/A.
Link:	https://www.tnlcommunityfund.org.uk/funding/programmes/climate-action-fund-energy.

Heat Network Fund

Administered by:	Scottish Government.
Who can apply:	Heat network developers.
What is it:	Grant funding for large-scale heat network projects (including communal heating systems) that can demonstrate a funding gap and that also deliver social benefits. Projects must have an investment-grade business case.
How much:	Up to 50% of eligible costs.
When:	Applications can be made at any time. Projects must be capable of being commissioned by March 2026.
Notes:	N/A.
Link:	https://www.gov.scot/publications/heat-network-fund-application-guidance

Strategic Heat Network Support for Local Authorities

Administered by:	Heat Network Support Unit.
Who can apply:	Local authorities.
What is it:	Grant funding for the pre-capital stages of projects, including commissioning external support for developing feasibility studies, outline business cases, and tasks linked to commercialisation.
How much:	Up to 90% of eligible costs, capped at £150,000.
When:	"Throughout the year on a first come, first served basis".
Notes:	Local authorities must have consulted upon, or be consulted upon, their LHEES
Link:	N/A.

Green Growth Accelerator

Administered by:	Scottish Government.
Who can apply:	Local authorities.
What is it:	Grant funding for the delivery of low carbon infrastructure projects, for example local hydrogen hubs; nature-based carbon sequestration solutions; and renewables-based local energy networks.
How much:	Funding of up to £10 million, payable to the local authority over a set period (typically 25 years), subject to the local authority achieving agreed economic, environmental, and social outcomes.
When:	Timescales for future rounds are to be confirmed.
Notes:	Funding for the first tranche of Green Growth Accelerator projects was paused in November 2023.
Link:	https://www.gov.scot/news/accelerating-green-growth

Scottish Central Government Energy Efficiency Grant Fund

Administered by:	Scottish Government.
Who can apply:	Scottish central government organisations.
What is it:	Capital grant funding support towards heat decarbonisation and energy efficiency retrofit projects for Scottish central government bodies with no access to borrowing powers, including Scottish health bodies and further education colleges.
How much:	Applicants can bid for up to £2 million per annum.
When:	Applications are considered quarterly. The fund will be open until 2025/26.
Notes:	N/A.
Link:	https://www.gov.scot/publications/scottish-central-government-energy-efficiency-grant-scheme-form-and-guidance

Green Hydrogen Fund

Administered by:	Scottish Government.
Who can apply:	To be confirmed.
What is it:	A grant fund to support renewable hydrogen projects.
How much:	The fund will be capitalised with £90 million. Further information is to be confirmed.
When:	To be confirmed.
Notes:	Very little information on this fund has been published to date. It is yet to be confirmed to what extent it is relevant to the Edinburgh LHEES.
Link:	https://www.gov.scot/publications/hydrogen-action-plan

Scottish Industrial Energy Transformation Fund

Administered by:	Scottish Government.
Who can apply:	Scottish manufacturing sites.
What is it:	Grant support for decarbonising energy intensive industrial activities.
How much:	Awards are variable but capped at up to 50% for energy efficiency deployment and up to 75% for deep decarbonisation deployment depending on the size of the organisation. The fund has been capitalised with £34 million over the period 2020 to 2025.
When:	Three calls for projects have been held to date.
Notes:	The fund can support both feasibility studies and deployment.
Link:	https://www.gov.scot/policies/energy-efficiency/scottish-industrial-energy-transformation-fund/

Loans

Private Rented Sector Landlord Loan

Administered by:	Home Energy Scotland.
Who can apply:	Registered private landlords of tenanted dwellings appearing on the Scottish Landlord Register.
What is it:	Loans to private landlords to help them improve the energy efficiency of their properties and meet minimum standards.
How much:	Variable, but broadly £15,000 for energy efficiency improvements and £17,500 for renewable systems (plus up to £6,000 for an energy storage system) per eligible property.
When:	Ongoing.
Terms:	Landlords with five or fewer properties can access interest free loans. Landlords with six of more properties can access loans at 3.5% APR. An administrative fee of 1.5% (capped at £250) applies.
Notes:	N/A.
Link:	www.homeenergyscotland.org/funding/private-landlord-loans

SME Loan Scheme

Administered by:	Business Energy Scotland.
Who can apply:	Small and medium-sized enterprise; not-for-profit organisations; charities.
What is it:	Loans to finance the installation of energy efficient systems, equipment and/or building fabric, e.g. insulation; solar panels; etc.
How much:	Up to £100,000, along with a cashback grant of up to £30,000.
When:	Ongoing.
Terms:	Interest-free loans with an eight-year repayment period.
Notes:	N/A.
Link:	https://businessenergyscotland.org/smeloan

Home Energy Scotland Grant and Loan (loan element)

Administered by:	Home Energy Scotland.
Who can apply:	Homeowners.
What is it:	Funding for homeowners for energy efficiency improvements and the installation of renewable technologies.
How much:	Variable, ranging from £500 for loft/floor/cavity wall insulation to £2,500 for solid wall insulation.
When:	Applications can be made at any time.
Terms:	Loans are interest free with terms of 5-12 years. An administration fee of 1.5% (capped at £150) applies.
Notes:	Households in rural areas can access additional funding. Loans can be combined with grants.
Link:	https://www.homeenergyscotland.org/funding/grants-loans

District Heating Loan Fund

Administered by:	Energy Saving Trust.
Who can apply:	Local authorities; registered social landlords; small and medium sized enterprises; and energy services companies with <250 employees.
What is it:	Unsecured loans to assist with the financial and technical barriers to district heating projects an alternative to commercial borrowing.
How much:	Loans of £1 million+.
When:	Applications can be made at any time.
Terms:	The typical interest rate is 3.5% for low-risk projects. The typical term is 10-15 years.
Notes:	N/A.
Link:	https://energysavingtrust.org.uk/programme/district-heating-loan-fund

Scottish Public Sector Energy Efficiency Loan Scheme

Administered by:	Salix Finance.
Who can apply:	All Scottish public sector bodies subject to the Public Bodies Duties in the Climate Change (Scotland) Act 2009, including local authorities; universities; and some non-departmental public bodies.
What is it:	Loans for "spend to save" retrofit energy efficiency improvement projects to help achieve net zero carbon in public sector estates.
How much:	Loans equivalent to 75% of total compliant project value.
When:	Applications can be made at any time.
Terms:	Loans are interest free, with a term of up to 12 years.
Notes:	The scheme is funded by the Scottish Government.
Link:	https://www.salixfinance.co.uk/loans/scotland-loans

Scotland Recycling Fund

Administered by:	Salix Finance.
Who can apply:	Scottish local authorities and universities.
What is it:	A fund created jointly by the applicant and Salix Finance which makes investments in the applicant's estate to improve energy efficiency. Of the financial savings delivered by these improvements, up to 25% can be retained by the applicant as immediate savings, with the remaining 75%+ retained in the fund and "recycled". Once the fund is closed the initial capital provided by Salix Finance is repaid.
How much:	£100,000 to £1.6 million.
When:	Applications can be made at any time.
Terms:	"A long-term 100% interest-free repayable grant".
Notes:	The Council has an existing recycling fund in place.
Link:	https://www.salixfinance.co.uk/recycling-fund/scotland-recycling-fund

Social Enterprise Net Zero Transition Fund

Administered by:	Social Investment Scotland.
Who can apply:	Charities and social enterprises.
What is it:	Loans to help social enterprises and the wider third sector transition to net zero, including improving energy efficiency and moving to renewable energy sources.
How much:	Loans of £10,000 to £1,500,000.
When:	Applications can be made at any time.
Terms:	Unsecured loans at a fixed interest rate of 3%. Loans must be settled by 31st March 2031.
Notes:	Applicants with a circular economy focus may also be able to access grants worth up to 20% of the total funding.
Link:	https://www.socialinvestmentscotland.com/learning-hub/social-enterprise-net-zero-transition-fund

Income streams

Smart Export Guarantee

Administered by:	OFGEM.
Who can apply:	Households and organisations generating electricity from small-scale renewable installations.
What is it:	Guaranteed payments for electricity generated via anaerobic digestion; hydro; onshore wind turbines; and/or solar PV (with a total installed capacity up to 5 MW) or micro-combined heat and power (up to 50 kW) that is exported to electricity suppliers via the National Grid.
How much:	Different tariff rates are offered by different electricity suppliers, but they must be above zero pence per kilowatt hour.
When:	Ongoing.
Notes:	The Smart Export Guarantee is the successor to the Feed-in Tariff scheme. Installed technologies require to hold an MCS certificate.
Link:	https://www.ofgem.gov.uk/environmental-and-social-schemes/smart-export-guarantee-seg