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Notice of meeting and agenda

Planning Committee

2.00pm Wednesday, 31st January, 2024

Dean of Guild Court Room - City Chambers

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THE CITY OF EDINBURGH COUNCIL

1. Order of Business

1.1 Including any notices of motion and any other items of business submitted as urgent for consideration at the meeting.

2. Declaration of interests

2.1 Members should declare any financial and non-financial interests they have in the items of business for consideration, identifying the relevant agenda item and the nature of their interest.

3. Deputations

3.1 If any

4. Minutes

4.1	Planning Committee of 15 November 2023 - submitted for approval as a correct record.	7 - 14
4.2	Planning Committee of 19 December 2023 - submitted for approval as a correct record.	15 - 20

5. Forward Planning

5.1	Planning Committee Rolling Actions Log	21 - 30
5.2	Planning Committee Work Programme	31 - 32

6. Business Bulletin

6.1	Planning Committee Business Bulletin	33 - 56

7. Planning Policy

7.1	None.	

8. Planning Process

8.1	Short Term Lets – Report by the Executive Director of Place	57 - 96
8.2	Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan – Report by the Executive Director of Place	97 - 398

9. Planning Performance

9.1	Edinburgh Urban Design Panel - Annual Review – Report by the Executive Director of Place	399 - 406

10. Conservation

10.1	Funding Edinburgh World Heritage – Report by the Executive Director of Place	407 - 414
10.2	Old and New Towns of Edinburgh World Heritage Site Management Plan: draft for consultation – Report by the Executive Director of Place	415 - 490

11. Motions

11.1	None.	

Nick Smith

Service Director, Legal and Assurance

Committee Members

Councillor James Dalgleish (Convener), Councillor Alan Beal, Councillor Chas Booth, Councillor Lezley Marion Cameron, Councillor Neil Gardiner, Councillor Tim Jones, Councillor Martha Mattos Coelho, Councillor Amy McNeese-Mechan, Councillor Joanna Mowat, Councillor Hal Osler and Councillor Alex Staniforth

Information about the Planning Committee

The Planning Committee consists of 11 Councillors and is appointed by the City of Edinburgh Council.

The Planning Committee usually meets in the Dean of Guild Court Room in the City Chambers on the High Street in Edinburgh. There is a seated public gallery and the meeting is open to all members of the public.

Further information

If you have any questions about the agenda or meeting arrangements, please contact Taylor Ward, Committee Services, City of Edinburgh Council, Business Centre 2.1, Waverley Court, 4 East Market Street, Edinburgh EH8 8BG, Tel 0131 529 4264, email taylor.ward@edinburgh.gov.uk / joanna.pawlikowska@edinburgh.gov.uk.

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Minutes

Planning Committee

2.00pm, Wednesday 15 November 2023

Present

Councillors Dalgleish (Convener), Beal, Booth, Cameron, Hyslop (substituting for Councillor Gardiner), Jones, Key (substituting for Councillor McNeese-Mechan), Mattos-Coelho, Mowat, Osler and Staniforth.

1. Deputation

(a) Marchmont and Sciennes Community Council

(In relation to Item x – Conservation and Adaption)

Douglas Rogers from the Marchmont and Sciennes Community Council addressed the Committee on behalf of community councils and residents' associations in the Edinburgh area. Mr Rogers aims over the last year had been to engage with others in the local community to reduce our energy usage which was a complex task, and he was working actively to inform householders about insulation. He mentioned that there was a shortage of information available to households, and limitations preventing them from insulating their homes. He explained that double glazing was not a solution and advised other solutions would need to be implemented to mitigate risks. He proposed to create an information booklet which would be distributed to local communities that included information and support such as accessing grants, loans, independent advisors and council support.

2. Minutes

Decision

To approve the minute of the Planning Committee of 13 September 2023 as a correct record.

3. Rolling Actions Log

The Planning Committee Rolling Actions Log for 13 June 2023 was presented.

Decision

1) To agree to close the following actions:

- **Action 1 –** Affordable Housing Policy Update 2023
- **Action 3(1) –** Business Bulletin – Planning Performance
- **Action 6** – Short-term Lets Licensing Scheme – Update
- **Action 7(2)** – Addressing the Nature Emergency through Planning

2) To request that reports which had been agreed to be expanded on by Committee were included in future Rolling Action Logs.

3) To otherwise note the remaining actions.

(Reference – Rolling Actions Log 13 September 2023, submitted.)

4. Work Programme

The Planning Committee Work Programme was presented.

Decision

To note the work programme.

(Reference – Work Programme, 15 November 2023, submitted.)

5. Business Bulletin

The Planning Committee Business Bulletin was submitted.

Decision

1) To note the Business Bulletin.

2) To request the number of decisions made in regards to Appeals considered by Committee was clarified for the next Planning Committee meeting.

(Reference – Business Bulletin 15 November 2023, submitted.)

6. Affordable Housing Commuted Sums

An update was provided to Committee on the number of onsite affordable housing using commuted sums, and explanations were given on specific situations when a commuted sum may be acceptable in lieu of onsite affordable housing.

Motion

1) To agree to discharge the motion approved by Planning Committee on 14 June 2023 to report back in two cycles on the use of commuted sums to deliver affordable homes.

2) To note that onsite affordable housing was required for applications of 20 homes or more and officers continued to advise on measures that would help to enable onsite affordable housing.

3) To note that 451 social rented homes were completed in 2022/23. However, the combination of low rents, limited grant funding and limited private borrowing for social rent meant that in some higher cost developments, social rented homes may not be practical.

- moved by Councillor Dalgleish, seconded by Councillor Cameron

Amendment

1) To note that onsite affordable housing was required for applications of 20 homes or more and officers continued to advise on measures that would help to enable onsite affordable housing.

2) To note that 451 social rented homes were completed in 2022/23. However, the combination of low rents, limited grant funding and limited private borrowing for social rent meant that in some higher cost developments, social rented homes would not always be practical.

3) To note the Council's recent declaration of a housing emergency; notes that the main barrier to the delivery of more social rented homes was insufficient grant funding from the Scottish Government and notes that the council leader was writing to Scottish Ministers to highlight this and press for increased funding.

4) To note the decision of Committee on 14 June 2023 that reports presented to Committee as part of the preparation of guidance once City Plan 2030 had been approved should include consideration of focussing affordable housing policy on tenures which best delivered affordable rented accommodation and agreed to add this action to the Committee's rolling actions log.

5) To agree, as part of the next report on the Affordable Housing Policy Update due in Autumn 2024 that options will be presented to maximise the effective use of commuted sums, including, but not limited to, exploring the potential to use some of the commuted sums fund to bring existing empty affordable homes back into use,

6) To agree, as part of the next report on the Affordable Housing Policy Update due in Autumn 2024, that options would be presented to maximise the effective use of commuted sums, including, but not limited to, exploring the potential to use some of the commuted sums fund to bring existing empty affordable homes back into use.

7) To refer this report to Housing, Homelessness and Fair Work Committee for Information.

8) To agree to discharge the motion approved by Planning Committee on 14 June 2023.

- moved by Councillor Booth, seconded by Staniforth

In accordance with Standing Order 22(13), the amendment was adjusted and accepted as an addendum to the motion.

Decision

To approve the following adjusted motion by Councillor Dalgleish:

1) To note that onsite affordable housing was required for applications of 20 homes or more and officers continued to advise on measures that would help to enable onsite affordable housing.

2) To note that 451 social rented homes were completed in 2022/23. However, the combination of low rents, limited grant funding and limited private borrowing for social rent does meant that in some higher cost developments, social rented homes would not always be practical.

3) To note the Council's recent declaration of a housing emergency; notes that the main barrier to the delivery of more social rented homes was insufficient grant funding from the Scottish Government and notes that the council leader was writing to Scottish Ministers to highlight this and press for increased funding.

4) To note the decision of Committee on 14 June 2023 that reports presented to Committee as part of the preparation of guidance once City Plan 2030 had been approved should include consideration of focussing affordable housing policy on tenures which best delivered affordable rented accommodation and agreed to add this action to the Committee's rolling actions log.

5) To agree, as part of the next report on the Affordable Housing Policy Update due in Autumn 2024 that options will be presented to maximise the effective use of commuted sums, including, but not limited to, exploring the potential to use some of the commuted sums fund to bring existing empty affordable homes back into use,

6) To agree, as part of the next report on the Affordable Housing Policy Update due in Autumn 2024, that options would be presented to maximise the effective use of commuted sums, including, but not limited to, exploring the potential to use some of the commuted sums fund to bring existing empty affordable homes back into use.

7) To refer this report to Housing, Homelessness and Fair Work Committee for Information.

8) To agree to discharge the motion approved by Planning Committee on 14 June 2023.

9) To ask Officers to check how many Affordable Housing Commuted sums received and used had come from the immediate ward.

10) To include the length of time, barriers faced and other ways of delivering Affordable Housing in the next report to Planning Committee.

(References - Report by the Executive Director of Place, submitted)

7. Planning Customer Service Charter and Planning Enforcement Charter

Committee were notified of changes made to the Planning Enforcement Charter, which was required to be updated every two years. The Charter was updated to enable the service to better respond to applications.

Decision

1) To approve the proposed updates to the Planning Customer Service Charter and Planning Enforcement Charter.

2) To remove the highlighted changes on both Charters before the document was published. 3) To engage with Officers to put the documents in a prominent location on the Council's website

4) To circulate the link to the Charters to all Elected Members.

5) To engage with colleagues in legal services about adding wording on the Council's online planning service page advising that offensive statements would be reported to the Police.

(References - Report by the Executive Director of Place, submitted)

8. Training and Awareness Raising Programme

Committee were presented with proposed themes and dares for the training and awareness programme for Planning Committee members, and where relevant, members from other Council Committees for 2023/24.

Decision

1) To agree the themes for the training and awareness raising workshops for 2023/24.

2) To request training was included on the use of guidance and legislation.

(References - Report by the Executive Director of Place, submitted)

9. Edinburgh as a Feminist City – Appointment of Working Group

A proposal to establish an Edinburgh as a Feminist City – Short Life Cross Party Working Group was presented to Committee to ensure Edinburgh delivered gender equality through its design and culture fostering the creation of safe and inclusive spaces for women and people of marginalised genders.

Decision

1) To appoint the membership of the Edinburgh as a Feminist City Short Life Cross Party Working Group as detailed in Appendix 2 of the report by the Executive Director of Place.

2) To approve the remit of the Working Group as detailed in Appendix 2 of the report.

3) To instruct the Working Group to prepare the workplan as referred to in the Edinburgh as a Feminist City Motion in Appendix 1 of the report.

3) To request that the Working Group updated Committee, in due course, on the outcome of this work.

(Reference – report by the Executive Director of Place, submitted)

10. Responsible Construction – Appointment of Working Group

Committee was presented with a proposal for a Responsible Construction – Short Life Working Group to be established to consider options to encourage more responsible construction via engagement with stakeholders which included elected members, officers, and representatives from Community Councils (via the Civic Forum) and members of the Development Forum.

Decision

1) To appoint the membership of the Responsible Construction Working Group as detailed in Appendix 2 of the report by the Executive Director of Place.

2) To approve the terms of reference of the Working Group as detailed in Appendix 2 of the report.

3) To instruct the Working Group to consider options to encourage more responsible construction as referred to in the Motion detailed in Appendix 1 of the report.

4) To request that a report on findings of the work was brought to Committee within two cycles.

(Reference – report by the Executive Director of Place, submitted)

11. Conservation and Adaptation

The report responded to the Motion and Amendment approved by Planning Committee on 2 November 2022 which acknowledged the challenges for residents who lived in listed buildings and/or conservation areas to adapt their homes in response to climate change and the cost-of-living crises. It also identified and analysed the challenges drawn from the response to a city-wide consultation undertaken and discussed what could be done to address them, including the cost to the city's built heritage of any change that was required.

Decision

1) To note the content of the report by the Executive Director of Place.

2) To acknowledge and thank officers, community groups and other stakeholders who had contributed to the consultation and workshops on the issue of conservation and adaptation so far.

3) To request that Planning Officers met with the lead from each political group on Planning Committee to discuss:

- A clear roadmap which stated where responsibility for the powers regarding the issues found in the report in terms of local and national government, and specifically what powers local government had to change policy. To ascertain a clear understanding of how council policy such as permitted development and design guidance fit into the overall issues of adaptation and what further work could be done to address policy change, including discussions with the relevant Scottish Government Ministers.
- If a working group was needed as a means to fully explore the issues discussed in the report in depth and create issue focused work-streams as a result.
- What potential there was to work with established stakeholders with best knowledge on conservation and adaption issues, as well as having a clear focus on engaging with uncontacted external organisations, which may be experiencing similar challenges to Edinburgh, to form best practices regarding building adaptation going forward.

4) To note that Planning Spokespeople would be notified and consulted before action is taken on 5.1 – 5.3 (Next Steps) section of the report.

5) To request that a report be brought back to Planning Committee in 3 cycles to agree upon the roadmap which had been discussed between Planning Officers and Elected Members.

(Reference – report by the Executive Director of Place, submitted)

12. Motion by Councillor Dalgleish - Information Update – Short Term Lets

The Convener ruled the following item of business, notice of which had been given at the start of the meeting, urgent to allow the Committee to give early consideration to the matter.

The following motion by Councillor Dalgleish was submitted in terms of Standing Order 17:

“To request a report within 2 cycles which provides an update on short term lets in relation to:

• Enforcement.

• The impact of appeal and local review outcomes on development decisions.

• The impact of development plan policies and guidance.

• The relationship between the licensing and planning regimes and practice.

• Whether updates to practice or training are recommended.”

Decision

To approve the motion by Councillor Dalgleish.

Minutes

Planning Committee (Special Meeting)

10.00am, Tuesday 19 December, 2023

Present

Councillors Dalgleish (Convener), Beal, Booth, Gardiner, Jones, McNeese-Mechan, Mowat, Nols-McVey (substituting for Councillor Mattos-Coelho), Osler, Pogson (substituting for Councillor Cameron) and Staniforth.

1. Order of Business - Standing Order 22.16 (40 Minute Rule)

Decision

To suspend Standing Order 22.16 (40 minute rule) during consideration of Item 8.1 on the Agenda (West Edinburgh Placemaking Framework and Strategic Masterplan – Report by the Executive Director of Place).

2. West Edinburgh Placemaking Framework and Strategic Masterplan

Approval was sought for the finalised West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM), which would come into effect once the City Plan 2030 was adopted. Once it was adopted, it would be a material consideration as non-statutory planning guidance for the determination of planning applications in the WEPFSM area.

An SNP Addendum was ruled urgent by the Convener under Standing Order 22.3.

Motion

1) To approve the finalised West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM) Appendix 1 of the report by the Executive Director of Place) and the Context Information for the West Edinburgh Placemaking Framework (Appendix 2 of the report) and that these should come into effect once City Plan was adopted.

2) To note that if Committee approved the WEPFSM, the West Edinburgh Strategic Design and Landscape Frameworks were revoked as planning guidance once the WEPFSM came into effect.

3) To note that if the City plan 2030 report of examination changed the requirements for West Edinburgh, Committee would receive a report on how WEPFSM should address this.

4) To note that Options remain in the WEPFSM for the Gogar Burn. Once dialogue with key stakeholders was concluded, the document may need to be updated. Committee would have oversight of this.

5) To note Officers were given delegated authority to create a publication version of the WEPFSM with improved illustrations, maps and formatting.

- moved by Councillor Dalgleish, seconded by Councillor Pogson

Amendment 1

1) To approve the finalised West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM) Appendix 1 of the report by the Executive Director of Place) and the Context Information for the West Edinburgh Placemaking Framework (Appendix 2 of the report) and that these should come into effect once City Plan was adopted.

2) To note that if Committee approved the WEPFSM, the West Edinburgh Strategic Design and Landscape Frameworks were revoked as planning guidance once the WEPFSM came into effect.

3) To note that if the City plan 2030 report of examination changed the requirements for West Edinburgh, Committee would receive a report on how WEPFSM should address this.

4) To note that Options remain in the WEPFSM for the Gogar Burn. Once dialogue with key stakeholders was concluded, the document may need to be updated. Committee would have oversight of this.

5) To note Officers were given delegated authority to create a publication version of the WEPFSM with improved illustrations, maps and formatting.

6) To note reference to references to the A8 Gogarstone Road junction within West Edinburgh Placemaking Framework and Strategic Masterplan including 6.1 and 6.9 and requested that the report be amended with a sentence added to 6.9 as followed: “Consideration to be given to north / south active travel and potential public transport and connectivity between the proposed development and Gogarstone Road and Ratho Village in line with 20 minute neighbourhood principles; and that maps in the report are amended to reflect this”.

7) To note that solar panels and green roofs had been considered in developments adjacent to London City Airport, where those are accompanied with appropriate bird hazard estate management plans and therefore requested that the WEPFSM be amended to give consideration to this as followed: “Roofs of these types will only be supported where an appropriate bird management plan has been secured and can be delivered”.

- moved by Councillor Gardiner, seconded by Councillor Nols-McVey

Amendment 2

1) To approve as amended the finalised West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM) Appendix 1 of the report by the Executive Director of Place) and the Context Information for the West Edinburgh Placemaking Framework (Appendix 2 of the report) and that these should come into effect once City Plan was adopted.

2) To note that 6.12 of the framework listed a new Gogar Link Road as a key transport infrastructure intervention.

   2.1) To note that such an intervention could provide alternative vehicle access to the airport's cargo facility, allowing for all airport cargo related vehicle traffic to be taken away from new residential developments spanning Turnhouse Road and Craigs Road, as well as away from the new Maybury primary School and Maybury Health Clinic.

   2.2) To recognise how any decision to restrict the new Gogar Link Road to public transport and active travel would conflict with that aim.

   2.3) To agree that the proposal on £Establishing a 'Main Street' and the Gogar Link Road" (Table 8, Page 22 of the report by the Executive Director of Place), "although may prioritise or be limited to public transport and active travel only." be deleted and replaced with "although may prioritise public transport and active travel."

3) To note that if Committee approved the WEPFSM, the West Edinburgh Strategic Design and Landscape Frameworks were revoked as planning guidance once the WEPFSM came into effect.

4) To note that if the City plan 2030 report of examination changed the requirements for West Edinburgh, Committee would receive a report on how WEPFSM should address this.

5) To note that Options remain in the WEPFSM for the Gogar Burn. Once dialogue with key stakeholders was concluded, the document may need to be updated. Committee would have oversight of this.

6) To note Officers were given delegated authority to create a publication version of the WEPFSM with improved illustrations, maps and formatting.

Amendment 3

1) To note the Council had declared a climate emergency, and that national planning framework 4 policy 1 stated that "when considering all development proposals significant weight will be given to the global climate and nature crisis".

2) To note the West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM) (Appendix 1 of the report by the Executive Director of Place) and thanked officers for their time in preparing it, thanks to all those who responded to the consultation, welcomed the considerable emphasis on placemaking, and the stated aim to reduce the need to travel and the need to create 20-minute neighbourhoods and the emphasis on tackling the climate and nature emergencies within the document.

3) To note the WEPFSM still included proposals to dual Eastfield Road to “enhance route capacity of principal vehicular route serving the airport! (paragraph 6.12), and also included proposals for a Northern East-West Access which “has the potential to provide secondary access to and from the Airport, including the Airport Freight Terminal.” (ibid)

4) Believes that increased road capacity for private motor vehicles, except where delivering safety improvements or providing access to newly constructed buildings, was not compatible with the Council’s commitment to tackle the climate emergency or the Council’s target to reduce kilometres travelled by car, and that those proposals in the WEPFSM were therefore not supportable.

5) Therefore did not approve the WEPFSM, but rather asked officers to redraft the document to remove new road capacity for private motor vehicles as outlined above, and instead to ensure that any enhanced access prioritised active travel and public transport, and to return the document to Committee for scrutiny within one cycle.

- moved by Councillor Booth, seconded by Councillor Staniforth

In accordance with Standing Order 22(13), Amendments 1 and 2 were adjusted and accepted as an addendum to the Motion.

Voting

For the Motion (as adjusted) - 7 votes

For Amendment 3 - 2 votes

Abstention - 1 vote

(For the motion – Councillors Beal, Dalgleish, Gardiner, McNeese-Mechan, Osler, Jones and Mowat.

For the amendment – Councillors Booth and Staniforth.

Abstentions – Councillor Nols-McVey.)

Decision

To approve the following adjusted motion by Councillor Dalgleish:

1) To approve as amended the finalised West Edinburgh Placemaking Framework and Strategic Masterplan (WEPFSM) Appendix 1 of the report by the Executive Director of Place) and the Context Information for the West Edinburgh Placemaking Framework (Appendix 2 of the report) and that these should come into effect once City Plan was adopted.

2) To note that 6.12 of the framework listed a new Gogar Link Road as a key transport infrastructure intervention.

   2.1) To note that such an intervention could provide alternative vehicle access to the airport’s cargo facility, allowing for all airport cargo related vehicle traffic to be taken away from new residential developments spanning

Turnhouse Road and Craigs Road, as well as away from the new Maybury primary School and Maybury Health Clinic.

2.2) To recognise how any decision to restrict the new Gogar Link Road to public transport and active travel would conflict with that aim.

2.3) To agree that the proposal on £Establishing a 'Main Street' and the Gogar Link Road" (Table 8, Page 22 of the report by the Executive Director of Place), "although may prioritise or be limited to public transport and active travel only." be deleted and replaced with "although may prioritise public transport and active travel."

3) To note that if Committee approved the WEPFSM, the West Edinburgh Strategic Design and Landscape Frameworks were revoked as planning guidance once the WEPFSM came into effect.

4) To note that if the City plan 2030 report of examination changed the requirements for West Edinburgh, Committee would receive a report on how WEPFSM should address this.

5) To note that Options remain in the WEPFSM for the Gogar Burn. Once dialogue with key stakeholders was concluded, the document may need to be updated. Committee would have oversight of this.

6) To note Officers were given delegated authority to create a publication version of the WEPFSM with improved illustrations, maps and formatting.

7) To note reference to references to the A8 Gogarstone Road junction within West Edinburgh Placemaking Framework and Strategic Masterplan including 6.1 and 6.9 and requested that the report be amended with a sentence added to 6.9 as followed: "Consideration to be given to north / south active travel and potential public transport and connectivity between the proposed development and Gogarstone Road and Ratho Village in line with 20 minute neighbourhood principles; and that maps in the report are amended to reflect this".

8) To note that solar panels and green roofs had been considered in developments adjacent to London City Airport, where those are accompanied with appropriate bird hazard estate management plans and therefore requested that the WEPFSM be amended to give consideration to this as followed: "Roofs of these types will only be supported where an appropriate bird management plan has been secured and can be delivered".

(Reference - report by the Executive Director of Place, submitted.)

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Rolling Actions Log

Planning Committee

31 January 2024

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
1	14.06.23	West Edinburgh Placemaking Framework and Masterplan: Draft for Consultation	To note that a report would be brought back detailing the outcome of the consultation, along with a finalised Framework and Masterplan.	Executive Director of Place	December 2023 (Provisional date for additional committee being explored)		**Update September 2023** The West Edinburgh Placemaking Framework and Masterplan consultation closed on 4 October 2023.
2	13.09.23	Business Bulletin – Planning Performance	1) To circulate the number of remaining legacy tree work cases to members.	Executive Director of Place	November 2023.	November 2023	**Closed November 2023** This information was included in the Committee Business Bulletin on 15.11.2023
			2) To circulate the number of non-householder applications that had been withdrawn to members.	Executive Director of Place	November 2023	January 2024	

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No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
3	13.09.23	Business Bulletin	To circulate the minutes of the Student Housing Workshop to members.	Executive Director of Place	November 2023	September 2023	
4	13.09.23	Planning Controls over Construction	1) To agree to establish a short life working group, consisting of representatives from communities affected by construction, representatives of developers and/or the construction industry, one representative per party group and the mover of the original motion, and relevant council officers, to consider options to encourage more responsible construction, and to report back to committee within three cycles.	Executive Director of Place	April 2024		Planning underway for short life working group meetings.
			2) To engage with members on advice and expectations around construction that will be sent to developers.	Executive Director of Place	March 2024		

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			3) To discuss with colleagues in environmental health on restricting the hours of construction sites.	Executive Director of Place	March 2024		
			4) To liaise with members on constituent feedback regarding issues surrounding construction sites.	Executive Director of Place	March 2024		
5	13.09.23	Addressing the Nature Emergency through Planning	1) To agree that party groups and independent councillors will be offered a briefing from officers on this framework and how the nature emergency will be incorporated into relevant guidance; further agrees that, when relevant guidance returns to committee for approval, that those reports will consider the use of metrics and detailed guidance / checklists on biodiversity for developers, residents and others.	Executive Director of Place	December 2023		New officer appointed. Briefing to be offered in January.

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			2) To note that a report on "planning training and awareness programme" is due to be presented to committee in November 2023, and agrees that this report will also consider the potential for nature emergency and biodiversity training for relevant officers and committee members."	Executive Director of Place	November 2023	November 2023	**Closed November 2023** This report was included on the agenda for Committee on 15.11.2023.
	15.11.23	Business Bulletin	To request the number of decisions made in regards to Appeals that came to Committee were clarified at the next Planning Meeting.	Executive Director of Place	January 2023	January 2023	Numbers included in business bulletin
7	15.11.23	Affordable Housing Commuted Sums	1) To note the decision of Committee on 14 June 2023 that reports presented to Committee as part of the preparation of guidance once City Plan 2030 had been approved should include consideration of focussing affordable housing policy on tenures which best delivered	Executive Director of Place	Autumn 2024		

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			affordable rented accommodation.				
			2) To agree, at the latest, as part of the next report on the Affordable Housing Policy Update due in Autumn 2024 that options would be presented to maximise the effective use of commuted sums, including, but not limited to, exploring the potential to use some of the commuted sums fund to bring existing empty affordable homes back into use; and an overview of the calculation methodology and process utilised in determining commuted sums in collaboration with the Royal Institute of Chartered Surveyors Scotland.	Executive Director of Place	Autumn 2024		
			3) To refer the report to Housing, Homelessness and	Executive Director of Place	December 2023	December 2023	**Recommended for Closure** Referred to the Housing Homelessness and Fair Work

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			Fair Work Committee for information.				Committee meeting on the 5 December 2023.
8	15.11.23	Planning Customer Service Charter and Planning Enforcement Charter	1) To engage with officers to put the documents in a prominent location on the Council's website.	Executive Director of Place	Q1 2024		Link to charters included on Planning Homepage
			2) To circulate the link to the Charters to all elected members.	Executive Director of Place	November 2023	November 2023	**Recommended for Closure** Links have been circulated to all elected members.
			3) To engage with colleagues in legal services about adding wording on the Council's online planning service page around offensive statements being reported to the police.	Executive Director of Place	Q1 2024		
9	15.11.23	Training and Awareness Raising Programme	To request training is included on the use of guidance and legislation.	Executive Director of Place	April 2024		
10	15.11.23	Edinburgh as a Feminist City – Appointment of Working Group	To request the Working Group updates Committee, in due course, on the outcome of this work.	Executive Director of Place	Q3 2024		A report was submitted to Planning Committee on 15 November seeking approval to the Working Group. The first meeting of the Working

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
							Group will take place on 26 January 2024.
11	15.11.23	Responsible Construction – Appointment of Working Group	To request that a report on findings of the work is brought to Committee within two cycles.	Executive Director of Place	April 2024		Initial work undertaken to identify relevant officers for working group. First meeting of group in January.
12	15.11.23	Conservation and Adaption	1) To request that Planning Officers meet with the lead from each political group on Planning Committee to discuss: • A clear roadmap which states where responsibility for the powers regarding the issues found in this report in terms of local and national government, and specifically what powers local government has to change policy. To ascertain a clear understanding of how council policy such as permitted development and design guidance fits into the overall issues of adaptation and	Executive Director of Place	June 2024		Work started on Roadmap. Initial draft expected to be available for discission with political leads in February. Meeting with Green party being arranged for January.

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			what further work can be done to address policy change, including discussions with the relevant Scottish Government Ministers. • If a working group is needed as a means to fully explore the issues discussed in this report in depth and create issue focused work-streams as a result. • What potential there is to work with established stakeholders with best knowledge on conservation and adaption issue, as well as having a clear focus on engaging with uncontacted external organisation, which may be experiencing similar challenges to Edinburgh, to form best practices regarding building adaptation going forward.				
			2) To notify Planning Spokespeople and consult with them before action is taken on 5.1-5.3 (Next Steps)	Executive Director of Place	Q1 2024		

No	Date	Report Title	Action	Action Owner	Expected completion date	Actual completion date	Comment
			section of the report by the Executive Director of Place.				
			3) To request a report is brought back to Planning Committee in 3 cycles to agree upon the roadmap which has been discussed between Planning Officers and Elected Members.	Executive Director of Place	June 2024		
13	15.11.23	Emergency Motion by Councillor Dalgleish – Information Update – Short Term Lets	Planning Committee requests a report within two cycles which provides an update on short-term lets in relation to: • Enforcement. • The impact of appeal and local review outcomes on development decisions. • The impact of development plan policies and guidance. • The relationship between the licensing and planning regimes and practice. • Whether updates to practice or training are recommended.	Executive Director of Place	April 2024	January 2025	Included in report to this Committee.

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Work Programme

Planning Committee

15 November 2023

Item	Key decisions	Frequency	Director and Lead Officer	Expected Date
1	Funding of Third Sector Delivery Partners	Annual	Executive Director of Place Lead Officer: David Givan david.givan@edinburgh.gov.uk	April 2024
2	Annual Review of Guidance	Annual	Executive Director of Place Lead Officer: David Givan david.givan@edinburgh.gov.uk	April 2024
3	Local Development Plan Delivery Programme	2 Yearly	Executive Director of Place Lead Officer: David Givan david.givan@edinburgh.gov.uk	September 2024 (Provisional)
4	Development Plan Scheme	Annual	Executive Director of Place Lead Officer: David Givan david.givan@edinburgh.gov.uk	September 2024 (Provisional)
5	Training and Awareness Programme	Annual	Executive Director of Place Lead Officer: David Givan david.givan@edinburgh.gov.uk	November 2024

EDINBVRGH
THE CITY OF EDINBURGH COUNCIL

Planning Committee Upcoming Reports

Appendix 1

Report Title	Directorate	Lead Officer
April 2024		
Annual Review of Guidance	Place	David Givan
Funding of Third Sector Delivery Partners	Place	David Givan
Short Term Lets	Place	David Givan
Planning Controls over Construction / Responsible Construction – Findings of Working Group	Place	David Givan
September 2024		
Local Development Plan Delivery Programme	Place	David Givan
Development Plan Scheme	Place	David Givan

Business Bulletin

Planning Committee

2.00pm, Wednesday, 31 January 2024

Planning Committee

Convener:	Members:	Contacts:
Councillor James Dalgleish 	Councillor Alan Beal Councillor Chas Booth Councillor Lezley Marion Cameron Councillor Neil Gardiner Councillor Tim Jones Councillor Martha Mattos Coelho Councillor Amy McNeese-Mechan Councillor Joanna Mowat Councillor Hal Osler Councillor Alex Staniforth	Taylor Ward Committee Services David Givan Chief Planning Officer and Head of Building Standards

Recent News	Background
Building Standards Performance Recent changes and vacancies at management level have slightly impacted overall performance within the service. However, the management team will return to full capacity within Quarter 4 and performance levels are expected to return to normal. This will be a priority for the new management team with new reporting and monitoring tools currently being investigated and implemented to assist in this regard. Although performance levels statistical have slightly decreased, benchmarking against neighbouring Local Authority Building Standards Services shows Edinburgh compares favourably. Further, the service has just received its highest quarter score from the National Customer Survey which has been a focus of the service over the last year and the recent score shows the hard work of officers is paying off. Work will continue to ensure that success is continued and built on further.	**Contact:** David Givan, Chief Planning Officer and Head of Building Standards

	2022/23				2023/24		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Number of first reports	1,295	1,005	1,192	1,180	1,001	886	952
% issued within 20 day target	90%	91%	91%	95%	94%	94%	92%
Number of warrants granted	1,374	1,144	1,248	1,168	1,085	884	871
% issued within 10 day target	91%	92%	90%	92%	93%	90%	89%

Planning Performance An update on Planning performance for Quarter 3 2023/24 is contained in Appendix 1.	**Contact:** David Givan, Chief Planning Officer and Head of Building Standards
Seafield Update Work on a place brief and masterplan for Seafield is ongoing. Following engagement and consultation, Council officers are now working on a draft brief and masterplan for a further stage of consultation which will be brought to	**Contact:** Iain McFarlane, City Plan Programme Director

Planning Committee in the spring for approval to go out to consultation The spring report will also include feedback on the consultation responses to date.	
City Plan Update City Plan 2030 Confirmation was received in November that a sixth Reporter (Steve Field) has been appointed to assist with the Report of Examination. Following this two additional Further Information Requests (FIRs) were received. FIR22 asks for clarification on how the Council considers its proposed policies Hou 7 (Loss of Housing) and Hou 8 (Inappropriate Uses in Residential Areas) work together and if Policy Hou 7 adequately reflects section e) of National Planning Framework 4 Policy 30 Tourism on loss of housing. Clarification was given that the Council's proposed policy Hou 7 on loss of housing applies to any proposed change of use of a home and is not limited to consideration of short term let proposals, whereas NPF 4 policy 30 (e) specifically refers to short term let use only. Policy Hou 7 is intended to ensure that loss of housing is a material consideration in any proposed change of use of a home and that this is the appropriate approach. The Council also considers its reference to exceptional circumstances relating to 'essential community facilities' rather than the 'local economic benefits' as referred to in the NPF policy is a more appropriate principle, relating to NPF 4 policy on living well locally and 20-minute neighbourhoods. Further clarification was given that the Council expects the Scottish Government to publish guidance on assessing any 'local economic benefits' of short term lets, and that the Council will update its own guidance in due course subject to the outcome of the Examination and any recommendations on this policy, adoption of the finalised Plan and any relevant Scottish Government guidance updates. FIR23 is on the implications of the Planning Committee decision to approve planning application (23/01421/FUL) for industrial and business use at Newbridge. The response confirmed the reasoning of the decision and the potential for the Reporter to consider reallocating the site if they felt this was appropriate. Both were responded to fully before the end of business for the Christmas break. City Plan 2040 The consultation on the Draft Participation Statement commenced on 17 November 2023. A programme of engagement is ongoing for this, comprising of a	**Contact:** Iain McFarlane, City Plan Programme Director

questionnaire on the Council's Consultation Hub and targeted engagement to capture the views of particular groups of people. The formal invitation to prepare Local Place Plans was issued on 16 November 2023. There is new guidance on the Council's webpages to provide information and support to communities bodies who are interested in preparing Local Place Plans. There is also on-going engagement to raise awareness of Local Place Plans amongst different communities.	
Planning Appeals Appeal information is contained in Appendix 2.	**Contact:** David Givan, Chief Planning Officer and Head of Building Standards
Draft Climate Ready Edinburgh Plan 2024-2030 for consultation The Council's Policy and Sustainability Committee approved the draft Climate Ready Edinburgh Plan for consultation on 15 December 2023. The Plan details how the city must adapt to deal with the shocks and stresses caused by climate change and includes actions on embedding adaptation into all planning policies and guidance. This includes Edinburgh Design and Street Guidance to reflect City Plan 2030 planning policies and city and area spatial strategies, masterplans, development briefs and project requirements. The Council declared a Climate Emergency in 2019 and a Nature Emergency in 2023. A key ambition of Edinburgh's 2030 Climate Strategy was the development of the Climate Ready Edinburgh Plan to continue the process of adapting the city to the impacts of climate change. The Edinburgh Adapts Partnership has led this work on behalf of the city. The draft Plan has 8 priority themes: • Planning and the built environment • Water management and resilience • Coastal adaptation • Sustainable transport • Safeguarding and enhancing our natural environment • Strong, healthy community and economy • Building understanding of climate risk • Governance and risk	**Contact:**climatechange@edinburgh.gov.uk

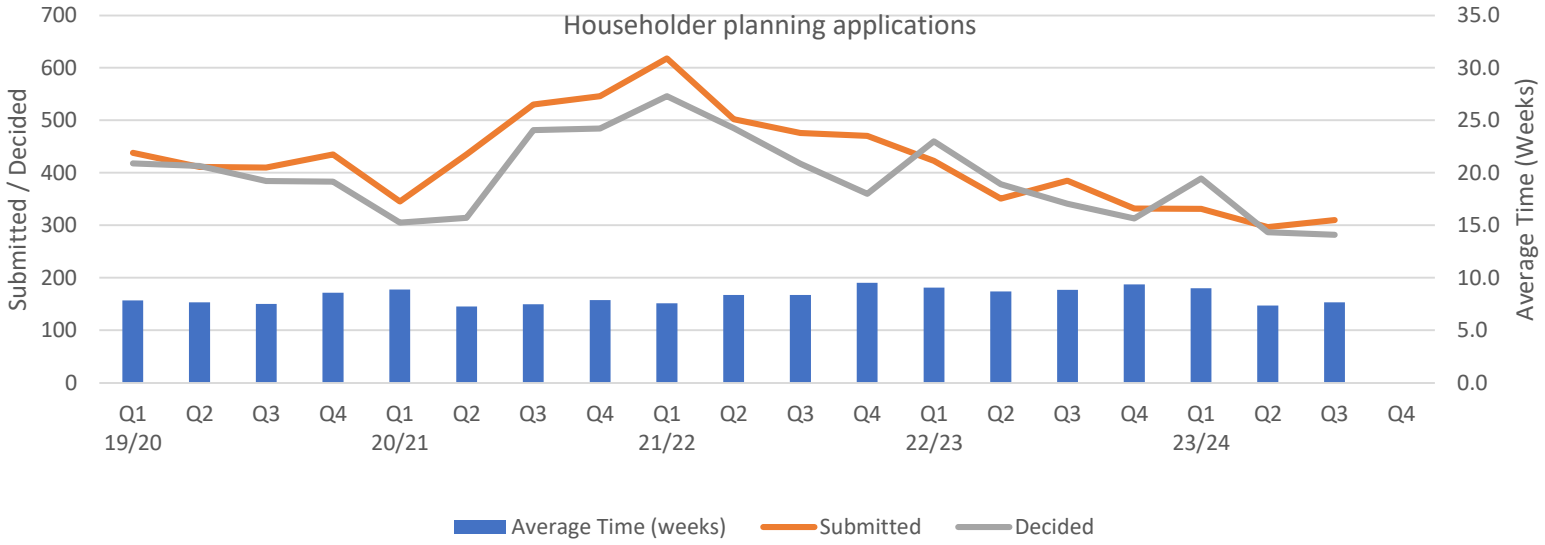
Many of the actions in the Plan are already underway, including the award winning work on developing Edinburgh's Green Blue Network, the creation of a coastal park as a natural coastal flood defence as part of the Granton Waterfront Development Framework and the continuing development of Edinburgh's nature network to connect, create and improve our natural spaces across Edinburgh for the benefit of people and nature.

A 12-week citywide public consultation on the draft Climate Ready Edinburgh Plan 2023-2030 has been launched. During this period, a number of engagement exercises will be held, including workshops targeting the city's public, private and third sectors and internal partner workshops to ensure that the actions in the plan assigned to them are correct and align with their organisational priorities.

A final version of the plan will be brought to Policy and Sustainability Committee for approval following the consultation period. The consultation launched on 15 January 2024 and responses can be submitted using the following link https://consultationhub.edinburgh.gov.uk/bi/climate-ready-edinburgh from this date.

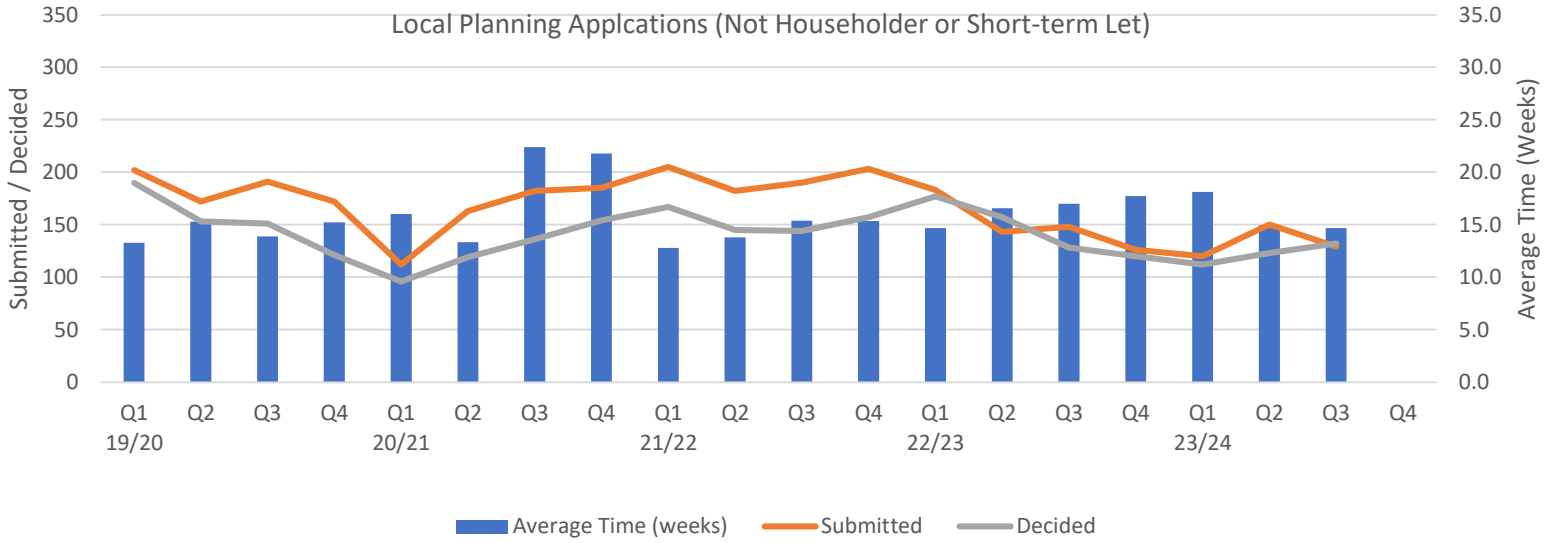
Appendix 2 - Planning Time Performance Quarterly Bulletin - Q3 2023/2024

Householder	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	7.8	7.6	7.5	8.6	8.9	7.3	7.5	7.9	7.6	8.4	8.4	9.5	9.1	8.7	8.8	9.4	9.0	7.3	7.7	
Submitted	438	411	410	435	345	435	530	546	618	502	476	470	423	351	385	332	331	297	310	
Decided	418	413	384	383	305	314	481	484	546	485	417	360	460	378	341	313	389	287	282	
12 Month Totals:	Sub: 1694 Dec: 1598				Sub: 1856 Dec: 1584				Sub: 2066 Dec: 1808				Sub: 1491 Dec: 1492				Sub: 938 Dec: 958			
Decided over 2 months (no agreemetns / extensions)	76	41	26	43	133	51	70	74	78	126	111	155	203	116	108	130	110	59	54	
Appeals against non determination									0	0	0	0	0	1	2	0	0	1		



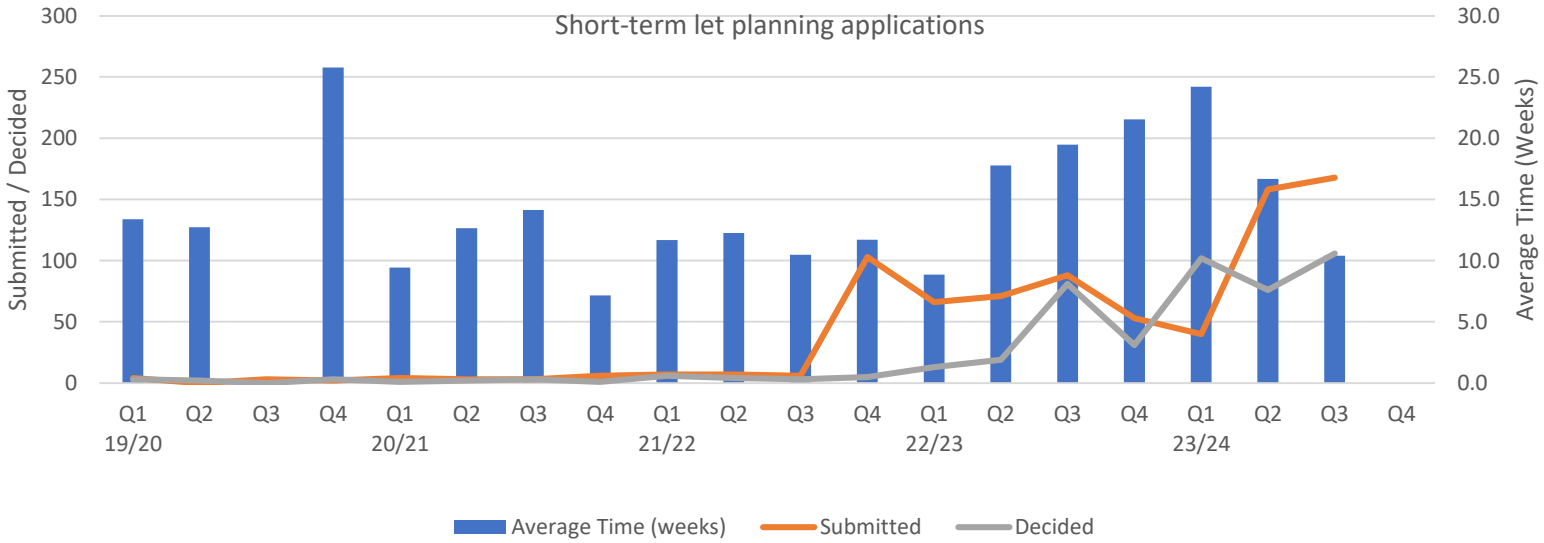
Commentary:
Average timescales for processing householider applications for Q2 was 7.7 weeks. While slighlty longer than the previous quarter this is good in comparison with the preiovus year.

Local (Not Householder or Short-term Let)																				
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	13.3	15.3	13.9	15.2	16.0	13.3	22.4	21.8	12.8	13.8	15.4	15.4	14.7	16.6	17.0	17.7	18.1	15.0	14.7	
Submitted	202	172	191	172	112	163	182	185	205	182	190	203	183	143	148	126	120	150	129	
Decided	190	153	151	121	96	119	136	154	167	145	144	157	177	157	128	120	112	123	132	
12 Month Totals:	Sub: 737 Dec: 615				Sub: 642 Dec: 505				Sub: 780 Dec: 613				Sub: 600 Dec: 582				Sub: 399 Dec: 367			
Decided over 2 months (no agreemetns / extensions)	85	63	48	58	59	52	66	64	71	73	90	103	116	107	74	86	87	72	80	
Appeals against non determination									0	0	0	0	3	0	0	0	3	4		



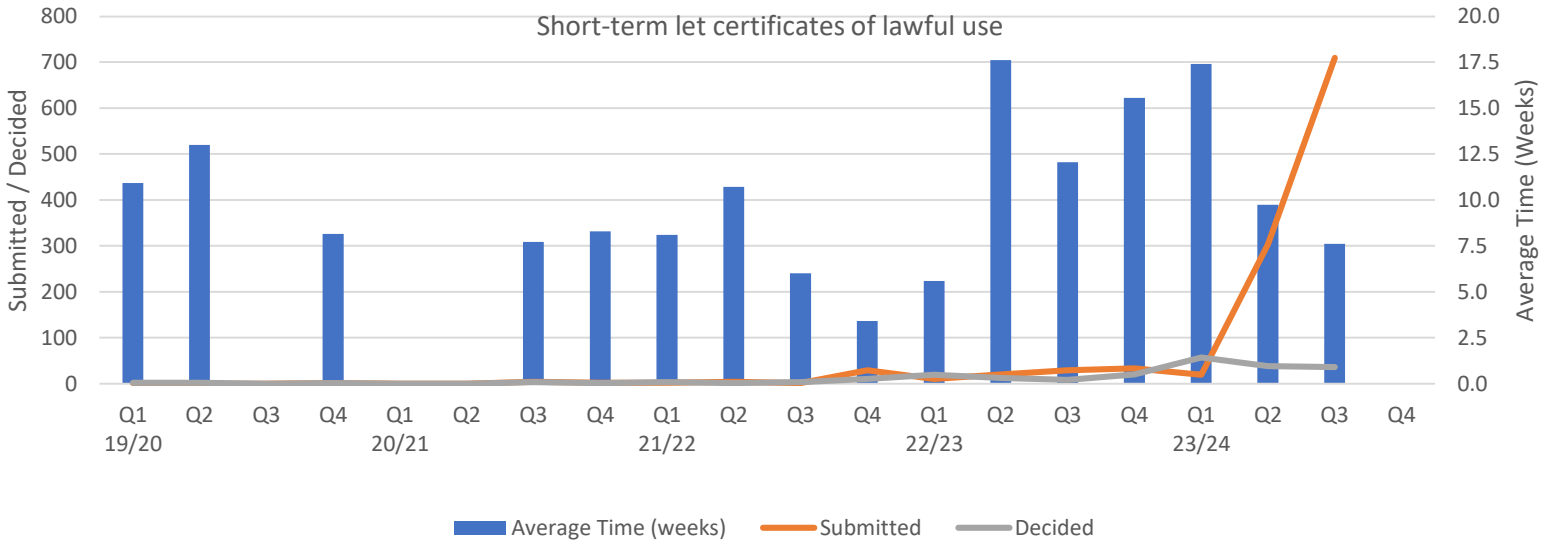
Commentary:There has been an imporvement in average timescales for processing local (not householder or short-term let) applications to 14.7 weeks.

Short-term Let	Applications for Planning Permission																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	13.4	12.7		25.8	9.4	12.6	14.1	7.1	11.7	12.3	10.5	11.7	8.8	17.8	19.5	21.5	24.2	16.7	10.4	
Submitted	4	0	3	2	4	3	3	6	7	7	6	103	66	71	88	53	40	158	168	
Decided	3	2	0	3	1	2	3	1	6	4	3	5	13	19	81	31	102	76	106	
12 Month Totals:	Sub: 9 Dec: 8				Sub: 16 Dec: 7				Sub: 123 Dec: 18				Sub: 278 Dec: 144				Sub: 366 Dec: 284			
Decided over 2 months (no agreemetns / extensions)	1	1	0	3	1	2	2	0	5	4	3	3	2	19	76	30	101	49	41	
Appeals against non determination																				



Commentary: There has been an imporvement in processing timescales for short-term let planning applications to an average of 9.7 weeks for Q3.

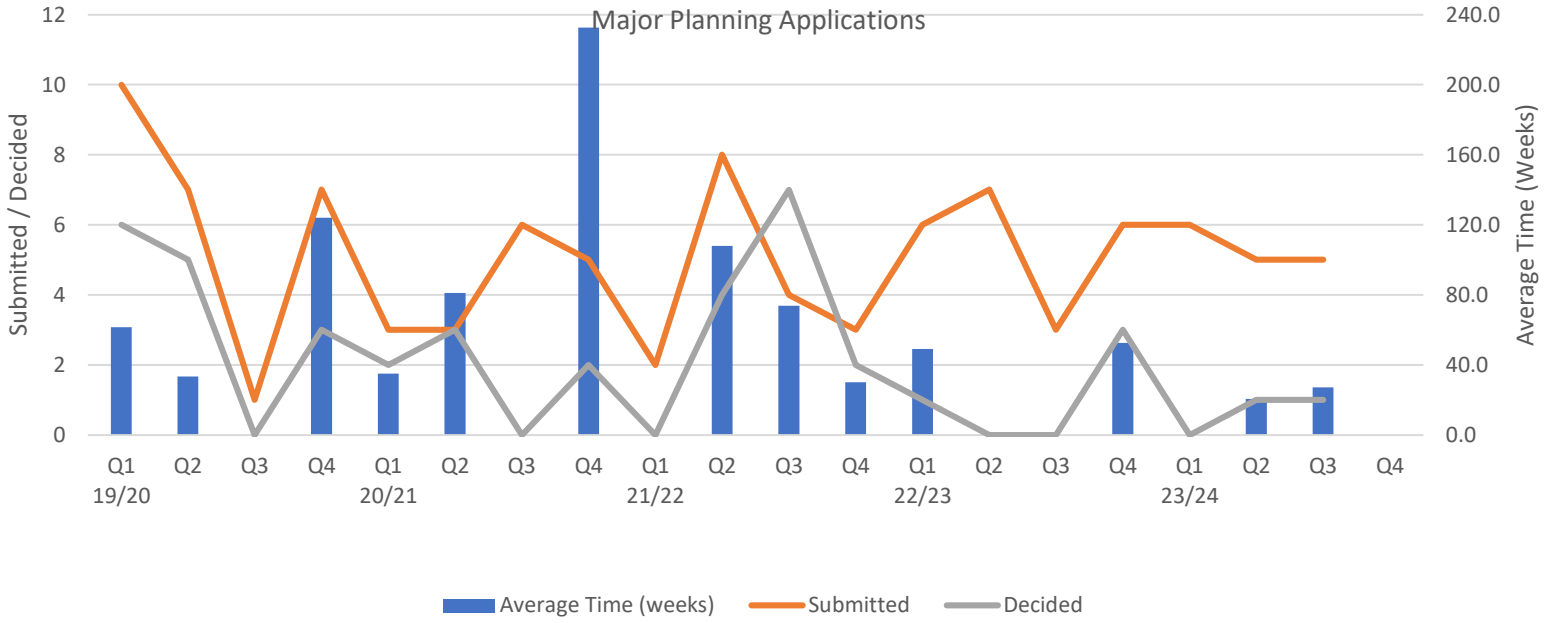
Short-term Let	Applications for Certificate of Lawful Use																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	10.9	13.0		8.1			7.7	8.3	8.1	10.7	6.0	3.4	5.6	17.6	12.1	15.6	17.4	9.7	7.6	
Submitted	1	0	0	1	0	0	4	2	2	4	1	29	10	20	29	33	19	303	710	
Decided	2	2	0	1	0	0	3	1	3	1	3	10	19	12	8	20	57	38	36	
12 Month Totals:	Sub: 2 Dec: 5				Sub: 6 Dec: 4				Sub: 36 Dec: 17				Sub: 92 Dec: 59				Sub: 1032 Dec: 131			
Decided over 2 months (no agreemetns / extensions)	2	2	0	0	0	0	0	0	1	1	0	0	2	11	6	12	47	8	11	
Appeals against non determination																				



Commentary: Short-term let certificate of lawful use applications for both existing and proposed uses are shown in this businees bulletin for the first time. There has been a marked increase in numbers submitted.Average timescales have improved for progressing these with the Q3 figure of 7.6 weeks.

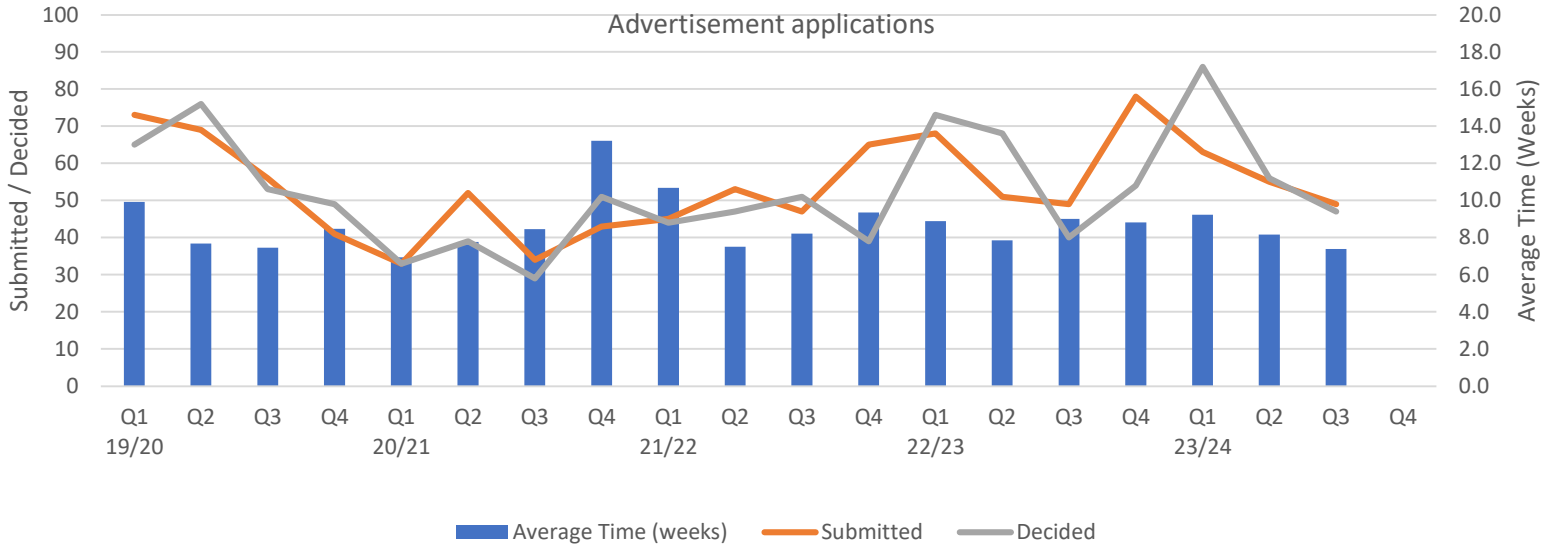
Major	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	61.5	33.4		124.0	35.1	81.0		232.5		107.9	73.8	30.1	49.1			52.5		20.6	27.1	
Submitted	10	7	1	7	3	3	6	5	2	8	4	3	6	7	3	6	6	5	5	
Decided	6	5	0	3	2	3	0	2	0	4	7	2	1	0	0	3	0	1	1	
12 Month Totals:									Sub: 17 Dec: 13				Sub: 22 Dec: 4				Sub: 16 Dec: 2			
Decided over 2 months (no agreemetns / extensions)	6	3	0	3	2	3	0	2	0	4	6	2	1	0	0	3	0	1	1	
Appeals against non determination										0	0	1	0	1	0	1	0	1		

Total Time (excluding EOT / PPA)	=	167	0	372	70	243	0	465	0	432	516	60	49	0	0	157	0	21	27	0



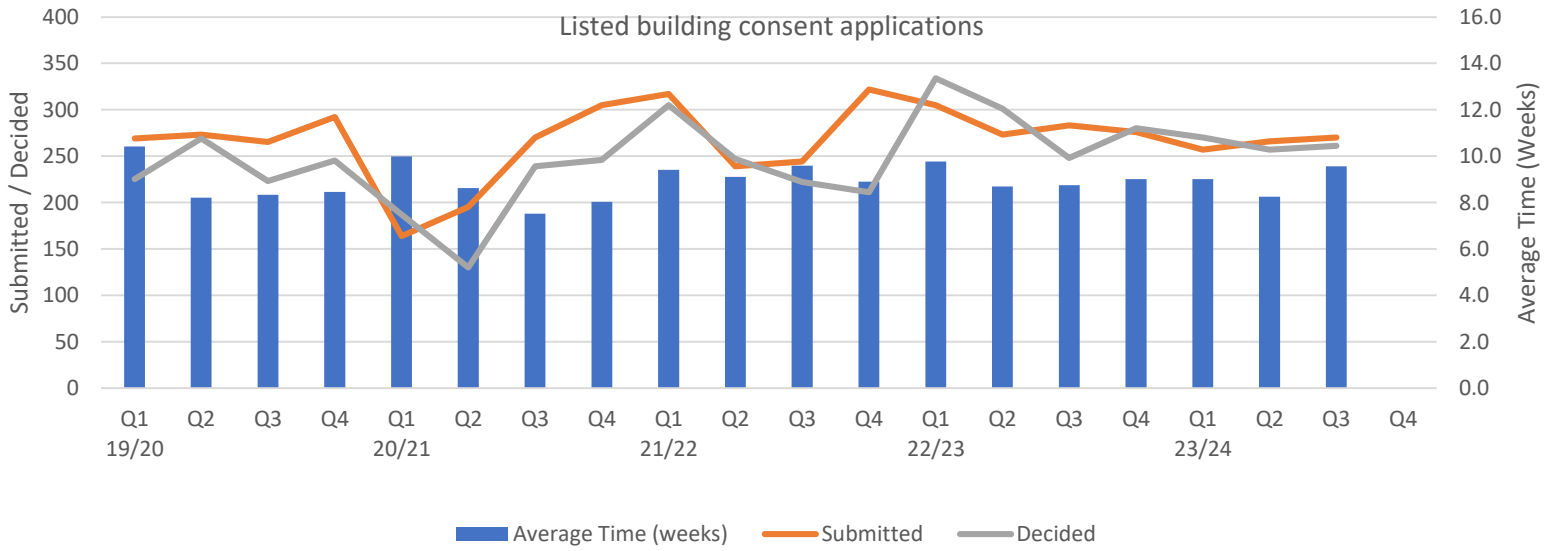
Commentary:
Average timescales for determining major applications was 27.1 weeks. This was based on one application.

Advertisements																				
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	9.9	7.7	7.5	8.5	6.9	7.8	8.5	13.2	10.7	7.5	8.2	9.4	8.9	7.8	9.0	8.8	9.2	8.2	7.4	
Submitted	73	69	56	41	33	52	34	43	45	53	47	65	68	51	49	78	63	55	49	
Decided	65	76	53	49	33	39	29	51	44	47	51	39	73	68	40	54	86	56	47	
12 Month Totals:	Sub: 239 Dec: 243				Sub: 162 Dec: 152				Sub: 210 Dec: 181				Sub: 246 Dec: 235				Sub: 167 Dec: 189			
Decided over 2 months (no agreemetns / extensions)	17	15	7	7	4	8	4	22	14	13	12	19	21	16	10	17	43	18	11	



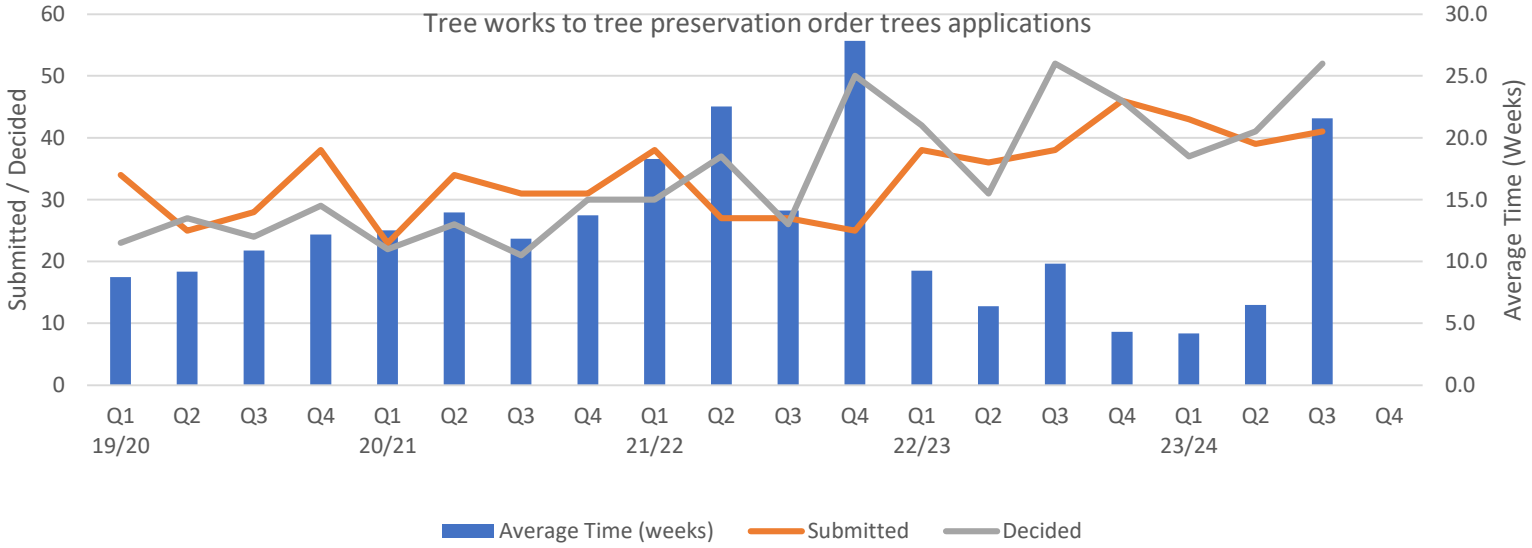
Commentary:
Average timescales for processing advertisement applications has improved for Q3 was 7.4 weeks. This is better than previous quarters shown.

Listed Building Consents	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	10.4	8.2	8.3	8.4	10.0	8.6	7.5	8.0	9.4	9.1	9.6	8.9	9.8	8.7	8.7	9.0	9.0	8.2	9.6	
Submitted	269	273	265	292	164	195	270	305	317	239	244	322	305	273	283	276	257	266	270	
Decided	225	269	223	245	187	130	239	246	305	247	222	211	334	301	248	280	270	257	261	
12 Month Totals:	Sub: 1099 Dec: 962				Sub: 934 Dec: 802				Sub: 1122 Dec: 985				Sub: 1137 Dec: 1163				Sub: 793 Dec: 788			
Decided over 2 months (no agreemetns / extensions)	68	60	35	48	92	39	53	62	77	86	65	63	132	84	73	98	108	72	79	
Appeals against non determination									1	0	0	0	3	0	0	0	0			
Total Time (excluding EOT / PPA)	2344	2206							2868	2248	2129	1877	3260	2616	2168	2520	2433	2119	2496	39



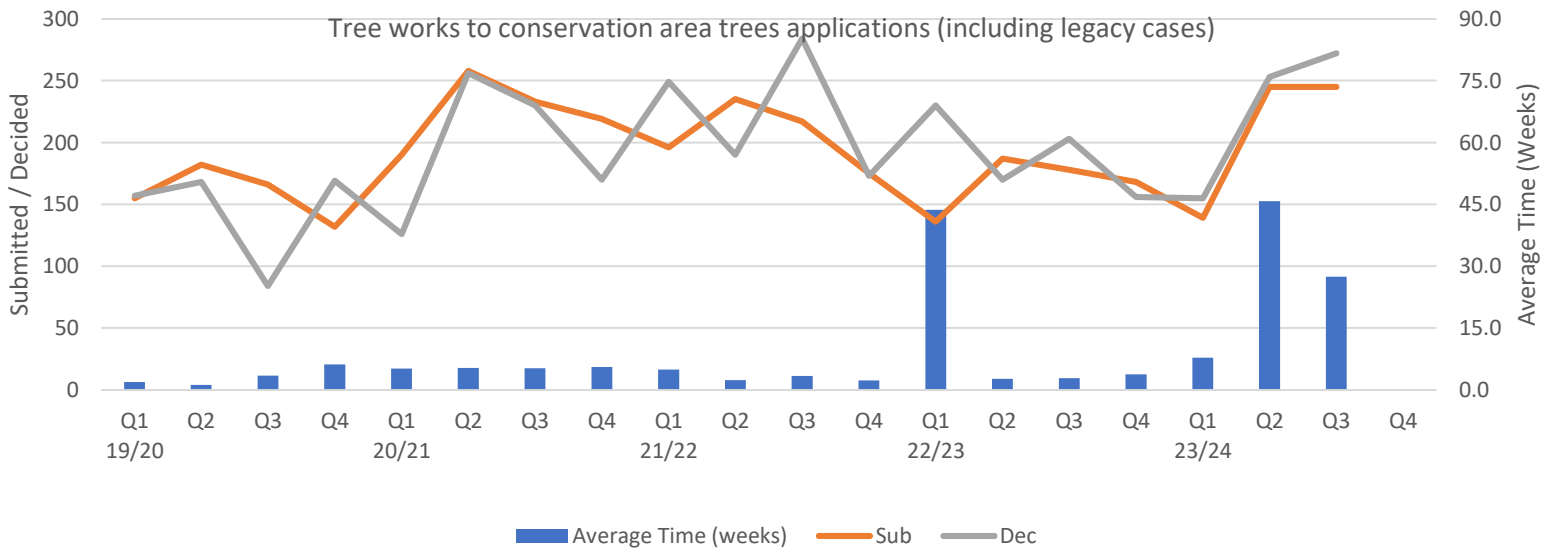
Commentary:
There was an increase in average timescales for determining listed building consent applications to 9.6 weeks. This is being monitored carefully.

Tree works to Tree Preservation Order Tree																				
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	8.7	9.2	10.9	12.2	12.5	14.0	11.9	13.7	18.3	22.5	14.1	27.8	9.2	6.4	9.8	4.3	4.2	6.5	21.6	
Submitted	34	25	28	38	23	34	31	31	38	27	27	25	38	36	38	46	43	39	41	
Decided	23	27	24	29	22	26	21	30	30	37	26	50	42	31	52	46	37	41	52	
12 Month Totals:	Sub: 125 Dec: 103				Sub: 119 Dec: 99				Sub: 117 Dec: 143				Sub: 158 Dec: 171				Sub: 123 Dec: 130			



Commentary:
There was an increase in timescales to determine applications for works to tree preservation order trees to 21.6 weeks. This is due to 3 legacy cases being cleared.

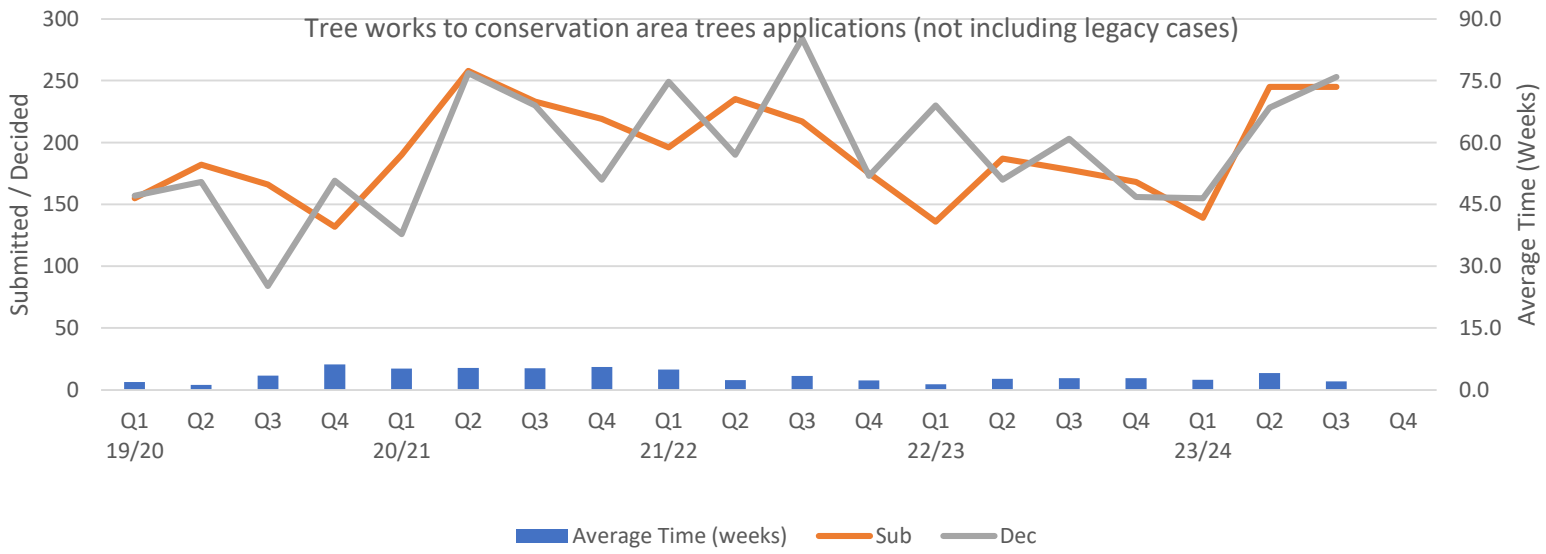
Tree works to Conservation Area Tree																				
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	1.9	1.2	3.5	6.2	5.2	5.4	5.3	5.5	4.9	2.4	3.4	2.3	43.7	2.7	2.9	3.8	7.8	45.7	27.4	
Sub	155	182	166	132	190	258	233	219	196	235	217	175	136	187	178	168	139	245	245	
Dec	157	168	84	169	126	256	230	170	249	190	284	173	230	170	203	156	155	253	272	
12 Month Totals:	Sub: 635 Dec: 578				Sub: 900 Dec: 782				Sub: 823 Dec: 896				Sub: 669 Dec: 759				Sub: 629 Dec: 680			



Commentary:
Average timescale so for tree works applications for those trees that are in a conservation area reduced in Q3 to 27.4 weeks. See table below for legacy cases omitted.

uer

Tree works to Conservation Area Tree	Legacy cases omitted																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Average Time (weeks)	1.9	1.2	3.5	6.2	5.2	5.4	5.3	5.5	4.9	2.4	3.4	2.3	1.4	2.7	2.9	2.8	2.4	4.1	2.0	
Sub	155	182	166	132	190	258	233	219	196	235	217	175	136	187	178	168	139	245	245	
Dec	157	168	84	169	126	256	230	170	249	190	284	173	230	170	203	156	155	228	253	
12 Month Totals:	Sub: 635 Dec: 578				Sub: 900 Dec: 782				Sub: 823 Dec: 896				Sub: 669 Dec: 759				Sub: 629 Dec: 636			



Commentary:
Average timescale so for tree works applications for those trees that are in a conservation area and which are not legacy cases decreased to 2 weeks during Q3.

Enforcement	Overall																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Received	258	286	195	195	116	267	188	160	259	225	169	156	198	235	202	185	272	262	190	
Closed	62	116	86	87	39	69	93	57	136	107	198	174	173	190	220	188	187	183	281	
Notices served	13	17	31	23	0	0	3	0	14	10	14	27	24	20	30	25	31	35	21	
Served within target time	8	11	13	15	0	0	3	0	10	7	1	10	19	6	19	20	16	30	11	0
% in target time	62%	65%	42%	65%			100%		71%	70%	7%	37%	79%	30%	63%	80%	52%	86%	52%	

Enforcement	Short-term Lets																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Received	68	67	52	44	6	64	19	6	26	52	19	13	31	66	52	40	74	84	66	
Closed	6	20	29	17	16	5	19	6	5	12	26	37	12	24	51	48	30	48	84	
Notces served	5	9	12	15	0	0	3	0	11	10	0	18	13	4	17	20	24	31	14	
Served in 6 month target	3	9	6	13	0	0	3	0	9	7	0	9	13	3	16	19	16	28	11	
% in target time	60%	100%	50%	87%			100%		82%	70%		50%	100%	75%	94%	95%	67%	90%	79%	

Enforcement	Other cases - not short-term lets																			
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4
Received	190	219	143	151	110	203	169	154	233	173	150	143	167	169	150	145	198	178	124	
Closed	56	96	57	70	23	64	74	51	131	95	172	137	161	166	169	140	157	135	197	
Notices served	8	8	19	8	0	0	0	0	3	0	14	9	11	16	13	5	7	4	7	
Served in 3 month target	5	2	7	2	0	0	0	0	1	0	1	1	6	3	3	1	0	2	0	
% in target time	63%	25%	37%	25%					33%		7%	11%	55%	19%	23%	20%	0%	50%	0%	

Commentary:
There has been a downturn in numbers of enforcement enquiries received during Q3. Numbers of cases closedhas increased significantly to 281.

Appendix 2

Planning Appeals Summary

Appeals	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Submitted	49	46	36	39	21	24	33	33	25	29	31	35	39	69	51	38	52	76	87	4	53%
(of which for non determination)	(1)	(5)			(1)			(1)	(1)	(1)	(1)	(1)	(1)	(1)		(2)	(2)		(2)		
Decided	31	48	41	40	15	26	24	34	24	27	32	29	34	44	56	46	39	62	69	1	47%

Refusals	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed	2	5	6	5	1	1	4	5	5	5	3	5	5	7	17	6	3	6	6		44%
Appeal Dismissed	6	9	6	6	3	5	4	5	4	6	6	8	6	7	5	4	7	9	6		51%
Uphold (application refused)							1														0%
Not Uphold (application granted)																					0%
Mixed Decision		1		1												1					1%
Notice Upheld with Modifications																		1			0%
Notice Upheld																					0%
Appeal or Review Withdrawn			1	1					1												1%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit										2	1						1				2%
No Remit																					0%

Enforcement Cases																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed	1	1									1		1	1	2	2		2			8%
Appeal Dismissed	3	5	2	9	3	2		2	1		8	4	5	9	3	6	7	8	16	1	71%
Uphold (application refused)																	1				1%
Not Uphold (application granted)																					0%
Mixed Decision			2																		2%
Notice Upheld with Modifications		1										1			1			3	5		8%
Notice Upheld								3								1			2		5%
Appeal or Review Withdrawn				1									1					1	1		3%
Appeal Withdrawn		1	1																		2%
Notice Not Upheld								1													1%
No DPEA remit																					0%
No Remit																					0%

LRB cases																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed	1						2		1												1%
Appeal Dismissed													1								0%
Uphold (application refused)	12	15	14	10	5	9	5	10	8	6	4	7	9	14	20	22	17	30	29		76%
Not Uphold (application granted)	3	3	5	6	2	5	3	8	2	2	3	1	4	3	2	3	1				17%
Mixed Decision		2		1		2	2			1		1									3%
Notice Upheld with Modifications												1									0%
Notice Upheld																					0%
Appeal or Review Withdrawn										1									1		1%
Appeal Withdrawn					1								1								1%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit							1			1								1	1		1%

Non Determination Cases	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed		2	1				1					1						1			33%
Appeal Dismissed		1	1			1	1				1			1	1		2		1		56%
Uphold (application refused)																					0%
Not Uphold (application granted)																					0%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn											1										6%
Appeal Withdrawn	1																				6%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

Refuse and Enforce Cases	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed																					0%
Appeal Dismissed										1				1							100%
Uphold (application refused)																					0%
Not Uphold (application granted)																					0%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn																					0%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

Review of non-determination	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed																					0%
Appeal Dismissed																					0%
Uphold (application refused)		1									1				5						58%
Not Uphold (application granted)										2	1		1	1							42%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn																					0%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

High Hedges Cases	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed											1										50%
Appeal Dismissed											1										50%
Uphold (application refused)																					0%
Not Uphold (application granted)																					0%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn																					0%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

LRB Review of Conditions Imposed																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed																					0%
Appeal Dismissed																					0%
Uphold (application refused)																1					33%
Not Uphold (application granted)																					0%
Mixed Decision									1												33%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn									1												33%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

Advertisement Cases																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed																					0%
Appeal Dismissed			2																		67%
Uphold (application refused)	1																				33%
Not Uphold (application granted)																					0%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn																					0%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

Appeal Against Conditions Imposed																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total % 2019 - 2024
Appeal Allowed						1															25%
Appeal Dismissed	1	1																	1		75%
Uphold (application refused)																					0%
Not Uphold (application granted)																					0%
Mixed Decision																					0%
Notice Upheld with Modifications																					0%
Notice Upheld																					0%
Appeal or Review Withdrawn																					0%
Appeal Withdrawn																					0%
Notice Not Upheld																					0%
No DPEA remit																					0%
No Remit																					0%

Appeals for Committee Decisions																					
	Q1 19/20	Q2	Q3	Q4	Q1 20/21	Q2	Q3	Q4	Q1 21/22	Q2	Q3	Q4	Q1 22/23	Q2	Q3	Q4	Q1 23/24	Q2	Q3	Q4	Total
Appeals Submitted	9	6	3	2	1	4	9	6	2	9	7	2	6	2	4	5	5	8	11	0	

	7	**7**	**5**	**5**	**2**	**1**	**4**	**3**	**3**	**6**	**7**	**8**	**4**	**6**	**4**	**1**	**3**	**9**	**8**	**0**	Total % 2019 - 2024
Allowed	1	3	3	3			2	2	3	4	2	4	3	3	3			5	4		48%
Dismissed	5	4	2	2	2	1	1	1		2	4	4	1	3	1	1	3	4	4		48%
Withdrawn											1										1%
Withdrawn	1																				1%
No Remit							1														1%

Total Appeals Decided (Committee Decision Against Officer Recommendation)	**1**	**1**	**3**	**2**	**0**	**0**	**2**	**2**	**1**	**2**	**2**	**0**	**1**	**2**	**2**	**0**	**0**	**2**	**4**	**0**	Total % 2019 - 2024
Allowed		1	2	1			2	2	1				1	2	2			2	4		74%
Dismissed	1		1	1						2	2										26%
Withdrawn																					0%
Withdrawn																					0%
No Remit																					0%

Planning Committee

2.00pm, Wednesday, 31 January 2024

Short-term Lets

Executive/routine
Wards **All**

1. Recommendations

1.1 It is recommended that Committee:

1.1.1 Notes the information provided in this report;

1.1.2 Approves the amended Guidance for Business (January 2024) which takes account of the Court decision;

1.1.3 Refers this report to the Regulatory Committee for consideration; and

1.1.4 Agrees that training should be provided for Committee members on Short-Term Lets (STLs).

Paul Lawrence

Executive Director of Place

David Givan, Chief Planning Officer and Head of Building Standards

E-mail: david.givan@edinburgh.gov.uk | Tel: 07525618478

Report

Short-term Lets

2. Executive Summary

2.1 This report responds to a request from the Council and sets out the implications of the Judicial Review in respect of short-term lets and planning.

2.2 Following a request from Planning Committee, it considers:

- Enforcement;
- The impacts of appeal and local review outcomes on development decisions and on development plan policies and guidance;
- The relationship between the licensing and planning regimes and practice; and
- Whether updates to practice or training are recommended.

3. Background

3.1 The Edinburgh Short-term Let Control Area came into force on 5 September 2022.

3.2 At Planning Committee on 15 November 2023, Committee requested a report within two cycles which provides an update on short-term lets in relation to:

- Enforcement.
- The impact of appeal and local review outcomes on development decisions.
- The impact of development plan policies and guidance.
- The relationship between the licensing and planning regimes and practice.
- Whether updates to practice or training are recommended.

3.3 On 1 December 2023, Lord Braid issued his Opinion on the Judicial Review of the Council's approach to the issue of whether Section 26B (2) of the Town and Country Planning (Scotland) Act 1997 (the "1997 Act") has any retrospective effect. Section 26B (2) states:

"In a short-term let control area, the use of a dwellinghouse for the purpose of providing short-term lets is deemed to involve a material change of use of the dwelling house."

3.4 Lord Braid's Opinion clarifies that Section 26B (2) should be read as applying only to a proposed future change of use after 4 September 2022. Depending on the facts and circumstances, consideration may require to be made as to whether there has been either a non-material change of use prior to 5 September 2022 or non-enforcement for 10 years.

3.5 The amendments to the Council's non-statutory Guidance for Businesses (which were approved in April 2023) were reduced by the Court. This means it can no longer be used in the form approved by Committee in April 2023. The document is not policy but provides guidance on the application of policy. It was solely reduced by the Court because of statements within it that suggested that short-term let uses taken up before the Control Area came into force, are deemed in terms of Section 26B (2) to be material changes of use which require planning permission.

3.6 At the Council meeting on 14 December 2023, a composite amendment was approved that requested a report come to Planning Committee detailing the implications of the Judicial Review and what outcomes this will have on Short-Term Let Planning Policy and the assessment of Short-Term Let Planning Applications, what implication this may have for the Council's Short Term Let Licensing Scheme, and potential amendments to the 'Guidance for Businesses' which comply with the judgement.

3.7 Council also agreed that this report should be sent to the Regulatory Committee and the Short Term Lets Working Group for information.

3.8 This report fulfils these requirements from the Council and Planning Committee.

4. Main report

Implications of Judicial Review

4.1 The judicial review has no impact on the planning policies that are typically used to assess short-term let planning applications. These policies are Edinburgh Local Development Plan Policy Hou 7 - Inappropriate Uses in Residential Areas and Policy 30 of National Planning Framework 4. They are unaltered by the Court.

4.2 Uses of dwellinghouses for short-term secondary let purposes that commenced after the Control Area came into force are deemed to be material changes of use and therefore require planning permission. There is no impact on those properties from the Judicial Review.

4.3 Where applications are made for pre-control area changes of use from dwellinghouses to short-term lets, it now needs to be considered whether a material change of use has occurred using a fact and degree assessment. Prior to the control area coming into force, each short term let application or enforcement case

was assessed on this basis and it was often concluded for properties being used for short-term secondary let purposes that a material change of use had occurred thereby requiring planning permission. It remains the case that some pre-control area changes of use will be material changes of use that require planning permission. However, there is potential that some such changes of use may, in terms of the fact and degree assessment, be determined as not being material changes of use that require planning permission.

4.4 The practical implications of the Judicial Review for the workload of the Planning service are:

4.4.1 It is likely to take longer to determine applications due to the fact and degree assessment as each case must be considered on its own merits. In relation to this, many applications have stated the use commenced before 5 September 2022;

4.4.2 Most recent applications are for certificates of lawfulness of existing use. Where these applications are refused, planning permission is required. Therefore, planning permission may then be sought (adding to workloads); and

4.4.3 Given there is lesser certainty about where material changes of use have occurred, there is a potentially a greater likelihood that refusals of both certificates of lawfulness and planning applications will be appealed.

4.5 The April 2023 version of the Guidance for Business has been amended to take account of the Court Decision (Appendix 1). As the amendments to the Guidance are solely to address the Judicial Review judgment, it is not considered that further consultation is necessary. It is recommended this amended guidance is approved. In Appendix 1 additions are highlighted in yellow, while deletions are shown in scored out red text.

4.6 It is not proposed that the guidance is further changed at this stage. It may be appropriate to review the guidance once City Plan 2030 is adopted to reflect the up-to-date development plan at that stage. It is not proposed to change the process in relation to the fact and degree assessment of whether a material change of use has occurred that was in place prior to the control area coming into force. Changes to guidance that go beyond addressing the court decision would require to be consulted on.

4.7 The Judicial Review principally related to STL Planning matters, but it also touched on the interrelationship with the Council's STL licensing policy. The 1 December 2023 Judgment stated that that the licensing form should be amended to better reflect that there may be cases where planning permission is not required. The relationship between licensing and planning is considered further below.

Enforcement

4.8 During 2023 there were 264 reports to the Council of possible breaches of planning control in relation to short-term lets. During 2023, 89 enforcement notices were issued requiring the cessation of the unauthorised use.

4.9 The planning service is continuing to assess reports of possible breaches and will continue to act where it is in the public interest do so.

4.10 Where planning permission is required and is not in force or has not been applied for and not yet decided, the licensing team will be advised of this and can take appropriate action.

Impact of appeal and local review outcomes on development decisions

4.11 In respect of STL cases, planning appeals to the Planning and Environmental Appeals Division (DPEA) are made for planning enforcement notices, planning applications that have been refused at Committee and applications for certificates of lawful use that have been refused. Generally, it has been found that the DPEA has supported the Council's decisions. This suggests the Council has been assessing these cases appropriately.

Impact of development plan policies and guidance

4.12 Applications for planning permission are decided in accordance with the development plan, principally comprised of the Edinburgh Local Development Plan 2016 ("LDP") and National Planning Framework 4 ("NPF4"), unless outweighed by material considerations. The principal development plan polices relating to short-term lets are LDP policy Hou 7 and NPF4 policy 30. The adoption of NPF4 in February 2023, and its new requirements on housing loss, is having an impact on decisions. Since then, there have been proportionately fewer planning permissions granted than previously where only the issue of amenity was considered.

4.13 The Council's next Local Development Plan, City Plan 2030, is under examination at present. It contains proposed policies Hou 8 Inappropriate Uses in Residential Areas (which is similar to current LDP policy Hou7) and new policy Hou7 Loss of Housing. There is potential for the wording of policies to be altered where the report of examination recommends that. Once City Plan is adopted it will replace the LDP and its policies will be used alongside NPF4 in the determination of applications.

Relationship between the licensing and planning regimes and practice

4.14 Mandatory condition 13 which is imposed on a license granted under the Civic Government (Scotland) Act 1982 (Licensing of Short-term Lets) Order 2022 requires that where planning permission is needed, licensees either have applied for planning permission or have planning permission in place. This mandatory condition applies to all properties that need planning permission and are being used for short-term let purposes, so includes both those that are deemed to be material changes of use under Section 26B of the 1997 Act and those cases where a material change of use has occurred under Section 26 of the 1997 Act.

4.15 The Council's "City of Edinburgh Council Short Term Lets Licensing Policy" seeks information on the planning status of secondary let properties. The application form has been updated following the second Judicial Review to address the courts comments. Where this information is not provided or is unclear with STL licence applications, the Licensing team will engage with the applicant and discuss the circumstances and seek further information. Thereafter, if there remains an outstanding issue with the planning status of the property the Licensing service would ask the Planning service to confirm the planning status of the property before determining the licence application. The licence will require to be determined within the statutory determination period. The Council approach to enforcement of licensing issues has been approved by the Regulatory Committee at its meeting in October 2023.

Whether updates to practice or training are recommended

4.16 Training has been conducted with planning staff on STLs.

4.17 It is recommended that further training is carried out with Planning and Regulatory Committee members on STLs.

Other matters

4.18 On reviewing the Guidance for Business in order that it can be amended to reflect the court decision, it was noted that it does not accurately reflect legislation for houses of multiple occupation. It is proposed the guidance is also changed to reflect the current legislation. This change is highlighted in Appendix 1.

5. Next Steps

5.1 The Planning service will continue to assess and determine applications and enforcement cases. It will also continue to liaise with the Licensing team and support it in progressing license applications.

5.2 The Short-Term Lets Working group will continue to meet and matters arising from it that require Committee decisions will be reported accordingly.

5.3 Training will be arranged for members of the Planning and Regulatory Committees.

6. Financial impact

6.1 The cost of administering planning applications is largely covered by the fees received. The cost of progressing planning enforcement investigations, planning appeals and local reviews is not. It is expected that there will continue to be pressures on the service due to the large number of short-term let applications, appeals, reviews and enforcement cases that it is progressing. The judicial review decision is likely to exacerbate that pressure due to the issues highlighted at paragraph 4.4. Planning will seek to contain any emerging pressures within existing budget and resources.

7. Equality and Poverty Impact

7.1 As the report is not making recommendations which have equality or poverty impacts, there are no impacts on equality arising from this report.

8. Climate and Nature Emergency Implications

8.1 As the report is not making recommendations that have climate or nature emergency implications, there are no impacts on these matters arising from this report.

9. Risk, policy, compliance, governance and community impact

9.1 Given there has now been two legal judicial reviews in respect of the Council's approach to short-term lets, there is a risk of further legal challenge. This could come about in relation to any decisions that the Council makes.

9.2 If a challenge is made, the relevant councillors will be consulted before any decision is made on what action to take.

9.3 To reduce the risk of potential challenge the Planning and Licensing teams liaise with the Legal service on matters arising.

10. Background reading/external references

10.1 Report to Planning Committee of 19 April 2023 on Proposed Changes to Short Term Let Guidance in the Non-Statutory Guidance for Businesses

10.2 Opinion of Lord Braid in the Petition of (First) Iain Muirhead and (Second) Dickins Edinburgh Limited for Judicial Review

10.3 The Town and Country Planning (Scotland) Act 1997

10.4 Edinburgh Local Development Plan

10.5 National Planning Framework 4

11. Appendices

11.1 Appendix 1 – Proposed amended Guidance for Businesses.

Appendix 1
Proposed amended Guidance for Businesses

Changes from the April 2023 version are shown as follows:

- Additional text highlighted in yellow.
- Deletions shown in scored out red text – ie: ~~text~~

Guidance for Businesses

~~April 2023~~

January 2024

EDINBVRGH
THE CITY OF EDINBURGH COUNCIL

Guidance for Businesses

Misc: Student Housing, Radio Telecommunications, Open Space Strategy etc.

This document and other non-statutory guidance can be viewed at: *www.edinburgh.gov.uk/planningguidelines*

Who is this guidance for?

This guidance is intended to assist businesses in preparing applications to change the use of a property or carry out alterations to a business premises.

Policy Context

This document interprets policies in the *Edinburgh Local Development Plan*. Relevant policies are noted in each section and should be considered alongside this document.

Business Gateway

Business Gateway offers businesses free practical help and guidance. Whether you're starting up or already running a business, and provide access to business support and information services.

To get more information on help for your business, or to book an appointment with our experienced business advisers please contact our Edinburgh office.

Contact details:

Business Gateway (Edinburgh Office)
Waverley Court
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Listed Buildings and Conservation Areas

If the building is listed or located within a Conservation Area, guidance on *Listed Buildings and Conservation Areas* must also be considered. Boxes throughout this guideline give specific information relating to Listed Buildings and Conservation Areas. You can check if your property is listed or located within a conservation area on the Council's website *www.edinburgh.gov.uk/planning*

This guidance was initially approved in December 2012 and incorporates additional text on short term commercial visitor accommodation approved in February 2013, and minor amendments approved in February 2014, February 2016, March 2018 and February 2019.

Contents

Do I need Planning Permission?

Planning Permission

Planning permission is required for many alterations, and changes of use. However, some work can be carried out without planning permission; this is referred to as 'permitted development'. Permitted development is set out in legislation.

Common enquiries are set out in the relevant chapters of this document.

If you believe your building work is 'permitted development', you can apply for a *Certificate of Lawfulness* to confirm that the development is lawful and can go ahead. This can be applied for online at www.eplanning.scot

What is a change of use?

Most properties are classified under categories known as a 'Use Class'. For example, shops are grouped under Class 1 and houses under Class 9. Some uses fall outwith these categories and are defined as 'sui generis', meaning 'of its own kind'. This is set out in The Use Classes (Scotland) Order 1997 (as amended).

Changing to a different use class is known as a change of use and may require planning permission, although some changes between use classes are allowed without planning permission. Planning permission is not required when both the present and proposed uses fall within the same 'class' unless there are specific restrictions imposed by the council. The Scottish Government Circular 1/1998 contains guidance on use classes.

Listed Buildings and Conservation Areas

Fewer alterations are considered to be permitted development and most changes to the outside of a building, including changing the colour, require planning permission. More information on other consents which may be required is included on the next page.

Listed Building Consent

Listed building consent is required for works affecting the character of listed buildings and also applies to the interior of the building and any buildings within the curtilage. Planning permission may also be required in addition to Listed Building Consent. If your building is listed, specific guidance on Listed Buildings and Conservation Areas must also be considered along with this document.

What Other Consents Might Be Required?

Advertisement Consent

Advertisements are defined as any word, letter, model, sign, placard, board, notice, awning, blind, device or representation, whether illuminated or not, and employed wholly or partly for the purpose of advertisement, announcement or direction.

While many advertisements require express consent, certain types do not need express consent as they have 'deemed consent'. You can check this by consulting *The Town and Country Planning (Control of Advertisements) (Scotland) Regulations 1984.* Advertisements displayed in accordance with the advert regulations do not require advertisement consent.

Illuminated shopfront signage in a conservation area requires advertisement consent.

Building Warrant

Converted, new or altered buildings may require a Building Warrant. There is more Building Standards information at *www.edinburgh.gov.uk/buildingwarrants*. For detailed information please go to the *Scottish Government website*.

Road Permit

You must get a permit to the Council if you want to carry out work in or to occupy a public street. *A road permit* will be required if forming a new access or driveway or if placing a skip or excavation in a public road. It will also be required for scaffolding or to occupy a portion of the road to place site huts, storage containers, cabins, materials or contractors plant, to put up a tower crane or to operate mobile cranes, hoists and cherry pickers from the public highway. For more information contact the Areas Roads Manager in your *Neighbourhood Team.*

Licensing

Some activities, such as the sale and supply of alcohol or late hours catering, require a licence. Please contact *Licensing* for more information on 0131 529 4208 or email *licensing@edinburgh.gov.uk.* ~~*The Civic Government (Scotland) Act 1982 (Licensing of houses in Multiple Occupation) Order 2000,* requires operators of HMOs to obtain a licence allowing permission to be given to occupy a house as a HMO where it is the only or principal residence of three or more unrelated people.~~ Part 5 of the Housing (Scotland) Act 2006 requires HMOs to be licensed unless exempt. A license gives permission to occupy a house as an HMO. An HMO is a house where three or more unrelated people reside as their main residence.

Table and Chairs Permit

If your business sells food and drink you may be able to get a permit from the Council to put tables and chairs on the public pavement outside your business.

A *tables and chairs permit* allows you to put tables and chairs on the public pavement between 9am and 9pm, seven days a week and is issued for either six or twelve months. For more information please email *TablesChairsPermits@edinburgh.gov.uk* or phone 0131 529 3705.

Biodiversity

Some species of animals and plants are protected

by law. Certain activities, such as killing, injuring or capturing the species or disturbing it in its place of shelter, are unlawful. It is also an offence to damage or destroy a breeding site or resting place (or obstruct access to).

If the presence of a European Protected Species (such as a bat, otter or great crested newt) is suspected, a survey of the site must be taken. If it is identified that an activity is going to be carried out that would be unlawful, a license may be required.

More information on European Protected Species, survey work and relevant licenses is available on the Scottish Natural Heritage website.

Trees

If there are any trees on the site or within 12 meters of the boundary, they should be identified in the application. Please refer to *the Edinburgh Design Guidance (chapter 3.5)* for advice.

All trees in a Conservation Area or with a Tree Preservation Order are protected by law, making it a criminal offence to lop, top, cut down, uproot wilfully, damage or destroy a tree unless carried out with the consent of the council. To apply for works to trees, go to *www.eplanning.scot.*

Trade Waste

Proposals for commercial use of a property should ensure that there will be sufficient storage space off street to store segregated waste containers, in line with the Council's Trade Waste policy.

Changing a Residential Property to a Commercial Use

What does this chapter cover?

Changes of use to:

- private day nurseries
- house in multiple occupation (HMOs)
- running a business from home
- guest house
- short term let accommodation

This guideline is not intended to address new hotel development which is covered by Edinburgh Local Development Plan (LDP) Policy Emp 10 Hotel Development.

Where an extension to a residential property is required to then run a business from home, please refer to the Guidance for Householders to understand what permissions are required.

When is planning permission required?

Some activities within a residential property can be undertaken without requiring planning permission. Some common enquiries are given below.

What should I do if it is permitted development?

If you believe planning permission is not required, you can apply for a *Certificate of Lawfulness* for legal confirmation.

Private day nurseries

The change of use from a residential property to a private day nursery requires planning permission.

Where child minding is undertaken from a residential property, whether a change to a private day nursery has occurred will be assessed on a case by case basis. Consideration will be given to the number of children, the frequency of activity and the duration of stay. The criteria under 'Running a business from home' should also be considered.

Houses of Multiple Occupation (HMOs)

The sharing of accommodation by people who do not live together as a family is controlled at the point at which there is considered to be a material change of use. For houses, Class 9 of the Town and Country Planning (Use Classes) (Scotland) Order 1997 considers this to be when more than 5 people are living together, other than people living together as a family. As with houses, the Council would also expect a material change of use to occur in fats when more than 5 unrelated people share accommodation. All planning applications for Houses in Multiple Occupancy (HMOs) are assessed using LDP Policy Hou 7: Inappropriate Uses in Residential Areas, having regard to the advice below.

Running a business from home

Proposals which comply with all the following may not need planning permission, but always check with the council first.

- There should be no change in the character of the dwelling or the primary use of the area. For example, signage, display of commercial goods, increased pedestrians and vehicular movements, noise etc.
- There should be no more than the parking of a small vehicle used for commercial and personal purposes within the curtilage of a dwelling house.
- Any ancillary business should not be detrimental to the amenity of the area by reason of noise, vibration, smell, fumes, smoke, ash, dust, or grit.
- There should be no impact on the amenity or character of the area as a result of visitors or deliveries to the property.
- The primary use of the property must be domestic and any members of staff on the premises should have no impact on the amenity and character of the property.

Using your home as a guest house

Planning permission will not be required for the use of a house as a bed and breakfast or guest house if:

- The house has less than four bedrooms and only one is used for a guest house or bed and breakfast purpose
- The house has four or more bedrooms and no more than two bedrooms are used for a guest house or bed and breakfast purpose.

Planning permission will always be required if a flat is being used as a guest house or bed and breakfast, regardless of the number of rooms.

Short Term Let Accommodation

~~The city-wide Edinburgh Short-term Let (STL) Control Area came into force on 5 September 2022, which means that the use of a residential property for short term let accommodation will constitute a change of use requiring~~ The Council has designated all of its area a Control Area in terms of section 26B of the Town and Country Planning (Scotland) Act 1997 ("the 1997 Act"). That designation means that from 5 September 2022 there is a city-wide Edinburgh Short-term Let (STL) Control Area. Accordingly, a change of use of a dwellinghouse to use for a short-term let occurring on or after that date within the Control Area will be deemed a material change of use and will require planning permission provided that:

- It is not a private tenancy under Section 1 of the Private Housing (Tenancies) (Scotland) Act 2016;
- It is not a tenancy of a dwellinghouse (or part of one) where all or part of the dwellinghouse is the principal home of the landlord or occupier;
- Sleeping accommodation is provided to one or more persons for one or more nights for commercial consideration (i.e. an exchange of money);
- No person to whom sleeping accommodation is provided is an immediate family member of the person by whom the accommodation is being provided;
- The accommodation is not provided for the principal purpose of facilitating the provision of work or services to the person by whom the accommodation is being provided or to another member of that person's household;
- The accommodation is not provided by an employer to an employee in terms of a contract of employment for the better performance of the employee's duties; and
- The accommodation is not a hotel, boarding house, guest house, hostel, residential accommodation where care is provided to people in need of care, hospital or nursing home, residential school, college or training centre, secure residential accommodation (including a prison, young offenders institution, detention centre, secure training centre, custody centre, short-term holding centre, secure hospital, secure local authority accommodation or use as military barracks), a refuge, student accommodation or an aparthotel.

Section 26B of the 1997 Act applies where change of use of a dwellinghouse occurs after designation of a control area. However, it is important to remember that section 26B does not replace the existing requirements of the 1997 Act in respect of the need for planning permission for a material change of use. This means that a material change of use to short-term letting whether before or after 5 September 2022 would require planning permission. Consideration of whether the change of use is material in any particular case may include, but is not restricted to, matters such as the impact on immediate neighbours, the wider local amenity and local infrastructure. If a person wishes to ascertain whether any existing use of buildings is lawful, they can make an application for certificate of lawful use to the Council.

~~These legal requirements are set out in the Town and Country Planning (Scotland) Act 1997 and the Town and Country Planning (Short-term Let Control Areas) (Scotland) Regulations 2021.~~ Further detail and guidance on these matters is contained in the Town and Country Planning (Short-term Let Control Areas) (Scotland) Regulations 2021 and the Scottish Government's guidance on Short Term Lets and Planning (Circular 1/2023) and their Planning Guidance for Hosts and Operators, July 2023. ~~Annex B of the Scottish Government's Planning Circular 1 of 2021 – Establishing a Short-term Let Control Area.~~

On 1 October 2022, the licensing scheme under the Civic Government (Scotland) Act 1982 (Licensing of Short-term Lets) Order 2022 (the "STL Licensing Order") ~~will~~ was opened to receive applications for short- term let licenses. The requirement to have an STL ~~licence~~ license is separate from any need to have planning permission. Further information on STL licensing can be found within the Scottish Government's Licensing Guidance for Hosts and Operators, June 2023.

In Edinburgh, due to the STL Control Area, where the use of a premises for a short-term let requires planning permission, to lawfully operate a secondary let STL under an STL ~~licence~~ license, there will be a need to either have planning permission in place, or an ongoing application for planning permission~~, or have it in place confirmation from the Council that planning permission is not required~~. In the event that planning permission is required, and the planning application and any related appeal is refused, the STL ~~licence~~ license holder cannot lawfully continue to operate the secondary let STL in terms of their licence.

"Secondary letting" means a short-term let consisting of the entering into an agreement for the use of accommodation, which is not, or not part of, the ~~licence~~ license holder's only or principal home.

~~Further guidance on licensing can be found on the Council's website.~~

What to consider if planning permission is required

Policy Hou 7

Sets out when uses will not be permitted in predominately residential or mixed use areas i.e. uses which would have a materially detrimental effect on the living conditions of nearby residents.

Amenity

Proposals for a change of use will be assessed in terms of their likely impact on neighbouring residential properties. Factors which will be considered include background noise in the area and proximity to nearby residents.

In the case of private day nurseries, whether nearby residential uses overlook the garden will also be considered. This is due to the potential for increased noise to those households.

Road Safety and Parking

The *car parking standards* define the levels of parking that will be permitted for new development and depends on the scale, location, purpose of use and the number of staff. Parking levels will also be dependent on the change of use and proximity to public transport.

The existing on-street parking and traffic situation will be important considerations in this assessment. The location should be suitable to allow people and deliveries to be dropped-off and collected safely. This is especially important for children going to and from a private day nursery. The potential impact on vulnerable road users – cyclists and pedestrians – will also be a consideration.

Parking in Gardens

The provision of new car parking should have regard to character and setting of the property and should normally preserve a reasonable amount of front garden. In a conservation area parking in the front garden would only be considered if there was an established pattern and it was part of the character of the area. Parking in the front garden of a listed building is not likely to be supported and there is normally a presumption against loss of original walling and railings and loss of gardens. Further information on the design of parking in gardens can be found in the *Guidance for Householders.*

Flatted Properties

Change of use in flatted properties will generally only be acceptable where there is a private access from the street, except in the case of HMOs. Nurseries must also benefit from suitable garden space.

Further information

If a proposal has the potential to result in impacts then these should be addressed at the outset so they can be considered by the case officer. Examples of information that may be required include:

- An acoustic report if there is potential for noise impact.
- Details of ventilation systems if the application has the potential to create odour problems, and details of the noise impact of any proposed ventilation system.
- Details of any plant and machinery
- Details of attenuation measures if structure-borne and air-borne vibrations will occur.

Short Term Let Accommodation

Applications for a change of use to short-term let accommodation will be assessed and determined against the relevant policies of the development plan and material considerations~~, both with respect to~~ LDP policy Hou 7 and National Planning Framework 4 ("NPF 4") policy 30(e) are two relevant policies of the development plan. ~~, and material considerations~~. The table below principally provides guidance in respect of LDP Policy Hou 7~~. It may~~ but it also provides some assistance in relation to ~~considering~~ NPF 4 Policy 30 (e) criteria (i). This table is not relevant to the consideration of NPF 4 Policy 30 (e) criteria (ii).

The character of the new use and of the wider area.	Where the location is predominantly commercial in character and there are no residential properties in nearby, adverse impacts on amenity are less likely. This means it is more likely short-term lets (STLs) can be supported in such locations. Where the location is mixed in character (residential / commercial) regard will be had to the nature of surrounding uses and the proximity of the proposal site to residential properties. Where there is likely to be a further deterioration on residential amenity in such mixed areas, it is unlikely that short term let proposals will be supported. Where the street has a quiet nature or low ambient noise levels (particularly at night-time), STL will not generally be supported. No weight will be given to the existence of neighbouring unlawful STLs as justification for the grant of planning permission for an STL. The Planning service will assess the merits of any proposal against its impact on the lawful planning use of nearby properties. Where the area is wholly residential, it is unlikely that short-term let proposals will be supported.
The size of the property.	Larger properties can have a greater capacity for guests. Where there are greater numbers of guests, there is increased potential for noise and disturbance. Both the number and size of rooms will be taken into account when considering this.
The pattern of activity associated with the use including numbers of occupants, the period of use, issues of noise, disturbance, and parking demand.	If the property is accessed off a stair where there are other flats off that stair, it is very unlikely that a change of use will be supported. This is because it has been found that existing residents of flats within stairs are particularly affected by the pattern of activity which often results from STL use where multiple sets of guests stay for short periods of time throughout the year. Guests of the short-term let properties can arrive late at night and make noise and cause disturbance in a way which residents of that stair would not, given they will know of the impacts that they have on one another and be able to manage those impacts in a neighbourly way. Examples of disturbance include bumping suitcases up stair and using washing machines in the middle of the night. If the property does have its own main door access regard must be had to the other criteria within this table. Planning permission is granted to property rather than individuals, which means that property can change hands and be operated in a different way than was intended by the applicant for planning permission. Because of this, when considering the pattern of activity associated with a use, only limited regard can be had to how an applicant intends to manage that. It should be noted that licensing of STLs is separate from the planning system.
The nature and character of any services provided.	Where there is access to a communal garden which can be used by existing residential properties, or where there is a garden that would form part of the curtilage of an STL and would be in close proximity to residential gardens, STLs will generally not be supported. Where parking is provided, this will be considered within the context of the Council's parking policies and guidance.

Changing to a Food or Drink Use

What does this chapter cover?

Uses such as:

- Restaurants, cafes and snack bars (Class 3)
- Hot food takeaways (Sui Generis)
- Cold food takeaways which are classed as a shop (Class 1)
- Public houses and bars (Sui Generis)
- Class 7 uses (hotels and hostels) licensed or intending to be licensed for the sale of alcohol to persons other than residents or persons other than those consuming meals on the premises. i.e. with a public bar.

It does not include:

- Class 7 uses (hotels and hostels) without a public bar.

When is planning permission required?

Some food and drink uses do not require planning permission. Information on some common enquiries is given on this page.

Changing a shop to Class 3 use or hot food takeaway

Planning permission is required for a change of use from a shop to a hot food takeaway or to a Class 3 use, such as a café or restaurant. Whether this change has, or will occur will be determined on a case by case basis. Regard will be given to:

- Concentration of such uses in the locality
- The scale of the activities and character and appearance of the property
- Other considerations are the impact on vitality and viability, the effect on amenity and potential road safety and parking problems.

What should I do if it is permitted development?

If you believe planning permission is not required, you can apply for a *Certificate of Lawfulness* for legal confirmation.

Selling cold food for consumption off the premises

Businesses selling cold food for consumption off the premises, such as sandwich bars, fall within Class 1 shop use. If the building is already in use as a shop then permission is not required.

Some secondary uses alongside the main uses also do not need permission; this is dependant on the scale of the activity.

Ancillary uses which are not likely to require planning permission in addition to a Class 1 shop use are:

- The sale of hot drinks
- The provision of microwaves, soup tureens and/or toasted sandwich machines.
  Note: hotplates for the cooking of food will generally not be acceptable in a class 1 establishment
- Seating constituting a very minor element to the overall use. The limit will vary according to the size and layout of the premises
- An appropriately sized café in a larger unit, such as a department store, if it is a relatively minor proportion of the overall floorspace and operates primarily to service the shop's customers.

What to consider if planning permission is required

Protecting Shops

Policies Ret 9-11 — Set out which locations a non-shop use is acceptable. These policies should be considered if a shop will be lost as part of the changes. In some areas of the City, the loss of a shop use will not be permitted. In other areas, certain criteria must be met.

Policy Hou 7 — sets out when uses will not be permitted in predominantly residential or mixed use areas.

Policy Ret 11 — Sets out when food and drink establishments will not be permitted.

Restaurants, cafés, snack bars and other Class 3 Uses

Proposals will be supported in principle in the following locations:

- Throughout the Central Area
- In designated shopping centres
- In existing clusters of commercial uses, provided it will not lead to an unacceptable increase in disturbance, on-street activity or anti-social behaviour to the detriment of the living conditions of nearby residents.

Proposals in predominantly housing areas will not normally be permitted.

Hot Food Takeaways

With the exception of proposals within areas of restriction (shown on the next page), proposals will be supported in principle in the following locations:

- Throughout the city centre area as shown in the adopted Edinburgh Local Development Plan (LDP)
- In designated shopping centres as shown in the LDP
- In existing clusters of commercial uses, provided it will not lead to an unacceptable increase in disturbance, on-street activity or anti-social behaviour to the detriment of the living conditions of nearby residents.

Proposals in the areas of restriction will only be accepted if there will be no adverse impact upon existing residential amenity caused by night-time activity. Where acceptable, this will normally be controlled through conditions restricting the hours of operation to 0800 to 2000.

Proposals in predominantly housing areas will not normally be permitted.

Where a restaurant's trade is primarily in-house dining but a minor element is take-away food then this still falls within the Class 3 use. Where take-away is a minor component of the business it will not require planning permission.

You can find out whether a site is located in the city centre area or a designated shopping centre through the online proposals map for the LDP, which can be accessed via the following link: https://edinburghcouncil.maps.arcgis.com/apps/webappviewer/index.html?id=d1e3d872be424df5b89469de72bb03bd

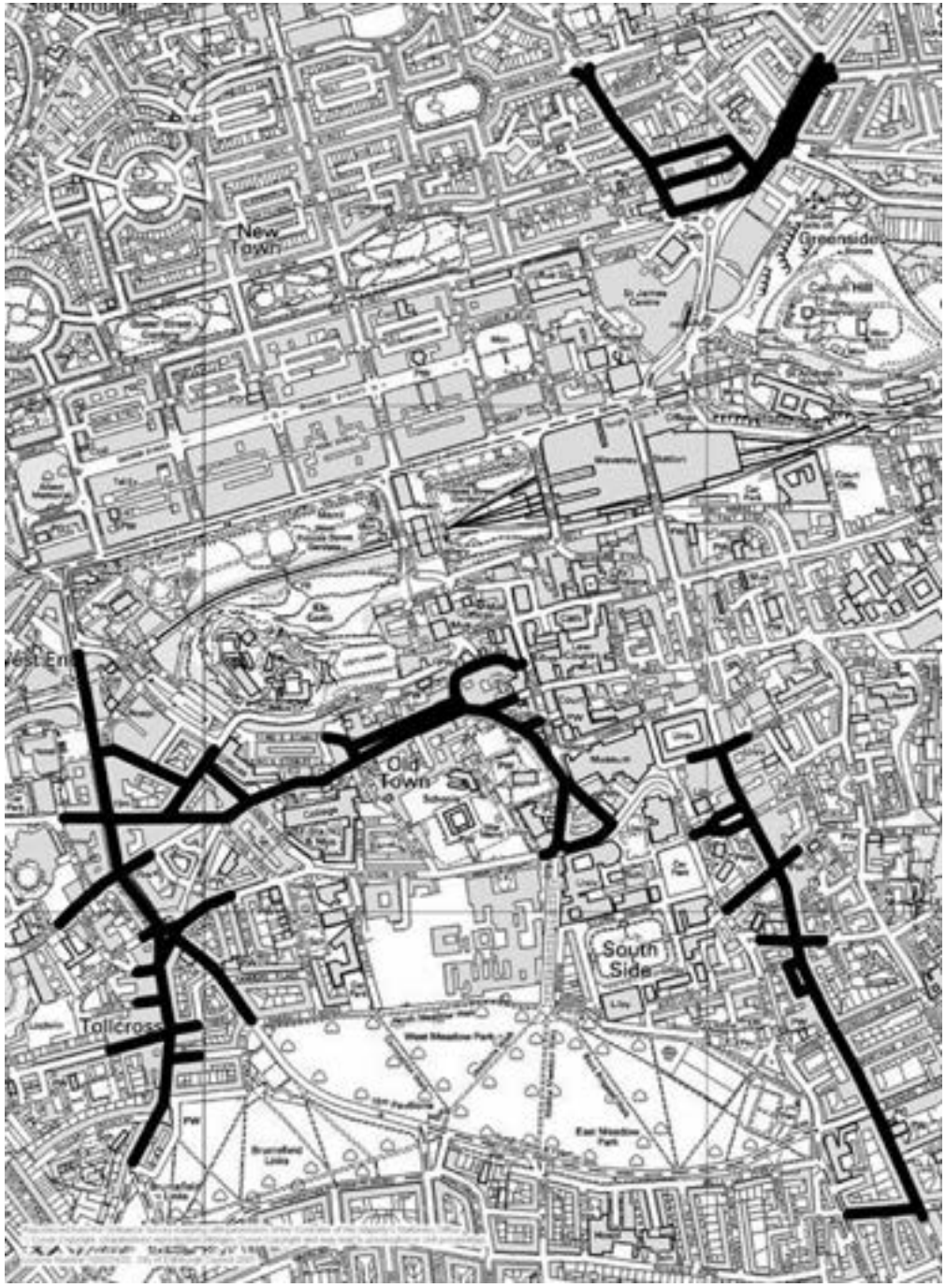
Public houses, entertainment venues and hotels outwith Class 7 (Hotels and Hostels)

In all locations, these uses should be located so as not to impinge on residential surroundings. Accordingly, such developments, with the exception of public houses designed as part of a new build development, will not be allowed under or in the midst of housing[1]

There will be a presumption against new public houses and entertainment venues in the areas of restriction (shown on Page 10). Proposals for extensions to venues in the areas of restriction will only be accepted if there will be no adverse impact of the residential amenity caused by night time activity.

Proposals in predominantly housing areas and residential side streets will not normally be permitted.

[1] "Under or in the midst of housing" means a) where there is existing residential property above the application site or premises; or b) where there is existing residential property immediately adjoining two or more sides of the building or curtilage comprising the application site. "Residential property" means dwelling houses, flats or houses in multiple occupancy and includes any vacant units.



Ventilation

If the use is acceptable in principle, establishments with cooking on the premises must satisfy ventilation requirements to ensure that they do not impinge on the amenity of the residential area or other neighbourhoods.

An effective system for the extraction and dispersal of cooking odours must be provided. Details of the system, including the design, size, location and finish should be submitted with any planning application. A report from a ventilation engineer may also be required where it is proposed to use an internal route in an existing building for ventilation ducting.

The ventilation system should be capable of achieving 30 air changes an hour and the cooking effluvia ducted to a suitable exhaust point to ensure no cooking odours escape or are exhausted into neighbouring premises.

Conditions shall be applied to ensure the installation of an effective system before any change of use is implemented, and/or the restriction of the form and means of cooking where necessary.

On a listed building or in a conservation area, the use of an internal flue should be explored before considering external options. The flue would need planning permission and listed building consent in its own right.

Design

Any external duct should be painted to match the colour of the existing building to minimise its visual impact.

Location

Ventilation systems should be located internally. Where this is not practicable, systems located to the rear may be considered.

Noise

Conditions may be put in place to ensure that there is no increase in noise that will affect the amenity of the area.

The map identifies areas of restriction. These are areas of mixed but essentially residential character where there is a high concentration of hot food takeaways, public houses and entertainment venues.

Changing a Commercial Unit to Residential Use

When is permission required?

Planning permission is required to convert a business to a house or flat. Permission will also be required for physical alterations to any external

elevation. Listed building consent, where relevant, may also be required.

What to consider if planning permission is required

Protected shops

Policies Ret 9-11 set out when a non-shop use is acceptable. They should be considered if a shop will be lost as part of the changes.

In some areas of the city, the loss of a shop use will not be permitted. In other areas, certain criteria must be met. These policies should be considered for more information.

Amenity

Policy Hou 5 Sets out the criteria to be met by proposals to convert to residential use.

Applications for a change of use will need to prove that the quality and size of accommodation created is satisfactory.

Units with insufficient daylight will be unacceptable; proposals should fully meet the council's daylight requirements in the Edinburgh Design Guidance. Basement apartments with substandard light will only be accepted where the remainder of the created unit represents a viable unit in its own right with regards to adequate daylight.

Dwelling sizes should meet the following minimum requirements and exceeding these standards is encouraged. Provision of cycle and waste storage is encouraged and may be required in some instances.

Number of Bedrooms	Minimum Gross Floor Area (sq m)
Studio	36
1 (2 persons)	52
2 (3 persons)	66
2 (4 persons)	81
3 (4 persons)	81
Larger Dwellings	91

Design

New designs should be of a high quality and respect their context

1. **Consider the architectural or historic merit of the shopfront and its context and identify an appropriate design from one of the following three basic approaches.**

Retain the shopfront

Henderson Street

Retaining the existing shopfront and adapting it for residential use is a simple method of conversion and ensures the property fits well within its context. Where the shopfront is of architectural or historic merit this will be the only appropriate design.

A design which retains the shop front could be used in residential areas or within a row of shops.

Simple contemporary design

Royal Park Terrace

Simple contemporary designs are often the most successful. The existing structural openings should be retained and any features of architectural or historic merit retained and restored. High quality materials should be used.

A simple contemporary design could be used in residential areas or within a row of shops.

Residential appearance

Conversions with a residential appearance are rarely successfully achieved. Attention should be paid to structural openings, materials and detailing to ensure the new residential property does not stand out from its context.

Windows which are a version of those on the upper floors in terms of proportions, location and detail are usually most appropriate. Doors should relate to the scale of the building and should not result in a cluttered appearance.

Paint work should be removed to expose the stone or toned to match the building above.

A design with a residential appearance may be appropriate in residential areas but not within a row of shops.

Consider the privacy of residents

To create privacy within the property, shutters or moveable screens behind the window could be considered as an alternative to frosted glass. Where considered acceptable, frosted glass should not occupy more than 50% of the height of the window. Retaining recessed doors also provides a degree of separation from the street. Metal gates could also be added.

Altering a Shopfront

There should always be a presumption to improve, where possible, a poor shopfront.

Understanding your shopfront

Policy Des 12 sets out the principles for altering a shopfront

Pilasters

Cornice

Stallraiser

1. Consider the period of the building and the style of the shopfront

Shopfronts come in many styles, reflecting the different periods of architecture in Edinburgh. Those of architectural merit or incorporating traditional features or proportions should be retained and restored.

2. Determine whether there are any original or important architectural features or proportions which need to be retained

The pilasters, fascia, cornice and stallriser form a frame around the window and should be retained. Recessed doorways, including tiling, should not be removed. Original proportions should be retained.

3. Identify any inappropriate additions which should be removed

Large undivided areas of plate glass can be appropriate within a small shopfront, however over a larger area can appear like a gaping hole over which the upper storeys look unsupported.

Large deep fascia boards and other claddings should be removed and any original features reinstated.

Deep Fascia

Proportions

Good Example

At 37-41 Nicolson Street, Edinburgh, restoration work has been carried out to remove modern additions and unveil the original Victorian shopfront of 'McIntyre's Drapery Stores'. Architectural features, including the cornice, pilasters and glazing bars have been exposed. Views into the store have now been opened up and the shop is more noticeable in the street.

Context

Shopfronts should be designed for their context

1. Consider the relationship of the frontage to the rest of the street

The relationship of the frontage to the established street pattern should be considered, particularly in terms of fascia and stallriser height and general proportions. Alterations should preserve and strengthen the unity of the street.

Cladding

One shopfront across two separate buildings will not normally be acceptable as it disrupts the vertical rhythm of the facades above.

2. Consider the relationship to features on the upper floors

Where units have a narrow frontage and vertical emphasis, they should retain their individual integrity, rather than attempting to achieve uniformity with adjoining properties.

Good Examples

St Stephen Street

William Street

Grassmarket

New Design

New designs should be of high quality and respect their surroundings

1. Identify the features or proportions which will need to be retained or restored

The pilasters and frame should be retained, even if the rest of the frontage is not of sufficient quality to merit retention.

Poorly designed fascias and pilasters do not make up a well composed frame. Pilasters should not be flat to the frontage and fascias should not exceed one-fifth of the overall frontage height or be taken over common staircases. Stallrisers should be in proportion to the frontage.

Cornice which continues from the adjacent frontages will require to be restored. No part of the frontage should be located above this.

2. Consider the design and materials to be used

Where a new frontage is considered appropriate, there is no particular correct style. Modern designs will be considered acceptable providing they incorporate high quality materials, are well proportioned, and retain any features of architectural merit.

Reproduction frontages should be based on sound historical precedent in terms of archival evidence or surviving features.

Appropriate spacing and cornice should be used to create a visual break between the frontage and the

building above.

Good Examples

Barclay Place

Bread Street

In general, natural and traditional materials, such as timber, stone, bronze, brick and render should be used. These should be locally sourced from renewable or recycled materials, wherever possible. Frontages clad in incongruous materials will not be acceptable.

Paint and Colour

When is permission required?

Planning permission, and where relevant listed building consent, will be required to paint a building which is listed or within a conservation area, including a change of colour.

Planning Permission will not be required to paint an unlisted building out with conservation areas. However the painting and colour of a building should reflect its character and the area.

Good Example

Victoria Street

Listed Buildings and Conservation Areas

Paint

Unpainted stonework and other good quality materials should not be painted.

Colour Schemes

The creation of a strong identify for a business must come second to an appropriate balance with the context. Colour schemes should clarify the architectural form and not apply alien treatments and design. The most successful are simply schemes which employ only one or two colours.

Muted or dark colours are preferable.

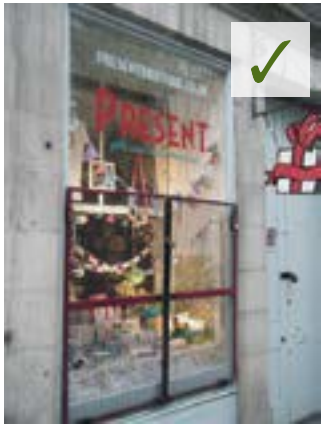
Uniform Appearance

Coordinated paint schemes are encouraged and should be retained where present. In particular, common details, such as arches and pilasters, should have a uniform treatment. Similar lettering and signage should also be used.

The range of colours within a block should be limited.

Security

1. Determine whether a security device is necessary and consider alternative solutions



Security devices should not harm the appearance of the building or street. Toughened glass or mesh grilles could be used as an alternative to security shutters.

2. If a device is considered acceptable, consider its location in relation to the window

Where shutters are not common within the immediate area, they should be housed internally, running behind the window.

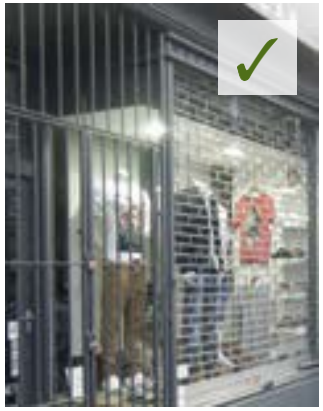
Elsewhere, shutters should be housed behind the fascia or a sub-fascia.

Shutters should not be housed within boxes which project from the front of the building.

3. Identify an appropriate shutter design

Solid roller shutters are unacceptable. They do not allow window shopping at night, the inability to view the inside of the shop can be a counter security measure and they tend to be a target for graffiti.

Roller shutters of the non-solid type may be acceptable in a perforated, lattice, brick bond or open weave pattern. Shutters made up of interlocking clear polycarbonate sheets running externally to the glass may also be acceptable.



Where there is evidence of early timber shutters, they should be restored to working order or replaced to match.

External roller shutters require planning permission.

Listed Buildings and Conservation Areas

Externally mounted shutters will not be considered acceptable.

The most appropriate security method is toughened glass. Internal open lattice shutters or removable mesh grilles may also be acceptable.

Metal gates are most appropriate on recessed doors.

Shutters should be painted an appropriate colour, sympathetic to the rest of the frontage and immediate area.

Blinds and Canopies

1. Consider whether a blind or canopy is appropriate on the building

Blinds and canopies should not harm the appearance of the building or street.

Traditional projecting roller blinds, of appropriate quality, form and materials, will be considered generally acceptable

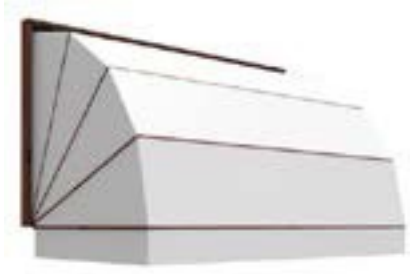
Dutch canopies will not be acceptable on traditional frontages where important architectural elements would be obscured.

Listed Buildings and Conservation Areas

Dutch canopies will not be acceptable on listed buildings or in conservation areas.

Blinds and canopies will not be considered acceptable on domestic fronted buildings.

Solar glass and film are acceptable alternative methods of protecting premises from the sun, providing they are clear and uncoloured.



Dutch canopy

2. If acceptable, consider the location of the blind or canopy

Blinds and canopies should fold back into internal box housings, recessed within the frontage. They must not be visually obtrusive or untidy when retracted.

Boxes housing blinds and canopies that project from the building frontage will not be acceptable.

Blinds and canopies will not be acceptable above the ground floor level.

3. Determine an appropriate design and materials

Blinds and canopies must be made of high quality fabric. Shiny or high gloss materials in particular will not be supported.

An advert, including a company logo or name, on a blind or canopy will need advertisement consent.

Other works affecting or relating to a shopfront or other business which may require planning and/or listed building consent:

- Installation of garlands, particularly if they are supported by a structure
- Free standing advertisement fixtures, awnings, flagpoles and banners

Where permission is required these will generally not be acceptable.

Automatic Teller Machines

1. Consider whether an ATM will be acceptable

ATMs should not impact upon the character of the building or area.

Free standing ATMs add to street clutter and will not be considered acceptable.

ATMs may be considered acceptable when integrated into a frontage, providing no features of architectural or historic interest will be affected and the materials and design are appropriate.

2. If acceptable, consider the location, design and access

Consideration should be given to pedestrian and road safety. Terminals should be sited to avoid pedestrian congestion at street corners and narrow pavements. The assessment of the impact on road safety will include any potential increase in the number of vehicles stopping, visibility and sightlines.

The use of steps for access to ATMs should be avoided and the units should be suitable for wheelchair access.

Where ATMs are removed, the frontage should be reinstated to match the original.

Listed Buildings and Conservation Areas

Consideration should first be given to locating the ATM internally. For guidance on internal alterations, consider the Listed Buildings and Conservation Area guidance.

Externally, ATMs should be located in a concealed position on the façade, within an inner vestibule or on a side elevation.

ATMs should not be fitted to finely detailed façades or shopfronts of historic or architectural merit. They will not be acceptable where stone frontages, architectural features or symmetry will be disturbed. New slappings (knocking a hole through a wall to form an opening for a door, window etc) will be discouraged.

Only one ATM will be allowed on the exterior of any building.

Where acceptable, the ATM should not be surrounded by coloured panels or other devices and signage should not be erected. The ATM and any steps or railings, where necessary, should be formed in high quality materials and be appropriate to the area. Surrounding space should match the façade in material and design.

Permissions Required

ATMs which materially affect the external appearance of a building require planning permission. Listed building consent may also be required for an ATM on a listed building. In addition, advertisement consent may be required for any additional signage.

Air Conditioning and Refrigeration

Location

Air conditioning and refrigeration units should not be located on the front elevation or any other conspicuous elevations of buildings, including roofs and the flat roofs of projecting frontages.

It will normally be acceptable to fix units to the rear wall. These should be located as low as possible.

Design

Units should be limited in number, as small as practicably possible and painted to tone with the surrounding stonework or background.

Listed Buildings and Conservation Areas

The preferred location for units on listed buildings and within conservation areas are:

- standing within garden or courtyard areas (subject to appropriate screening and discreet ducting)
- Within rear basement areas
- Inconspicuous locations on the roof (within roof valleys or adjacent to existing plant). However, in the New Town Conservation Area and World Heritage Site, aerial views will also be considered.
- Internally behind louvers on inconspicuous elevations. This should not result in the loss of original windows.

Where it is not practicably possible to locate units in any of the above locations, it may be acceptable to fix units to the wall of an inconspicuous elevation, as low down as possible.

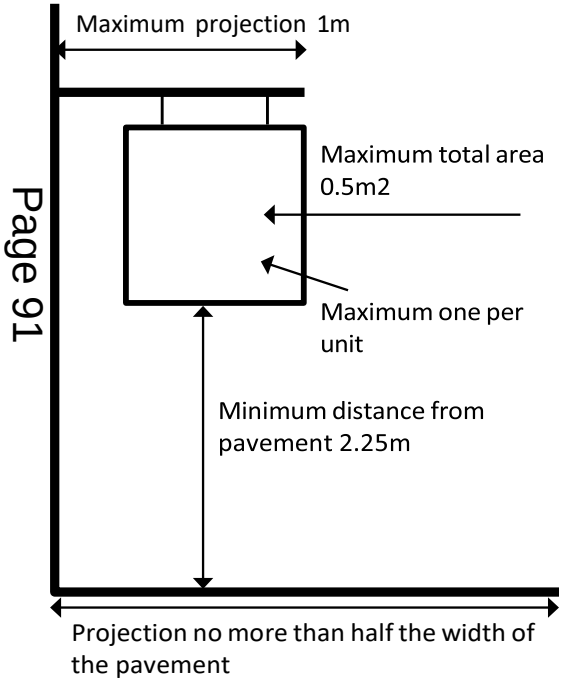
Units should be limited in number, as small as practicably possible and painted to tone with the surrounding stonework or background.

Ducting must not detract from the character of the building.

Signage and Advertisements

1. Consider the scale, location and materials of the advertisement and any lettering

High level signage is not normally considered acceptable.



NB. Dimensions may be reduced for smaller frontages

Projecting and Hanging Signs

Traditional timber designs are most appropriate on traditional frontages.

Fascia

Box fascia signs applied to existing fascias are not considered acceptable.

Individual lettering should not exceed more than two thirds the depth of the fascia, up to a maximum of 450mm.

Princes Street

Projecting signs and banners will not be supported. Illumination must be white and static.

Listed Buildings, Conservation Areas and Royal Mile

Signage obscuring architectural details is not acceptable.

Signage should be timber, etched glass or stainless steel; synthetic materials are not appropriate.

Signage should harmonise with the colour of the shopfront.

Applied fascia boards/panels will not normally be acceptable. Lettering shall be applied directly onto the original fascia. If there is an existing applied fascia board/panel in place, this should a) be removed and the original fascia restored, or b) an appropriate new fascia applied but only where there is no original fascia.

Letters must be individual and hand painted.

On buildings of domestic character, lettering or projecting signs are not acceptable. Guidance on alternative signage is given on the next page.

In the Royal Mile area of Special Control, there are additional controls on advertisements.

2. Consider an appropriate method of illumination

External illumination will only be acceptable if unobtrusive.

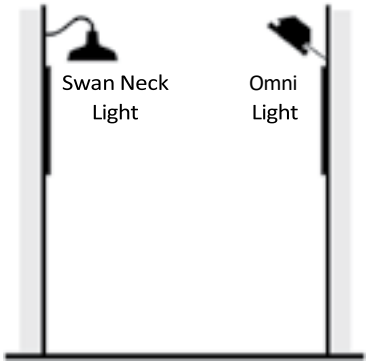
Individual letters should be internally or halo lit. Discreet spotlights painted out to match the backing material or fibre optic lighting may also be acceptable. Illumination must be static and no electrical wiring should be visible from outside of the premises. White illumination is preferable.

Projecting signs should only be illuminated by concealed trough lights.

LED strip lighting to illuminate signage may be acceptable where it can be positioned discreetly on the shop front.

Listed Buildings and Conservation Areas

Swan neck lights, omni-lights on long arms or trough lights along the fascia will not normally be acceptable. Letters should be halo or internally lit.



3. Consider alternative advertisements

Internal Advertisements

Advertisements behind the glass should be kept to a minimum to allow maximum visibility into the premises.

Directional Signs/ Temporary On-Street Advertising / A boards

Advance directional signs outwith the curtilage of the premises to which they relate (including 'A boards' and other temporary on-street advertising) will not be permitted.

Guest Houses

Houses in residential use (Class 9) but with guest house operations should not display signs, except for an official tourism plaque or a window sticker.

For properties operating solely as a guest house (Class 7), any pole signs located in front gardens should not exceed 0.5sq metres in area.

Listed Buildings and Conservation Areas

Basement properties

Basement properties may be identified by a name plate or modest sign on the railings, or where they don't exist, discreet and well designed pole mounted signs may be acceptable.

Buildings of domestic character

On buildings of domestic character, identification should consist of a brass or bronze nameplate, smaller than one stone. Where the building is in hotel use, consideration will be given to painted lettering on the fanlight or a modest sign on the railings.

Cycle Storage

Commercial buildings which operate under class 4, 5 or 6 of the use classes order* have permitted development rights to erect a structure for the purpose of the temporary storage of pedal cycles, provided that the following criteria are met:

- The structure will not be sited within the curtilage of a listed building
- If the site is located in a conservation area, the structure will be located within the front curtilage of the commercial building
- The structure will not obstruct the clear line of sight of a road or footpath by the driver of a vehicle entering or leaving the commercial building (a driver's view of pedestrians and drivers on the footpath and road next to the building should not be worsened as a result of the structure being erected)
- The structure would create an obstruction to light to another building

To get written confirmation that you do not require planning permission you can apply for a Certificate of Lawfulness. You can do this online and you will get a decision from us on whether permission is required. This certificate can be used to confirm you do not need permission. It can also be useful should you decide to sell or rent the premises, or if you are asked if you have permission for ancillary buildings.

Note: The planning authority will not provide informal opinions as to whether a building will obstruct either the clear sight of a driver, or light to another building. If you wish to seek clarification as to whether your proposal complies with these requirements in order to be considered permitted development, a certificate of lawfulness must be applied for.

*** Use classes order**

Class 4 - Business use

- As an office, other than a use within class 2 (financial, professional and other services)
- For research and development of products or processes
- For any industrial process

Being a use which can be carried on in any residential area without detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust or grit.

Class 5 - General Industrial

Use for the carrying on of an industrial process other than one falling within class 4 (business)

Class 6 - Storage or distribution

Use for storage or as a distribution centre

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The City of Edinburgh Council Place April 2023

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Planning Committee

2.00pm, Wednesday, 31 January 2024

Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan – referral from the Policy and Sustainability Committee

Executive/routine
Wards

1. For Decision/Action

1.1 The Policy and Sustainability Committee has referred a report on the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES) and the associated Delivery Plan to the Planning Committee for information.

Dr Deborah Smart
Executive Director of Corporate Services

Contact: Jamie Macrae, Assistant Committee Officer
Legal and Assurance Division, Corporate Services Directorate
E-mail: jamie.macrae@edinburgh.gov.uk | Tel: 0131 529 4264

Referral Report

Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan – referral from the Policy and Sustainability Committee

2. Terms of Referral

2.1 On 15 December 2023, the Policy and Sustainability Committee considered a report by the Executive Director of Corporate Services which introduced the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES) and the associated Delivery Plan.

2.2 The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 required all Scottish local authorities to publish a LHEES, along with a Delivery Plan, by the end of 2023. An LHEES is a long-term plan for decarbonising heat in buildings and improving energy efficiency across a local authority. The central aims of an LHEES are to improve the energy efficiency and decarbonise the heat supply of buildings and to eliminate poor energy efficiency as a driver for fuel poverty.

2.3 **Motion**

1) To approve the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES), attached as Appendix 1 of the report by the Executive Director of Place.

2) To approve the Delivery Plan, attached as Appendix 2 of the report by the Executive Director of Place.

3) To approve the formation of a LHEES Office, as set out in the Delivery Plan.

4) To agree that the LHEES Office would lead on work to develop heat networks in Edinburgh on behalf of the Council.

5) To agree that a further phase of public consultation would be carried out on the Edinburgh LHEES and Delivery Plan.

6) To notes that resource limitations would constrain the Council's ability to fully deliver the Edinburgh LHEES and Delivery Plan.

- moved by Councillor Day, seconded by Councillor Meagher

Amendment 1

1) Approves the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES), attached as Appendix 1 with the changes below.

2) Approves the Delivery Plan, attached as Appendix 2 taking account of the changes in the following points.

3) Approves the formation of a LHEES Office, as set out in the Delivery Plan to develop and present to delivery options to Councillors.

4) Agrees that the LHEES Office will lead on work to develop heat networks in Edinburgh on behalf of the Council, each heat network must have a publicly-owned or part publicly-owned option presented to Councillors to assess against private-owned alternatives of delivery of projects. This will ensure Councillors can make an informed choice about which option derives the greatest public benefit.

5) Agrees that a further phase of public consultation will be carried out on the Edinburgh LHEES and Delivery Plan including the need to derive public benefit through public-ownership or part public-ownership.

6) Notes delivery models of heat projects will rely on strong business cases to borrow for projects which create a payback and therefore avoiding strain on the public purse and create public benefit.

- moved by Councillor Nols-McVey, seconded by Councillor Macinnes

Amendment 2

1) To approve the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES), attached as Appendix 1 of the report by the Executive Director of Place.

2) To approve the Delivery Plan, attached as Appendix 2 of the report by the Executive Director of Place.

3) To approve the formation of a LHEES Office, as set out in the Delivery Plan.

4) To agree that the LHEES Office would lead on work to develop heat networks in Edinburgh on behalf of the Council.

5) To agree that a further phase of public consultation would be carried out on the Edinburgh LHEES and Delivery Plan.

6) To notes that resource limitations would constrain the Council’s ability to fully deliver the Edinburgh LHEES and Delivery Plan.

Budget

7) Welcomes the LHEES and the opportunities it offers to the city, recognising the strategic importance of decarbonising heat and improving energy efficiency for delivering the aims of the Business Plan to end poverty and tackle the climate emergency; therefore, notes with concern that there is no

dedicated budget for its delivery beyond that set out in 5.1 of the officer report.

8) Requests a briefing note setting out possible costs for expansion of the proposed LHEES office beyond the resourcing of one Council Energy Officer and £75k of annual Scottish Government funding.

9) Requests a briefing note on the findings of the Green Heat Finance Taskforce once they are published.

Energy Efficiency

10) Requests a report in 3 cycles to Policy & Sustainability committee to set out how the Council could work with partners to deliver small grants and support for installing low-cost energy efficiency measures (such as draught excluders, curtains, rugs and carpets) within the private rented sector as a programme of work within the LHEES office in line with Action 76) in the Delivery Plan, including information about how this could dovetail with other anti-poverty initiatives in the Council.

11) Also requests a briefing note to explore if there might be a role for the Council's Shared Repairs Service to support private homeowners to complete community-led retrofitting work, or whether the Council can gain learning from that service to develop a Shared / Community Retrofitting and Energy Efficiency service within the LHEES office.

Heat networks

12) Welcomes Action 41) in the Delivery Plan about co-ordinating excavation works for heat networks with other infrastructure works and requests a Business Bulletin update at Policy & Sustainability committee in 3 cycles to outline how soon this might be practicable as part of routine asset management works in the Council, and what steps are needed to make this so.

13) Reaffirms that there is a clear role for Energy for Edinburgh in delivery of heat network projects at all stages of the LHEES once approved, and that this should be built on co-operative and community wealth building principles.

14) Recognises the challenge around workforce development and planning in order to deliver the LHEES and therefore requests the next stage of consultation includes a roundtable event with Trade Unions, employability / training services and other relevant organisations to gather views and identify outstanding concerns or questions that these groups may have on deliverability of the LHEES in the context of workforce planning, with a view to developing a joined-up action plan / partnership approach to heat network delivery across the city.

Community Engagement

15) Notes that this is a complex and technical document which is not easily accessible to members of the public who may be interested in understanding the benefits / impact of the LHEES. Therefore, welcomes Actions 11) and 12) in the Delivery Plan around stakeholder engagement and requests that the draft engagement plan cited is discussed at the Sustainability and Climate and Nature Emergencies APOG before publication, and is developed in consultation with the Edinburgh Community Climate Action Network / "Community Climate Hub".

Governance

16) Requests that a dashboard update monitoring the 76 actions under the LHEES Delivery Plan is reported to Committee on an annual basis.

17) Notes a number of outstanding questions for the Scottish Government highlighted at 4.4.10 of the LHEES and requests that the Council Leader writes to the Minister for Zero Carbon Buildings, Active Travel and Tenants Rights to seek answers to these questions.

18) Agrees to refer this report to Housing, Homelessness and Fair Work committee and Planning committee.

- moved by Councillor Parker, seconded by Councillor Staniforth

In accordance with Standing Order 22(13), Amendment 1 was adjusted and accepted as an amendment to the Motion and Amendment 2 was adjusted and accepted as an addendum to the Motion.

At this point in the meeting the following Amendment 3 was proposed:

Amendment 3

To agree the original motion as proposed by Councillor Day.

- moved by Councillor Whyte, seconded by Councillor Doggart

Voting

The voting was as follows:

For the Motion (as adjusted) - 15 votes

For Amendment 3 - 2 votes

(For the Motion (as adjusted): Councillors Aston, Beal, Bennett, Biagi, Campbell, Day, Dijkstra-Downie, Macinnes, Meagher, Miller, Nols-McVey, Osler, Parker, Staniforth and Watt.

For Amendment 2: Councillors Doggart and Whyte.)

Decision

1) To approve the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES), attached as Appendix 1 of the report by the Executive Director of Place with the changes below.

2) To approve the Delivery Plan, attached as Appendix 2 of the report by the Executive Director of Place taking account of the changes in the following points.

3) To approve the formation of an LHEES Office, as set out in the Delivery Plan to develop and present to delivery options to Councillors.

4) To agree that that officers would explore a role for Energy for Edinburgh in delivery of heat network projects at all stages of the LHEES once approved, and that this should be built on co-operative and community wealth building principles. This should be presented to committee as an integral part of business cases.

5) To agree that a further phase of public consultation would be carried out on the Edinburgh LHEES and Delivery Plan including the need to derive public benefit through public-ownership or part public-ownership.

6) To note delivery models of heat projects would rely on strong business cases to borrow for projects which create a payback and therefore avoiding strain on the public purse and create public benefit.

Budget

7) To welcome the LHEES and the opportunities it offered to the city, recognising the strategic importance of decarbonising heat and improving energy efficiency for delivering the aims of the Business Plan to end poverty and tackle the climate emergency; therefore, to note with concern that there was no dedicated budget for its delivery beyond that set out in 5.1 of the report by the Executive Director of Place.

8) To request a briefing note setting out possible costs for expansion of the proposed LHEES office beyond the resourcing of one Council Energy Officer and £75k of annual Scottish Government funding.

9) To request a briefing note on the findings of the Green Heat Finance Taskforce once they were published.

Energy Efficiency

10) To request a report in 3 cycles to Policy & Sustainability Committee to set out how the Council could work with partners to deliver small grants and support for installing low-cost energy efficiency measures (such as draught excluders, curtains, rugs and carpets) within the private rented sector as a programme of work within the LHEES office in line with Action 76) in the Delivery Plan, including information about how this could dovetail with other anti-poverty initiatives in the Council.

11) To also request a briefing note to explore if there might be a role for the Council's Shared Repairs Service to support private homeowners to complete community-led retrofitting work, or whether the Council could gain learning from that service to develop a Shared / Community Retrofitting and Energy Efficiency service within the LHEES office.

12) To Welcome Action 41) in the Delivery Plan about co-ordinating excavation works for heat networks with other infrastructure works and request a Business Bulletin update at Policy & Sustainability Committee in 3 cycles to outline how soon this might be practicable as part of routine asset management works in the Council, and what steps were needed to make this so.

13) To recognise the challenge around workforce development and planning in order to deliver the LHEES and therefore request the next stage of consultation included a roundtable event with Trade Unions, employability / training services and other relevant organisations to gather views and identify outstanding concerns or questions that these groups may have had on deliverability of the LHEES in the context of workforce planning, with a view to developing a joined-up action plan / partnership approach to heat network delivery across the city.

Community Engagement

14) To note that this was a complex and technical document which is not easily accessible to members of the public who may be interested in understanding the benefits / impact of the LHEES. Therefore, to welcome Actions 11) and 12) in the Delivery Plan around stakeholder engagement and request that the draft engagement plan cited was discussed at the Sustainability and Climate and Nature Emergencies APOG before publication, and was developed in consultation to include the Edinburgh Community Climate Action Network / “Community Climate Hub”.

Governance

15) To request that a dashboard update monitoring the 76 actions under the LHEES Delivery Plan be reported to Committee on an annual basis.

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17) To agree to refer this report to Housing, Homelessness and Fair Work Committee and Planning Committee..

3. Background Reading/ External References

Policy and Sustainability Committee of 15 December 2023 – webcast

Minute of the Policy and Sustainability Committee of 15 December 2023

4. Appendices

Appendix 1 – Report by the Executive Director of Corporate Services

Policy and Sustainability Committee

10.00am, Friday, 15 December 2023

Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan

Executive/routine	**Executive**
Wards	**All**

1. Recommendations

1.1 It is recommended that Policy and Sustainability Committee:

1.1.1 Approves the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES), attached as Appendix 1;

1.1.2 Approves the Delivery Plan, attached as Appendix 2;

1.1.3 Approves the formation of a LHEES Office, as set out in the Delivery Plan;

1.1.4 Agrees that the LHEES Office will lead on work to develop heat networks in Edinburgh on behalf of the Council;

1.1.5 Agrees that a further phase of public consultation will be carried out on the Edinburgh LHEES and Delivery Plan; and

1.1.6 Notes that resource limitations will constrain the Council's ability to fully deliver the Edinburgh LHEES and Delivery Plan.

Paul Lawrence

Executive Director of Place

Contact: Kyle Drummond, Programme Development Officer

E-mail: kyle.drummond@edinburgh.gov.uk | Tel: 0131 529 4849

Report

Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan

2. Executive Summary

2.1 This report introduces the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES) and the associated Delivery Plan.

3. Background

3.1 The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 requires all Scottish local authorities to publish a LHEES, along with a Delivery Plan, by the end of 2023.

3.2 An LHEES is a long-term plan for decarbonising heat in buildings and improving energy efficiency across a local authority. The central aims of an LHEES are to improve the energy efficiency and decarbonise the heat supply of buildings and to eliminate poor energy efficiency as a driver for fuel poverty.

4. Main report

4.1 The Council has prepared the Edinburgh LHEES along with a Delivery Plan, which are attached as Appendices 1 and 2.

4.2 The Edinburgh LHEES sets out a strategic approach to improving the energy efficiency of buildings in Edinburgh and decarbonising their heating. The document sets out the context and background for the strategy including relevant policies and ongoing activities, as well as a detailed baseline analysis of Edinburgh's building stock. It then sets out "Strategic Zones": geographical areas of Edinburgh that highlight particular solutions (for example areas where heat networks or heat pumps are assessed as being most viable) and particular challenges (for example areas with the poorest energy efficiency). The Edinburgh LHEES further sets out proposed high-level underpinning principles.

4.3 The Delivery Plan sets out short- to medium-term actions associated with the implementation of the Edinburgh LHEES. These actions reflect what is considered to be achievable given the resources and powers currently available to the Council.

While recognising the ambitions of the Council with respect to net zero carbon, the Delivery Plan takes a pragmatic approach that focuses on what can be delivered at this time, while setting out where additional resource would allow for more to be delivered. The Delivery Plan also sets out “Delivery Areas” (areas that are proposed to be the focus of early interventions around energy efficiency and heat pump deployment) and “Heat Network Zones” (areas judged to have the greatest potential for the development of heat networks). Further, the Delivery Plan sets out a proposed structure for delivery of the Edinburgh LHEES.

4.4 The Edinburgh LHEES is a city-wide strategy that covers all buildings in Edinburgh, not just the Council’s estate. However, the Council’s ability to compel third parties to (for example) decarbonise heating of buildings in their ownership is limited, and inevitably early interventions will be focused upon areas where the Council has the most control, particularly its own properties.

4.5 As set out in the Delivery Plan, it is proposed to form a “LHEES Office” to support delivery of the Edinburgh LHEES. In the first instance, the LHEES Office would be staffed by an existing Council Energy Officer. However, it is envisaged that the capabilities of the LHEES Office will be expanded in future as resources permit.

4.6 The Scottish Government published the first part of the Green Heat Finance Taskforce report on 22 November 2023 and the consultation paper on the Heat in Buildings Bill on 28 November 2023. The timings of these papers have not allowed them to be incorporated into this version of the Edinburgh LHEES, but officers will update the Edinburgh LHEES to reflect them.

5. Next Steps

5.1 Subject to the Committee approving the Edinburgh LHEES and Delivery Plan, a LHEES Office will be established and delivery commenced. Initially, the LHEES Office will comprise of one officer (an Energy Officer), funded from existing budgets. The Energy Officer will have a dedicated budget of £75,000 per annum from the ring-fenced Scottish Government grant, and potentially additional budget from other sources (such as the emerging Local Authority Cost Strategy for the Heat Networks (Scotland) Act 2021). Subject to resource being secured, the ambition is to grow the LHEES Office to have officers with a range of capabilities (for example, project management, planning, energy, etc).

5.2 A public consultation on the Edinburgh LHEES and Delivery Plan will be carried out that will build on the engagement and consultation carried out to date. Any amendments to the Edinburgh LHEES and Delivery Plan stemming from this public consultation will be presented to Committee for approval.

5.3 The Order requires an LHEES to be published every five years. A second iteration of the LHEES will therefore be produced by the end of 2028.

5.4 The actions set out in the Delivery Plan include further engagement with the Scottish Government to secure additional resources and powers to enable delivery

of the Edinburgh LHEES. Officers will work with elected members to agree how best to take this engagement forward, including consideration of a cross-local authority approach.

6. Financial impact

6.1 The total cost of delivering the Edinburgh LHEES – i.e. of improving the energy efficiency and decarbonising the heat of every building in Edinburgh – will be in the order of several billion pounds over the next 20+ years.

6.2 Delivery of the Edinburgh LHEES will initially be focused on areas where there is existing funding in place, for example the retrofit of the Council's housing estate, the Area Based Schemes, and the Green Growth Accelerator-backed retrofit pilot of the Council's operational estate, as well as external funding that third parties can access such as the grant schemes administered by Home Energy Scotland.

6.3 Ultimately, the Edinburgh LHEES will not be deliverable using public funds alone. The scale of investment required is likely to necessitate institutional investment. The Council is maintaining a watching brief on the outputs of the Scottish Government's Green Heat Finance Task Force which is developing models for financing retrofit and leveraging institutional money.

6.4 At present, the only new dedicated funding that has been made available for the delivery of the Edinburgh LHEES is an annual grant of £75,000 per annum from the Scottish Government for the period 2022/23 to 2027/28. The Council will also receive additional funding associated with its duties under the Heat Networks (Scotland) Act 2021. Officers will make a case to the Scottish Government for additional dedicated funding to enable delivery of the Edinburgh LHEES to be accelerated.

6.5 The Council currently has one dedicated officer who will focus on delivery of the Edinburgh LHEES, in particular areas where there is limited existing Council resource (such as heat network development). The cost of this post will be met from existing budgets.

6.6 The overall scale of investment required to fully deliver the Edinburgh LHEES is significant and there is not yet a comprehensive funding strategy. However, existing funding sources will enable the Council to begin delivery, with a focus on the Council's own estate and areas at greatest risk of fuel poverty.

7. Equality and Poverty Impact

7.1 The Delivery Plan sets out Delivery Areas that are proposed to be the initial areas of focus in terms of interventions around energy efficiency. The selection of these Delivery Areas has been made based upon considerations including assessed risk of fuel poverty. The potential interventions in these Delivery Areas are therefore expected to help reduce fuel poverty via reducing heating costs.

8. Climate and Nature Emergency Implications

8.1 The Edinburgh LHEES does not set new targets; rather it reflects existing national targets around heat decarbonisation. However, the Edinburgh LHEES sets out pathways and interventions that will help meet these targets. The Edinburgh LHEES will help reduce carbon emissions by facilitating improvements to energy efficiency (reducing heat demand) and decarbonising heating (reducing emissions associated with residual heat demand).

9. Risk, policy, compliance, governance and community impact

9.1 The Edinburgh LHEES and Delivery Plan have been prepared to fulfil the Council's statutory duties under The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022. The outputs from the Edinburgh LHEES will also help the Council fulfil its statutory duties under the Heat Networks (Scotland) Act 2021.

9.2 In the hierarchy of Council strategies and policies, the Edinburgh LHEES sits beneath the 2030 Climate Strategy: Delivering a Net Zero, Climate Ready Edinburgh. The 2030 Climate Strategy sets overall ambitions for the decarbonisation of Edinburgh, whereas the Edinburgh LHEES sets out pathways and actions concerning the decarbonisation of Edinburgh's building stock specifically. The Edinburgh LHEES also overlaps with other Council strategies such as the Council Emissions Reduction Plan and the Housing Revenue Account Capital Programme.

10. Background reading/external references

10.1 Not applicable.

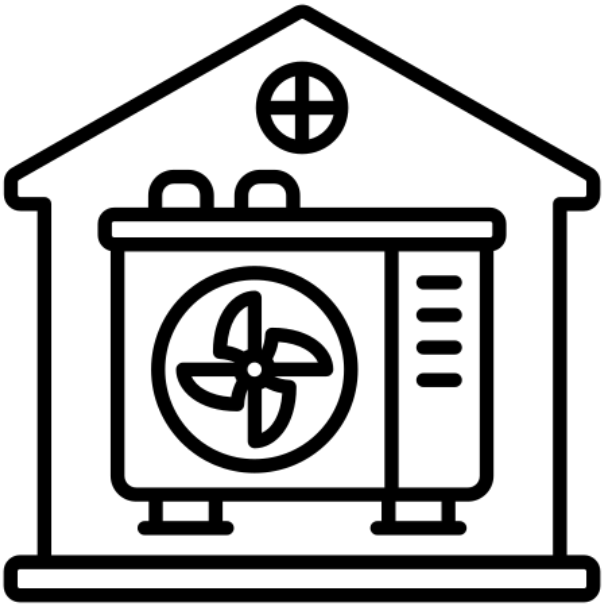
11. Appendices

11.1 Appendix 1 – Edinburgh Local Heat and Energy Efficiency Strategy.

11.2 Appendix 2 – Delivery Plan.

The City of Edinburgh Council

Edinburgh Local Heat and Energy Efficiency Strategy
December 2023



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1. Foreword

1.1.1. “On behalf of the City of Edinburgh Council, I am pleased to introduce the first iteration of the Edinburgh Local Heat and Energy Efficiency Strategy (LHEES).

1.1.2. “The Edinburgh LHEES is ‘a long-term strategic framework for the improvement of the energy efficiency of buildings in the local authority’s area, and the reduction of greenhouse gas emissions resulting from the heating of such buildings.’ The Edinburgh LHEES will help steer interventions over the coming years aimed at making buildings in Edinburgh more energy efficiency and migrating the heating of buildings away from fossil fuel-based solutions such as gas boilers to zero direct emissions solutions such as heat pumps and heat networks. The Edinburgh LHEES therefore links to the Scottish Government’s target of decarbonising the heating of all buildings in Scotland by 2045 and, in turn, the wider target of making Scotland net zero carbon by 2045, as well as the Council’s own target of making Edinburgh a net zero carbon city as set out in its 2030 Climate Strategy.

1.1.3. “It is important to recognise that achieving these targets will be extremely challenging, and will necessitate large-scale activity by both the public sector and the private sector and the commitment of significant resources. A wide variety of stakeholders will require to be mobilised towards these goals.

1.1.4. “The Edinburgh LHEES is being published at a time of great flux, with areas such as the regulatory regime for heat networks; regulations around gas boilers; funding mechanisms for retrofit; the role of hydrogen; and the electricity pricing system all currently under review. The decisions taken with respect to these areas will inform what is and is not achievable over the coming years.

1.1.5. “In light of these challenges, the Delivery Plan for 2024 to 2028 that has been prepared alongside the inaugural Edinburgh LHEES focuses on the areas where it is considered there is greatest potential for intervention in the short to medium-term in light of the limited existing powers and resources the Council has access to. The focus of the Delivery Plan is therefore upon areas where the Council has the greatest influence, for example the retrofit of its own estate and the roll-out of heat networks in areas where the Council has significant influence, as well as on the areas of Edinburgh that represent the most significant opportunities in Edinburgh. It is envisaged that future iterations of the Delivery Plan will have a wider focus.

1.1.6. “I hope you find the Edinburgh LHEES to be a useful document in setting out how Edinburgh’s buildings can move to net zero.”

– Councillor Cammy Day, Leader of the City of Edinburgh Council

2. Contents

2.1. Chapters

2.2. Tables

3. Executive summary

3.1. Introduction

3.1.1. This document is the Local Heat and Energy Strategy (LHEES) for the City of Edinburgh. An LHEES is a long-term plan for decarbonising heat in buildings and improving energy efficiency across a local authority. The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 requires all Scottish local authorities to publish an LHEES, along with a Delivery Plan, by the end of 2023. The central drivers of the Edinburgh LHEES are the statutory national targets of achieving net zero emissions by 2045 (with a 75% reduction by 2030) and, so far as reasonably possible, eradicating fuel poverty by 2040. The Edinburgh LHEES is a place-based and locally-led strategy for Edinburgh covering the following aims:

- Improving the energy efficiency and decarbonising the heat supply of buildings.
- Eliminating poor energy efficiency as a driver for fuel poverty.

3.1.2. The Edinburgh LHEES follows an area-wide approach, meaning it addresses all buildings in the City of Edinburgh area, not just the Council's own building stock. It covers all homes (whether owned by owner-occupiers, social landlords, or private landlords) and all non-domestic buildings (whether owned by the Council, other public bodies, businesses, or the third sector). The Edinburgh LHEES is not just a plan for the Council but one relevant to all owners and occupiers of Edinburgh's buildings, and thus can only be delivered by the concerted effort of all of these people.

3.1.3. The Edinburgh LHEES utilises a standardised methodology to:

- Set out how each segment of Edinburgh's building stock needs to change.
- Identify strategic heat decarbonisation zones within Edinburgh and set out the principal measures for reducing buildings emissions within each zone.
- Prioritise areas for delivery.

3.1.4. Information on key concepts such as heat networks, heat pumps, and energy efficiency is set out in the Edinburgh LHEES.

3.2. Methodology

3.2.1. The methodology for preparing the Edinburgh LHEES has largely followed the guidance issued by the Scottish Government and Zero Waste Scotland where possible. Details of the approach taken to carrying out the analysis underpinning the designation of the Strategic Zones and Delivery Areas is set out in this document. Production of the Edinburgh LHEES has been supported by the consultancies Turner & Townsend; Ramboll; Changeworks; (all stages) and Atkins (stages one and two). Challenges arising during the process have included shortages of data and errors in both datasets and tools. The Edinburgh LHEES has been shaped by both internal and external consultation.

3.2.2. Following the submission of a Screening Report, the Council was advised that a Strategic Environmental Assessment was not required for the Edinburgh LHEES.

3.3. Policy and strategy context

3.3.1. The Edinburgh LHEES sits within a complex and rapidly evolving landscape of policies, strategies, and regulations. The primary policies among these which were central to the development of the Edinburgh LHEES are summarised in Table 01:

Table 01: Key national policies underpinning the Edinburgh LHEES

Policy area	Policy	Description
Heat decarbonisation; energy efficiency	The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	Statutory targets for reducing all of Scotland's greenhouse gas emissions to net zero. These includes a headline target of net zero by 2045 and intermediate reductions targets, such as a 75% reduction by 2030.
Heat decarbonisation; energy efficiency	Climate Change Plan (2018, 2020)	Targets and a comprehensive set of policies for emissions reductions by 2032 covering all emission categories, including relevant categories of electricity generation, buildings, and industry.
Fuel poverty	Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019	Statutory targets to be achieved by 2040: no more than 5% of households in Scotland in fuel poverty and no more than 1% of households in Scotland in extreme fuel poverty
Heat networks	Heat Networks (Scotland) Act 2021	A framework for developing heat networks throughout Scotland and statutory target of heat networks supplying 2.6 terawatt hours of thermal energy by 2027 (equivalent to circa 120,000 additional homes) and 6 terawatt hours by 2030 (equivalent to circa 400,000 additional homes).
Heat decarbonisation; energy efficiency; fuel poverty	Heat in Buildings Strategy (2021)	Programmes, standards and regulations for heat, energy efficiency and fuel poverty to ensure that all buildings are energy efficient by 2035 and use zero direct emissions heating and cooling systems by 2045, as well as minimising fuel poverty in line with statutory targets.

3.3.2. National policies give rise to a series of ambitious goals around energy efficiency improvements and reductions in fuel poverty. The key policy targets and regulations relating to the Edinburgh LHEES are summarised below:

- By 2045, buildings in Scotland will no longer contribute to climate change.
- By 2040, no more than 5% households in Scotland will be in fuel poverty and no more than 1% will be in extreme fuel poverty (Fuel Poverty (Target, Definition and Strategy) (Scotland) Act 2019).
- By 2030, over one million homes and 50,000 non-domestic buildings in Scotland will have converted to zero or low emissions heating systems (Heat in Buildings Strategy).
- By 2030, 6.0 terawatt hours of heat energy will be supplied by heat networks in Scotland by 2030 (Heat Networks (Scotland) Act 2021).
- All homes in Scotland will achieve an Energy Performance Certificate of at least 'C' by 2040 (Energy Efficient Scotland).

- The use of direct emissions heating systems in new buildings in Scotland is proposed to be prohibited from 1 April 2024 (New Build Heat Standard).

3.3.3. A key challenge in respect of the Edinburgh LHEES is that many of the national policies, strategies, and regulations that will determine the climate for the delivery of Edinburgh LHEES are still in formulation. These include the Heat in Buildings Bill, the permitting and consenting regime for heat networks in Scotland, and the finalised Energy Efficiency Standard for Social Housing post 2020 (EESSH2).

3.3.4. The 2030 Climate Strategy is the overall strategy for Edinburgh to become a net zero city by 2030. The Edinburgh LHEES sits below the Climate Strategy, being the strategy for transitioning the heating of buildings in Edinburgh to net zero. The Climate Strategy identifies seven priorities for action, of which two relate directly to the Edinburgh LHEES: "accelerate energy efficiency in homes and buildings" and "enable the development of a citywide programme of heat and energy generation and distribution". It sets the following targets of relevance to the Edinburgh LHEES:

- All new Council-led housing developments to be net zero.
- Develop regional renewable energy solutions.
- Identify Heat Network Zones across the city.
- Develop a plan for retrofitting social housing across the city to the highest energy standards, to reduce energy demand and tackle fuel poverty.
- Establish an Energy Efficient Public Buildings Partnership.

3.4. Ongoing activity in Edinburgh

3.4.1. There is significant activity ongoing in Edinburgh around energy efficiency and heat decarbonisation. Key areas of activity include:

- Energy efficiency improvements to the Council's existing social housing stock under the "whole house retrofit" approach.
- Energy efficiency improvements to mixed-tenure buildings (buildings where ownership is shared between the Council and private owners) via the Mixed Tenure Improvement Service (MTIS).
- Energy efficiency improvements to private homes at risk of fuel poverty via Area-Based Schemes.
- The development of new social housing with zero direct emissions heating sources and to Passivhaus energy efficiency standards.
- Energy efficiency improvements to the Council's operational estate, spearheaded by a pathfinder pilot project.
- Development of heat network projects in Edinburgh, most significantly ongoing work to appoint a concessionaire to deliver and operate a heat network in Granton Waterfront.

3.4.2. There are a range of existing initiatives that can support private building owners with improving energy efficiency and decarbonising heat. Home Energy Scotland, Business Energy Scotland, and Local Energy Scotland are services funded by the Scottish Government and managed by the Energy Saving Trust. They provide households, businesses, and community

groups with advice and support on saving energy, decarbonising properties, and generating renewable energy. They also administer various grant and loan schemes to help owners with retrofit costs. The Scottish Government manages multiple schemes, targeted largely at public bodies (though with exceptions). These include funds and support to retrofit non-domestic public buildings, social housing, and privately-rented and owner-occupied housing in fuel poverty. The Scottish Government leads the Heat Network Support Unit which provides support and administers grant funding to facilitate heat network developments.

3.5. Baselining

3.5.1. To set the context for the Edinburgh LHEES, a comprehensive assessment of the current performance of the city's building stock has been undertaken, providing a thematic overview of Edinburgh's building stock in the context of heat decarbonisation and energy efficiency. It profiles characteristics such as energy performance; fuel type; tenure; type; and age. This information helps inform key decisions about the Edinburgh LHEES and its direction. The data used to prepare this assessment was primarily drawn from the Home Analytics and Non-Domestic Analytics datasets. Headline findings from the assessment include the following:

- 69% of homes in Edinburgh are flats – a far greater proportion than Scotland overall.
- Private landlords account for 21% of homes in Edinburgh – again far greater than Scotland overall.
- Around half of all homes in Edinburgh are located in mixed-tenure buildings.
- Homes in Edinburgh are significantly older than the Scottish average, with a tenth being listed and a quarter lying within conservation areas.
- Most homes in Edinburgh (91%) are connected to the gas grid.
- Due to the lack of data for the non-domestic stock there are many unknowns around the baseline building stock performance.

3.5.2. Key implications from the assessment are that:

- 120,938 homes in Edinburgh have an Energy Performance Certificate rating worse than 'C' and will therefore require upgrading to meet national targets.
- To achieve recommended levels of energy efficiency, 129,706 homes in Edinburgh will require wall insulation (including 80,708 homes with hard-to-treat solid walls); 66,903 homes in Edinburgh will require (improved) loft insulation; and 52,279 homes will require improved glazing: a total of 248,888 interventions.
- To achieve decarbonisation of heat, at least 229,798 homes in Edinburgh will need their existing fossil fuel-based heating systems replaced, the vast majority of them (227,550) being homes currently heated using gas boilers.
- At least 6,551 non-domestic buildings in Edinburgh will need their existing fossil fuel-based heating systems replaced.

3.5.3. This baseline assessment has identified the following key challenges with regards to Edinburgh's building stock:

- Edinburgh's very high proportion of flats (including its traditional tenements) and mixed-tenure buildings will greatly increase the challenge of implementing solutions. Unlike standalone homes with a single owner, where decisions can be straightforwardly taken, taking forward interventions to blocks of flats and other

mixed-tenure buildings will require securing agreement from a range of stakeholders, including difficult to engage with parties such as absentee landlords. Given that coordinating even relatively uncontroversial matters such as essential repairs has historically proven challenging in some cases, it is envisaged that securing agreement from all necessary stakeholders for potentially complex and costly interventions will be particularly challenging. The high prevalence of flats also gives rise to practical challenges, for example a lack of space in which to install heat pumps and limited potential to install solar panels to offset electricity costs. However, with the appropriate financing options and a clear regulatory landscape there is a major opportunity for rolling out large-scale archetype-based retrofit projects.

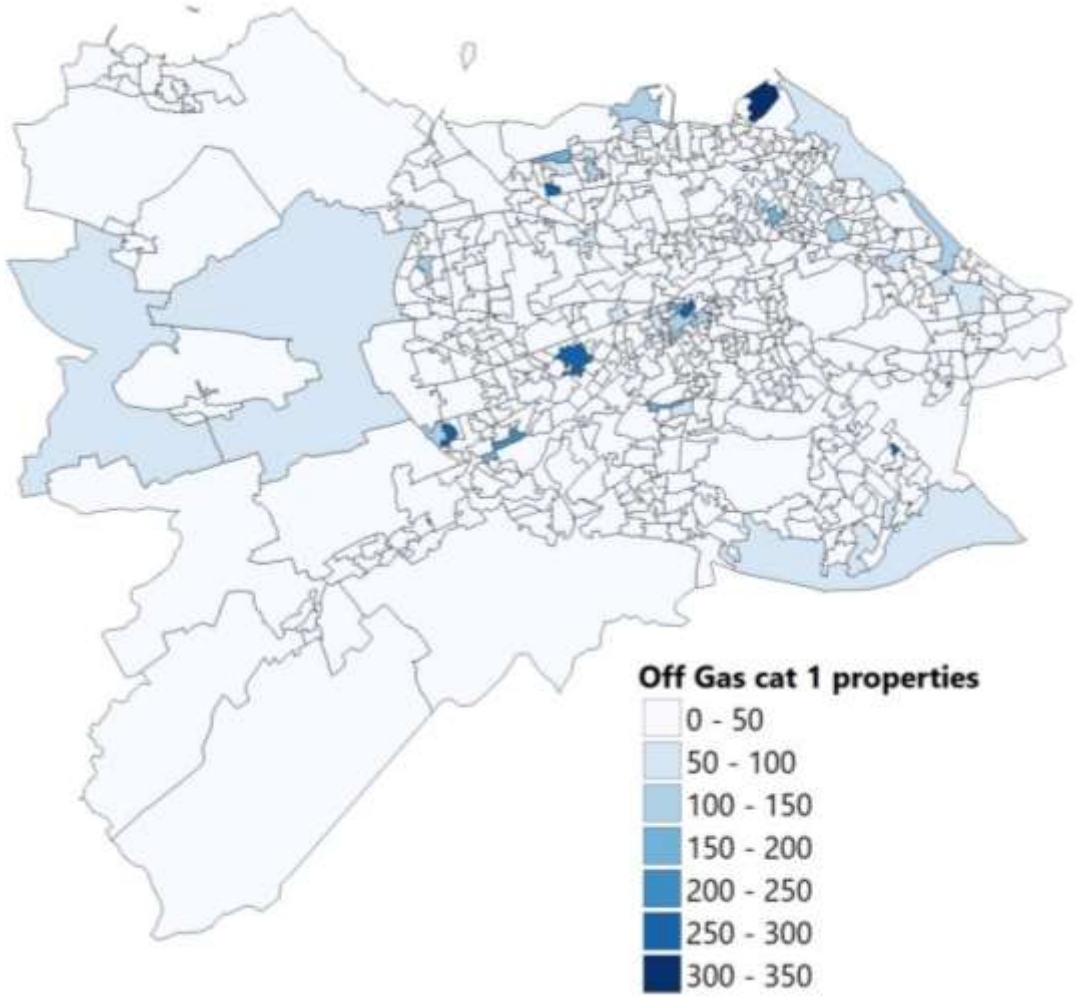
- As a predominantly urban local authority, the vast majority of homes in Edinburgh are connected to the gas grid, as compared to other local authorities where a greater proportion of residents are reliant on alternative heating solutions such as oil. When secondary fuels are included, over 99% of homes in Edinburgh use gas. This is likely to increase the challenge of migrating homes to zero direct emissions heating sources, as gas heating offers many benefits: it is relatively cheap; offers a high flow temperature; is well understood in the marketplace; and it has a well-developed supply chain. As set out in section 10.3, the move to zero direct emissions heating will need to make financial sense for building users. Heat networks can potentially play a major role in retaining many of the benefits of gas, with the added benefits of maintenance cost savings and screening customers against energy price volatility.
- Relative to Scotland overall, Edinburgh has a very high proportion of rental homes owned by private landlords: more than one in every five homes. Conversely, Edinburgh has a considerably smaller social housing sector. This means that the City of Edinburgh Council (and other social housing providers) have far less direct influence over housing stock than other Scottish local authorities. Additionally, this means that achieving net zero will require securing buy-in from a large cohort of private landlords, who are likely to be primarily profit-driven and who do not have a direct incentive to improve energy efficiency of their properties (e.g. compared to owner-occupiers who can benefit from lower bills and increased comfort).
- Relative to Scotland overall, Edinburgh has a considerably older housing stock, with close to a third of homes being over a century old. One in 10 homes are listed. As set out elsewhere in the Edinburgh LHEES, this historicity gives rise to both practical and policy challenges to carrying out interventions.
- Edinburgh has a higher proportion of homes with uninsulated walls than Scotland (over two-fifths), and in particular has a high proportion of hard-to-treat solid stone walls. One in five homes in Edinburgh do not have double/triple glazing.

3.6. Generation of Strategic Zones and pathways

3.6.1. Analysis has been carried out to identify “Strategic Zones” in Edinburgh for each LHEES Consideration. These are areas that highlight pathways for intervention, e.g. what the optimal solution is in an area to decarbonise heat. This analysis sets a starting point for the generation of, and prioritisation, of more granular Delivery Areas, as well as for further engagement and actions in the Delivery Plan. Through stakeholder engagement and data

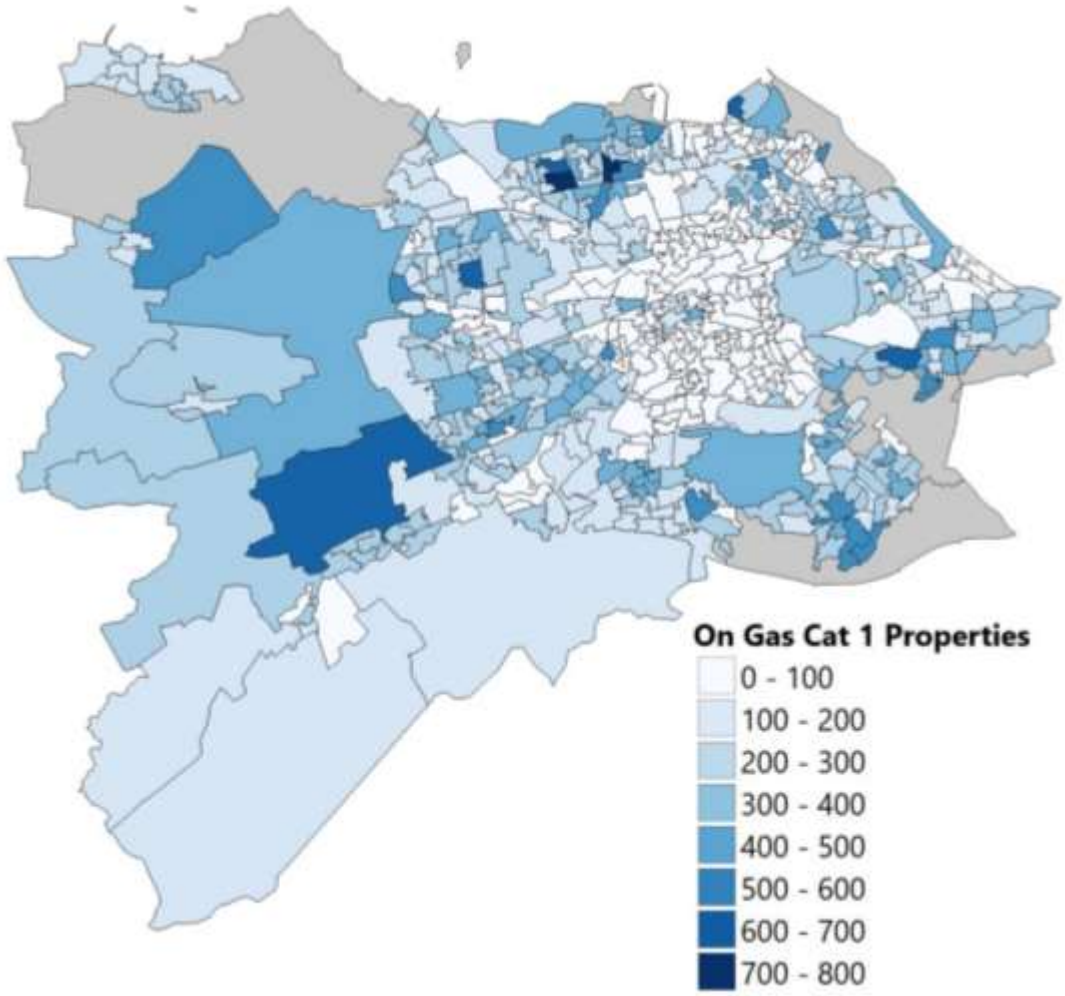
analysis, the Council has identified three priority areas of focus: fuel poverty; heat networks; and heat pump-ready properties.

3.6.2. The first LHEES Consideration concerns the strategy for decarbonising buildings that are not currently connected to the gas grid. Strategic Zones have been produced showing the areas of Edinburgh containing the greatest number of homes not connected to the gas grid assessed as having good potential to be migrated to heat pumps. These areas are distributed across Edinburgh with no easily interpretable geographical pattern. 39.2% of homes in Edinburgh not currently connected to the gas grid are assessed as falling into category 1, i.e. have the greatest potential to be converted to heat pumps. The below plan shows datazones in Edinburgh with the highest number of on-gas grid category 1 ('heat pump ready') properties (darker zones represent a higher number of properties).



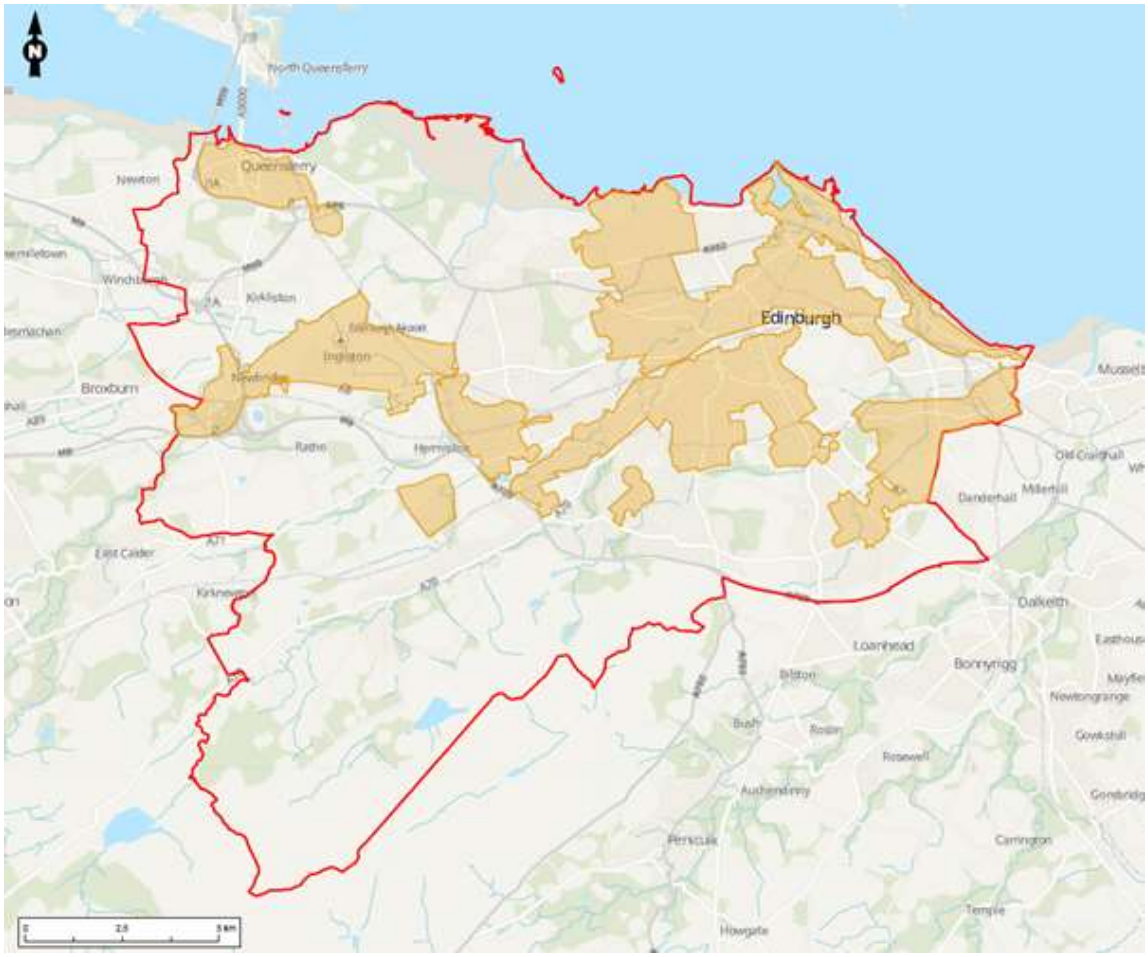
3.6.3. The second LHEES Consideration concerns the strategy for decarbonising buildings that are currently connected to the gas grid. Strategic Zones have been produced showing the areas of Edinburgh containing the greatest number of homes connected to the gas grid assessed as having good potential to be migrated to heat pumps. These areas are distributed across Edinburgh with no easily interpretable geographical pattern. 44.7% of homes in Edinburgh not currently connected to the gas grid are assessed as falling into category 1, i.e. have the greatest potential to be converted to heat pumps. The below plan shows the datazones in

Edinburgh with the highest number of off-gas grid category 1 ('heat pump ready') properties (darker zones represent a higher number of properties).



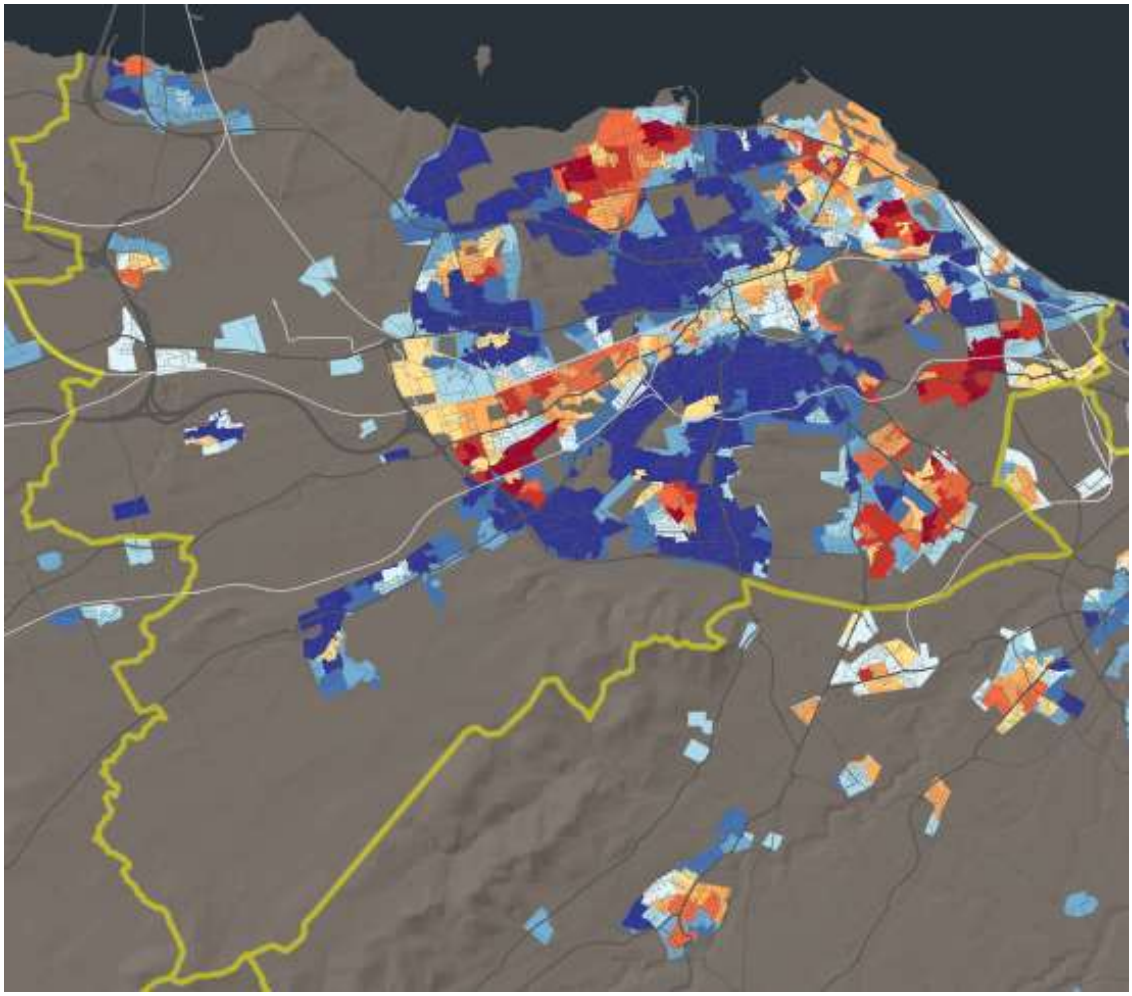
3.6.4. For both off gas and on gas properties, the most realistic and pragmatic approach for Edinburgh is to begin with less complicated and simpler decarbonisation projects, moving into more complex retrofits as the Council, supply chain, stakeholders and property owners expand their learning. As such, the Council proposes a focus on category 1 properties. The Delivery Plan therefore highlights Delivery Areas with a focus on category 1 properties.

3.6.5. The third LHEES Consideration concerns the scope to develop heat networks providing decarbonised heat. Edinburgh has a relatively high heat density, good availability of heat sources, and many buildings with high energy use intensity which can serve as “anchor loads” increasing the viability of a heat network. These advantages may give rise to scope for large and continually expanding city heat network (or “network of networks”) covering much of Edinburgh’s population. 17 prospective Heat Network Zones across Edinburgh have been identified based on data analysis and stakeholder engagement, spanning a significant proportion of Edinburgh and representing a diverse mix of areas where there is economic and practical viability for a heat network (there is heat demand and potential to supply heat), as well as taking into account practical considerations. The 17 prospective Heat Network Zones are shown in the below plan; the Delivery Plan presents more detailed maps and prospective Heat Network Zones to take forward.



3.6.6. The fourth LHEES Consideration concerns poor energy efficiency in Edinburgh. Strategic Zones have been produced showing the areas of Edinburgh with the poorest energy efficiency. These are closely aligned to areas with high concentrations of historic buildings, reflecting the challenges associated with (for example) insulating solid stone walls.

3.6.7. The fifth LHEES Consideration concerns poor energy efficiency as a driver of fuel poverty in Edinburgh. Due to concerns about the robustness of the outputs generated by the LHEES Methodology for this Consideration, the Council intends to instead utilise the 2020 Scottish Index of Multiple Deprivation (SIMD) rankings as a proxy for fuel poverty. The below plan shows the SIMD rankings of each datazone of Edinburgh (warmer zones represent more deprivation, i.e. a higher likelihood of fuel poverty). The Delivery Plan identifies the specific Delivery Areas identified for this strategic priority.



3.6.8. The sixth LHEES Consideration concerns mixed-tenure, mixed-use, and historic buildings – buildings that for practical reasons are likely to prove more challenging to retrofit. Strategic Zones have been prepared for each of these themes.

3.7. Edinburgh LHEES findings and next steps

3.7.1. The baseline analysis undertaken as part of the Edinburgh LHEES has identified multiple key challenges to decarbonising heat in buildings and improving energy efficiency across a local authority stemming from the particular characteristics of Edinburgh's building stock.

3.7.2. The analysis undertaken against the six LHEES Considerations has given rise to "Strategic Zones". These Zones are at the heart of the Edinburgh LHEES, setting out at a strategic level potential pathways for decarbonisation of Edinburgh's building stock and identifying areas of pressure in terms of energy efficiency.

3.7.3. Three areas of activity have been identified that are assessed as representing the most appropriate focus for the inaugural Edinburgh LHEES:

- Targeting areas with the highest occurrences of fuel poverty and the 20% most deprived areas of Edinburgh as per the Scottish Index of Multiple Deprivation.
- Decarbonising Council-owned housing and non-domestic stock in line with national timescales.

- Supporting wider decarbonisation of Edinburgh within the funding and resources that are made available to the Council, beginning with a focus on facilitating a city-wide heat network (or "network of networks"), and upon area with the largest numbers of heat pump-ready homes as a prospective "quick win" in terms of heat decarbonisation.

3.7.4. The following high-level principles are proposed to underpin how the Edinburgh LHEES is delivered and, in turn, how buildings in Edinburgh are made more energy efficient and their heating decarbonised:

- [A] Interventions should be on a "fabric first" basis;
- [B] Interventions should be solution agnostic;
- [C] Interventions must make financial sense for building users;
- [D] New build properties offer the greatest potential;
- [E] Significant additional external funding will be required;
- [F] More comprehensive and robust data is needed;
- [G] Additional levers will be required to catalyse change.

4. Introduction to the Edinburgh LHEES

4.1. Overview of the Edinburgh LHEES

4.1.1. This document is the Local Heat and Energy Strategy (LHEES) for the City of Edinburgh. It has been prepared in response to the Local Heat and Energy Efficiency Strategies (Scotland) Order 2022, which requires all Scottish local authorities to publish an LHEES – defined as "a long-term strategic framework for the improvement of the energy efficiency of buildings in the local authority's area, and the reduction of greenhouse gas emissions resulting from the heating of such buildings" – by 31st December 2023, and thereafter at intervals of no more than five years.

4.1.2. The scale of the challenge this represents should not be underestimated. Achieving this goal will require greatly increasing the pace of deployment of zero direct emissions heating systems. The decarbonisation of buildings has been compared to the advent of central heating in the 1960s.[1] At a UK level, the Committee on Climate Change has estimated that approximately £250 billion will need to be invested in upgrading UK homes by 2050 to achieve targets around carbon reductions.[2] As of mid-2021, Edinburgh was home to 0.79% of the UK population.[3] On a pro rata basis, this would indicate that £1.964 billion of investment was needed in homes in Edinburgh. This does not include investment required in non-domestic properties. In December 2022, the Scottish Government estimated that it would cost over £33 billion to "upgrad[e] the energy efficiency of domestic and non-domestic properties and replac[e] their heating systems with zero emissions alternatives"; on a pro rata basis, this would represent a cost of £3.170 billion in Edinburgh.[4] Investment of this scale will inevitably necessitate a role for private capital, as it is highly unlikely to be fundable by the public sector alone. As the Council's own limited resources will be focused on its own sizeable and complex estate, alternative funding sources and solutions will be needed for other organisations' properties in the city.

4.1.3. The Scottish Government has estimated that the typical cost of decarbonising a home will be £10,000 to £12,000: a typical cost of £10,000 for a heat pump, along with costs of up to £2,000 for energy efficiency measures.[5] However, it is noted that these costs will vary greatly depending upon the characteristics of the home, and in some cases will be far higher. The costs of decarbonising non-domestic properties will also vary significantly.

4.1.4. The function of the Edinburgh LHEES is to set out the overall strategy for achieving heat decarbonisation and energy efficiency improvements in the building stock of Edinburgh. It assesses the scale of the challenge in terms of the degree and cost of the work required to Edinburgh's building stock and identifies a route map of potential "pathways" for delivery.

4.1.5. The Edinburgh LHEES sets out how Edinburgh will help realise national ambitions around the heating of buildings in Scotland and what this means for the climate and for building users. At a national level, the Heat in Buildings Strategy sets out a vision that by 2045, buildings in Scotland will no longer contribute to climate change.[i] The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019 sets a target of no household in Scotland being in fuel

[i] This target in turn relates to the statutory target of achieving net zero carbon emissions in Scotland by 2045 (with interim targets of a 75% reduction by 2030 and a 90% reduction by 2040) set by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

poverty by 2040. Achieving these targets will require both investing in the fabric of buildings to improve their energy efficiency and investing in zero direct emissions heating solutions.

4.1.6. At an Edinburgh level, the Edinburgh LHEES sits beneath the 2030 Climate Strategy, which sets a target of Edinburgh being a net zero city by 2030. Of the seven priorities set out in the Strategy, the first is to accelerate energy efficiency in homes and buildings.[ii] The second is to enable the development of a citywide programme of heat and energy generation and distribution. The Edinburgh LHEES will help translate the targets and priorities of the 2030 Climate Strategy into actions. However, it is important to note that Edinburgh is not currently on trajectory to decarbonise all buildings in the city by 2030, and so from that perspective the 2030 net zero city target will not be attainable unless the pace of activity – and, by extension, the resources available – significantly increases (which would be extremely challenging given resource pressures and the disruption to building occupiers this would entail).

4.1.7. The Edinburgh LHEES is the principal mechanism for the locally led, place-based decarbonisation of heat in buildings, having cognisance to the specific context and priorities of Edinburgh. It will support local planning, coordination, and delivery of the heat transition throughout Edinburgh. It will set out how each segment of Edinburgh's building stock needs to change; identify strategic zones for heat decarbonisation and the principal measures needed in each zone; and prioritise area for delivery. It will help direct capital investments.

4.1.8. It is important to note that achieving the headline targets set out in the Edinburgh LHEES will not be possible without significant action by other organisations. In particular major legislative, regulatory, and budgetary decisions by the Scottish Government and UK Government will be required for the Edinburgh LHEES to be successfully delivered. At present, there is no financial strategy for the investment required to decarbonise Edinburgh or Scotland. The Edinburgh LHEES therefore largely sets out what may be possible with the commensurate resources and powers being made available.

4.1.9. The audience for the Edinburgh LHEES includes residents of Edinburgh; businesses and third sector organisations with a presence in the city; the Scottish Government; other public sector bodies; utility network operators; and developers.

4.1.10. The Edinburgh LHEES should be read in conjunction with the Delivery Plan, which sets out how the Edinburgh LHEES is to be implemented, with a focus on early, low-regrets actions over the first five years of the Edinburgh LHEES (2024 to 2028).

- The Edinburgh LHEES sets out Strategic Zones that provide pathways for the decarbonisation of heat and the improvement of energy efficiency in different areas of Edinburgh. The Edinburgh LHEES also sets out areas of focus, the Council's approach, and high-level principles to guide activity over the period.
- The Delivery Plan identifies the actions the Council itself will take to deliver the Edinburgh LHEES, and the Delivery Areas in which these actions will be concentrated. It is important to note that there is no dedicated budget for the delivery of the Edinburgh LHEES. Actions set out in the Delivery Plan are therefore focused on currently funded area of activity and additional areas of activity that can be met from existing resources, albeit this can be revisited should additional funding be

[ii] The 2030 Climate Strategy notes that energy utilised to heat and power Edinburgh's buildings accounts for 68% of the city's total emissions.

made available for the delivery of the Edinburgh LHEES. Accordingly, the more substantial actions set out in the Delivery Plan are heavily skewed towards the Council's own estate.

4.1.11. The Edinburgh LHEES has been prepared in a limited timescale and in the context of challenges such as data limitations, methodological issues, and a rapidly evolving regulatory context. These factors have inevitably had a bearing upon the end results. It is envisaged that the second iteration of the Edinburgh LHEES will benefit from a more stable regulatory context, better quality data, and additional time and resources for preparation.

4.1.12. Achieving the ambitions of the Edinburgh LHEES will require partnership working across the public, private and third sectors. As such, the Edinburgh LHEES has been developed with input from key stakeholders and is subject to an open public consultation. Through these engagements, the Council has sought to establish a foundation for area-wide joint action. The Edinburgh LHEES presents an opportunity for a holistic approach at the intersection of multiple policy areas. Edinburgh can capitalise on benefits wider than just net zero and fuel poverty, including economic growth, green employment and skills, just transition, and the development of a clean heat and retrofit supply chain benefitting owners across all tenures.

4.2. Edinburgh LHEES governance

4.2.1. The Edinburgh LHEES is a formal strategy of the City of Edinburgh Council in line with the Local Heat and Energy Efficiency Strategies (Scotland) Order 2022.

4.2.2. The Edinburgh LHEES falls within the remit of the Council's Policy and Sustainability Committee.

4.2.3. The Council has appointed a dedicated Energy Officer who will be responsible for the finalisation of the Edinburgh LHEES and Delivery Plan following consultation and subsequently lead work looking at what can be delivered.

4.3. Edinburgh LHEES structure and layout

4.3.1. The structure and layout of the Edinburgh LHEES is briefly summarised below. The document is aligned to the LHEES Guidance issued by the Scottish Government, but with some adjustments aimed at improving the flow of information from an Edinburgh perspective.

- Chapter 1 is the foreword to the Edinburgh LHEES from the Leader of the City of Edinburgh Council, Councillor Cammy Day.
- Chapter 2 sets out the contents of the Edinburgh LHEES.
- Chapter 3 is the executive summary of the Edinburgh LHEES.
- Chapter 4 is the introduction to the Edinburgh LHEES. This includes a general overview of the Edinburgh LHEES, a summary of the structure and layout of the Edinburgh LHEES, and a summary of what is and is not in the scope of the Edinburgh LHEES, along with a review of key concepts underpinning the Edinburgh LHEES.
- Chapter 5 sets out the methodological approach to the Edinburgh LHEES. This includes a description of the approach of the Council to preparing the Edinburgh LHEES, a summary of the LHEES Considerations, a summary of consultation and engagement undertaken as part of the preparation of the Edinburgh LHEES, and a review of formalities associated with the Edinburgh LHEES.

- Chapter 6 sets out the policy and strategy context for the Edinburgh LHEES, looking at the relevant policy and strategies at a local, Scottish, and UK level.
- Chapter 7 summarises ongoing workstreams of relevance to the Edinburgh LHEES.
- Chapter 8 sets a baseline assessment of Edinburgh's property stock and its performance in terms of the LHEES Considerations.
- Chapter 9 identifies "Strategic Zones": geographical subdivisions of Edinburgh that allow for the visualisation of spatial trends aligned with the LHEES Considerations, helping identify pathways (strategic approaches) for the decarbonisation of the building stock in each Strategic Zone. This chapter also identifies potential Heat Network Zones within Edinburgh.
- Chapter 10 summarises the findings of the Edinburgh LHEES and sets out the next steps.
- Chapter 11 contains the appendices to the Edinburgh LHEES.

4.3.2. This iteration of the Edinburgh LHEES has been prepared as a traditional text-based document. However, the scope for (and benefits of) displaying the Edinburgh LHEES outputs in a more interactive fashion, for example utilising GIS or StoryMaps, is recognised and the Council intends to explore this for updates to, and future iterations of, the Edinburgh LHEES.

4.4. Edinburgh LHEES scope and limitations

Scope

4.4.1. The scope of the Edinburgh LHEES is the decarbonisation of building stock in Edinburgh via a combination of energy efficiency improvements and zero direct emissions carbon solutions, helping deliver the vision that by 2045, buildings in Scotland will no longer contribute to climate change. The Edinburgh LHEES therefore relates to the overall vision of making Scotland net zero carbon by 2045. It is noted however that the Edinburgh LHEES is only one strand of a wider programme of activity required to achieve net zero carbon, and does not encompass other areas such as transport and agriculture. Further, the focus of the Edinburgh LHEES is upon decarbonisation and its scope therefore does not include matters such as climate resilience and ecology.

4.4.2. The Edinburgh LHEES covers the entirety of the City of Edinburgh local authority area, including the city proper, the settlements of South Queensferry, Kirkliston, Newbridge, Ratho Station, and Ratho, and various smaller settlements in rural west Edinburgh.

4.4.3. The focus of the Edinburgh LHEES is primarily on the physical changes required to decarbonise Edinburgh's building stock, e.g. capital investment in energy efficiency measures and energy infrastructure. It does not focus upon activities aimed at reducing energy consumption and ameliorating fuel poverty, for example advice on conserving household energy and financial support with energy bills for low-income households. However, some consideration is given to the wraparound activities required to support physical improvements to the building stock.

4.4.4. For the purposes of the Edinburgh LHEES, "energy efficiency" refers purely to the energy required to heat a property. It does not include energy utilised for other purposes, for example the energy used to power household appliances or the energy used for industrial processes in commercial buildings such as factories.

4.4.5. It is recognised that the move to net zero carbon is heavily driven by technological advancements, e.g. the development and enhancement of solutions for the generation, transmission, and storage of energy from low/zero emissions sources. The Edinburgh LHEES is not a strategy for supporting innovation or technical innovation. However, cognisance has been given to the scope for emerging solutions, for example green hydrogen, to play a role in achieving net zero.

4.4.6. The Edinburgh LHEES includes analysis on rooftop solar PV potential for domestic properties (Figure 25) but does not include plans for wider renewable generation opportunities such as solar farms, renewable potential for non-domestic properties, the deployment of other renewable, or electricity and heat storage options throughout the city.

Limitations

4.4.7. Transforming Edinburgh's building stock is a large, complex, multigenerational challenge which will require extended time and resources. The Council has been delivering projects in this area for over a decade and the publication of the Edinburgh LHEES is a milestone which will set the agenda for the coming two decades to the net zero deadline. The Edinburgh LHEES makes its contribution but with recognised limitations.

4.4.8. The datasets underpinning the Edinburgh LHEES represents complex and rapidly shifting real circumstances. This can mean that sometimes the data available has gone out of date or is incomplete. The following have been the main limitations:

- Fuel poverty and extreme fuel poverty have arisen to become acute and evolving issues at a national scale following the cost-of-living crisis, but the data is not entirely up-to-date with some of these major shifts.
- Only 16% of Scotland's non-domestic buildings have an Energy Performance Certificate (EPC) and there is not a large amount that can be done with this partial dataset. Due to a lack of information, it has been difficult to plan decarbonisation pathways for non-domestic buildings in the way the Council would have preferred.

4.4.9. The Council receives a grant of £75,000 per annum from the Scottish Government from 2022/23 to 2027/28 to deliver the Edinburgh LHEES. Compared to the scale of investment the Edinburgh LHEES is intended to direct over the coming two decades, this amount is insufficient. With severe stress on its budget and limited funding from the government the Council has been limited against the ambition it would like to deliver on. A realistic and practical level of funding will be required if the Council is to match the scale of delivery required to reach net zero.

4.4.10. The landscape around funding and regulation is rapidly evolving, with certain vital pieces of information unavailable at the time of writing. These include:

- The content of the Heat in Buildings Bill.
- The findings of the Green Heat Finance Taskforce
- Detail on the permitting and consenting regime for heat networks in Scotland.
- Information on mandatory heat network connections.
- A timescale for banning the installation of gas boilers in existing properties.
- Finalised Energy Efficiency Standard for Social Housing post 2020 (EESSH2) guidance.
- Confirmation on grant funding post-2026.

- Details on the reform of Energy Performance Certificates.
- Confirmation on funding for local authorities for new duties associated with LHEES and heat networks.

4.5. Review of key concepts

4.5.1. This section of the Edinburgh LHEES briefly reviews select relevant key concepts.

Heat decarbonisation

4.5.2. Heat decarbonisation refers to reducing or completely removing the carbon produced as a negative by-product of heating buildings. Heating buildings is essential for people's health and wellbeing, but is also one of the major contributing factors to carbon emissions. At a Scottish level, as of 2019, 81% of households used mains gas as their primary heating fuel, while 8% used other emissions generating fuels such as oil, liquefied petroleum gas, solid mineral fuels, and biomass. 1% used communal heating systems, while 11% used electrical heating.[6] Figures for Edinburgh are set out in Chapter 8.

4.5.3. In practice, heat decarbonisation is largely about replacing existing carbon intensive heating solutions (such as gas boilers) with lower carbon alternatives. The main options for zero direct emissions heating include direct electric heating; heat networks; heat pumps; and hydrogen.

4.5.4. The Climate Change Committee has prepared scenarios for the decarbonisation of heat in buildings across the UK overall.[7] The share of demand met by each net zero heating system as of 2050 in its "Balanced Net Zero Pathway" is set out in Table 02. This scenario envisages heat networks and heat pumps as fulfilling the vast majority (94%) of heat demand, with direct electric heating and hydrogen boilers accounting for the remainder.

Table 02: UK building heat demand by source (2050 scenario)

Heat source	% heat demand
Direct electric heating	1%
Heat networks	42%
Heat pumps	52%
Hydrogen boilers	5%

Source: Climate Change Committee

4.5.5. Key challenges to heat decarbonisation include the installation and operating costs of the alternative heating solutions (which are often higher than the existing solutions); the limited availability of people with the technical skills required to install and maintain these alternative heating solutions; local and national constraints on the electricity grid; the need for extensive retrofit works to make existing properties suitable for low carbon heating solutions, and knowledge and perceptions of low carbon technology amongst the public.

4.5.6. Wet heating systems operate on the basis of supply/flow and return temperatures. The supply/flow temperature is the temperature of the water sent to the radiator, while the return temperature is the temperature of the water returning to the heating system. Conventional radiators in the UK are designed to operate with supply/flow temperatures of 82°C and return temperatures of 71°C. Zero direct emissions heating systems generally utilise lower temperatures. For example, an air source heat pump utilises an optimal supply/flow

temperature of 45°C and a return temperature of 40°C,[iii] while fourth generation heat networks generally utilise a supply/flow temperature of 55°C and a return temperature of 25°C. The practical implication of this is that replacing a gas boiler with a zero direct emissions heating system will require the property in question to be suitably adapted to enable the heating system to operate effectively. In particular, the property will require to be well-insulated and suitable radiators will be required. Radiators for low temperature heating system typically require to be around 2.5 times larger than a conventional radiator and are generally made out of materials with high thermal conductivity, for example Zintec steel.[iv] This can give rise to challenges when retrofitting properties.

4.5.7. In 2023, research was published on the energy performance of Scottish public buildings and the impact thereof on their ability to use low-temperature heat in the buildings.[8] The research looked at the scope to utilise low temperature heating systems in 121 buildings owned by the City of Edinburgh Council. The research concluded the following:

- Pre-1980 buildings do not require renovation of the building envelope to use low temperature heating, albeit this is preferable. These buildings could operate with supply/flow temperatures of below 70°C for 96% to 99% of the year, and below 55°C for 67% to 71% of the year.
- Post-1980s building (which predominantly utilise mechanical ventilation systems) could have limitations in terms of their ability to utilise low temperature heating, especially in windy conditions.
- New and renovated buildings are recommended to be designed to operate with a cap on supply/flow temperature of 55°C.

Energy efficiency

4.5.8. Energy efficiency considers the amount of energy required to heat a building and the building's ability to retain that heat. This can be affected by many factors including the design of the property and the materials used to build it. Physical measures to increase energy efficiency can include adding wall, roof, and floor insulation; low energy lighting; improved heating controls; and double or triple glazed windows. Energy efficiency is also dictated by the actions of users, for example avoiding heat waste by keeping doors and windows closed. In simple terms, the more energy efficient the building, the lower the quantity (and cost) of energy will be needed to heat it.

4.5.9. The most common way to measure energy efficiency is through an Energy Performance Certificate (EPC), which provides a simple rating of energy efficiency of the building. This rating is derived from two main factors: the amount of energy required per square metre, and the level of carbon dioxide emissions produced by the building (quoted in tonnes per year). Ratings can range from "A" (very efficient) to "G" (very inefficient). EPCs will typically include recommendations to improve the energy efficiency of the building and a potential rating. Ratings are valid for 10 years and, in Scotland, must be completed by organisations on the national EPC Register. The Scottish Government is reviewing EPCs with a view to

[iii] As specified by BS EN 14511.
[iv] Another option is to utilise a fan-assisted radiator which can achieve three times as much heat output as a conventional radiator.

introducing new metrics that better measure energy efficiency.[v] In February 2023, the Climate Change Committee stated that EPCs are "used to define standards and targets for reducing emissions from homes – but are poorly suited to this role" and "do not accurately incentivise the energy efficiency and heating solutions required to deliver net zero homes"; the Committee recommended that domestic EPCs should be reformed to focus on four primary metrics: "Energy" (total energy use intensity, measured in kilowatt hours per square metre per annum); "Fabric" (space heating demand intensity, measured in kilowatt hours per square metre per annum); "Heating" (heating system type, ranked from 1 to 6); and "Cost" (energy cost intensity, measured in pounds per square metre per annum).[9] It is understood that revised Energy Performance of Buildings (Scotland) Regulations are programmed to be put before the Scottish Parliament in 2024.

4.5.10. Achieving good energy efficiency in historic buildings is recognised as being inherently more challenging than with modern properties due to typical design features of historic buildings such as solid stone walls and wooden sash-and-cash windows. Various initiatives have been undertaken to attempt to develop standardised packages of interventions for specific building archetypes. The Niddrie Road project in Glasgow – a retrofit of eight one-bedroom tenement flats in Glasgow by the Southside Housing Association – has been hailed as an exemplar. The project saw interventions delivered including triple glazing; air sealing via insulation of walls, floors, and lofts; and the installation of mechanical ventilation systems, along with the installation of air source heat pumps serving four of the flats. The project has significantly improved energy efficiency and reduced occupants' heating bills. However, the costs of the project average £35,000 to £40,000 per flat (with costs for larger properties likely to be higher), meaning its scope to be rolled out more widely may be limited.[10]

Insulation

4.5.11. Insulation here refers to the use of materials to slow the rate at which heat is lost from a building to the outside. This is one of the most affordable and effective ways of reducing heat demand by improving heat retention. The main elements of a typical building that can be insulated to increase heat retention are the roof/loft; the floor; the walls; and the windows. The most common kind of insulation option is blanket insulation which is easier to install and cost-effective. A variety of materials may be used dependent on availability and the size of the space, including wool fibre, polyethylene, and foam.

4.5.12. Roof insulation is key to containing heat as heat naturally rises out of the building; up to 25% of heat can be lost through a building's roof.

4.5.13. Floor insulation is generally focused on insulating the ground floor of a building; this can be carried out in older buildings that have suspended timber floors, or on top of concrete floors. The Leeds Sustainability Institute has calculated that carpets can reduce air leakage in some homes by up to one-third.[vi] [11]

[v] Energy Performance Certificates were developed to measure the cost efficiency of running a building in terms of its energy performance. As a result, the higher installation and running costs of a heat pump relative to a gas boiler would mean that an EPC would not recommend the replacement of a gas boiler with a heat pump, even though this would reduce the carbon emissions of the building.

[vi] It is estimated that 1.2 million people in the UK have no carpet or other flooring in their bedrooms and living rooms, 760,000 of them in social housing.

4.5.14. Cavity walls can be insulated through injecting insulation into the cavity. This method is primarily applicable for homes newer than 1920s. For older homes that have solid walls, insulation can still be installed to increase energy efficiency. This can be applied to the inside or outside of the wall, however, outside insulation may require more time, costs, and planning. Solid wall insulation is more expensive but does make a considerable increase in the amount of heat retained.

4.5.15. Windows can be made more energy efficiency by the use of double or triple glazing. Where the replacement of windows is not possible – for example in period properties – an alternative solution is to install a secondary internal window.

Fuel poverty

4.5.16. Fuel poverty is defined in Scotland as a household spending more than 10% of its income on fuel costs where the remaining household income is insufficient to maintain an adequate standard of living. Statutory targets for the reduction of fuel poverty are set by the 2019 Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act.

4.5.17. Whilst income poverty and fuel poverty are often correlated, the latter focuses on households in any income band that are spending a disproportionally high amount of money on fuel bills. Often fuel poverty impacts those in energy inefficient rented homes where it is not possible for the tenant to implemented energy efficiency improvements.

4.5.18. The number of Scottish households in fuel poverty is currently projected to rise due to increases in energy prices. The UK Government has implemented temporary measures to combat the effects of the increase in energy pricing including the Energy Bills Support Scheme and the Warm Home Discount scheme for households on pension credit or low incomes.

Direct electric heating

4.5.19. Direct electric heating is the use of electricity to heat spaces and water directly (rather than interpolating other systems such as heat pumps). Direct electric heating solutions are typically relatively low cost and require very little maintenance. There are multiple different heating systems that directly utilise electricity, including:

- Electric central heating – a “wet” system similar to that associated with a gas boiler, but with the hot water being supplied from an electric boiler, which uses an immersion heater or element to heat the water. Electric combi boilers can supply both heat and hot water.
- Electric radiators – convection and radiation-based heaters that use an element to heat a thermodynamic fluid (typically glycol) which conducts the heat to the surface of the radiator.
- Panel heaters – simple convection-based heaters that draw in cold air, run it over a exposed wire element, and emit warm air.
- Infrared heaters – heaters that emit radiant heat, instantly warming people and objects rather than the air, meaning good insulation is not essential.
- Storage heaters – heaters that use an element to heat a ceramic or clay brick which is then gradually released. The heaters warm the bricks during the night (capitalising on the lower cost “Economy 7” electricity tariff) with heat then being slowly released as hot air during the day. Modern storage heaters have controls and thermostats.

4.5.20. Direct electric heating has a coefficient of performance of 1 – i.e. every kilowatt of electricity utilised generates one kilowatt of heat – compared to around 0.9 for a gas boiler. However, as electricity unit prices in the UK have traditionally been around three times higher than gas unit prices, direct electric heating is not generally cost effective.[vii] As a result, alternative solutions may be more economical, for example heat pumps (which typically have a coefficient of performance of 3 to 4, helping offset the higher input cost).[viii] Significant additional adoption of direct electric heating is therefore unlikely unless the cost of electricity in the UK falls. The running costs of direct electric heating can be cross-subsidised using solar panels or other micro-generation technologies, which provide "free" electricity. However, solar panels are most efficacious during the daytime in sunnier months and are generally at their least effective when demand for heat is typically highest, meaning storage of electricity (or heat) is necessary to balance the load. Other micro-generation technologies such as wind turbines or hydro power generally have limited potential in an urban setting.[ix]

4.5.21. Direct electric heating does not generate direct emissions. The UK Government has committed to fully decarbonising the UK's electricity grid by 2035.[12] As a result, from 2035 onwards direct electric heating should not make any indirect contribution to carbon emissions. At a UK level, the required peak capacity of the National Grid is expected to double from 60 gigawatts to 20 gigawatts in 2050, with a quadrupling of green electricity.[13]

Heat networks / communal heating systems

4.5.22. A heat network is a heating system that works on the principle of distributing heat generated at one or more central sources to users rather than generating heat using systems in individual properties. The centrally generated heat is distributed through pipes to customers such as homes, commercial buildings, and public sector buildings (known as "off-takers") who control the heat they receive via an interface unit. The most important customers in terms of scale and consistency of heat demand are known as "anchor loads".

4.5.23. Heat networks are classified by "generation", with the generation referring to a major change in the underlying technology.

- First generation heat networks date from the 1880s, supplying heat using steam at temperatures of up to 200°C produced centrally by burning coal and waste and transmitted using concrete ducts. First generation heat networks were largely superseded in the 1930s, although some remain in use worldwide.
- Second generation heat networks date from the 1930s, supplying heat using pressurised hot water via pipes at temperatures of over 100°C produced centrally by burning coal, waste, and oil.
- Third generation heat networks emerged in the 1970s in response to that decade's energy shocks. They distribute centrally generated heat from sources including gas,

[vii] As of June 2023, the OFGEM price caps were 33.2 pence per kilowatt hour for electricity and 10.3 pence per kilowatt hour for gas (a price ratio of 3.22:1).

[viii] The coefficient of performance is a measure of the efficiency of a heating system, expressed as a ratio of the power output to the power input. For example, an electric heater may convert 1 kilowatt of electricity into 1 kilowatt of heat (a coefficient of performance of 1). A coefficient of performance greater than one means that the system is outputting more energy than is being input.

[ix] While solar panels are less challenging to implement in an urban setting, one obstacle is that, as solar panels can be used to export electricity to the national grid, they put pressure on grid capacity which may mean the potential to deploy solar panels at scale in some areas of Edinburgh is limited.

combined heat and power, biomass, and waste at temperatures of 70°C to 100°C using pre-insulated metal pipes. Most existing heat networks in the UK are third generation.

- Fourth generation heat networks are emerging in response to concerns around climate change. They incorporate higher levels of renewable heat sources, e.g. heat pumps and waste, and supply heat and hot water at lower temperatures (below 70°C), using plastic pipes reducing transmissions losses. Due to the lower temperatures, boosting is required for domestic how water.
- Fifth generation heat networks distribute heat at ambient temperatures (between 10°C and 30°C), thus minimising transmission losses. Rather than a centralised heat source, heat is generated at multiple points across the network. Buildings can both consume and provide heat, turning them into "prosumers". Other design characteristics include the use of networks for both heating and cooling (with bi-direction thermal energy flows); integrated thermal storage to balance demand; and optimised energy flows based on algorithms utilising real-time data. Due to the lower temperatures, boosting is required for domestic how water. Fifth generation heat networks are complex and costly and therefore may be best suited to projects where there is a need to balance heating and cooling demands.

4.5.24. Heat networks are most efficient in dense built-up urban areas due to cost efficiencies, but have also been proposed as a solution for more rural communities without gas connections. Across Scotland, as of 2022 there were an estimated 1,080 heat networks supplying approximately 1.18 terawatt-hours of heat to around 30,000 homes and 3,000 non-domestic properties. There are dozens of existing heat networks in Edinburgh, but these are generally relatively small-scale, focused on a single off-taker (for example the University of Edinburgh), and supplied from carbon emitting heat sources.

4.5.25. Heat networks can contribute to heat decarbonisation by supplying heat from a centralised low/zero direct emissions source, for example the air, geothermal heat, or waste heat (such as heat generated from the incineration of refuse, which would otherwise be vented into the atmosphere and "wasted"). Even when heat networks supply heat from a more carbon intensive source, they can enable the larger system to be decarbonised in the future without having to make changes to each individual property supplied by the network.

4.5.26. An advantage of heat networks in the context of heat decarbonisation is that they do not place the same demand pressures on the electricity grid as heat pumps or direct electric heating. A heat decarbonisation solution for Edinburgh that incorporates a mix of heat networks and electricity-based solutions will therefore give rise to fewer electricity infrastructure requirements than one focused on electricity-based solutions.

4.5.27. The main challenge to deploying heat networks is the upfront capital costs required in terms of constructing the energy centre and associated infrastructure as well as making the connections to individual properties. Most schemes deployed in Scotland so far have been delivered by local authorities to serve their estates or by property developers to serve new building developments. Engineering solutions have been developed to help reduce upfront costs, including pipework being laid above ground and trenchless options.

4.5.28. Heat networks have hitherto been largely unregulated in Scotland and the UK. The Heat Networks (Scotland) Act 2021 introduces a regulatory regime for Scotland. As heat networks

are classed as commercial rather than domestic supplies, they are not covered by the OFGEM energy price cap (or the UK Government's Energy Price Guarantee).[14]

4.5.29. A communal heating system is a smaller-scale heat network wherein heat generated at a central source is distributed to two or more units within a single building. Communal heating systems are most commonly associated with blocks of flats. As of 2023, there were approximately 14,000 blocks of flats in the UK served by communal heating.[15]

Heat pumps

4.5.30. Heat pumps are devices that heat buildings through capturing existing heat in the environment. The pump captures heat from the environment and uses a heat exchange to increase it to supply heat to a building. The pump itself produces no carbon dioxide emissions, albeit electricity is required to power the system. Unlike most heating technologies, heat pumps can also be used for cooling (by reversing the flow of refrigerant). A typical heat pump serving a home will range from 6 kilowatts to 15 kilowatts; the cooler the minimum outdoor temperature, the larger the heat pump that will be required. A typical cost for a heat pump serving a home would be approximately £10,000.[16]

4.5.31. There are two main types of heat pumps: air source heat pumps and ground source heat pumps, which capture heat from the air and from the ground respectively. Air source heat pumps are the most common option currently in use in Scotland. Other types include water source heat pumps and sewer source heat pumps.

4.5.32. As heat pumps capture "free" heat from the environment (e.g. from the air), they can achieve comparatively high coefficients of performance (typically 3 to 4). However, this must be balanced against the relatively high unit cost of electricity in the UK (typically around three times greater than the unit cost of gas), which generally makes the economic case for migrating from gas to heat pumps marginal at best. Heat pumps are therefore a financially attractive alternative to direct electric heating, but are less so with regards to gas. The running costs of heat pumps can be cross-subsidised using solar panels (albeit as noted solar panels are least effective when heat demand is highest, e.g. after sunset and in the winter) or other micro-generation technologies. To help minimise the running costs of heat pumps, the UK Government has proposed to require all heat pumps installed in the UK to be capable of modulating electricity consumption in response to time-of-use tariffs, enabling customers to align usage with costs. The UK Government has also undertaken to "rebalance" electricity and gas costs. Other proposals have included removing "green levies" used to subsidise renewable energy schemes from household electricity bills.[x] [17]

4.5.33. Heat pumps work best in well insulated buildings and where pipes and radiators are appropriately sized; as wet heating systems based on heat pumps have lower flow temperatures than those based on gas boilers, larger radiators are needed to achieve the same results. As a result, the like-for-like replacement of a gas boiler with a heat pump may not deliver optimal results without complementary upgrades to the energy efficiency of the property being carried out. The efficiency of heat pumps generally varies depending upon the time of year, being lower when temperatures are lower (when heat demand is generally higher), meaning user comfort can be poor during cold periods (below 7°C).

[x] As of 2021, "environmental and social levies" used to fund various initiatives around clean energy and fuel poverty accounted for approximately 12% of electricity bills (£119 per year per home), compared to 3.4% of gas bills (£33 per year per home).

4.5.34. Heat pumps cannot provide hot water on demand in the same way as a combi-boiler. Therefore, for a heat pump to supply hot water to a property, a hot water cylinder will be required to store the hot water (potentially supplemented by an immersion heater). This can give rise to complications such as a risk of legionella bacteria. Alternately, hot water demand can be met using another solution such as an instantaneous water heater.

4.5.35. Other challenges associated with heat pumps can include the operating noise (which can reach 60 decibels) and the need for a suitable space in which to install the heat pump.

4.5.36. Currently, approximately 3,000 to 4,000 domestic heat pumps are installed in Scotland annually, with the vast majority being air source heat pumps.[18] The Scottish Government has set a target of increasing annual heat pump installations to 170,000 by 2030.[19] At a UK level, approximately 50,000 to 60,000 heat pumps are installed annually; the UK Government wishes to increase this to 600,000 by 2028. Public knowledge and awareness of heat pumps is poor, with a poll in 2022 suggesting 80% of UK residents do not know what a heat pump is.[20] The UK is one of the slowest adopters of heat pumps in Europe; at current rates of installation, it would take 400 years for all homes in the UK to be fitted with a heat pump.[21]

4.5.37. There are currently an estimated 3,000 to 4,000 heat pump engineers in the UK; the charity Nesta has estimated that 27,000 heat pump engineers will be required to carry out the proposed 600,000 installations annually from 2028 (approximately 22 installations per engineer per annum). While qualified gas engineers can be retrained to work on heat pumps in a matter of weeks, new heat pump engineers will likely require to complete a three-four year college course or apprenticeship. Nesta has proposed offering existing gas engineers a financial inducement to retrain.[22] [23]

4.5.38. The UK Government has created various schemes to support the heat pump industry, including the Heat Pump Investment Accelerator Competition (which is providing capital grants towards heat pump manufacturing); the Heat Pump Ready Programme (which is supporting the development of new heat pump technologies); grants for training to install heat pumps; and a new Low Carbon Heating Technician apprenticeship.

4.5.39. In March 2023, the UK Government consulted on a proposed Clean Heat Market Mechanism (CHMM) to support the development of the heat pump market. The aim of the CHMM is to provide the heating appliance industry with sufficient confidence to make investments in scaling up, in turn expanding heat pump manufacturing in the UK; reducing the installation and operating costs of heat pumps; and growing the number of skilled heat pump installers. The proposed CHMM would require manufacturers of heating appliances to sell a minimum number of low-carbon heat pumps in the UK market each year relative to gas, oil, or LPG-fired boilers, with the ratio beginning at 4% in 2024/25 and rising steadily thereafter. This would operate via a system of tradeable credits, giving manufacturers flexibility as to how to meet their obligations. Manufacturers would be fined £5,000 for every fossil fuel-fired boiler sold over their quota. The UK Government has suggested that the CHMM could support the installation of 60,000 heat pumps in 2024/25, rising to 90,000 in 2025/26; 150,000 in 2026/27, 250,000 in 2027/28; and 400,000 in 2028/29.[24]

4.5.40. While hitherto much of the focus on heat pumps has been around building-level heating solutions, there is also growing interest in large-scale heat pumps that can serve heat networks. The German manufacturer MAN ES has produced a 48-megawatt heat pump, thousands of times more powerful than a model that would be used to heat a home. Most existing heat pump-based heat networks utilise several pumps, for example Stockholm's heat

network has a capacity of 215-megawatt based upon two 40-megawatt heat pumps and five 27-megawatt heat pumps.[25]

4.5.41. While heat pumps are a zero direct emissions heating solution, they can emit hydrofluorocarbons, which have a global warming potential over 1,000 greater than CO_2. Research by Eunomia Research & Consulting and the Centre for Air Conditioning and Refrigeration Research of London Southbank University suggests that the annual leakage rate for domestic heat pumps averages 3.5%, recommending seeking to reduce leakage in the short-term while incentivising increase usage of low global warming potential refrigerants in the longer-term.[26]

Hydrogen

4.5.42. Hydrogen is the most common element in existence, and can potentially be used to generate electricity, fuel cars, and heat buildings. It is a potential alternative to natural gas, currently the primary heat source for Scotland, that does not release CO_2 when burned. It has the potential to be produced domestically, helping insulate consumers from price fluctuations associated with imported fossil fuels such as natural gas. However, increasing hydrogen usage would require significant investment in production and distribution infrastructure; upgrading boilers and other gas-fired appliances; and testing of how infrastructure and appliances perform using hydrogen.[xi] Hydrogen is a highly volatile and flammable element and extensive safety measures as well as specially-adapted infrastructure (e.g. pipes and boilers) are therefore required to prevent leakage and explosions. The cost of producing hydrogen (particularly green hydrogen) is also currently relatively high, albeit expected to fall with time and scale.

4.5.43. Hydrogen can be produced via several different methods which impact the carbon emissions of the resource. There are other types of hydrogen production methods, but there are three types that are the most common in Scotland:

- "Grey hydrogen" (or "black hydrogen") is produced through using steam to decompose methane into hydrogen and carbon dioxide (or by burning coal to isolate hydrogen) and therefore produces carbon dioxide emissions (circa 10 kilograms of CO_2 for every 1 kilogram of grey hydrogen), meaning while it is a zero direct emissions heat source (i.e. combusting the hydrogen does not produce carbon emissions), producing it creates carbon emissions. Grey hydrogen does not use carbon capture to retain the carbon produced during the process and hence is the most polluting process. However, it is currently the most available and cost-effective production method and hence is the most common, representing over 99% of global production.
- "Blue hydrogen" is produced via the same means as grey hydrogen, but the CO_2 byproduct is partially sequestered through carbon capture and storage (CCS) technology, thus reducing the carbon emissions released into the atmosphere by 90% to 95%. However, there is uncertainty about the scope for large-scale CCS. Blue hydrogen also currently accounts for less than 1% of global hydrogen production.
- "Green hydrogen", or renewable hydrogen, separates water into hydrogen and oxygen using electrolysis powered by renewable energy. It therefore produces no

[xi] For example, there are concerns around combustion knock associated with hydrogen.

carbon emissions. This option is the lowest carbon approach, but production is expensive. Green hydrogen currently accounts for less than 0.05% of global hydrogen production.

4.5.44. While hydrogen itself is a zero-carbon energy source, the combustion of hydrogen can emit nitrogen oxide, a greenhouse gas. Should hydrogen leak into the atmosphere, it can interact with greenhouse gases and exacerbate their global warming potential. 9 kilogrammes of water are required to produce 1 kilogram of green hydrogen, with implications for water conservation.[27]

4.5.45. At present, the Gas Safety (Management) Regulations 1996 limit the concentration of hydrogen that can be transmitted via existing public gas networks in the UK to 0.1%. The UK Government has mooted raising this limit, with a landmark decision on the future role of hydrogen in space heating in the UK expected to be taken in 2026.

4.5.46. Testing has been carried out on a private network at Keele University supplying a mix of up to 20% hydrogen to live buildings, while concept "hydrogen homes" with 100% hydrogen-fuelled appliances have been developed at Northern Gas Networks' innovation site in Gateshead. A pilot project supplying 100% green hydrogen to homes, "H100", is currently under development in Levenmouth, Fife with the network scheduled to begin operation in 2024. It has been suggested that a 20% mix could be added to the UK's gas grid from 2028, with a shift to 100% hydrogen by the mid-2040s.[28]

4.5.47. The UK's gas grid companies have carried out investments to make the grid ready for transmission of 20% hydrogen blends. SGN has indicated that, subject to positive regulatory decisions, large-scale migration of buildings to hydrogen could begin in 2030, with a transition period of around 20 years.[29] The Energy Networks Association has stated that moving to a 20% hydrogen blend across the gas grid would save approximately six million tonnes of CO_2 per annum.[30] From the perspective of gas grid operators, hydrogen represents an opportunity to continue to drive value from existing gas transmission infrastructure, which could become obsolescent in a scenario where heat demand was met via other means such as electric heating and heat networks.

4.5.48. Since 1996, all gas appliances installed in the UK have been required to be designed to operate with a hydrogen mix of up to 23%. Using higher levels of hydrogen would require installing upgraded appliances. In December 2022, the Department for Business, Energy and Industrial Strategy (BEIS) began consulting on potentially requiring all boilers to be installed in the UK from 2026 to be "hydrogen-ready".

4.5.49. In May 2023, the UK Government stated that its Energy Bill (formerly known as the Energy Security Bill) would include provisions for a hydrogen levy to fund a mechanism to subsidise hydrogen transport and storage – thus bridging the production cost gap between natural gas and green hydrogen – with the levy to be in place by 2025.[31] The cost of the hydrogen levy was forecast by the thinktank "Onward" to be £118 per year for an average dual fuel household. [32]

4.5.50. In June 2023, Secretary of State for the Department for Energy Security and Net Zero Grant Shapps MP suggested that hydrogen is unlikely to be used to heat homes and that it is better suited to energy storage, heavy industry, and transport, noting reservations around the quantity of pipework requiring to be replaced and the challenge of producing the requisite volume of green hydrogen. Mr Shapps also stated that the Government no longer intended

to introduce a hydrogen levy on household energy bills, suggesting that the costs of subsidising hydrogen would need to be met "further up the chain".[33]

4.5.51. In June 2023, the Carbon Trust published a briefing setting out its view on the role of hydrogen in the UK's energy system. While seeing a significant role for hydrogen in decarbonisation more broadly, the Carbon Trust opined: "The overwhelming majority of evidence indicates that hydrogen boilers would be less efficient and more expensive to run than electrified heat, such as heat pumps. Retrofitting hydrogen heating infrastructure is highly complex and cost-intensive, even in the UK where there is an existing gas network for residential heating. While there may be a limited number of applications for hydrogen-based heating as part of a regional cluster approach (e.g. where the primary hydrogen use is for industry), hydrogen should not be pursued as the primary route to decarbonisation of home heating."[34]

4.5.52. In 2023, the International Energy Agency suggested that hydrogen would have a "negligible" role in heating. A House of Lords stated that hydrogen is "not a serious option for home heating in the short to medium-term and its use is expected to be limited in the long-term". A 2023 study by ETH Zürich suggested that a green hydrogen heating system in the European Union would be approximately "two to three times more expensive" than one relying on heat pumps, as well as having a greater adverse environmental impact.[35]

4.5.53. The Scottish Government's Hydrogen Action Plan suggests that hydrogen "can be used to decarbonise many parts of our economy, including industry, transport, power and heat […] transported through the gas grid it could help decarbonise commercial premises and make a contribution to decarbonising home energy use". However, it also states "we do not consider that hydrogen will play a central role in the overall decarbonisation of domestic heat and therefore cannot afford to delay action to decarbonise homes this decade through other available technologies."[36]

4.5.54. The scope for hydrogen to place a significant role in the decarbonisation of Edinburgh's buildings is therefore unclear at this time, with significant unknowns around cost, regulation, and other matters. The prevailing view appears to be that, while hydrogen may have some applications, it is unlikely to be a "silver bullet" that supersedes other solutions.

Solar water heating

4.5.55. Solar water heating is the use of solar power to raise the temperature of water, which is then stored in a hot water cylinder. Solar collectors filled with a mix of water and glycol (typically installed on the building's roof) convert light into heat and then transfer this heat to the water in the cylinder. Solar water heating typically meets only a modest share (circa 10%) of a home's overall heat demand; the proportion of hot water demand met by solar water heating ranges from 25% to 90% depending on the time of year. It therefore generally requires to be supplemented by other heating systems. Solar water heating requires space to install the solar collectors and the hot water cylinder.

Biomass

4.5.56. Biomass here refers to the combustion of wooden pellets, chips, or logs (or some other plant matter) to generate heat. This is one of the longest-established renewable energy sources, with the approach being sustainable where the vegetation used as a fuel source is replanted at a sufficient rate to ensure a continuous supply and ensure carbon storage in trees is not reduced. Biomass systems work in a broadly similar fashion to conventional gas boilers.

4.5.57. Biomass can be a viable option for some residential and commercial properties, particularly those that are not connected to the gas or electrical grid,[xii] or for older buildings which cannot utilise other energy efficiency improvements. A key consideration when installing a biomass system is securing and storing the fuel source.

4.5.58. While biomass is deemed a low carbon heating solution, it does result in some direct emissions, albeit these can be mitigated via design, operation, and maintenance choices. It is therefore not a zero direct emissions heating solution.

4.5.59. The Scottish Government has stated that biomass (or other forms of bioenergy such as bio-heating oil or bio-propane) may have a role in heating buildings in off-gas grid areas where this displaces fossils fuels (such as liquefied petroleum gas) and where zero direct emissions alternatives are unsuitable. The Scottish Government has established a Bioenergy Working Group which will publish a Bioenergy Action Plan setting out the most appropriate and sustainable approach to the use of bioenergy in Scotland.

Micro combined heat and power

4.5.60. Micro combined heat and power (micro-CHP) is the simultaneous generation ("cogeneration") of heat and electricity on a micro-scale (less than 50 kilowatts). A domestic micro-CHP system is typically of a similar size to a domestic boiler. Traditionally micro-CHP systems have been fuelled by natural gas or liquefied petroleum gas, but some systems run off biogas or biodiesel. A step beyond micro-CHP is micro combined cooling, heat, and power (CCHP), or "trigeneration". This entails the simultaneous generation of heat and electricity with some of the heat produced used to produce coolth using an absorption chiller.

4.5.61. Micro-CHP is considered a low carbon alternative to gas boilers as it is more efficient, as heat produced as a by-product of the generation of electricity is captured. Additionally, generating electricity for use on site avoids transmission losses. The low carbon nature of micro-CHP can be maximised by the use of biofuels rather than fossil fuels. Micro-CHP is, however, not a zero direct emissions heating solution, and the relative environmental benefits of generating electricity on-site will diminish as the UK's electricity grid is increasingly decarbonised.

4.5.62. Micro-CHP may represent a good solution for properties where zero direct emissions solutions are not feasible. However, as they still generate direct emissions, they will not be suitable for widespread use if buildings are to be fully decarbonised. Future advances may deliver zero direct emissions micro-CHP systems, for example running off green hydrogen.

Electricity pricing

4.5.63. As noted above, the high cost of electricity in the UK is a barrier to the electrification of heat via solutions such as direct electric heating and heat pumps. This is a product of the UK's pricing regime which ties the cost of electricity to that of gas. Analysis by the Energy & Climate Intelligence Unit suggests that gas prices accounted for 95% of the increase in UK electricity prices seen in 2022.[37]

4.5.64. Based on analysis of 33 European countries as of July 2023 by the Household Energy Price Index, the UK had the second highest electricity unit prices, behind only Ireland. Of the 29 countries for which both electricity and gas prices were available, the UK had the fourth highest ratio of electricity prices to gas prices, behind only Belgium, Latvia, and Estonia.[38]

[xii] According to the 2019 Scottish House Condition Survey, 17% of dwellings in Scotland are estimated to be outwith the coverage of the gas grid.

Table 03: Electricity and gas end-user unit prices in European countries, c€/kWh (July 2023)

Country	Electricity unit price	Gas unit price	Ratio
Austria	32.3	13.7	2.4
Belgium	33.2	7.5	4.4
Bulgaria	13.2	7.4	1.8
Croatia	14.4	4.6	3.1
Cyprus	35.2	N/A	N/A
Czechia	40.0	12.4	3.2
Denmark	35.6	13.5	2.6
Estonia	25.8	6.4	4.1
Finland	20.3	N/A	N/A
France	27.0	10.0	2.7
Germany	38.6	11.3	3.4
Greece	25.5	7.1	3.6
Hungary	9.9	2.7	3.6
Ireland	47.1	16.2	2.9
Italy	37.7	14.7	2.6
Latvia	38.7	9.3	4.2
Lithuania	25.2	10.8	2.3
Luxembourg	21.4	9.7	2.2
Malta	12.3	N/A	N/A
Montenegro	10.5	N/A	N/A
Netherlands	31.9	16.8	1.9
Norway	12.9	N/A	N/A
Poland	23.3	7.3	3.2
Portugal	22.5	14.7	1.5
Romania	16.2	6.2	2.6
Serbia	9.8	4.2	2.3
Slovakia	19.7	6.1	3.2
Slovenia	19.4	12.1	1.6
Spain	21.2	10.2	2.1
Sweden	23.6	28.9	0.8
Switzerland	28.0	18.8	1.5
Ukraine	4.2	2.0	2.1
United Kingdom	44.0	11.3	3.9
Average	24.9	10.6	2.4

Source: Household Energy Price Index

4.5.65. As noted in section 6.2, the UK Government has set out proposals for a "rebalancing" of gas and electricity prices. This has the potential to incentivise greater adoption of electricity-based heating solutions, and equally to disincentivise the use of gas.

Resources for private building owners

4.5.66. There are a range of existing initiatives that can support private building owners with improving energy efficiency and decarbonising heat. The key initiatives are summarised below.

4.5.67. **Area-Based Schemes** are an initiative delivered by local authorities which delivers energy efficiency improvements (primarily improved insulation) to private homes in areas of high fuel poverty.

4.5.68. The "Home Energy Scotland" service managed by the Energy Saving Trust provides households with advice and support on saving energy. Home Energy Scotland administers the **Home Energy Scotland Grant and Loan** scheme, which offers homeowners grants and interest-free loans for energy efficiency upgrades and renewable technology installations, including grants of up to £7,500 towards heat pumps. Home Energy Scotland also administers the **Private Rented Sector Landlord Loan**, which offers loans to registered private landlords for energy efficiency measures and renewable energy installations; loans to landlords with portfolios of five of fewer properties are not charged interest, while loans to landlords with six of more properties are charged interest at a rate of 3.5%.

4.5.69. The **Warmer Homes Scotland** scheme administered by Warmworks provides grants to homeowners and private tenants to improve the energy efficiency of homes via measures such as the installation of insulation and central heating systems. The typical value of interventions is around £5,000. Support is restricted to people living in a home with poor energy efficiency who are either aged 75 or older with no working heating system or aged 16 or older and in receipt of certain benefits.

4.5.70. The **ECO4 scheme** and **Great British Insulation Scheme**[xiii] are administered by large UK energy suppliers. The schemes provider homeowners and tenants with "fabric first" upgrades, with a focus on lower cost interventions such as improved insulation. ECO4 is targeted at homeowners and tenants in receipt of certain benefits living in homes with an Energy Performance Certificate rating of 'D' or lower. The Great British Insulation Scheme is targeted at a wider base with 80% of funding ring-fenced for households in homes in Council Tax bands A to E with an Energy Performance Certificate rating of 'D' or lower, while 20% of funding is ring-fenced for households on means-tested benefits or in fuel poverty.

4.5.71. The **Energy Redress Scheme** administered by the Energy Saving Trust provides charities, community interest companies, co-operative societies, and community benefit societies with grants to assist households at risk from cold homes and high energy bills. This includes the Carbon Emissions Reduction Fund, which can be utilised for projects that will reduce carbon emissions from energy use.

4.5.72. The "Business Energy Scotland" service managed by the Energy Saving Trust provides small and medium-sized enterprises with advice and support on saving energy. Business Energy Scotland operates the **SME Loan and Cashback Scheme** which offers loans of up to £100,000 (and cashback grants of up to £30,000) to finance investments in energy efficiency

[xiii] Formerly known as the ECO+ scheme.

improvements such as insulation, LED lighting, double/secondary glazing, and the installation of renewable technologies such as solar panels and wind turbines.

4.5.73. The “Local Energy Scotland” consortium provides support and advice for community energy projects. It currently operates the **Let’s Do Net Zero Community Buildings Fund** (which provides grants worth up to 80% of eligible costs – capped at £80,000 – for community organisations to invest in renewable technologies and energy efficiency measures), the **Let’s Do Net Zero Off Electricity Grid Communities Fund** (which provides development and capital funding for off-grid communities to develop resilient, net zero-ready local independent electricity grids), and the **Community Heat Development Programme** (which provides support to groups of householders and community organisations to help them develop proposals for local low and zero carbon heat projects).

4.5.74. The Scottish Government’s **Heat Network Fund** provides grants for large-scale heat network and communal heating system projects in Scotland that deliver emissions reductions and demonstrate a positive social and economic benefit. The Fund will provide enabling support of up to 10% of CAPEX (capped at £100,000), commercialisation support of up to 10% of CAPEX (capped at £1 million), and capital grants of up to 50% of CAPEX. Grants must be drawn down by March 2026.

4.5.75. The **Smart Export Guarantee** is a UK Government scheme that requires larger UK electricity suppliers to pay small-scale generators of low/zero carbon electricity for excess electricity exported to the National Grid. Tariffs must be above zero, with different suppliers offering different tariffs. The scheme applies to solar photovoltaic, wind, hydro, and anaerobic digestion installations of up to 5 megawatts and micro-combined heat and power installations of up to 50 kilowatts. The Smart Export Guarantee can help defray the costs of installing renewable energy technologies. However, the typical tariffs from exporting electricity under the Smart Export Guarantee are relatively modest, with the best rate offered by energy suppliers in January 2023 being 15 pence per kilowatt hour (compared to a UK price cap of 33.2 pence per kilowatt hour).

4.5.76. Various UK mortgage lenders have introduced schemes wherein customers can access financial inducements to install a heat pump, for example interest-free loans and cashback.

4.5.77. In addition to the above, there are a wide variety of public and third sector resources offering advice on matters such as energy conservation and reducing energy bills. These include the Council’s Advice Shop, Citizens Advice, and Changeworks, which is contracted by the Council to provide advice to households.

4.5.78. The majority of funding schemes relating to energy efficiency and renewable energy installations will, as it currently stands, expire in 2025 or 2026 upon the expiration of the current terms of the UK Parliament and Scottish Parliament. As a result, there is little certainty as to the longer-term prospects for funding of projects of this nature.

Resources for public sector building owners

4.5.79. There are a range of existing initiatives that can support public sector building owners with improving energy efficiency and decarbonising heat. The key initiatives are summarised below.

4.5.80. The Scottish Government’s **Social Housing Net Zero Heat Fund** offers local authorities (along with registered social landlords and energy services companies) grant funding equivalent to 45%-50% of eligible costs for social housing retrofit projects delivering zero direct emissions

heating systems (such as heat pumps and heat networks) and energy efficiency improvements.

4.5.81. The Scottish Government's **Scotland's Public Sector Heat Decarbonisation Fund** provides grants to Scottish local authorities, universities, and arm's-length external organisations to decarbonise their estates. The Fund will meet up to 80% of eligible costs.

4.5.82. The Scottish Government's **Scottish Central Government Energy Efficiency Grant Fund** offers Scottish central government organisations with no access to borrowing powers (including health boards and further education colleges) capital grants of up to £2 million per annum towards heat decarbonisation and energy efficiency retrofit projects.

4.5.83. The **Scottish Public Sector Energy Efficiency Loan Scheme** administered by Salix Finance offers local authorities and certain other Scottish public bodies interest free loans for "spend to save" energy efficiency retrofit projects to help achieve net zero carbon.

4.5.84. As noted, the Scottish Government's **Heat Network Fund** provides grants for large-scale heat network and communal heating system projects in Scotland. Additionally, the **District Heating Loan Fund** administered by the Energy Saving Trust offers local authorities (along with registered social landlords, small and medium sized enterprises, and energy services companies) unsecured loans of £1 million plus for heat network projects, with a typical interest rate of 3.5% for low-risk projects.

4.5.85. The Scottish Government's **Non-Domestic Energy Efficiency Framework** has been established to help Scottish public bodies carry out energy efficiency retrofit projects with a value of £1 million plus to non-domestic buildings, with payment for works linked to the realisation of outcomes such as energy bill savings or carbon emission savings. Organisations utilising the Framework can access up to £50,000 of grant-funded project management, technical advisory, and procurement advisory services.

5. Methodology

5.1. Edinburgh LHEES approach

5.1.1. The Council has prepared the Edinburgh LHEES and the Delivery Plan in line with the guidance issued by the Scottish Government and the methodology issued by Zero Waste Scotland, with departures as required due to data availability or other considerations as set out below.

5.1.2. In line with the guidance and methodology, the preparation of the Edinburgh LHEES and Delivery Plan has followed eight stages. The activity carried out in each stage is summarised below:

- Stage 1: Policy and strategy review – this stage entails identifying the national and local policies, targets, and strategies relating to the Edinburgh LHEES, as well as identifying resources and stakeholders germane to the delivery of the Edinburgh LHEES.
- Stage 2: Data and tools library – this stage entails identifying and maintaining a record of the data and tools required for the analysis underpinning the Edinburgh LHEES.
- Stage 3: Strategic zoning and pathways – this stage entails assessing the present performance of Edinburgh's building stock in terms of energy efficiency and heat decarbonisation and setting out "Strategic Zones"[xiv] and "pathways"[xv] for each of the six LHEES Considerations.
- Stage 4: Generation of initial Delivery Areas – this stage entails setting out proposed "Delivery Areas" for each of the LHEES Considerations.[xvi]
- Stage 5: Building-level pathway assessment – this stage entails identifying detailed interventions to decarbonise buildings within Delivery Areas and quantifying the costs and benefits of these interventions.
- Stage 6: Finalisation of delivery areas – this stage entails finalising the Delivery Areas identified at stage 4 based upon considerations such as existing programmes of work and priority areas for intervention.
- Stage 7: LHEES – this stage entails assembling the outputs from the earlier stages into the Edinburgh LHEES itself – i.e. this document, its appendices, and supporting materials.
- Stage 8: Delivery Plan – this stage entails preparing a Delivery Plan setting out how the Edinburgh LHEES is to be implemented, with a focus on early, low-regrets actions over the first five years of the Edinburgh LHEES (2024 to 2028).

[xiv] A "Strategic Zone" is a geographical area that "present[s] a visualisation of the potential pathways to decarbonise the building stock at a local authority level" created "to understand the baseline performance, the scale of potential and initial areas of focus".
[xv] A "pathway" here refers to the approach taken to decarbonise a property, i.e. the potential energy efficiency retrofit technologies and low carbon heating system.
[xvi] A "Delivery Area" is a geographical area that is more granular than a Strategic Zone that "set[s] out clusters of buildings within a Strategic Zone or across the whole local authority that identify potential solution(s) at a delivery level".

5.1.3. In 2021, the Council appointed the consultancy Atkins to support with stages one and two (policy and strategy review and data and tools library) of the Edinburgh LHEES. The analysis carried out by Atkins underpins the Edinburgh LHEES, in particular Chapter 6. The following recommendations were made by Atkins:

- "Where various policies/funding mechanisms overlap with the different LHEES objectives, coordination of resources will be required to effectively align with and achieve these objectives."
- "Update action plans for Renewable Energy and Heat Networks to set out specific investment targets, and timelines."
- "Develop a dedicated hydrogen strategy with timelines that align with industry (e.g. SGN's plans for use of hydrogen and what impact this may have of carbon emissions). This can play more of an active role in [the Council's] net zero objectives post-2030 and at least provide estimates for how the gas grid may be decarbonised between now and 2030."

5.1.4. In 2023, the Council appointed Turner and Townsend, Ramboll, and Changeworks to support with stages three to eight of the Edinburgh LHEES. The analysis carried out by these suppliers underpins Chapter 8 and Chapter 9 of the Edinburgh LHEES.

5.1.5. The Council has appointed an Energy Officer to coordinate the publishing, implementation, and delivery of the Edinburgh LHEES and Delivery Plan. In particular it is anticipated that the Energy Officer will place a central role in the roll-out of heat networks across Edinburgh.

5.1.6. The Council's approach to producing the Edinburgh LHEES has been shaped by the short timescale in which the strategy was required to be produced to comply with the Local Heat and Energy Efficiency Strategies (Scotland) Order 2022. In particular the statutory timescale has meant that consultation on the Edinburgh LHEES has required to be abbreviated.

5.1.7. In line with the LHEES Methodology, the Council has utilised the Home Analytics dataset maintained by the Energy Saving Trust as the principal source for data on Edinburgh's housing stock. Consideration was given as to whether this dataset could be supplemented using data held by the Council on its own housing stock. Following discussions with relevant Council officers, it was determined that the datasets held by the Council are not suitable for analysis of this nature. However, data held by Changeworks as part of its role in delivering Area-Based Schemes in Edinburgh has been utilised to augment the Home Analytics dataset.

5.1.8. Manual review of the outputs of the Domestic Baseline Tool and Non-Domestic Baseline Tool has identified high levels of inaccuracy in some fields. For example, the quality of data on property age from the Non-Domestic Baseline Tool is very poor. Where there are significant concerns around data quality this information has been omitted from the Edinburgh LHEES.

5.1.9. The Council has made use of the following data portals:

- The SP Energy Networks LHEES Portal, which enable the impact of installing low carbon technologies on the electricity network to be simulated, identifying network constraints and required reinforcement works (and consequent costs). This has been used to inform the selection of Delivery Areas for heat pumps.
- The Scottish Water Waste Water Heat Extraction Opportunities, which sets out flow data for sewage pipes of over 300 millimetres in diameter and with potential sewage flow rates of 40 litres per second or more (estimated using hydraulic flow modelling)

to enable analysis of where wastewater infrastructure may be suitable as a source of low carbon heat. This tool has been utilised as part of analysis around potential heat sources for heat networks. Figure 05 sets out a high-level overview of wastewater heat extraction heat opportunities in Edinburgh.

5.1.10. The Council has collaborated with the following existing research projects to augment the Edinburgh LHEES:

- The Edinburgh Climate Change Institute has carried out research on behalf of the Infrastructure Investment Programme Board that aims to create a consolidated GIS-based plan of all infrastructure in Edinburgh germane to achieving net zero, drawing together data from a vast range of sources. This plan has been overlaid with other relevant datasets, including linear heat density clusters.
- Energy Systems Catapult has produced a "Local Energy Asset Representation" (LEAR) for southeast Scotland (defined as Edinburgh, Fife, and the Lothians). The LEAR is a visual representation of local energy assets (e.g. energy generation and storage assets) along with other data sets such as fuel poverty.

Heat network Consideration – methodology

5.1.11. Analysis to inform the identification of prospective Heat Network Zones was carried out by Ramboll. The analysis was based on metrics such as linear heat density, anchor load threshold criteria, and gridded heat density, supplemented by local knowledge.

5.1.12. The first step of the analysis was to identify and collect all the datasets required for the analysis (following the LHEES Methodology – Stage 4 – Heat Networks Approach V04). The main dataset that was used for the analysis was the 2020 Scotland Heat Map dataset. This dataset was cleaned and prepared for input into GIS. Additional datasets were also used to identify opportunities and constraints; these datasets are set out in Table 50.

5.1.13. The second step of the analysis was to identify potential zones based on linear heat density (LHD). LHD is used as an indicator of the likeliness of financial viability of a heat network. However, it is not the only criterion. LHD is calculated by dividing the total annual heat demand by the total length of the network. Where there is no heat network in place, LHD benchmarks are used to identify a buffer zone around areas of heat demand. In Edinburgh, LHDs of 4,000 kilowatt hours per metre per year and 8,000 kilowatt hours per metre per year were used to create two sets of buffer zones. The size of buffer zones were later limited to 250 metres to screen buildings with particularly high heat demand. Figure 07 summarises the methodology that was followed to identify the potential zones in the City of Edinburgh, while Figure 08 and Figure 09 depict the area covered by the buffer zones for the two scenarios.

5.1.14. The third step of the analysis was to prioritise the potential zones identified in the second step by applying criteria focused on anchor loads to indicate likely viability for heat networks. An anchor load is a building with a high heat demand that, if connected to a heat network, can enable its financial viability. Due to the high number of buildings with high heat demands in Edinburgh, the default value of 500 megawatt hours per annum (suggested by the methodology) was used to map anchor loads. Following the mapping of all the anchor loads, all the potential zones with fewer than two anchor loads were removed based on the Council's long-term vision for the development of large-scale heat networks in the city, with the identification of strategic Heat Network Zones that were not driven purely by the

presence of anchor loads. Figure 10 summarises the methodology used to create two sets of prioritised potential zones: one representing long-term potential and the other representing the opportunities likely to be more commercially attractive in the short-/medium-term.

5.1.15. The fourth step of the analysis was to review the sets identified in the third step at a stakeholder engagement workshop. Based upon feedback from the workshop, Ramboll selected one set of prioritised potential zones comprising urban and suburban areas (criteria of LHD of 4,000 kilowatt hours per metre per year, anchor loads of 500 megawatt hours per year, and two or more anchor loads) (Figure 11) and dense urban areas (criteria of 8,000 kilowatt hours per metre per year, anchor loads of 500 megawatt hours per year, and two or more anchor loads) (Figure 12). The categorisation of an area as dense urban, urban, or suburban was based on the area's heat density and number of anchor loads. Figure 13 depicts the single set that was taken forward for further analysis.

5.1.16. The fifth step of the analysis was to overlay the selected prioritised zones with development sites identified in City Plan 2030 and existing plans for heat networks (as depicted in Figure 14). New developments are considered high potential areas for the development of heat networks, and accordingly they were included in the initial Heat Network Zones if there was a prioritised zone in near proximity. Similarly, areas with planned heat networks can also serve as starting networks for the development of larger district networks and therefore they were included in the initial Heat Network Zones if there was a prioritised zone in near proximity.

5.1.17. The sixth step was to use additional data to refine the initial Heat Network Zone boundaries. These datasets (presented in Table 50) include heat density (used to refine zone boundaries in order to include areas with high heat density in near proximity with a selected prioritised zone missed by the methodology); available heat sources (used to refine the zone boundaries to include available heat sources in near proximity to a selected prioritised zone) and practical constraints such as rivers, major roads, and rail lines (used to split large zones when a significant constraint(s) was present). Overall, this information was used either to combine zones, expand the boundaries of a zone to account for opportunities in near proximity, or split zones where the development of a single heat network was deemed technically difficult, e.g. where pipes would need to cross a railway line. Figure 15 presents the outcome of this analysis.

5.1.18. The seventh and final step was to divide initial Heat Network Zones with the aim of creating zones with common characteristics to facilitate the discussion around the development of heat networks in these areas. These form the prospective Heat Network Zones. The division was based on knowledge of the local area and building typologies. An overview map of the prospective Heat Network Zones is presented in Figure 24, while further information on the prospective Heat Network Zones is set out in section 9.4.

Other LHEES Considerations – stage 3 methodology

5.1.19. The Council's stage 3 followed the standardised methodology provided by Zero Waste Scotland on behalf of the Scottish Government. From the eight-stage process set out in the LHEES Methodology, the first six stages encompass data analysis and evidence gathering in order to complete the latter stages of producing a Strategy document and a Delivery Plan for the implementation of the Edinburgh LHEES. The purpose of Stage 3 of the LHEES Methodology is to support local authorities to understand the current energy efficiency and

heat decarbonisation performance of the building stock at a local authority wide level. It also supports further analysis to set out Strategic Zones and pathways for each LHEES Consideration, as far as reasonably possible. The Strategic Zones identify potential solutions for inclusion in the LHEES (Stage 7) when accompanied by the outputs of the Heat Network Zone analysis (from Stage 4).

5.1.20. The main outputs from Stage 3 were the "Domestic Baseline Tool" and "Non-Domestic Baseline Tool", which use Home Analytics as the core source data to enable analysis of each sector. These tools set out the baseline performance of Edinburgh's buildings using archetypes, ages of buildings, tenures, heating system types, floor area. The data can be aggregated and analysed to set out Strategic Zones. These tools were the main outputs which were then used to input data to generate various heat maps. The outcomes of the baseline analysis are set out in Chapter 8.

5.1.21. The heat maps visualise opportunities focusing on the LHEES Considerations including heat pump readiness and energy efficiency. The maps therefore inform the Strategic Zones for Edinburgh and, thus, pathways to decarbonisation.

Other LHEES Considerations – stage 4 methodology

5.1.22. The objective of stage 4 is to generate initial Delivery Areas at a higher granularity than stage 3 across Edinburgh. This analysis serves as the starting point for more detailed engagement, building level assessment of interventions and cross-checking against the Policy and Strategy Review to enable finalisation of the Delivery Areas.

5.1.23. The standard procedure suggested by the LHEES Methodology was used to develop delivery areas. This consists of GIS techniques to generate potential areas.

5.1.24. 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 by 100 metre grid defining areas of high density of different properties.

5.1.25. Zones of high concentration were defined by using a 2x standard deviation method. This means than when a value falls outside 2x the standard deviation of a cluster, the boundary is defined at the limit of that grid cell. These delivery areas also show property level point data categorized by the above criteria. For category 1-3 properties it also provides sub-categories based on heat pump, biomass, direct electric heating, and mixed biomass-direct electric heating.

5.1.26. The outcome of this assessment is a list of delivery areas mapped and with a summary table listing the properties within. These delivery areas are classified based on the following criteria:

- Off-gas grid (shows the initial delivery areas with the highest number of properties in off-gas category 0 / off-gas category 1 / off-gas category 2 / off-Gas category 3).
- On-gas grid (Shows the initial delivery areas with the highest number of properties in on-gas category 0 / on-gas category 1 / on-gas category 2 / on-gas category 3).
- Mixed tenure, mixed-use and historic buildings (shows the areas with the highest concentration of domestic mixed-use / domestic mixed tenure / non-domestic mixed

use / mixed use (domestic and non-domestic) / listed properties (domestic and non-domestic. These delivery areas also show the concentration of properties within a conservation area).

- Poor energy efficiency and energy efficiency as a driver for fuel poverty (the generated Delivery Areas with the highest concentration of properties scored highest to be suitable for interventions including heat pumps, double glazing, loft insulation, and wall insulation).

5.1.27. This data is used as a basis for stage 5 and to inform the Delivery Plan.

Other LHEES Considerations – stage 5 methodology

5.1.28. The goal of stage 5 is to establish in more detail the type of interventions required to decarbonise the buildings identified in stage 4 from a heating and energy efficiency perspective. Stage 5 helps to gain an improved understanding of the costs and the energy and carbon savings associated with interventions.

5.1.29. The Council followed the standard procedure suggested by the LHEES Methodology. This involved the use of the Portfolio Energy Analysis Tool (PEAT) alongside processed Home Analytics information; together, they provide a wide range of information around energy efficiency and heat decarbonisation measures applicable at the individual building (address) level, which can be aggregated into information at an area-wide or delivery area level (for example, total financial cost, total CO_2 reduction resulting from measures, running cost savings, etc). Outputs for Stage 5 are created by matching addresses identified from Delivery Areas, integrating these with the PEAT, and then summarising the results with a delivery code. This allows for re-prioritisation of delivery areas depending on specific priorities, e.g. most properties within a Delivery Area, Delivery Areas with the highest total CO_2 reduction, etc.

5.1.30. Outputs from the above are presented through a Power BI dashboard, integrating Stage 4 GIS map results with Stage 5 inputs. The dashboard is interactive, allowing the user to select and view different priorities.

5.1.31. The outputs from Stage 5 represent an examination of core data indicators across the Strategic Zones structured around building characteristics, such as energy efficiency or heating type. They have been used to prepare the Delivery Area maps set out in the Delivery Plan.

5.2. LHEES Considerations

5.2.1. The guidance issued by the Scottish Government stipulates that the Edinburgh LHEES should be framed around the "LHEES Considerations".[xvii] These form the basis for understanding, interpreting, and developing the pathways to decarbonisation. They cover the overarching priorities at the national level which should apply to each local authority, though in different ways and to different degrees. One of the main ways to view the Edinburgh LHEES is as a tool to fulfil each of these Considerations. The LHEES Considerations are set out in Table 04.

[xvii] Referred to as "LHEES Priorities" in earlier versions of the LHEES Methodology.

Table 04: LHEES Considerations

Theme	Consideration	Description
Heat decarbonisation	Off-gas grid buildings	Transitioning from heating oil and LPG in off-gas areas
Heat decarbonisation	On-gas grid buildings	On-gas grid heat decarbonisation
Heat decarbonisation	Heat networks	Decarbonisation with heat networks
Energy efficiency and other outcomes	Poor building energy efficiency	Poor building energy efficiency
Energy efficiency and other outcomes	Poor building energy efficiency as a driver for fuel poverty	Poor building energy efficiency as a driver for fuel poverty
Energy efficiency and other outcomes	Mixed-tenure, mixed-use and historic buildings	Mixed-tenure, mixed-use buildings, listed buildings, and buildings in conservation areas

5.2.2. The scope of the Edinburgh LHEES with regards to each consideration is as follows:

- Off-gas grid buildings: identifying "low regrets" pathways and opportunities for converting properties not connected to the gas grid that currently use high emissions alternatives to gas (for example, oil, liquefied petroleum gas, and solid fuels) for heating to zero direct emissions alternatives.[xviii] This entails categorising properties based upon their suitability for heat pump retrofit, ranging from properties that already have a low or zero direct emissions heating system to properties that have tertiary potential due to needing significant fabric upgrade to be heat pump ready or otherwise being less suited to heat pump technology.
- On-gas grid heat decarbonisation: identifying pathways and opportunities for converting properties currently heated using natural has to zero direct emissions alternatives. Similarly to the prior Consideration, this entails categorising properties based upon their suitability for heat pump retrofit.
- Heat networks: identifying zones within Edinburgh where heat networks are judged to present a potential option for decarbonisation based on factors such as heat demand density, the presence of anchor loads, and specific opportunities or constraints. This analysis will form the basis of the formal designation of Heat Network Zones in Edinburgh in line with the Heat Networks (Scotland) Act 2021.
- Poor building energy efficiency: identifying areas of Edinburgh with poor building energy efficiency and identifying pathways and opportunities for addressing this.
- Poor building energy efficiency as a driver of fuel poverty: identifying areas of Edinburgh where poor building energy efficiency is a driver of fuel poverty to ensure that area-based energy efficiency and heat decarbonisation projects are effective in reducing fuel poverty, and to identify areas of extreme fuel poverty where further support may be required.

[xviii] For the avoidance of doubt, homes currently heated via electrical means with no direct emissions are not in the scope of this Consideration.

- Mixed-tenure, mixed-use and historic buildings: identifying areas of Edinburgh where there are buildings of mixed-tenure, buildings of mixed-use, historic buildings, and conservation areas to identify the appropriate interventions in each case.

5.2.3. To focus limited resources, the Council has opted to prioritise on aspects of these Considerations for the Edinburgh LHEES, as set out in Table 05:

Table 05: Prioritisation of LHEES Considerations

Consideration	Prioritisation
Off-gas grid buildings / on-gas grid buildings	Category 1 properties (properties suitable for a zero-emission heating system, e.g. a heat pump). This will help build momentum with less complicated retrofits.
Heat networks	Heat networks present a major opportunity for Edinburgh to decarbonise at scale and provide homes and businesses with access to affordable energy. Edinburgh is well placed to reap the benefits of a city-wide heat network (or "network of networks").
Poor energy efficiency / poor energy efficiency as a driver of fuel poverty	Edinburgh has a significant number of buildings with poor energy efficiency. However, these have to be targeted to arrive at a more manageable volume for the short-mid-term. These should be homes where poor energy efficiency is a driver for fuel poverty since these homes are in most urgent need of support.
Mixed-tenure, mixed-use and historic buildings	There is a large volume of these building types in Edinburgh. The Council has an existing programme of supporting retrofit of mixed-tenure and mixed-use buildings focused on areas with high fuel poverty. This is currently limited in scale due to the complexities of dealing with these properties. This work will be used as the basis for future expansion as resources permit.

5.3. Areas of strategic importance

5.3.1. The Council has identified multiple regions of strategic importance, all of which have been incorporated into various aspects of the Edinburgh LHEES:

- City Plan 2030 development areas
- Areas with ongoing or planned infrastructure development
- Areas of economic importance
- Business and industrial areas
- Areas of future planned retrofit scheme delivery
- Areas with planned retrofits by the Council on its own stock

5.3.2. Each of these areas are relevant in their own way to one or multiple aspects of the Edinburgh LHEES, including delivery area selection and development, and prospective Heat Network Zones. They have fed into the analysis and are key influencers in the development of delivery areas. Moving forward, these areas and the Edinburgh LHEES will continue to feed into each other to maximise synergies between Council policies and projects as well as encourage efficient use of public resources.

5.4. Consultation and engagement

5.4.1. As an area-wide plan which concerns everyone in Edinburgh, it is imperative that the Edinburgh LHEES has cross-stakeholder buy-in. While the Edinburgh LHEES is a data-driven and evidence-based strategy, it is also subject to interpretation and prioritisation which feed into the decisions taken. The Council has taken steps, including a public consultation, to ensure people can provide their input and feedback on proposals. This section describes the stakeholder consultation and engagement work undertaken to date.

5.4.2. The approach to engagement and consultation has been developed based on the LHEES Guidance, which emphasises continuous stakeholder engagement, albeit while reflecting the significant practical constraints of the statutory timescale for preparation of the Edinburgh LHEES which have obliged the duration and extent of consultation to be curtailed.

5.4.3. In November 2022, the Council formed an internal working group for the Edinburgh LHEES and for heat networks. The working group brings together staff from the Council's Edinburgh Waterfront; Housing and Regeneration; Neighbourhood Environmental; Planning; Policy and Insight; Shared Repairs; Strategic Asset Planning; and Sustainable Construction Delivery service areas. The working group has been used to raise awareness of the Edinburgh LHEES within the Council, share information on projects between key staff, and as a sounding board for emerging proposals.

5.4.4. From January 2023 to November 2023, the Council attended a series of "Clean Heat Forum" events organised by Transition Edinburgh, a community-led network that "connects and supports community groups, and initiates practical projects that strive for a greener, fairer, healthier and more resilient Edinburgh". The event was used to raise awareness of the Edinburgh LHEES and share information on the emerging proposals around heat networks.

5.4.5. In April 2023, the Council delivery team met with Scottish Government officers to discuss the emerging Edinburgh LHEES. During the meeting, the Council identified certain challenges associated with the development and delivery of the Edinburgh LHEES, including timescales; the lack of certainty as to the availability of funding following 2026/27; the rapidly evolving policy and regulatory context; the potential requirement for a Strategic Environmental Assessment; and uncertainty around the regulatory provisions for heat networks.

5.4.6. In May 2023, the Council hosted an event to provide tenement owners with information on maintenance, management, shared repairs, retrofit, and energy efficiency within tenements in Edinburgh. Speakers at the event included Home Energy Scotland and the charity Under One Roof (which provides advice on tenement maintenance and management). The event was utilised to raise awareness of the Edinburgh LHEES and share information on the support available to tenement owners.

5.4.7. In June 2023, the Council presented on the Edinburgh LHEES to the Edinburgh Association of Community Councils.

5.4.8. As part of stage 1 (policy and strategy review), key stakeholders germane for the Edinburgh LHEES were mapped. The ultimate outputs of this exercise are set out in section 11.4. These stakeholders were targeted as part of the wider public consultation exercise.

5.4.9. For stage 2 (data and tools library), the Council identified and engaged with stakeholders responsible for datasets required support the preparation of the Edinburgh LHEES. This primarily included Scottish Government (Scotland Heat Map); Energy Saving Trust (Home

Analytics, Non-Domestic Analytics and PEAT data); Scottish Power Energy Networks (Grid capacity data), the Edinburgh Climate Change Institute and Net Zero Edinburgh (consolidated GIS data of Edinburgh's infrastructure and environment required to achieving net zero), and others. This stage also entailed executing information sharing agreements with the Council's consultant team and updating licence agreements with the Energy Saving Trust accordingly.

5.4.10. For stage 3 and 4 the Council invited numerous stakeholders to review the maps and other outputs as part of a series of virtual sounding boards, workshops, one-on-one meetings, and public events. Stakeholders helped to sense check emerging outputs and highlight any data that had been omitted, and to identify any indicators or areas that are considered to be strategically important for Edinburgh. This included workshops on emergent Heat Network Zones where stakeholders advised on the scale of the ambition and fed back on boundaries of these zones.

5.5. Strategic Environmental Assessment

5.5.1. The Environmental Assessment (Scotland) Act 2005 sets a statutory requirement for Scottish public bodies to carry out a Strategic Environmental Assessment (SEA) of the expected environmental impacts of strategies expected to have a significant environmental impact.

5.5.2. The Council prepared a Screening Report for the Edinburgh LHEES and Edinburgh LHEEDP, which was submitted to the SEA Gateway on 10th May 2023. The Council's view was that an SEA was not required in this case as the Edinburgh LHEES and Edinburgh LHEEDP were not expected to have a significant environmental impact. This view was based on the following:

- The Edinburgh LHEES will not introduce any new powers, initiate any legislation, or allocate any significant resources. It is primarily an information document that identifies opportunities.
- The Edinburgh LHEES does not itself set headline targets, as these are set nationally. The Edinburgh LHEES will rather identify the optimal pathways for achieving said national targets – for example, it will identify which buildings in Edinburgh are better suited to connecting to heat networks and which are better suited to being served by heat pumps, based on technical data.
- The Council's 2030 Climate Strategy has been subject to a full SEA.[39] The Climate Strategy sets out strands of work required to make Edinburgh a net zero city, one of which is "net zero energy generation and energy efficient buildings". This strand of work includes "improving the energy efficiency of Edinburgh's existing homes", "developing heat networks", and "develop[ing] a mechanism for unlocking and enabling domestic and small business energy retrofit at pace and scale". These items cover the key areas of focus of the Edinburgh LHEES. This strand is therefore considered to cover the same ground as the Edinburgh LHEES, meaning an SEA of the Edinburgh LHEES would largely duplicate the recent SEA for the 2030 Climate Strategy.
- The national Heat in Buildings Strategy – which sets out the goal of achieving net zero emissions in Scotland's buildings which the Edinburgh LHEES is to deliver – has also been subject to a full SEA.[40]

5.5.3. In June 2023, the Council received screening responses from the Consultation Authorities (Historic Environment Scotland, NatureScot, and the Scottish Environment Protection

Agency). Each of the authorities concluded that the Edinburgh LHEES is unlikely to have significant environmental effects. Accordingly, on 21st June 2023, the Council wrote to the SEA Gateway to advise that, as the Responsible Authority under the Environmental Assessment (Scotland) Act 2005, the Council had determined that SEA was not required.

5.5.4. It is anticipated that an SEA may be required for the statutory Heat Network Zone designation process, expected to take place in the first half of 2024.

6. Policy and strategy context

6.1. Summary of key targets and regulations

Targets

6.1.1. Key headline targets relative to the Edinburgh LHEES are summarised below:

- Decarbonise the heating of all buildings in Scotland by 2045.
  - Decarbonise the heating of one million homes across Scotland by 2030.
  - Decarbonise the heating of 50,000 non-domestic buildings across Scotland by 2030.
  - All publicly owned buildings to meet zero direct emissions heating requirements by 2038.
  - All new homes developed by local authorities or Registered Social Landlords to be zero emissions by 2026.
  - The vast majority of Scottish off-gas homes switching to zero direct emissions heat.
  - One million Scottish on-gas homes switching to zero direct emissions heat.
- Supply 6.0 terawatt hours of heat energy from heat networks in Scotland by 2030.[xix]
  - Supply 2.6 terawatt hours of heat energy from heat networks in Scotland by 2027.
- No more than 5% of households in Scotland in fuel poverty by 2040 (and no more than 1% in extreme fuel poverty).
  - No more than 15% of households in Scotland in fuel poverty by 2030 (and no more than 5% in extreme fuel poverty).
  - No more than 10% of households in Scotland in fuel poverty by 2035 (and no more than 3% in extreme fuel poverty).
- Net zero greenhouse gas emissions by 2045.
  - A 75% reduction in Scottish greenhouse gas emissions by 2030.
  - A 90% reduction in Scottish greenhouse gas emissions by 2040.

Regulations

6.1.2. Key existing and proposed regulations relative to the Edinburgh LHEES are set out below. It is noted that this is a high-level summary and, in most cases, certain exemptions or relaxations are in place.

- All homes in Scotland to achieve a minimum Energy Performance Certificate rating of 'C' by 2033.[xx]
  - All private rented homes marketed to new tenants to have a minimum Energy Performance Certificate rating of 'C' as of 2025.

[xix] For context, the current figure is 1.18-terawatt hours.
[xx] "Where technically and legally feasible and cost-effective."

    - All private rented homes actively rented to have a minimum Energy Performance Certificate rating of 'C' as of 2028.
    - All social housing in Scotland to achieve a minimum Energy Performance Certificate rating of 'B' by 2032.
    - No social housing in Scotland with an Energy Performance Certificate rating below 'D' to be re-let from December 2025.
    - All homes in Scotland with households in fuel poverty to achieve a minimum Energy Performance Certificate rating of 'B' by 2040.
    - All homes in Scotland with households in fuel poverty to achieve a minimum Energy Performance Certificate rating of 'C' by 2030.
- All homes in Scotland to use zero direct emissions heating systems by 2045.
    - Prohibiting the use of direct emissions heating systems in new buildings in Scotland from 1 April 2024.
    - Proposals to require the installation of zero (or very near zero) direct emissions heating systems in existing buildings from 2025, with a backstop of 2045.
- All non-domestic buildings in Scotland to be net zero by 2045.
    - All publicly owned buildings to use zero direct emissions heating systems by 2038.

6.2. National policy landscape

6.2.1. The policy landscape for carbon reduction and energy efficiency in Scotland is complex with multiple relevant policies and rapidly evolving targets. National policies give rise to a series of ambitious goals around energy efficiency improvements and reductions in fuel poverty.

Climate change

6.2.2. The Scottish Government has set headline targets for the reduction of greenhouse gas emissions. The **Climate Change (Emissions Reduction Targets) (Scotland) Act 2019** sets statutory targets around reducing Scotland's emissions of all greenhouse gases to net zero. These includes a headline target of net zero by 2045, with intermediate target reductions of 56% by 2020, 75% by 2030, and 90% by 2040.

6.2.3. The **Climate Change Plan** (2018, 2020) sets out targets for emissions reductions by 2032 in view of energy requirements for electricity generation, buildings, and industry. The Plan sets an overall target of reducing emissions by 28% by 2032. For buildings, a target of a 33% reduction in emissions between 2018 and 2032 is set. By 2032, emissions from domestic buildings are targeted to decrease by 23%, and emissions from non-domestic buildings are targeted to reduce by 53%.

6.2.4. Within the "electricity" section of the Climate Change Plan, targets are set linked to renewable energy production and decarbonisation. From 2020 onwards, Scotland's electricity grid intensity is targeted to be below 50 grammes of CO_2 per kilowatt hour, with at least 1 gigawatt of renewable energy in community or local ownership. Going forward, a target is set of Scotland's electricity demand being "largely" generated from renewable sources (including onshore wind, offshore wind, hydro, solar, marine and bioenergy) by 2032. This is linked to the rising demand in electricity for home usage, as homes switch from gas to

electricity. As set out by SP Energy Networks, there are two primary factors driving increased electricity consumption: people switching to electric to heat their homes, and people generally using more electricity, for example for electric vehicle charging. SP Energy Networks has identified a requirement to increase peak demand capacity fourfold by 2050.

6.2.5. Within the buildings section of the Climate Change Plan, Scotland's statutory fuel poverty targets require that by 2040 no more than 5% of households are in fuel poverty; that no more than 1% of households are in extreme fuel poverty; and the fuel poverty gap is reduced to £250 (adjusted for 2015 prices). This is in line with the **Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019**. The Plan notes that the current rate of conversions to low and zero direct emissions systems – for example, heat pumps, heat networks, and (potentially) hydrogen – need to be substantially increased to meet targets.

6.2.6. The latest iteration of the **Climate Change Plan**, as revised in 2020, integrates the targets set in the **Climate Change Act 2008** as amended in 2019. The revised Plan notes the continued need to invest in renewable generation, heat networks, and related infrastructure to ensure greenhouse gas emissions. The Plan also notes increased homeworking and how this changes the profile of heating and electricity demand (including increased risk of fuel poverty and energy debt due to increased domestic energy use at home) and the potential to support jobs in low/zero heat and energy efficiency-related sectors.

6.2.7. The most recent **Programme for Government** (2022) sets out several actions linked to supporting heat and energy policy. Several targets are linked to reducing the effects of fuel poverty through financial support towards heating costs. This includes the £214 Child Winter Heating Assistance (which supports families of severely disabled children and young people with their energy costs); the Winter Heating Payment (which guarantees a £50 annual payment to around 400,000 low-income households); doubling the Fuel Insecurity Fund to £20 million to help households at risk of self-disconnection or self-rationing of energy use in response to OFGEM energy price cap rises; and expanding Home Energy Scotland advice centres. These actions do not directly relate to the Edinburgh LHEES but will support a reduction in the immediate impact of fuel poverty. More directly linked to the Edinburgh LHEES, the Programme expands the criteria for the Warmer Homes Scotland fuel poverty programme (through lowering the youngest required age to 60 years old) and introduces a Scotland-wide public information campaign to highlight help and support available to households as well as energy efficiency measures for households to minimise heating costs.

Energy efficiency and zero direct emissions heating

6.2.8. The **Heat in Buildings Strategy** (2021) sets out how buildings in Scotland will be heated to meet greenhouse gas reduction targets whilst addressing fuel poverty. The Strategy updates the Energy Efficient Scotland route map and commits to putting in place standards and regulation for heat and energy efficiency to ensure that all buildings are energy efficient by 2035 and use zero direct emissions heating and cooling systems by 2045. The Strategy sets out 107 actions and proposals that the Scottish Government will take to work towards target and aspirations. By 2030, over one million homes and over 50,000 non-domestic buildings are targeted to have converted to using zero or low emissions heating systems. The Strategy further sets a target of all public sector buildings in Scotland using zero direct emissions heating by 2038.

6.2.9. The **Heat in Buildings Bill** is a bill announced by the Scottish Government that will "set out our initial proposals for the role that regulations can play in driving better energy efficiency standards and zero direct emissions heating in Scotland's existing buildings from 2025".[41] The Bill is expected to introduce more stringent energy efficiency standards. Consultation on the Bill is expected to begin by the end of 2023.

6.2.10. The Scottish Government had originally proposed that all private rented homes in Scotland would be required to achieve a minimum EPC rating of 'D' by 2025. This has been revisited in light of recognition of the disruption caused by the COVID-19 pandemic, it is now proposed that, as of 2025, any home marketed for private rent must have a minimum EPC rating of 'C', while all actively privately rented homes must have a minimum EPC rating of 'C' by 2028 (albeit with exemptions where a 'C' rating is not cost effective or technically feasible).

6.2.11. The **Energy Efficiency Standard for Social Housing post 2020** (EESSH2) sets out a raised standard for the energy efficiency of social housing in Scotland in order to reduce carbon emissions and eradicate poor energy efficiency as a driver for fuel poverty. EESSH2 sets out a milestone of all social rented homes in Scotland achieving at least EPC 'B', or otherwise being as energy efficient as practically possible, by the end of December 2032 ("within the limits of cost, technology and necessary consent"). ESSHS2 further sets out that no social housing below EPC 'D' should be re-let from December 2025 (subject to temporary specified exemptions).[42] A new milestone to replace the 2032 target is currently being developed.

6.2.12. There are not currently minimum EPC standards for non-domestic properties in Scotland.[xxi] However, the Scottish Government has started that it will introduce regulations in 2025 requiring all non-domestic buildings to meet zero direct emissions heating requirements by 2045 (and all publicly owned buildings to meet zero direct emissions heating requirements by 2038).[43] In August 2023, the commercial property consultancy Knight Frank carried out analysis on Scotland's office stock in which it concluded that properties with an EPC rating of 'F' and 'G' accounted for 13% of total floor area, which would in principle be unlettable if the same standards were in place in Scotland as in England and Wales. Properties with an EPC rating below 'C' accounted for 55% of floor area, while properties with an EPC rating below 'B' accounted for 79% of the floor area; this implies that, were the same standards in place in Scotland as in England and Wales, 55% of office floor space in Scotland would be unlettable as of 2027 and 79% as of 2030, underscoring the quantity of work likely to be required.[44]

6.2.13. **Energy Efficient Scotland** (2018) is a 20-year route map aimed at making Scotland's buildings net zero carbon by 2050, in a way that is socially and economically feasible. Two main objectives are set out in the route map: remove poor energy efficiency as a driver for fuel poverty, and reduce greenhouse gas emissions through more energy efficient buildings and the decarbonisation of heat supply. The road map aims to have all Scottish homes achieve at least an EPC 'C' rating by 2040 (where technically and financially feasible), with a target set for fuel poor households of all homes in this category reaching at least an EPC 'C' rating by 2030. For homes, the aim is to achieve a 15% heat demand reduction and 35% heat from low carbon sources by 2032. For non-domestic properties, the aim is to achieve 20% heat demand reduction and meet 70% of heat demand from low carbon sources by 2032.

[xxi] The "Minimum Energy Efficiency Standards" in place in England and Wales make it an offence for a landlord to lease out a non-domestic property with an EPC rating of 'F' or 'G' unless an exemption is in place. It is expected that the minimum EPC rating will be raised to 'C' in 2027 and 'B' in 2030.

6.2.14. The UK Government's **Clean Growth Strategy** (2017) sets a goal of getting as many homes as possible to at least an EPC rating of 'C' by 2035 (2030 for rental homes and fuel poor homes). These are the same target ratings, as set out in the Energy Efficient Scotland roadmap, but with different timescales. The Clean Growth Strategy also sets out a pathway for expanding heat networks, setting out a scenario of heat networks supplying up to 17% of heat demand in residential properties and 24% of heat demand in (non-industrial) non-residential properties by 2050 (compared to approximately 1% of all buildings in the UK presently).

6.2.15. The UK Government has stated that it intends to ban the sale of gas boilers from 2035, albeit with an exemption for "households who will most struggle to make the switch to heat pumps or other low-carbon alternatives" – expected to cover around 20% of homes in the UK. The UK Government has further stated that it intends to ban the installation of oil and LPG boilers and coal heating in off-gas grid homes from 2035.[45]

6.2.16. The Scottish Government's **Hydrogen Action Plan** (2022) suggests that hydrogen "can be used to decarbonise many parts of our economy, including industry, transport, power and heat […] Transported through the gas grid it could help decarbonise commercial premises and make a contribution to decarbonising home energy use." Actions set out in the Plan include "maintain dialogue with SGN and National Grid to understand the role hydrogen can play in meeting our heat decarbonisation targets."[46]

6.2.17. The Scottish Government has announced the establishment of a **National Public Energy Agency**, **Heat and Energy Efficiency Scotland**, to "provide the leadership and coordination needed to accelerate delivering the decarbonisation of heat across Scotland". The Agency is planned to be operational on a standalone basis by September 2025. The Agency will accelerate transformational change in the heating of buildings; aid public understanding and awareness; and coordinate delivery of investment. A pledge to establish a new public energy company has been put on hold.[47]

6.2.18. The Scottish Government has convened a **Green Heat Finance Taskforce** with the remit of developing "a portfolio of innovative financial solutions for building owners in Scotland to ensure that by 2045, our homes and buildings no longer contribute to climate change, as part of the wider just transition to net zero".[48] It is understood that the Taskforce will publish its finding in two sequential reports: the first "setting out the heating finance landscape in Scotland and barriers to the growth of private financing" and making "recommendations to support scaling of individual products like green mortgages", and the second focusing on "communal, or area based mechanisms, including heat as a service models" and "options for social housing".

Fuel poverty

6.2.19. The **Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019** establishes a revised definition of fuel poverty as well as setting statutory targets to be achieved by 2040: no more than 5% of households in Scotland in fuel poverty and no more than 1% of households in Scotland in extreme fuel poverty. Intermediary targets are also set for 2030 and 2035. The new definition of fuel poverty in Scotland is as follows: a household is in fuel poverty if the household's fuel costs (necessary to meet the requisite temperature and amount of hours as well as other reasonable fuel needs) are more than 10% of the household's adjusted net income and after deducting these fuel costs, benefits received for a care need or disability, childcare costs, the household's remaining income is not enough to maintain an acceptable

standard of living. This also include a definition of acceptable levels of heating, and the number of hours which this covers for an average household.

Heat networks

6.2.20. Heat networks in the UK have historically been largely unregulated. The **Heat Network (Metering and Billing) Regulations 2014** place obligations on heat suppliers to notify the Office for Product Safety and Standards about any new heat networks on or before the day the heat network becomes operational, to install metering devices (where cost effective), and bill off-takers based on actual consumption. The UK Government is currently preparing UK-wide **Heat Networks Technical Assurance Standards**.

6.2.21. Heat networks have been identified as a key technology for meeting emission reduction targets as set in out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. The **Heat Networks (Scotland) Act 2021** aims to encourage greater use of heat networks in Scotland through the introduction of a regulatory system. The Act, and the subsequent **Heat Networks (Heat Network Zones and Building Assessment Reports) (Scotland) Regulations 2023**, put in place regulations on heat networks, including introducing a consent and license regime; making provision for Heat Network Zones and a permit system giving operators exclusivity; and giving licence holders powers such as wayleaves. The Act aims to encourage consumer confidence through an improved regulatory system and ensure greater certainty for investors. The practical steps for implementing the regulatory regime and supporting the development of heat networks are outlined in the Scottish Government's **Heat Networks Delivery Plan** (2022).

6.2.22. The key elements of the regulatory regime introduced by the Heat Networks (Scotland) Act are as follows:

- Operators of heat networks must secure a license to ensure they are "solvent, fit and proper" and that heat networks are developed and maintained to high standards. Licence holders will be granted new rights such as wayleaves, compulsory purchase powers, and road work and surveying rights. OFGEM is proposed to serve as the licensing authority for Scotland, with consumer protection powers around matters such as fair pricing; quality and reliability of service; transparency of information; and additional protections for vulnerable customers. Licences will be awarded to companies rather than on a site-by-site basis.
- Developers/operators of heat networks must secure consent before building or operating a heat network. A consent is a site-specific permission to develop and operate a heat network. The Scottish Government's Energy Consents Unit will be the consent authority by default; local authorities may request to be the consent authority (or may be designated as such by the Scottish Government).
- Developers/operators of a heat network must hold a permit to build or operate a heat network in a given Heat Network Zones. Permits bestow exclusive rights upon developers/operators. The Scottish Government will be the permit authority, and will award permits on a competitive basis. Consideration is required as how permits will interface with existing heat networks and with existing concession agreements.
- Asset schedules and transfer schemes will be put in place to provide for the transfer of operational rights for heat networks to a different operator to avoid supply interruptions if an operator ceases to operate a heat network.

- Certain areas will be designated as Heat Network Zones: areas particularly suitable for heat networks. These zones will form the basis of the heat network permits regime.

6.2.23. The Act sets a statutory target of heat networks supplying 2.6 terawatt hours of thermal energy by 2027 and 6.0 terawatt hours by 2030 (compared to approximately 1.18 terawatt hours per annum currently). This is equivalent to 3% and 8% of current total demand. This is equivalent to approximately 120,000 additional homes by 2027 and 400,000 additional homes by 2030; on a pro rata basis, this would translate to around 11,500 additional homes in Edinburgh by 2027 and 38,400 additional homes in Edinburgh by 2030 (albeit the Act does not specify the source of the demand so in practice some of this demand will relate to non-domestic properties).

6.2.24. The Act requires the owners of public sector non-domestic buildings with an annual heat demand of at least 73 megawatt-hours per year to produce "building assessment reports" (BARs) – summary reports on the heating systems and demand of buildings. It is anticipated that the duty to complete BARs will eventually be extended to private sector building owners. BARs must be completed on a five-yearly basis. Completed BARs are to be submitted to local authorities and to the Scottish Government to inform the development of heat networks and the designation of Heat Network Zones by enabling potential anchor loads to be identified.[xxii]

6.2.25. The Scottish Government has established the **Heat Network Support Unit** (HNSU) with the remit of helping overcome challenges associated with the deployment of heat networks in Scotland, including providing support/expertise and grant funding.

6.2.26. As noted in section 6.4, City Plan 2030 introduces a requirement for all new developments to connect to a heat network where possible. At present, there is no requirement in law for existing properties to connect to a heat network.

6.2.27. The UK Government's **Energy Bill** (formerly known as the **Energy Security Bill**), introduced to Parliament in June 2022, introduces a UK-wide regulatory regime for heat networks. With respect to Scotland, the Bill enables the UK Government to designate the Gas and Electricity Markets Authority (GEMA) as the licensing authority for heat networks in Scotland as set out in the Heat Networks (Scotland) Act 2021. The Bill further empowers the UK Government to amend the Heat Networks (Scotland) Act 2021 to make provision for monitoring compliance with, and enforcing conditions of, heat network licences in Scotland.

New builds

6.2.28. The Scottish Government has stated that "with very few exceptions" new homes built in accordance with the **Building (Scotland) Amendment Regulations 2015** will achieve an EPC rating of at least 'C', with around 95% of homes expected to achieve 'B' or better.[49]

6.2.29. The **Building (Scotland) Amendment Regulations 2022** were put in place in December 2022 to drive further improvements to building performance. These regulations require developers to reduce energy emissions for new buildings. The amended regulations are aligned to the proposal to prohibit direct emissions heating systems from April 2024.

[xxii] Local authorities are therefore required both to prepare BARs for their own estate and also to collate the data from all BARs produced within their area.

6.2.30. Following these increased regulations on energy efficiency in new homes, the **New Build Heat Standard** (scheduled to be in effect by April 2024) will prohibit the use of direct emissions systems for the heating (or cooling) of any new buildings for which a building warrant is required, both domestic and non-domestic. Past this date, only zero direct emissions systems (for example, heat pumps, heat networks, and direct electrical heating) will be allowed in new buildings. This represents a significant pivot away from the longstanding use of gas boilers as the heat system of choice in Scotland.

6.2.31. The **Domestic Building Environmental Standards (Scotland) Bill** introduces new minimum environmental design standards for all new-build housing to meet the Passivhaus standard (or a Scottish equivalent) in order to improve energy efficiency and thermal performance. The bill was lodged in 2022, with plans to make subordinate legislation within two years to give effect to the proposal. Passivhaus standards consider a whole building approach focusing on energy efficiency and ensuring buildings maintain an almost constant temperature through solutions such as triple glazing and additional insulation. In December 2022, the Scottish Government stated that it intended to make secondary legislation within two years to enact minimum design standards for all newly built housing requiring it to achieve the equivalent of Passivhaus standard.

6.2.32. The **Net Zero Public Sector Buildings Standard** (2021) is a voluntary building standard which supports public bodies to meet net zero standard for their new build and refurbishment infrastructure projects. This standard has guidance for six stages of the project lifecycle to support quality assurance.

6.2.33. The **Performance of Non-domestic Buildings (Scotland) Regulations 2016** requires that non-domestic buildings with a floor area of more than 1,000 square metres produce an Energy Action Plan at the point of sale or rental. The Energy Action Plan must set out how building owners will improve energy efficiency and reduce the building's greenhouse gas emissions.

Energy planning

6.2.34. A fundamental challenge to the decarbonisation of heating is the cost of electricity relative to gas. In the UK, unit prices for electricity have traditionally stood at around three times those of gas. As noted in section 4.5, this has made the economics of switching from gas boilers to electricity-based heat solutions (including heat pumps and direct electric heating) highly challenging. The **Independent Review of Net Zero** (2022) called for a "rebalancing" of gas and electricity prices. The Independent Review states, "the past approach of levying policy costs and taxes onto electricity bills keeps the price of electricity artificially high and can stifle the signal for the use of low-carbon technologies, from electrifying industrial fuel use to vehicles and heat pumps" and "keeping the relative price of electricity vs. gas consistently competitive on a long-term basis will be the single biggest determinant of ensuring that the transition brings a significant amount of savings to the average household".[50] This recommendation was accepted by the UK Government, which in its 2023 policy paper **Powering Up Britain: Energy Security Plan** committed to setting out proposals in 2023/24 for the rebalancing of electricity and gas costs to reduce electricity costs and "generate the clear short-term price signal necessary to shift both households and businesses to lower-carbon, more energy efficient technologies like heat pumps".[51]

6.2.35. The **Scottish Energy Strategy** (2017) sets a 2050 vision for energy in Scotland: to provide a "flourishing, competitive local and national energy sector, delivering secure, affordable, clean

energy for Scotland's households, communities and businesses". The Strategy sets out three central principles: take a whole-system view, have an inclusive energy transition, and a smarter local energy model. Two main targets are set by this Strategy: for the equivalent of 50% of the energy for Scotland's heat, transport, and electricity consumption to be supplied from renewable sources by 2030, and for the productivity of energy use across the Scottish economy to be increased by 30% in by 2030.

6.2.36. In January 2023, the Scottish Government published the first draft of the national **Energy Strategy and Just Transition Plan**. The Energy Strategy sets out plans for transitioning Scotland to a climate friendly energy system. It sets targets including increasing renewable electricity generation capacity by 20 gigawatts by 2030 and for hydrogen to meet 15% of Scotland's energy needs by 2030. Key actions (some existing and others new) identified in the Energy Strategy with strong relevance to the Edinburgh LHEES include:

- Boosting the Home Energy Scotland advice service and widening the eligibility criteria of the Warmer Homes Scotland fuel poverty programme.
- Providing a tailored package of support to remote and rural off grid communities through the Community and Renewable Energy Scheme, helping them to upgrade their energy systems.
- Through Climate Action Hubs and Climate Action Towns, providing a vehicle for communities to work to identify local solutions and build a pipeline of investible projects and opportunities at a regional level.
- Investing over £1.8 billion in decarbonising homes and buildings through Heat and Energy Efficiency Scotland over the course of the 2021-2026 Parliament.
- Establishing a new regulatory regime for heat networks in Scotland and appropriate financial mechanisms.

6.2.37. The **Hydrogen Policy Statement** (2020) sets out a vision for Scotland to become a leading producer of reliable, competitive, and sustainable hydrogen. The Statement includes support for the development of a low-cost hydrogen capability to meet an initial ambition of producing five gigawatts of renewable and low-carbon hydrogen by 2030. The Statement identifies a potential role for hydrogen in decarbonising heat.

6.2.38. The **British Energy Security Strategy** (2022) sets out a package of measures intended to deliver "secure, clean and affordable British energy for the long term". The Strategy sets out a 10-point plan; points of relevance to the Edinburgh LHEES are driving the growth of low carbon hydrogen; greener buildings; and green finance and innovation. Measures set out in the Strategy include zero-rating VAT on the installation of energy saving materials for five years; promoting the manufacture of heat pumps in the UK; promoting "green mortgages";[xxiii] and seeking to generate 10 gigawatts of low carbon hydrogen by 2030.

6.2.39. The UK Government's **Energy Bill** (formerly known as the **Energy Security Bill**) was introduced to Parliament in June 2022. The Bill sets out multiple measures relating to the generation of energy (with a reduced reliance on imported fossil fuels) and the regulation of the energy market. Key measures introduced in the Bill include:

[xxiii] Preferential mortgage terms offered on properties with greater energy efficiency.

- Enabling a large-scale hydrogen heating trial to inform strategic decisions on the role of hydrogen scheduled to be taken in 2026.
- Scaling-up heat pump manufacturing and installation.
- Introducing a regulatory regime for fusion energy.

Housing

6.2.40. The **Housing to 2040** strategy (2021) sets out a vision "where new homes are designed to be energy-efficient and use zero emissions heating systems and where existing homes are retrofitted to improve their energy efficiency and decarbonise their heating systems, whilst making fuel poverty a thing of the past", along with a route map for how to achieve this vision. The strategy sets a target of delivering 100,000 new affordable homes by 2031/32 (70% of these social rent) and retrofitting existing homes so their occupants can benefit from improved energy efficiency and decarbonised heating. This is linked to the aims of the Heat in Buildings strategy. The strategy reiterates the target of emissions from heating buildings in Scotland reaching zero by 2045. The strategy notes that this will necessitate changing the heating systems in over two million homes and over 100,000 non-domestic buildings, and that this will requirement investment from the public sector, homeowners, private and social landlords, and others.

6.2.41. **Scotland's Sustainable Housing Strategy** (2013) notes Scotland's requirement for warm, high-quality, affordable, and low carbon homes. It details the delivery of the Home Energy Efficiency Programmes for Scotland (HEEPS); appropriate use of standards and regulation; and market transformation. The Strategy sets out a route map to 2027 with targets to achieve a reduction in fuel poverty, and a reduction in housing emissions.

6.2.42. The **Tenements (Scotland) Act 2004** regulates tenement flats in Scotland. This covers ownership, duties, and demolition. The Tenement Management Scheme, as outlined in schedule 1 of the Act, lists the "scheme property" (explaining what parts for the tenement every flat owner should maintain) and explains how owners are to come to arrangements about maintenance ("scheme decisions") and how costs are to be shared. The Climate Change (Scotland) Act 2009 amends the Tenement Management Scheme to reclassify the installation of insulation as a maintenance measure rather than an improvement, allowing works to be approved via a majority rather than unanimously as previously.

Supply chain

6.2.43. The Scottish Government's **Heat in Buildings Supply Chains Delivery Plan (2022)** sets out actions for developing the supply chain required for a transition to a "green heat" basis. Actions include allocating funding for research and development; using public procurement to maximise supply chain impacts; and developing a supplier-led incentives scheme to provide a route to market for new business models and consumer propositions. The Plan states that "the Green Heat supply chain is largely balanced at existing levels of demand" but notes a need for "skilled workers to support future deployment rates of heat pumps, heat networks, thermal insulation and direct electric heating systems".

6.2.44. The **Climate Emergency Skills Action Plan 2020-2025** published by the Scottish Government and Skills Development Scotland sets out actions to meet skills demand associated with the transition to net zero, including those in energy transition and construction. In terms of construction, the Plan notes "an anticipated increased demand for professional level skills for jobs in planning, design, surveying and management" and "a requirement for the

development of specialist knowledge and skills round retrofit, zero emissions heating systems and heat networks for professional, technical and craft roles, as well as data and smart systems skills for delivering energy management in buildings services".

6.3. Local policy landscape

6.3.1. Local policies support the realisation of national goals through solutions which are adapted for Edinburgh's local circumstances, including developing new sustainable homes and upgrading existing homes to become more energy efficient.

6.3.2. The 2030 Climate Strategy (2021) is the overall strategy for Edinburgh to become a net zero city by 2030. The Climate Strategy identifies seven priorities for action, of which two relate directly to the Edinburgh LHEES: "accelerate energy efficiency in homes and buildings" and "enable the development of a citywide programme of heat and energy generation and distribution".

6.3.3. The Climate Strategy sets the following key targets of relevance to the Edinburgh LHEES:

- All new Council-led housing developments 2020-2030 to be net zero.
- Develop regional renewable energy solutions, 2024-2027.
- Identify Heat Network Zones across the city.
- Develop a plan for retrofitting social housing across the city to the highest energy standards, to reduce energy demand and tackle fuel poverty.
- Establish an Energy Efficient Public Buildings Partnership.

6.3.4. The City of Edinburgh Council's **Council Emissions Reduction Plan** (2021) sets out proposals for reducing all the Council's emission sources, including building energy usage.

6.4. Planning policy context

6.4.1. Section 3F of the **Town and Country Planning (Scotland) Act 1997** requires all Scottish planning authorities to include policies in their local development plans requiring all developments to be designed to "avoid a specified and rising proportion of the projected greenhouse gas emissions from their use, calculated on the basis of the approved design and plans for the specific development, through the installation and operation of low and zero-carbon generating technologies".

6.4.2. The **Edinburgh Local Development Plan** (ELDP) (2016) is the Council's currently adopted LDP, however its successor, the emerging **City Plan 2030**, is the settled view of the Council having been consulted upon, approved by the Council, and submitted for examination; as such, it should be afforded material weight.

6.4.3. The **National Planning Framework 4** (NPF4) was adopted by Scottish Ministers in February 2023. It sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland as a whole.

Edinburgh Local Development Plan

6.4.4. Policy Des 6 – "Sustainable Buildings" of the ELDP states that planning permission will only be granted for new developments where it has been demonstrated that the carbon dioxide emissions reduction target has been met (with at least half of this reduction to be achieved through the use of low/zero carbon generating technologies such as solar panels, heat pumps, and heat network infrastructure) and that other features are incorporated that will

reduce or minimise environmental resource usage and impact (for example, green roofs and measures to promote water conservation). The Council sets out specific current requirements in an "S1 Sustainability Form" which applicants for planning permission must complete to demonstrate they have complied with the policy.

6.4.5. Policy RS 1 – "Sustainable Energy" of the ELDP states that planning permission will be granted for development of low and zero carbon energy schemes (for example solar panels, district hearing, energy-from-waste plants, and small-scale wind turbine generators) will be granted where these do not cause significant harm to the local environment (in terms of natural heritage and area character) or to amenity). The policy further states that proposals to fit micro-generation equipment onto existing buildings will be assessed using policy RS 1 along with non-statutory planning guidance for householders, and that where the development of energy-from-waste plants or biomass is proposed, the opportunity for local reuse of heat energy is expected to be explored.

City Plan 2030

6.4.6. Policy Env 7 – "Sustainable Developments" of City Plan 2030 mandates that all detailed proposals involving the construction or change of use of one or more buildings must incorporate "all reasonably practicable measures to address the climate emergency". For change of use proposals, the applicant must set out how the proposal incorporates "measures to increase resilience to future climate change and minimise greenhouse gas emissions such as built fabric efficiency improvement and low and zero carbon generating technology".

6.4.7. Policy Env 8 – "New Sustainable Buildings" of City Plan 2030 mandates that new building developments for which a building warrant is required must "[achieve], predominantly through ultra-high fabric energy efficiency, a 'net zero' level of operational greenhouse gas emissions", with this requirement to be controlled via planning conditions. The policy further states that "all new development requires to embed ultra-high fabric energy efficiency into its design and construction, with the optimal approach being for it to be built to Passivhaus standards" and that "the incorporation of low and zero carbon generating technologies into the new development is also supported."

6.4.8. Policy Inf 16 – "Sustainable Energy and Heat Networks" of City Plan 2030 states that the development of "low and zero carbon energy schemes including small-scale wind turbine generators, solar panels, ground and air source heat pumps, water source heat and power, heat and/or power networks where energy comes from a renewable/low carbon source, and energy storage schemes that help support low and zero carbon energy schemes" will be supported where these do not harm natural heritage, area character, or amenity. The policy further states that proposals to fit micro-generation equipment onto existing buildings will be assessed using the above policy and non-statutory guidance for householders.

6.4.9. Policy Inf 16 further states that "all new developments should connect to an existing or planned heat network or other significant heat source wherever possible to do so", that "where this is not possible then all substantial development must, subject to a viability and feasibility study, instead include a source of renewable/low carbon heat generation […] and associated heat network", and that any developments not heated through heat networks must be future proofed to allow a future connection to be made.

National Planning Framework 4

6.4.10. Policy 1 – "Tackling the climate and nature crises" of NPF4 encourages development that addresses climate and nature crises. It states, "when considering all development proposals significant weight will be given to the global climate and nature crises." The policy requires local authorities' Local Development Plans to ensure spatial strategies will reduce emissions.

6.4.11. Policy 2 – "Climate mitigation and adaptation" of NPF4 promotes development that minimises emissions. It includes the provisions that "development proposals will be sited and designed to minimise lifecycle greenhouse gas emissions as far as possible" and that "development proposals to retrofit measures to existing developments that reduce emissions or support adaptation to climate change will be supported". The policy requires Local Development Plans to set spatial strategies to reduce, minimise, or avoid greenhouse gas emissions.

6.4.12. Policy 11 – "Energy" of NPF4 encourages renewable energy development onshore and offshore. The policy sets out a range of provisions, including that "development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported". The policy further sets out that "grid capacity should not constrain renewable energy development. It is for developers to agree connections to the grid with the relevant network operator". Local Development Plans are required to identify a range of opportunities for energy development.

6.4.13. Policy 12 – "Zero waste" of NPF4 encourages development consistent with the waste hierarchy. It sets out a range of provisions, including that development proposals for new or extended landfill sites will only be supported where waste heat and/or electricity generation is included, and that development proposals for energy-from-waste facilities will not be supported except under limited circumstances, including that a functional heat network can be delivered.

6.4.14. Policy 19 – "Heating and Cooling" of NPF4 promotes development that supports decarbonised solutions to heat and cooling demand. It sets out a range of provisions, including that "development proposals within or adjacent to a Heat Network Zone identified in a LDP will only be supported where they are designed and constructed to connect to the existing heat network"; that "where a heat network is planned but not yet in place, development proposals will only be supported where they are designed and constructed to allow for cost-effective connection at a later date"; and that "national and major developments that will generate waste or surplus heat and which are located in areas of heat demand, will be supported providing wider considerations, including residential amenity, are not adversely impacted". Local Development Plans are required to take account of the relevant LHEES.

6.4.15. NPF4 promotes using empty buildings and developing on brownfield sites – particularly in the Central Belt of Scotland. Areas where land has not been used for decades, or where the land is accessible by sustainable modes, should be prioritised. There are several areas in Edinburgh which fit these requirements, such as Granton Waterfront. Within the heating and cooling policy section, the Edinburgh LHEES is referenced as the point of reference as well as Heat Network Zones. Within the quality homes section, net zero homes are noted as supporting a green economy and tackling fuel and child poverty. There are no energy-focused actions linked specifically to Edinburgh.

Permitted Development Rights

6.4.16. Under the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (as amended) householders in Scotland possess Permitted Development Rights that enable them to carry out certain developments without requiring planning permission. These rights include the installation of solar panels; air, ground, and water source heat pumps; free-standing wind turbines; and biomass heating systems.[52] Certain non-domestic properties benefit from the same Permitted Development Rights.

6.4.17. As set out in the Heat in Buildings Strategy, the Scottish Government is considering introducing Permitted Development Rights for heat networks and extending existing Permitted Development Rights for micro-renewable technologies.

7. Ongoing activity in Edinburgh

7.1. Edinburgh context

7.1.1. Edinburgh is one of four local authorities in Scotland with a predominantly urban character. The city proper is relatively compact and densely populated, with tenement buildings and blocks of flats being the most common housing type.

7.1.2. Edinburgh has a significant degree of built heritage, with two UNESCO World Heritage Sites (one of which covers much of the city centre), 50 Conservation Areas, and around 5,000 listed buildings and structures, ranging from Georgian and Victorian tenements to medieval castles. This heritage presents challenges for decarbonisation, both in terms of practicalities (for example, the inability to deploy cavity wall insulation to solid wall buildings) and policy (for example, the inability to replace sash-and-case windows with more thermally efficient uPVC windows). The retrofitting of historic buildings is a challenge in and of itself.

7.1.3. Edinburgh is home to a range of large and complex buildings, including an international airport; football and rugby stadia; major hospitals; military installations; a prison; and multiple rail stations. These buildings will each present their own challenges in terms of achieving net zero.

7.1.4. The City of Edinburgh Council is the largest property owner in Edinburgh. Its estate includes over 20,000 social homes; 124 schools; and multiple other operational buildings including nurseries, libraries, museums, galleries, offices, depots, storage facilities, community centres, sporting facilities, a crematorium, a mortuary, greenhouses, and public toilets. The Council is also the owner of a sizeable investment estate including industrial units, shops, and offices. The Council's ownership of these properties naturally gives it far greater ability to take forward works to decarbonise these properties. However, it equally means that the costs of these works will in the first instance fall to the Council, representing a significant financial burden at a time of ongoing budgetary pressures.

7.1.5. Edinburgh has seen significant development in recent years. From 2013 to 2022, 21,767 new homes were completed in Edinburgh.[53] With each passing year, the property stock of Edinburgh is becoming gradually more modern as newly built properties make up an increasing proportion of all properties. This represents an opportunity to improve the overall performance of the city's building stock in terms of energy efficiency and heat decarbonisation by designing for these issues from the outset, which is inevitably more straightforward than making changes retroactively.

7.2. 2030 Climate Strategy

7.2.1. The 2030 Climate Strategy (2021) is the overall strategy for transitioning Edinburgh to a net zero carbon city. The Edinburgh LHEES sits below the Climate Strategy, being the strategy for transitioning the heating of buildings in Edinburgh to net zero.

7.2.2. The Climate Strategy sets out 27 actions to be progressed under the theme of "net zero energy generation and energy efficient buildings". These actions, and the current progress against each, are set out below.

- "Set progressive planning policies to increase energy standards in new buildings" – as set out in section 6.4, City Plan 2030 sets rigorous standards for new development in Edinburgh. In particular the policy requires new developments in Edinburgh to

achieve “a ‘net zero’ level of operational greenhouse gas emissions”. This means that all new developments in Edinburgh following the adoption of City Plan 2030 will require to be developed to net zero carbon standard. Further, City Plan 2030 requires all new developments in Edinburgh to connect to a heat network “wherever possible”. This policy will help drive the expansion of heat networks in Edinburgh by providing investors/operators with some assurance as to future connections.

- “Require the use of low and zero emissions technologies to heat and power the city’s buildings” – this action from the Climate Strategy is closely linked to one of the central purposes of the Edinburgh LHEES. A focus of the Edinburgh LHEES is on the decarbonisation of buildings in Edinburgh, which would necessitate the use of zero direct emissions heating systems. Low emissions heating systems still contribute to carbon emissions and therefore will not be an acceptable means of delivering the Edinburgh LHEES. City Plan 2030 mandates that all new buildings in Edinburgh achieve “a ‘net zero’ level of operational greenhouse gas emissions”, and requires them to connect to a heat network "if practical". This will be complemented by the proposed ban on gas boilers in new buildings in Scotland and other national regulations. The process for transitioning existing buildings to low and zero direct emissions heating technologies will be more complex and will require a "carrot and stick" mix of obligations (e.g. regulatory requirements) and incentives.
- “Convene a City Heat and Energy Partnership” – a City Heat & Energy Efficiency Board was established in 2022 with the remit of developing joint investment and heat masterplans for Edinburgh. The Board is co-led by the University of Edinburgh and SP Energy Networks in collaboration with the Council; businesses; community groups; the third sector, the education and culture sector; utilities; and other stakeholders.
- “Develop a city-wide heat and energy masterplan” – the Edinburgh LHEES will in effect form the first iteration of a city-wide heat and energy masterplan, with the City Heat & Energy Efficiency Board to carry out further work subsequently.
- “Develop a long-term city partner shared investment strategy to deliver the citywide heat and energy masterplan” – the shared investment strategy will follow on from the Edinburgh Heat and Energy Masterplan. It is envisaged that it will build upon investment proposals emerging from the Edinburgh LHEES. The Edinburgh Climate Change Institute is mapping the investment plans of all members of the City Heat & Energy Efficiency Board.
- “Agree appropriate delivery mechanisms for the energy investment strategy” – the shared investment strategy will follow on from the Edinburgh Heat and Energy Masterplan.
- “Establish a strategic partnership with SP Energy Networks” – the Council has established a senior working relationship with SP Energy Networks that enables both parties to raise matters for consideration. SP Energy Networks also co-chairs the City Heat & Energy Efficiency Board.
- “Align current and future grid development to the city’s projected energy needs” – the aforementioned partnership with SP Energy Networks gives the Council the

ability to seek to influence grid investments to align them with development activity in Edinburgh.

- "Develop regional renewable energy solutions which draw on the area's wind, geothermal, hydro and solar assets" – by dint of its urban character, comparatively small area, and geology, Edinburgh has fewer intrinsic opportunities for renewable energy generation that elsewhere in Scotland. However, the city has seen deployment of small-scale schemes such as hydropower at Harlow Reservoir and Saughton Park. Edinburgh Airport and Edinburgh Zoo are among the landowners in Edinburgh with plans for solar meadows. Other potential opportunities include the extraction of heat from the Firth of Forth and from disused mine workings.
- "Learn from the H100 hydrogen pilot" – the Council is maintaining a watching brief on the H100 hydrogen pilot and on the wider developments in the hydrogen sphere. It is recognised that there are considerable differences of opinion as to the scope for hydrogen to play a meaningful role in space heating.
- "Collaborate with regional partners to decarbonise the region's energy infrastructure" – some small-scale collaboration has been carried out to date, for example dialogue between the Council and Midlothian Council / East Lothian Council around a potential cross-boundary Heat Network Zone in southeast Edinburgh. It is envisaged that further dialogue will take place around the scope to utilise heat from disused mine workings.
- "Identify Heat Network Zones across the city" – this action is closely linked to the central purpose of the Edinburgh LHEES. Some initial analysis has been undertaken to identify areas within Edinburgh with strong potential for the development of a heat network, and several potential strategic heat networks are in various stages of development. Building upon the work to date, the Edinburgh LHEES provides robust analysis on the areas of Edinburgh with the greatest potential for Heat Network Zones. This analysis, along with additional data from building assessment reports, will form the basis of recommendations around the formal designation of Heat Network Zones in Edinburgh in line with the emerging regulatory regime stemming from the Heat Networks (Scotland) Act 2021.
- "Ensure all Council-led infrastructure investment plans seek opportunities to connect to heat networks, beginning with our learning estate programme" – City Plan 2030 requires all new buildings in Edinburgh to connect to a heat network "if practical". In terms of existing buildings, where heat networks are present or are planned to be delivered, the scope to connect to these will be explored. This will begin with Granton Waterfront where existing Council operational properties are proposed to connect to the heat network once operational.
- "Work with communities and developers to deliver heat networks which meet the needs of key public sector buildings and major new developments across the city, beginning with Granton Waterfront and the BioQuarter" – as set out in section 7.3, the Council and its partners are developing a suite of heat network projects, with Granton Waterfront and Edinburgh BioQuarter the two furthest advanced projects.
- "Collaborate on place-based joint energy infrastructure projects which maximise opportunities to deliver low-cost, clean, renewable energy to neighbourhoods and

communities, with a focus on areas experiencing inequalities" – no projects of this nature have been delivered to date. Consideration would need to be given to energy sources, funding models, and other practicalities.

- "Align strategic investment in the electricity grid with development plans, to support increased local energy generation" – as noted above, the Council has established a strategic relationship with SP Energy Networks.
- "Explore the potential for creating local energy generation communities as part of proposed net zero communities' pilots" – phase two of the Net Zero Communities pilot will include an evaluation of community energy generation potential using "Green Heat in Green Spaces" data.
- "Develop a city-wide programme of community energy generation investment opportunities" – this programme has not yet been developed. Phase two of the Net Zero Communities pilot will inform development of this.
- "Develop a Whole House Retrofit delivery programme for retrofitting social housing across the city to the highest energy standards, to reduce energy demand and tackle fuel poverty" – as set out in section 7.3, an investment programme is underway to retrofit the Council's housing stock in line with the Energy Efficiency Standard for Social Housing 2.
- "Establish an Energy Efficient Public Buildings Partnership to collaborate on retrofit, align investment plans and encourage confidence in, and planning for, the business and skills supply chain needed to deliver" – this partnership has been established as part of the City Heat & Energy Efficiency Board.
- "Ensure retrofit programmes create green jobs and fair work opportunities for citizens, targeting those at greatest risk of poverty" – Council-led retrofit programmes will deliver community benefits as part of the procurement process.
- "Call on the Scottish Government to work with city partners to identify and deploy sufficient resources to deliver net zero public buildings" – the Scottish Government has deployed the Scottish Central Government Energy Efficiency Grant Fund, Scottish Public Sector Energy Efficiency Loan Scheme, and Scotland's Public Sector Heat Decarbonisation Fund to support the costs of retrofitting national public sector bodies' buildings. However, the costs of fully retrofitting all public sector buildings in Edinburgh is unlikely to be capable of being funded by the public sector directly, and so it is anticipated that mechanism will require to be developed to leverage institutional funds into retrofit in Edinburgh. Further, as set out in the Delivery Plan, greater certainty over long-term funding is necessary.
- "Develop a new mechanism and business plan to support small businesses, owner occupiers and private landlords to affordably retrofit their properties" – while grant funding from bodies such as Home Energy Scotland and Business Energy Scotland is available, it is recognised that these bodies will not be able to meet all the costs of retrofitting properties in Edinburgh. The scale of investment required is likely to require institutional funding. As above, a mechanism will require to be developed to support this investment.
- "Develop electricity grid infrastructure and capacity to respond to increased demand from electric-powered heat" – as noted above the Council has established a strategic

relationship with SP Energy Networks. The Edinburgh LHEES identifies the Strategic Zones where heat pumps are most likely to present a good solution.

- "Work with SP Energy Networks and the Scottish Government to identify measures to reduce the cost of electricity and support citizens to transition away from gas" – a reduction in electricity prices is likely to be pivotal to the decarbonisation of heat in Edinburgh, as presently the high cost of electricity relative to gas can make the viability of solutions such as heat pumps and direct electric heating a challenge. Reducing electricity prices is largely outwith the competencies of the Council. However, there is scope to reduce dependency on high grid prices via increased generation within Edinburgh (ranging from micro-renewable installations on buildings to larger projects such as solar meadows and hydropower) coupled with storage.
- "Call on the Scottish Government to bring forward at speed improved schemes to support citizens to fund energy efficiency upgrades and decarbonise of heat in their homes" – support for households to improve energy efficiency and decarbonise heating is provided by Home Energy Scotland and via Area-Based Schemes, as well as via others schemes such as Warmer Houses Scotland and ECO4 / the Great British Insulation Scheme. The lack of long-term certainty around these schemes has been identified by the Council as a challenge in terms of developing a long-term strategy for decarbonising homes. As noted above, institutional funds are likely to be required to achieve retrofit and decarbonisation of all homes.
- "Scope and test innovative approaches to retrofit in challenging mixed-tenure settings, to develop models and accelerate progress" – as part of the retrofit of its social housing stock and operational estate, the Council has developed models for the retrofit of various building archetypes.

7.3. Council estate and Council-led area interventions

Refurbishment of existing social housing

7.3.1. The Council is the largest registered social landlord in Edinburgh and one of the largest in Scotland with a growing portfolio of approximately 19,000 social homes.

7.3.2. The Energy Efficiency Standard for Social Housing 2 (EESSH2) sets a milestone of all social housing in Scotland achieving an Energy Performance Certificate rating of 'B' or better, or being "as energy efficient as practically possible", by the end of 2032 ("within the limits of cost, technology and necessary consent"). The EESSH2 further states "no social housing below EPC Band D should be re-let from December 2025, subject to temporary specified exemptions." The EESSH2 is currently being reviewed by the Scottish Government. As of March 2023, 12% of the Council's social homes met EESSH2.

7.3.3. The Council's investment in housing is underpinned by the Housing Revenue Account Business Plan for the 30-year period 2023/24 to 2052/53. The Business Plan projects that, based on annual rent increases of 2.5%, 81% of the Council's portfolio of social housing could be brought up to EESSH2 standard over the lifetime of the Business Plan, i.e. by 2053. Accelerating this transformation would require increased rent or grant income.[54] Conversely, should rent income increase by less than this, the ability of the Council to achieve this target would be impeded.

Whole House Retrofit

7.3.4. The Council fully adopted a "Whole House Retrofit" (WHR) approach to the retrofit of high-rise housing blocks in 2023. This entails a "fabric first" approach to improving energy efficiency, designing-out poor performance (e.g. reducing heat loss, removing thermal bridges/cold spots, and reducing the build-up of moisture via an appropriate ventilation strategy) whilst ensuring all elements complement one another rather than work against one another. The Council has predicted that a WHR approach can reduce energy demand for the average home by 50% to 75%.

7.3.5. To support the delivery of the WHR programme, the Council is recruiting additional staff, upskilling existing staff, and delivering apprenticeships.

7.3.6. The cost of delivering the WHR programme is estimated to average approximately £56,000 per home. However, some properties are likely to prove significant more expensive to address; the refurbishment of the residential blocks Inchmikery Court and Oxcars Court (representing a total of 151 homes) via the installation of a new external building envelope sitting 1.5 metres outwith the existing frame to improve the energy efficiency of the buildings (with a targeted improved Energy Performance Certificate rating of 'B') is projected to cost £25 million to £30 million: approximately £166,000 to £199,000 per home.

7.3.7. As noted, the WHR programme takes a fabric first approach. The Council does not currently plan to replace existing heating systems until they are nearing the end of their working lives., but the interventions carried out under the WHR programme will support the move to zero direct emissions heating systems at a future date. As noted below, all new build Council housing developments use zero direct emissions heating systems.

Mixed Tenure Improvement Service

7.3.8. The Council's Mixed Tenure Improvement Service (MTIS) delivers improvements to energy efficiency (as well as common repairs and maintenance) in mixed tenure buildings where there are a mix of properties owned by private owners and the Council. The costs of common works are shared amongst the respective owners in line with the title deeds of the buildings in question and the Tenements (Scotland) Act 2004. MTIS organises, plans, and oversees works with input from tenants and private owners.

7.3.9. In 2021, the MTIS began a £30 million programme of upgrades to the Wester Hailes neighbourhood of Edinburgh, with the Council investing £20 million and private owners and Area-Based Scheme funding making up the remainder of contributions. The first two years of the works saw energy efficiency upgrades carried out to over 900 homes, including over 670 Council-owned homes and 230 privately-owned homes.

7.3.10. Following on from the Wester Hailes pilot, the MTIS service is planned to be expanded to cover other areas of Edinburgh, initially Lochend and Restalrig.

Area-Based Schemes

7.3.11. Area-Based Schemes (ABS) provide grant-in-aid for private households at risk of fuel poverty, prioritising harder to treat homes that require solid wall insulation or complex cavity wall insulation. The aim of the scheme is to bring all homes up to EPC 'C' standard by 2030.

7.3.12. ABS are funded by the Scottish Government and designed and procured by local authorities. The City of Edinburgh Council was offered £5.16 million of funding for 2022/23.

7.3.13. ABS are focused on homes in economic disadvantaged areas (Council Tax bands A to C and low-ranking SIMD areas) with an EPC rating below 'C'. Eligibility for the ECO3 scheme can be used as a proxy for eligibility.

7.3.14. ABS have been found to be a good solution for mixed tenure and multi-occupancy properties.

7.3.15. Between 2013/14 and 2023/14, a total of 11,072 interventions were carried out across Edinburgh under ABS, including 5,226 instances of cavity wall insulation; 4,005 instances of solid wall insulation; and 519 instances of loft insulation.

Development of new social housing

7.3.16. The Council resumed the development of new social housing in 2008 via its 21st Century Homes programme. In 2017, the Council set a target of delivering 10,000 new social homes by 2027.

7.3.17. In 2020, the Council adopted a housing sustainability approach. As part of this, no new Council homes are fitted with gas boilers, and homes are built to Passivhaus standard.

7.3.18. As of January 2023, the Council had 613 social homes under construction, with a further 1,044 in design or pre-construction. The housebuilding capital budget for 2023/24 was approximately £100 million. Current major ongoing and planned developments are:

- D1 – 75 homes (including 48 social homes) heated via an air source heat pump-based communal heating system.
- Fountainbridge – 464 homes (including 186 social homes) heated via individual air source heat pumps.
- Granton Waterfront, phases 1 to 4 – 2,864 homes (including circa 700 social homes) heated via a 4-megawatt sewer-source heat pump (with a ground-mounted solar photovoltaic array helping meet the heat pump's electricity requirements).
- Greendykes K and L – 140 homes (including 74 social homes) heated via a mix of individual air source heat pumps and individual exhaust air source heat pump.
- Meadowbank – 680 homes (including 240 social homes) heated via individual air source heat pumps, supplemented via mechanical ventilation with heat recovery.
- Murrayburn Gate – 73 homes (including 41 social homes) heated via individual air source heat pumps.
- Powderhall – 259 homes (including 107 social homes) heated via individual air source heat pumps, supplemented by electric radiators, with rooftop mounted solar photovoltaics.
- Silverlea – 142 homes (including 91 social homes) heated via individual air source heat pumps.
- Western Villages – 444 homes (including 195 social homes) heated via an air source heat pump-based communal heating system.

7.3.19. The development of new social housing by the Council is steadily increasing the stock of energy efficient homes in Edinburgh.

Operational estate

7.3.20. The Council has a large and complex operational estate of over 400 buildings, many of them of advanced age. The Scottish Government's Heat in Buildings Strategy sets a target of all publicly owned buildings in Scotland meeting zero direct emissions heating requirements by 2038. The Council has set a target of all operational properties achieving net zero status by 2030.

7.3.21. In 2019, the Council adopted an Energy Management Policy that set out three aims with regards to the estate: to minimise energy consumption; to achieve ongoing improvements through recording, benchmarking, monitoring, and reporting on energy usage; and to promote the conservation of energy.[55] The Council's Corporate Property Strategy align lifecycle investment in the Council's operational estate with works to decarbonise properties.

7.3.22. Key identified challenges associated with decarbonisation of the operational estate include:

- The greater unit cost of electricity relative to gas, meaning a transition from natural gas to electricity will, all other things being equal, increasing running costs of buildings.
- Electricity grid constraints associated with a move from natural gas-based to electricity-based heating solutions.
- Practical challenges associated with retrofitting certain buildings.
- Financial challenges where retrofit does not present a conventional payback.

7.3.23. New Council operational buildings are built to Passivhaus standard by default to minimise energy consumption. For existing buildings, the Council has adopted an EnerPHit-informed standard as the most appropriate standard for deep energy retrofits.

7.3.24. In 2022, the Council approved the EnerPHit Tranche 1 Programme: a £61.83 million programme to retrofit 12 Council operational buildings to an EnerPHit-informed standard over the period 2022/23 to 2027/28.[56] This programme is intended to serve as a pathfinder for the retrofit of further Council properties.

7.3.25. In June 2023, the Council submitted a planning application for Brunstane Primary School, the first operational building to be piloted via the EnerPHit Tranche 1 Programme. Surveys of the school identified multiple challenges including a lack of insulation, poor U-values, poor airtightness, and significant thermal bridges. The measures that will be undertaken in response to these challenges are replacing doors and windows, adding new external wall insulation, adding roof insulation, replacing curtain walling with rainscreen cladding, and installing air source heat pumps providing space heating. The retrofit is planned to achieve a 73% reduction in energy usage, while increasing user comfort via providing more consistent temperatures and improved fresh air circulation.

Investment portfolio

7.3.26. The Council also has a large investment portfolio of over 1,000 buildings which are leased out to provide an income stream to the Council. By dint of this the Council is one of the largest commercial property landlords in Edinburgh.

7.3.27. The portfolio is highly diverse, with the main categories of property being (in descending order of quantity) industrial units, retail units, offices, and leisure properties (hotels, bars, and restaurants). It varies considerably in terms of age, condition, and other factors. The

portfolio experiences growth via a combination of acquisitions, new developments, and repurposing of existing Council assets as investment properties.

7.3.28. The Council's Portfolio Strategy sets a goal of managing the portfolio in accordance with the Council's climate and sustainability commitments.[57] The Strategy identifies that some elements of the investment portfolio require improvements in energy performance. The Strategy sets an action of preparing improvement plans to identify the necessary measures to improve the sustainability to the portfolio, with the relevant works to be undertaken when relevant funding has been identified.

7.3.29. New developments instructed by the Council as additions to the investment estate will be developed to achieve extremely high levels of energy efficiency. For example, the Hyatt Centric Edinburgh Haymarket hotel currently being developed for the Council (as head tenant) will be heated entirely using electricity, and is expected to achieve the best energy performance of any hotel of this scale in Scotland.

Parks and greenspaces

7.3.30. The Council has participated with Greenspace Scotland in the ParkPower project, which aims to leverage urban green and blue spaces to decarbonise energy in Scotland.

7.3.31. Saughton Park in Edinburgh has been transformed into Scotland's first "green-powered park". The park now incorporates a micro-hydro scheme to generate electricity and ground-source heat pumps to generate heat.

7.3.32. In June 2020, the consultancy Ramboll prepared a report for the Council on the energy potential of greenspaces in Edinburgh.[58] A total of 165 greenspaces were reviewed, of which two sites were identified as having the greatest potential:

- Inverleith Park – identified as a potential heat export site, with opportunities for both water-source heat pumps and ground-source heat pumps.
- Jack Kane Centre and Park – identified as a potential heat island site, where the energy demand of buildings on site could be met on site.

7.3.33. In August 2020, Ramboll prepared a follow-up report for the Council.[59] The follow-up report set out a technoeconomic appraisal of the potential for low carbon heat projects at Inverleith Park and the Jack Kane Centre and Park. The report identified the following:

- Inverleith Park – potential for 6.37-megawatt capacity heat pumps.
- Jack Kane Centre and Park – potential for 0.16-megawatt capacity heat pumps.

7.3.34. Further development of this progress is pending management resource and funding.

7.4. Heat networks

Overview

7.4.1. The City of Edinburgh Council is currently supporting the development of multiple heat networks projects in Edinburgh. Of the 17 heat network projects being supported by the Scottish Government as of March 2023, four were in Edinburgh.[60]

7.4.2. In addition to its role as a developer and customer of heat networks, the Heat Networks (Scotland) Act 2021 and The Heat Networks (Heat Network Zones and Building Assessment

Reports) (Scotland) Regulations 2023 introduce a number of duties for the Council with regards to heat networks. These are as follows:[xxiv]

- Conducting a review to consider whether one or more areas within Edinburgh is likely to be particularly suitable for the construction and operation of a heat network (and publishing the results of the review).
- Designating areas deemed particularly suitable for the construction and operation of a heat network as "Heat Network Zones".
- Acting as "consent authority" for Edinburgh, i.e. awarding (and revoking) consents for the development of heat networks in Edinburgh.[xxv]
- Producing "building assessment reports" (BARs) for non-domestic buildings owned by the Council with an annual heat demand of at least 73 megawatt-hours per year, providing data on heat sources and demand, to inform whether areas are suitable for the development of heat networks.

Existing heat networks

7.4.3. Data from the Scotland Heat Map indicates that there were 153 heat networks and communal heating systems in Edinburgh as of 2023 – around 14% of the Scottish total. These are listed in Table 48 and illustrated in Figure 01.

7.4.4. Based on the Scotland Heat Map data, the following statements can be made about the 153 heat networks and communal heating systems:

- 127 (83%) of the heat networks / communal heating systems ran off a (gas) boiler; 11 (7%) ran off a combined heat and power plant; and one (1%) ran off trigeneration, with 18% (12%) running off an unknown technology.
- Three (3%) of the heat networks / communal heating systems were micro (less than 45 kilowatts); 113 (74%) were small to medium-sized (≥45 kilowatts to <1 megawatt); and 20 (13%) were large (≥1 megawatt) with 17 (11%) being of unknown size.
- The neighbourhoods of Edinburgh (defined using intermediate areas) with the greatest number of heat networks / communal heating systems were "Old Town, Princes Street and Leith Street" (18 / 12%); "South Gyle" (10 / 7%); "Tollcross" (12 / 8%); "Deans Village" (12 / 8%); and "Meadows and Southside" (10 / 7%).

7.4.5. It is understood that many of the existing heat networks / communal heating systems are serving multiple units within a single building, or form part of a university campus or other cluster of buildings under a single ownership. It is further understood that most of the existing heat networks / communal heating systems run off mains gas and therefore would not currently contribute to the fulfilment of the targets set out in the Edinburgh LHEES. It is therefore envisaged that work will be required to decarbonise most of the existing heat networks.

7.4.6. It is noted that many of the existing heat networks fall within prospective Heat Network Zones. Dialogue with the Scottish Government has indicated that the emerging permit

[xxiv] The Act also empowers the Scottish Government to designate bodies as the "permit authority" or "licensing authority". It is possible that the Council could be designated the permit authority and/or the licencing authority for Edinburgh.

[xxv] Subject to the Council writing to the Scottish Government to request it be designated as the consent authority, or the Scottish Government designating the Council as the consent authority.

regime will not apply to existing heat networks, i.e. existing heat networks that fall within a Heat Network Zone will not require to secure a permit in order to continue operating, nor will permit holders have the ability to "take over" existing heat networks within the Heat Network Zone in question. However, the introduction of the permitting system may nonetheless give rise to some challenges where there are existing heat networks, for example:

- If an existing heat network operator within a Heat Network Zone does not hold the permit for that zone, this may impede them from being able to expand their network.
- Where a heat network developer has secured a permit for a Heat Network Zone, the presence of existing heat networks within the zone may mean that the available demand is less than envisaged, for example where one or more anchor loads are already connected to an existing heat network.

First National Assessment

7.4.7. The First National Assessment of Potential Heat Network Zones was published by the Scottish Government in 2022.[61] The assessment utilises data on heat demand to identify potential Heat Network Zones in Scotland; it does not account for considerations such as future developments, existing heat networks, sources of heat, and practical barriers. The analysis set out in the Edinburgh LHEES therefore builds upon the First National Assessment by incorporating a wider raft of considerations.

7.4.8. The prospective Heat Network Zones identified in the First National Assessment are primarily based upon linear heat densities of 4,000 kilowatt hours per metre (of pipe) per year as a baseline, or 8,000 kilowatt hours per metre (of pipe) per year as a more stringent approach.

7.4.9. The First National Assessment (baseline analysis) identified a total of 647 potential Heat Network Zones across Scotland with a notional combined heat demand of 25,672,514 megawatt hours per annum.[xxvi] Anchor loads account for 14.1 terawatt hours per year – 54.9% of total demand.

7.4.10. Within Edinburgh, the First National Assessment identified a total of 41 potential Heat Network Zones. A map of the zones is shown at Figure 02. The 41 zones represented a total of 51,206 properties (38,649 residential and 10,942 non-domestic), with a total combined heat demand of 3,404,609 megawatt hours per annum.[xxvii] 569 anchor loads accounted for 43% of heat demand. Significantly, 24,531 (48%) of the properties were identified as "heritage" properties.

7.4.11. The single largest zone in Edinburgh identified in the First National Assessment is zone "CE-309-St1", which is centred on the city centre, with spurs stretching southwest to Marchmont and Morningside, southeast to Newington, northwest to Orchard Brae, and northeast to Shrubhill. A map of this zone is shown at Figure 03. The zone includes 14,024 properties with a combined annual demand of 1,011,845 megawatt hours per annum.[xxviii] 79% of the properties are "heritage" properties.

[xxvi] I.e., 25,673 gigawatt hours or 25.7 terawatt hours
[xxvii] I.e., 3,405 gigawatt hours or 3.4 terawatt hours
[xxviii] I.e., 1,012 gigawatt hours or 1.0 terawatt hours

7.4.12. The First National Assessment provides a useful illustration of where Heat Network Zones are most likely to be viable, and the potential scale of heat networks that could be realised in Edinburgh. Some of the Heat Network Zones identified in the First National Assessment may be unviable due to the practical considerations set out above, but conversely other zones may emerge due to pipeline property developments not captured by the First National Assessment.

Granton Waterfront

7.4.13. The Granton Waterfront is a 140-hectare brownfield ex-industrial neighbourhood. Over the next 10-15 years, the Council will take forward a major mixed-use regeneration of the area delivering thousands of homes, a primary school, a medical centre, and significant new commercial space. In line with the target of Edinburgh achieving net zero carbon by 2030, the Council is seeking to deliver a low carbon heat network that will supply cost-competitive heat from low carbon sources to Granton Waterfront and the surrounding area.

7.4.14. The Council has assessed various options for delivering a low carbon heat network at Granton Waterfront. In March 2022, the Council finalised an options appraisal and detailed technical feasibility study that identified a preferred solution for the heat source: a 4-megawatt heat pump utilising heat from the sewer running beneath Granton Waterfront, supplemented by two 10 megawatt electric boilers for resilience, with a 1-megawatt ground-mounted solar photovoltaic array helping meet the network's electricity requirements.

7.4.15. The anchor loads for the heat network would be 12 existing and new public sector buildings totalling over 86,900m^2, along with 3,383 domestic properties and a further 9,000m^2 of commercial space. There is scope to add additional connections.

7.4.16. Building on this preferred technical solution, the Council finalised an outline business case in March 2023. As part of this, a full options appraisal was carried out with a commercial advisor. Based on the size, scale and complexity of the network, and the risks around managing the timescales to meet the first connections along with securing enough heat demand to ensure its viability, it was determined that the preferred route to delivering the heat network is a concession model. This would see the Council enter into a 40-year design, build, operate, finance, and maintain concession agreement with a private sector concessionaire, ensuring a partner with a proven track record in managing networks takes this forward whilst achieving a high degree of risk transfer to the private sector while retaining Council control over key aspects including price controls and capped returns.

7.4.17. The projected capital expenditure required to deliver the heat network is £81.048 million. Grant funding of £19.892 million from the Heat Network Fund would achieve an internal rate of return of 10%, making the project commercially attractive.

7.4.18. The techno-economic model developed for the project indicates that, for a typical household with an assumed annual demand of 3,670 kilowatt hours, the heat network would achieve a fixed tariff of £621 and a variable tariff of £287, representing an indicative total annual cost of £909. This compares to a projected annual cost of £821 for gas boilers with 85% efficiency and low maintenance needs and £971 for gas boilers with 85% efficiency and high maintenance needs.

7.4.19. The next step for the Granton Waterfront heat network is to procure a concessionaire. It is planed that the heat network will be operational in late-2025 to coincide with the occupation of the first new homes delivered by the Granton Waterfront regeneration.

Edinburgh BioQuarter

7.4.20. Edinburgh BioQuarter is a major life sciences development in the Little France neighbourhood of Edinburgh centred on the Royal Infirmary of Edinburgh and the Royal Hospital for Children & Young People. The Edinburgh BioQuarter partnership – comprising the Council, NHS Lothian, Scottish Enterprise, and the University of Edinburgh – has developed proposals for a mixed-use expansion of Edinburgh BioQuarter delivering two million square feet of commercial innovation space and 2,000 homes. Work is currently ongoing to appoint a private development partner to take forward the future development of Edinburgh BioQuarter.

7.4.21. A sustainability strategy developed for Edinburgh BioQuarter requires all new buildings to be direct zero carbon by 2030 (and all existing buildings by 2040).

7.4.22. In March 2023, the consultancy Ramboll published a feasibility study on the scope to develop a heat network serving Edinburgh BioQuarter.[62] The study concluded the preferred solution was a fourth-generation heat network and district cooling network utilising waste heat from the Millerhill Recycling and Energy Recovery Centre supplemented by peaking electric boilers.

7.4.23. The study found that the proposed heat network would achieve a variable heat charge tariff of circa 7.5 pence per kilowatt hour. It would achieve carbon savings relative to the business-as-usual scenario (which assumes a mix of gas boiler and building-level air source heat pumps) of 5,700 to 14,300 tonnes of carbon dioxide equivalent over the 40-year project period – 9.8% to 24.6%.

7.4.24. The next step for the project is for the various off-takers (including the Council) to develop business cases for connecting their properties to the proposed heat network.

Gracemount

7.4.25. In 2022, the Council appointed Buro Happold to prepare a feasibility study on the scope for a new heat network in the Gracemount neighbourhood of Edinburgh.[63] The proposed network would serve a cluster of Council-owned buildings – Gracemount High School; Gracemount Leisure Centre, Gracemount Nursery; Gracemount Primary School; Kaimes School; Libertus Services; St Catherine's RC Primary School; and the South Neighbourhood Office and Library – and the NHS Medical Practice.

7.4.26. The feasibility study assessed various options based on air source heat pumps and ground source heat pumps which were compared with a counterfactual option of building-level air source heat pumps. The preferred option was identified as being a closed loop 750-kilowatt ground source heat pump with a 2,300-kilowatt electric boiler top-up and a 25,000m^3 thermal store.

7.4.27. The heat network would achieve a heat sales tariff of 13.3 pence per kilowatt hour, which is comparable to that achieved by building-level air-source heat pumps but higher than the current cost of gas (circa 7.5 pence per kilowatt hour). However, it is noted that future increases in gas prices would narrow this gap, while there is scope to achieve lower electricity prices via (for example) private purchasing agreements.

7.4.28. The heat network would achieve carbon savings of 35,426 tonnes of carbon dioxide equivalent over a 40-year period relative to gas – savings of 96.5%. Further reductions could be achieved by sourcing green electricity.

7.4.29. The projected cost of delivering the heat network is £4.2 million, which represents a negative net present value. Grant funding of £1.62 million would achieve a positive internal rate of return of 4%.

7.4.30. The next step for the Gracemount heat network will be to prepare an outline business case.

Seafield

7.4.31. In 2023, the Council appointed a design team led by 7N Architects to prepare a masterplan for the regeneration of the Seafield Regeneration Area (SRA) in Edinburgh. As part of the commission, the design team was charged with producing "a low/zero carbon energy strategy for the SRA, to include an initial technical assessment of the scope to utilise heat from the Seafield Waste Water Treatment Works and the Firth of Forth for a district heating scheme".

7.4.32. The design team has produced initial proposals for a heat network serving the SRA that would utilise wastewater discharged from the Treatment Works at a temperature of 15°C. The heat network could potentially be scaled further to serve other properties in the vicinity.

7.4.33. This proposal is at an early stage but offers scope to incorporate a low carbon heat network solution into a comprehensive regeneration project from the outset, potentially delivering significant efficiencies and informing other new developments.

Cross-boundary Heat Network Zones

7.4.34. In 2022, Zero Waste Scotland and Buro Happold – in conjunction with the City of Edinburgh Council, East Lothian Council, and Midlothian Council – carried out analysis on potential cross-boundary heat network opportunities in the three aforementioned local authority areas.[64] The analysis identified three potential cross-boundary zones King's Buildings; Millerhill and Shawfair; and the Royal Infirmary of Edinburgh and Edinburgh BioQuarter.

7.4.35. The designation of cross-boundary Heat Network Zones is likely to add complexity in terms of the emerging licencing and permitting regime, albeit section 52 of the Heat Networks (Scotland) Act 2021 makes provision for Heat Network Zones spanning two or more local authority areas.

Communal heating systems

7.4.36. Multiple existing Council buildings have communal heating systems. The current communal heat source is primarily natural gas fired boilers, with some buildings being augmented by gas-fired combined heat and power machines or solar thermal storage vessels.

7.4.37. In 2023, the Council inaugurated a new framework for the operation, management, and maintenance of communal heating systems for Council homes. The framework covers design development guidance and support in addition to operational, maintenance, metering, and billing services for existing and new build housing developments that are served by communal heating or local heat networks.

7.4.38. The framework has been utilised for the Council's D1 development in Granton Waterfront, which comprises 75 flats heated via a communal heating system fed by two air source heat pumps and two water-to-water heat pumps, achieving a flow temperature of 65°C and a return temperature of 57°C. Each flat will be fitted with smart meters. Under the terms of the framework, Vitali Energy will operate and maintain the communal heating system on behalf of the Council.

7.5. Solar installations

7.5.1. The City of Edinburgh Council (in partnership with the Edinburgh Community Solar Co-operative) has carried out multiple solar installations, primarily on the roofs of Council-owned buildings. These have typically been relatively small-scale and are dependent on the orientation of the building's roofs. Additionally, installing solar panels on building roofs has in some cases caused issues when the roofs in question required maintenance, with cost and disruption associated with relocating the panels. This has led the Council to explore the potential of larger-scale ground-mounted solar installations.

7.5.2. Initial investigation has been undertaken on several Council-owned sites to assess their readiness for solar installations, in particular the readiness of grid connections.

7.5.3. The replacement of Feed-in Tariffs with the Smart Export Guarantee means that developing solar installations for the purposes of exporting electricity is now unlikely to be financially viable. Given this, solar installations are likely to be most viable where the electricity generated can be used to supply buildings in the vicinity.

7.5.4. There is considered to be good potential for solar installations in Edinburgh, but further investigation into technical and commercial viability is required. A map of homes in Edinburgh identified as having good solar suitability is shown at Figure 25.

7.6. Energy for Edinburgh

7.6.1. In 2016, the Council incorporated Energy for Edinburgh Limited ("EFE"), an arm's length energy services company. A business plan prepared at this time identified three immediate areas of focus for EFE: solar photovoltaics, heat networks, and non-domestic energy efficiency. The company has not traded since being incorporated. The company currently has approximately £190,000 of funding available for energy project activities.

7.6.2. In April 2023, the Council prepared an options appraisal on the future of EFE. The appraisal concluded that there is currently no clear role for EFE but that it could potentially be used to progress heat network projects subject to further, more detailed, assessment. In August 2023, the Council's Policy and Sustainability Committee agreed that, following the publication of the Edinburgh LHEES, the Council should develop a business case looking at the scope for EFE to deliver heat network projects on a joint venture approach, to include exploration of embedding cooperative principles and community wealth building into EFE.

7.7. Conservation areas adaptation

7.7.1. On 2 November 2022, the City of Edinburgh Council's Planning Committee agreed to establish a short-term working group to assess the additional challenges association with the adaptation of homes in conservation areas to improve their energy efficiency, reflecting the need to balance making these improvements with protecting Edinburgh's built heritage.

7.7.2. In response to the decision, in spring 2023 the Council carried out consultation with residents living in listed buildings and/or conservation areas in Edinburgh on the challenges associated with adapting their homes to make them more efficient. The Council subsequently established a working group comprising planning officers; elected members; bodies with an interest in the historic environment, energy saving, and/or fuel poverty; and residents to review the feedback from the consultation and develop potential solutions. The

outcome of the working group was to improve communication of guidance and policies around retrofit works to historic buildings in Edinburgh.

7.8. Net zero communities

7.8.1. The 2030 Climate Strategy introduced a commitment to pilot a "net zero communities" approach: identifying a scalable approach to the retrofit of private housing across a community. The aim of the pilot is to improve understanding of building typologies; assess the level of opportunity for net zero projects within the community; enable community collaboration and decision making; identify existing funding packages; explore more strategic approaches to funding; and explore supply chains.

7.8.2. The Net Zero Communities pilot has been carried out on behalf of the Council by Changeworks. The second phase of the pilot will deliver the following:

- A technical feasibility assessment with detailed archetype modelling of measures and costs of net zero interventions for bungalows and one other typology, including evaluation of community energy generation potential.
- An engagement plan setting out community barriers and needs to support further community buy-in for community-led retrofit.
- High level toolkits and data for wider community use and deep modelling of "comfort as a service" potential to inform a scalable business case.

7.8.3. The Council is also involved in the Net Zero Neighbourhoods initiative led by the Cities Commission for Climate Investment (3Ci), which is exploring neighbourhood-level decarbonisation programmes. 3Ci has convened a Net Zero Investment Taskforce that is investigating the opportunities, challenges, and solutions around bringing additional private investment into neighbourhood-level decarbonisation projects.

7.9. Supply chain development and procurement

7.9.1. As set out in section 4.5, there are significant pressures on the availability of skills associated with heat decarbonisation, in particular a lack of heat pump installers in the market.

7.9.2. The Council has held discussions with Scottish Enterprise (Scotland's national enterprise agency) around the strengthening of the supply chain for net zero heating solutions. Scottish Enterprise's primarily focus is on manufacturers, technologists, and solution providers, but the agency will also support installers/contractors who have with innovative approaches that can reduce costs and disruption. Consideration has been given to staging "meet the buyer" events to stimulate the supply chain. Scottish Enterprise wishes to understand how the delivery of Local Heat and Energy Efficiency Strategies across the 32 Scottish local authorities will impact on the market.

7.9.3. Scotland Excel has developed a framework for procurement associated with Local Heat and Energy Efficiency Strategies. The framework is planned to be active from 2024 and is divided into three lots as follows:

- Lot 1 – Local Heat and Energy Efficiency Strategies (provision of services for Scottish local authorities related to Local Heat and Energy Efficiency Strategies).
- Lot 2 – Heat Network Zoning (provision of services for Scottish local authorities related to heat network zoning, supporting local authorities to review and evaluate the potential for heat networks at a strategic, area-wide level and to further the

development of Heat Network Zones from this strategic level towards project identification and feasibility assessment).

- Lot 3 – Local Area Energy Planning (the provision of services for Scottish local authorities related to Local Area Energy Plans, supporting local authorities to complete the technical analysis required for Local Area Energy Plans to enable net zero planning).

7.9.4. As set out in section 4.5, various government schemes are in place to help develop the supply chain, particularly with regards to heat pumps. While technological innovation is outwith the scope of the Edinburgh LHEES, it is recognised that this support has the potential to improve deliverability of heat decarbonisation.

7.10. City Heat & Energy Efficiency Board

7.10.1. A City Heat & Energy Efficiency Board for Edinburgh was established in 2023. This sits below the wider Edinburgh Infrastructure and Investment Programme Board (IIPB), now rebranded as the Net Zero Edinburgh Leadership Board, which was established to "support collaborative development of strategic city infrastructure in line with Edinburgh's net zero target by 2030".

7.10.2. The City Heat & Energy Efficiency Board is one of four thematic boards feeding in to the IIPB. Its aim is to "develop a whole city strategic approach for new build and retro fit of domestic and public buildings to meet [Edinburgh's] future energy needs" and to "ultimately deliver a Heat and Energy Masterplan that supports inclusive growth, workforce opportunities".

7.10.3. The goals of the Board are to:

- Develop a whole city strategic approach for new build and retrofit of domestic and public buildings while building new financial models for estates transformation.
- Complete an analysis of large building retrofit needs across the city.
- Deliver a Heat and Energy Masterplan.
- Develop an energy project pipeline.
- Share learning from feasibility studies and pilot retrofit projects.

8. Baseline analysis

8.1. Overview of building stock

8.1.1. This chapter of the Edinburgh LHEES provides a thematic overview of Edinburgh's building stock in the context of heat decarbonisation and energy efficiency. It profiles the stock in terms of characteristics such as energy performance; fuel type; tenure; type; and age. The data used to populate this chapter is primarily drawn from the Domestic Baseline Tool and Non-Domestic Baseline Tool, which themselves are based upon Home Analytics and Non-Domestic Analytics databases.

Emissions

8.1.2. Table 06 sets out the emissions of Edinburgh as of 2020. In total, Edinburgh produced 2,046 kilo-tonnes (i.e. 2.046 million metric tonnes) of emissions expressed as carbon dioxide equivalents (CO_2e). The domestic sector (households) accounted for the plurality of emissions in Edinburgh. The next largest sector was transport, which is outwith the scope of the Edinburgh LHEES. The third largest sector by emissions was the commercial sector (the use of electricity and gas by businesses, other than where this falls into other sectors).

8.1.3. Edinburgh accounted for 5.4% of overall Scottish emissions. For context, Edinburgh accounted for 0.3% of Scotland's land area and 9.6% of its population as of mid-2021.[xxix] The breakdown of emissions for Edinburgh is considerably different to that of Scotland, reflecting Edinburgh's character as a largely urbanised local authority area with a service sector focused economy. The domestic, commercial, and public sectors accounted for a disproportionately large share of emissions in Edinburgh relative to Scotland, while the agriculture, industry, and land use sector accounted for a disproportionately small share.

Table 06: Breakdown of emissions in Edinburgh and Scotland by end user sector (kt CO_2e) (2020)

Sector	Edinburgh emissions	Edinburgh percentage	Scotland emissions	Scotland percentage
Domestic	698	34.1%	8,236	21.7%
Transport	597	29.2%	8,496	22.4%
Commercial	247	12.1%	2,024	5.3%
Industry	176	8.6%	6,644	17.5%
Public	164	8.0%	1,208	3.2%
Waste management	124	6.0%	1,477	3.9%
Agriculture	29	1.4%	7,635	20.1%
Land use, land use change, and forestry	11	0.5%	2,223	5.9%
Total	**2,046**	**100%**	**37,945**	**100%**

Source: Department for Business, Energy and Industrial Strategy, UK Local Authority and Regional Greenhouse Gas Emissions

[xxix] National Records of Scotland: Land area and population density by administrative area, Scotland, mid-2021

8.1.4. Table 07 sets out the change in emissions in Edinburgh between 2010 and 2020 by sector. Overall, emissions fell by 44.6%. The commercial sector saw the largest fall in emissions, while the transport and domestic sectors saw the lowest reduction.

Table 07: Emissions in Edinburgh by end use sector (kt CO_2e) (2010 to 2020)

Sector	2010	2020	Change	% change
Domestic	1,135	698	–437	–38.5%
Transport	901	597	–304	–33.8%
Commercial	725	247	–477	–65.9%
Industry	352	176	–175	–49.8%
Public	289	164	–125	–43.3%
Waste management	N/A	124	N/A	N/A
Agriculture	N/A	29	N/A	N/A
Land use, land use change and forestry	18	11	–7	–40.2%
Total	**3,419**	**2,046**	**–1,526**	**-44.6%**

Source: Department for Business, Energy and Industrial Strategy, UK Local Authority and Regional Greenhouse Gas Emissions

Housing stock

8.1.5. There is no single definitive count of the number of buildings in Edinburgh. In part this is due to the number of buildings continually fluctuating as buildings are constructed and demolished. In part it is due to whether certain structures (for example, outbuildings) are treated as separate buildings or whether they are treated as an ancillary element of another building; the approach to this differs by dataset. As of March 2023, the Lothian Valuation Joint Board recorded 262,616 domestic properties (homes) and 23,180 non-domestic properties in Edinburgh: a total of 285,796 buildings.

8.1.6. The analysis carried out found that there was an overall total of 266,144 homes in Edinburgh. Of these, 69% are flats and 30% are houses.

Table 08: Breakdown of homes in Edinburgh by type

Type	Number	Percentage
Flat	184,382	69.3%
…of which block of flats	74,754	28.1%
…of which flat in mixed-use building	36,654	13.8%
…of which large block of flats	36,630	13.8%
…of which small block of flats	36,344	13.7%
House	81,160	30.5%
…of which detached house	23,109	8.7%
…of which mid-terrace house	22,392	8.4%
…of which semi-detached house	21,648	8.1%
…of which end-terraced house	14,011	5.3%

Type	Number	Percentage
Other/unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.7. Data from 2017 shows that, compared to Scotland overall, Edinburgh has a far greater proportion of flats, and a far lower proportion of terrace, semi-detached, and detached homes.

Table 09: Breakdown of homes in Edinburgh and Scotland by type (2017)

Type	Edinburgh number	Edinburgh percentage	Scotland number	Scotland percentage
Flats	168,500	67.8%	980,290	37.7%
Terraced	30,671	12.3%	532,963	20.5%
Semi-detached	24,751	10.0%	511,583	19.7%
Detached	24,215	9.7%	558,911	21.5%
Unknown	222	0.1%	19,427	0.7%
Total	**248,359**	**100%**	**2,603,174**	**100%**

Source: National Records of Scotland, Dwellings by Type

8.1.8. The 266,144 homes identified as part of the analysis had an average annual heat demand of 11,537 kilowatt hours, representing a total combined demand of 3.071 billion kilowatt hours per annum (3,071 million megawatt hours per annum).

8.1.9. 60% of homes in Edinburgh are owner-occupied. 21% are rented from private landlords, 11% are rented from the Council, and 8% are rented from housing associations.

Table 10: Breakdown of homes in Edinburgh by tenure

Type	Number	Percentage
Owner-occupied	158,172	59.4%
Rented	107,370	40.3%
…of which rented from private landlords	55,958	21.0%
…of which rented from the Council	21,065	7.9%
…of which rented from housing associations	30,347	11.4%
Unknown	602	0.2%
Total	**26,144**	**100%**

Source: Domestic Baseline Tool

8.1.10. Data from 2017 to 2019 shows that, relative to Scotland overall, Edinburgh had a broadly identical mix of owner occupied to rented properties. However, 61% of rental homes in Edinburgh were owned by private landlords and 39% were owned by social landlords, whereas at a Scottish level two-thirds of rental homes were owned by private landlords. The private rented sector therefore plays a far more significant role in Edinburgh than nationally. 95% of private rented homes (and 82% of social rented homes) in Edinburgh are flats.

Table 11: Breakdown of homes in Edinburgh and Scotland by tenure (2017–2019)

Type	Edinburgh number (000s)	Edinburgh percentage	Scotland number (000s)	Scotland percentage
Owner occupied	148	63%	1,530	62%
Rented	88	37%	949	38%
…of which private rented	54	23%	311	13%
…of which social rented	34	14%	638	26%
Total	236	100%	2,479	100%

Source: Scottish Government, Scottish House Condition Survey: 2017-2019 Local Authority Tables

8.1.11. 48.9% of homes in Edinburgh are located in mixed-tenure buildings. This introduces challenges around the decision-making when multiple owners must align their choices and timings to enable a retrofit.

Table 12: Breakdown of homes in Edinburgh by mixed-tenure status

Mixed-tenure status	Number	Percentage
Not mixed-tenure	135,331	50.8%
Mixed-tenure	130,211	48.9%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.12. Only 16% of homes in Edinburgh date from post-2002, i.e. 84% of the city's housing stock is over 20 years old. The largest age band of homes is older pre-1919 buildings (29%) which are hard to treat and require an affordable solution for their owners to decarbonise. Many of these buildings will be among the 10.2% of Edinburgh's domestic buildings which are listed, making it generally unviable to clad them with external wall insulation. It is understood that insulating these buildings (i.e. internal wall insulation which might be the only viable option) can be cost prohibitive, disruptive, and sometimes impractical.

Table 13: Breakdown of homes in Edinburgh by age

Type	Number	Percentage
Pre-1919	78,225	29.4%
1919-1949	35,643	13.4%
1950-1983	71,912	27.0%
1984-1991	14,589	5.5%
1992-2002	23,294	8.8%
Post-2002	41,879	15.7%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.13. Data from 2017 to 2019 shows that, relative to Scotland overall, Edinburgh had a significantly older housing stock, with around half of all homes pre-dating 1945.

Table 14: Breakdown of homes in Edinburgh and Scotland by age (2017–2019)

Age	Edinburgh	Scotland
Pre-1945	48%	30%
1945 onwards	52%	70%
Total	**100%**	**100%**

Source: Scottish Government, Scottish House Condition Survey: 2017-2019 Local Authority Tables

8.1.14. The analysis found that there were 27,282 listed homes in Edinburgh – approximately 10% of the overall stock. 69,095 homes sat within conservation areas – 26% of the total stock.

Table 15: Breakdown of homes in Edinburgh by listed status

Type	Number	Percentage
Listed	27,429	10.2%
…of which A listed	6,253	2.3%
… of which B listed	15,288	5.7%
… of which C listed	5,888	2.2%
Not listed	238,715	89.7%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

Performance of housing stock

8.1.15. This section of the Edinburgh LHEES sets out baseline data on the city's housing stock.

8.1.16. Table 16 breaks down the housing stock on Edinburgh by energy performance certificate (EPC) rating. As set out in section 6.1, the Scottish Government has set a target of all homes in Scotland achieving a minimum EPC rating of 'C' by 2033 where "technically and legally feasible and cost-effective", with regulations to be introduced to this effect. 144,604 homes in Edinburgh (54.3%) achieve an EPC rating of 'C' or above, while 120,938 (45.4%) do not.

Table 16: Breakdown of homes in Edinburgh by energy performance certificate rating

Type	Number	Percentage
A/B	33,263	12.5%
C	111,341	41.8%
D	87,144	32.7%
E	26,336	9.9%
F/G	7,458	2.8%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.17. Data from the Scottish House Condition Survey indicates that 53% of homes in Scotland achieved an EPC rating of 'C' or above as of 2021. While not directly comparable, this suggests Edinburgh has a similar performance as Scotland overall in terms of EPC ratings.

Table 17: Breakdown of homes in Scotland by EPC rating (2021)

Type	Number (000s)	Percentage
A/B	123	5%
C	1,185	48%
D	896	36%
E	248	10%
F/G	11	0%
Total	**2,463**	**100%**

Source: Scottish House Condition Survey

8.1.18. 51.0% of homes in Edinburgh have insulated walls, while 48.7% have uninsulated walls. There are approximately 129,706 homes in Edinburgh with uninsulated walls. Of these, 80,708 (62%) are solid brick or stone; 41,592 (32%) are cavity construction; 3,776 (3%) are timber frame; and 3,630 (3%) are system built.

Table 18: Breakdown of homes in Edinburgh by wall construction and insulation

Construction type	Number	Percentage
Insulated	135,836	51.0%
…of which cavity, insulated	89,450	33.6%
…of which solid brick/stone, insulated	7,895	3.0%
…of which system built, insulated	15,611	5.9%
…of which timber frame, insulated	22,880	8.6%
Uninsulated	129,706	48.7%
…of which cavity, uninsulated	41,592	15.6%
…of which solid brick/stone, uninsulated	80,708	30.3%
…of which system built, uninsulated	3,630	1.4%
…of which timber frame, uninsulated	3,776	1.4%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.19. Of the 41,592 homes with uninsulated cavity walls, 24,273 were classified as having hard-to-treat cavity walls, as set out in Table 19.

Table 19: Breakdown of hard-to-treat cavity walls in Edinburgh by reason

Construction type	Number	Percentage
Narrow uninsulated cavity risk	13,550	5.1%
Empty cavity: building likely greater than three storeys	10,697	4.0%

Construction type	Number	Percentage
Empty cavity: very severe or severe exposure zone	26	0.0%
Total	**24,273**	**9.1%**

Source: Domestic Baseline Tool

8.1.20. Data from the Scottish House Condition Survey indicates that 58% of homes in Scotland have insulated walls, while 42% have uninsulated walls. While not directly comparable, this suggests that Edinburgh performs somewhat worse than Scotland overall in terms of wall insulation.

Table 20: Breakdown of homes in Scotland by wall construction / insulation (2021)

Construction type	Number (000s)	Percentage
Insulated	1,478	58%
…of which cavity, insulated	1,371	54%
…of which solid/other, insulated	107	4%
Uninsulated	1,051	42%
…of which cavity, uninsulated	522	21%
…of which solid/other, uninsulated	529	21%
Total	**2,529**	**100%**

Source: Scottish House Condition Survey

8.1.21. 130,842 homes (49% of the total) in Edinburgh have lofts. Of these, 63,939 (48.9% of all homes with lofts) achieve the recommended level of loft insulation of 250 millimetres or more, while 66,903 (51.1% of all homes with lofts) have below the recommended level.

Table 21: Breakdown of homes in Edinburgh by loft insulation

Type	Number	Percentage
Loft	130,842	49.2%
…of which 99 mm ≤	25,823	9.7%
… of which 100 mm to 249 mm	41,080	15.4%
… of which ≥ 250 mm	63,939	24.0%
No loft	134,700	50.6%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.22. Data from the Scottish House Condition Survey indicates that, of the 76% of homes in Scotland that have lofts, 64% achieved at least 200 millimetres of insultation.

Table 22: Breakdown of homes in Scotland by loft insulation (2021)

Insulation	Number (000s)	Percentage
Loft	1,915	76%
…of which 99 mm ≤	130	5%

Insulation	Number (000s)	Percentage
… of which 100 mm to 199 mm	564	22%
… of which ≥ 200 mm	1,221	48%
No loft	614	24%
Total	**2,529**	**100%**

Source: Scottish House Condition Survey

8.1.23. 81% of homes in Edinburgh have double or triple glazing, while 19% have single (or partial) glazing.

Table 23: Breakdown of homes in Edinburgh by window glazing

Glazing	Number	Percentage
Double/triple	214,263	80.5%
Single/partial	51,279	19.3%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.24. 91% of homes in Edinburgh are connected to the gas grid, while 9% are not. Data from the Scottish House Condition Survey for 2017-2019 indicates that around three times as many properties were not connected to the gas grid at a Scottish level as in Edinburgh.

Table 24: Breakdown of homes in Edinburgh by gas grid connection

Gas grid connection status	Number	Percentage
Connected	241,396	90.7%
Not connected	23,735	8.9%
Unknown	1,013	0.4%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.25. 85.5% of homes in Edinburgh are heated using mains gas, while 12.4% are heated using electricity. Fewer than 1% of homes use other fuels such as liquified petroleum gas, oil, and biomass/solid fuels. 1.2% of homes have no fuel. A further 13.6% of homes use mains gas a secondary fuel, indicating that in total 99.1% of homes in Edinburgh have some degree of reliance upon mains gas as a fuel type.

Table 25: Breakdown of homes in Edinburgh by primary and secondary fuel type

Type	Primary number	Primary percentage	Secondary number	Secondary percentage
Mains gas	227,550	85.5%	36,317	13.6%
Electricity	33,110	12.4%	33,659	12.6%
Oil	622	0.2%	15	0.0%
Biomass/solid fuels	602	0.2%	6,884	2.6%

Type	Primary number	Primary percentage	Secondary number	Secondary percentage
Liquefied petroleum gas	512	0.2%	64	0.0%
No fuel	3,146	1.2%	N/A	N/A
No secondary system	N/A	N/A	188,603	70.9%
Unknown	602	0.2%	602	0.2%
Total	**266,144**	**100%**	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.26. Data from the Scottish House Condition Survey indicates that 11% of homes in Scotland are heated via electricity, while 80% use mains gas.

Table 26: Breakdown of homes in Scotland by main fuel type (2021)

Type	Number	Percentage
Mains gas	2,027	80%
Electricity	270	11%
Oil	146	6%
Liquefied petroleum gas	26	1%
Biomass/solid fuels	26	1%
Communal heating system	32	1%
Total	**2,527**	**100%**

Source: Scottish House Condition Survey

8.1.27. Table 27 sets out the main heating system of homes in Edinburgh. The vast majority of homes utilise a boiler. A very small proportion of homes are currently heating via heat networks / communal heating systems or heat pumps.

Table 27: Breakdown of homes in Edinburgh by main heating system

Type	Number	Percentage
Boiler	223,294	83.9%
Storage heaters	20,883	7.8%
Room heaters	8,584	3.2%
Communal	6,768	2.5%
No heating or hot water system	2,883	1.1%
Other	1,878	0.7%
Heat pump	1,252	0.5%
Unknown	602	0.2%
Total	**266,144**	**100%**

Source: Domestic Baseline Tool

8.1.28. Data from 2017 to 2019 shows that, relative to Scotland overall, Edinburgh had a broadly similar proportion of homes with full central heating. Private rented homes were significantly more likely to lack full central heating.

Table 28: Homes in Edinburgh and Scotland with central heating by tenure (2017–2019)

Tenure	Edinburgh central heating	Edinburgh no central heating	Scotland central heating	Scotland no central heating
Owner occupied	96%	4%	96%	4%
Private rented	90%	10%	91%	9%
Social rented	98%	2%	98%	2%
Total	**95%**	**5%**	**96%**	**4%**

Source: Scottish Government, Scottish House Condition Survey: 2017-2019 Local Authority Tables

8.1.29. Of the 266,144 homes in Edinburgh, it is calculated that 54,932 households (20.6%) are in fuel poverty, while 18,364 (6.9%) are in extreme fuel poverty.[xxx] The Scottish House Condition Survey suggests that, as of 2021, 19.6% of households in Scotland were in fuel poverty, while 9.5% were in extreme fuel poverty. These figures are likely to have been exacerbated due to the ongoing cost of living crisis.

Non-domestic stock

8.1.30. Table 29 sets out a breakdown of non-domestic properties in Edinburgh by classification as of March 2023. It can be seen that the four largest categories – offices; shops; industrial subjects; and hotels – together account for 76.4% of all non-domestic properties in Edinburgh. Relative to Scotland overall, Edinburgh has a significantly higher proportion of offices and hotels, and a significantly lower proportion of industrial and leisure properties.

Table 29: Breakdown of non-domestic properties in Edinburgh and Scotland by type (March 2023)

Type	Edinburgh number	Edinburgh percentage	Scotland number	Scotland percentage
Offices	7,009	30.2%	44,536	17.2%
Shops	5,785	25.0%	54,597	21.0%
Industrial subjects	3,147	13.6%	57,445	22.1%
Hotels etc	1,780	7.7%	5,657	2.2%
Public houses	503	2.2%	3,535	1.4%
Leisure, etc	419	1.8%	27,384	10.5%
Religious	400	1.7%	5,908	2.3%
Public service subjects	352	1.5%	9,219	3.6%
Other	3,785	16.3%	51,303	19.8%
Total	**23,180**	**100%**	**259,584**	**100%**

Source: Lothian Valuation Joint Board, General Statistics

[xxx] Fuel poverty is here defined as fuel bills accounting for over 10% of household income, while extreme fuel poverty is defined as fuel bills accounting for over 20% of household income.

8.1.31. Table 30 sets out non-domestic properties in Edinburgh as enumerated by the Non-Domestic Baseline Tool. This returns a considerably lower figure for the number of properties in Edinburgh, which is a result of differing methodologies for identifying properties. The proportion of each property is also considerably different. The data from the Non-Domestic Baseline Tool gives a total of 19,094 properties in Edinburgh, with over half of these being retail properties.

Table 30: Breakdown of non-domestic properties in Edinburgh by type

Classification	Number	Percentage
Retail	10,401	54.5%
Offices	3,072	16.1%
Cafés, pubs, restaurants, and takeaways	1,689	8.8%
Residential	1,606	8.4%
Storage / distribution	444	2.3%
Hotels	363	1.9%
Education	307	1.6%
Clubs and community centres	296	1.6%
Health	220	1.2%
Light manufacturing / industry / workshop	137	0.7%
General sports and leisure	82	0.4%
Museums, art galleries, libraries, law courts	50	0.3%
Heavy manufacturing / industry	36	0.2%
Large entertainment sites (e.g. theatres, cinemas, conference centres)	22	0.1%
Emergency services	11	0.1%
Other / screened out	358	1.9%
Total	**19,094**	**100%**

Source: Non-Domestic Baseline Tool

8.1.32. Table 31 breaks down the non-domestic stock by floor area. Properties of up to 500 square metres (5,382 square feet) represent over 80% of the stock.

Table 31: Breakdown of non-domestic properties in Edinburgh by floor area

Floor area[xxxi]	Number	Percentage
0-100 m^2	7,478	39.2%
101-500 m^2	8,125	42.6%
501-1,000 m^2	1,332	7.0%
>1,001 m^2	2,159	11.3%
Total	**19,094**	**100%**

Source: Non-Domestic Baseline Tool

[xxxi] The categories in the Non-Domestic Baseline Tool overlap, e.g. "0-100 m^2, 100-500 m^2". Dialogue with Changeworks has indicated that the categories are rolling.

8.1.33. Table 32 breaks down the non-domestic stock by the Scottish Government's Urban Rural Classification (8-fold). Reflecting the primarily urban nature of Edinburgh, over 95% of properties are classified as being located in large urban areas. The remainder are located in accessible small towns (primarily properties in South Queensferry) and accessible rural areas (primarily the outskirts of Edinburgh proper and outlying villages such as Balerno, Dalmeny, Kirkliston, Newbridge, and Ratho).

Table 32: Breakdown of non-domestic properties in Edinburgh by urban-rural classification

Classification	Number	Percentage
1: Large urban areas	18,171	95.2%
2: Other urban areas	0	0%
3: Accessible small towns	265	1.4%
4: Remote small towns	0	0%
5: Very remote small towns	0	0%
6: Accessible rural areas	658	3.4%
7: Remote rural areas	0	0%
8: Very remote rural areas	0	0%
Total	**19,094**	**100%**

Source: Non-Domestic Baseline Tool

Performance of non-domestic stock

8.1.34. Table 33 breaks down the non-domestic stock of Edinburgh by heating system. Relative to domestic properties, a significantly greater proportion of properties are heated by electricity, which is the main fuel type for over half the non-domestic properties in Edinburgh.

Table 33: Breakdown of non-domestic properties in Edinburgh by main fuel type

Type	Number	Percentage
Mains gas	6,417	33.6%
Electricity	10,836	56.6%
Oil	134	0.7%
Other	1,707	8.9%
Total	**19,094**	**100%**

Source: Non-Domestic Baseline Tool

8.1.35. The 19,094 properties had a total combined annual heat demand of 828,229 kilowatt hours per annum.

8.1.36. Due to the lack of data for the non-domestic stock there are many unknowns around the building stock performance.

Headline findings

8.1.37. The headline findings from the baseline analysis are set out below:

- **69%** of homes in Edinburgh are flats – a far greater proportion than Scotland overall.
- Private landlords account for **21%** of homes in Edinburgh – again far greater than Scotland overall.

- Around half of all homes in Edinburgh are located in mixed-tenure buildings.
- Homes in Edinburgh are significantly older than the Scottish average, with a tenth being listed and a quarter lying within conservation areas.
- **120,938** homes in Edinburgh have an EPC rating worse than 'C' and will require upgrading to achieve the target of all homes attaining this by 2033.
- To achieve recommended levels of energy efficiency, **129,706** homes in Edinburgh will require wall insulation (including 80,708 homes with hard-to-treat solid walls); **66,903** homes in Edinburgh will require (improved) loft insulation; and **52,279** homes will require improved glazing: a total of **248,888** interventions.
- To achieve decarbonisation of heat, at least **229,798** homes in Edinburgh will need their existing fossil fuel-based heating systems replaced, the vast majority of them (227,550) homes currently heated using gas boilers.
- At least **6,551** non-domestic buildings in Edinburgh will need their existing fossil fuel-based heating systems replaced.

Challenges and opportunities

8.1.38. The assessment of the baseline stock identifies both challenges and opportunities in terms of heat decarbonisation. The key challenges identified are:

- Edinburgh's very high proportion of flats (including its traditional tenements) and mixed-tenure buildings will greatly increase the challenge of implementing solutions. Unlike standalone homes with a single owner, where decisions can be straightforwardly taken, taking forward interventions to blocks of flats and other mixed-tenure buildings will require securing agreement from a range of stakeholders, including difficult to engage with parties such as absentee landlords. Given that coordinating even relatively uncontroversial matters such as essential repairs has historically proven challenging in some cases, it is envisaged that securing agreement from all necessary stakeholders for potentially complex and costly interventions will be particularly challenging, and in many cases unrealistic without further guidance and regulation from the Scottish Government. The high prevalence of flats also gives rise to practical challenges, for example a lack of space in which to install heat pumps and limited potential to install solar panels to offset electricity costs.[xxxii] However, with the appropriate financing options and a clear regulatory landscape there is a major opportunity for rolling out large-scale archetype-based retrofit projects.
- As a predominantly urban local authority, the vast majority of homes in Edinburgh are connected to the gas grid, as compared to other local authorities where a greater proportion of residents are reliant on alternative heating solutions such as oil. When secondary fuels are included, over 99% of homes in Edinburgh use gas. This is likely to increase the challenge of migrating homes to zero direct emissions heating sources, as gas heating offers many benefits: it is relatively cheap; offers a high flow temperature; is well understood in the marketplace; and it has a well-developed supply chain. As set out in section 10.3, the move to zero direct emissions heating

[xxxii] By their nature, flats have a low ratio of roof space to internal floor space, while the roofs of modern blocks of flats are often used for plant.

will need to make financial sense for building users. Heat networks can potentially play a major role in retaining many of the benefits associated with gas, with the added benefits of delivering maintenance cost savings and screening customers against energy price volatility whilst providing net zero heat.

- Relative to Scotland overall, Edinburgh has a very high proportion of rental homes owned by private landlords: more than one in every five homes. Conversely, Edinburgh has a considerably smaller social housing sector. This means that the City of Edinburgh Council (and other social housing providers) have far less direct influence over housing stock than other Scottish local authorities. Additionally, this means that achieving net zero will require securing buy-in from a large cohort of private landlords, who are likely to be primarily profit-driven and who do not have a direct incentive to improve energy efficiency of their properties (e.g. compared to owner-occupiers who can benefit from lower bills and increased comfort).
- Relative to Scotland overall, Edinburgh has a considerably older housing stock, with close to a third of homes being over a century old. One in 10 homes are listed. As set out elsewhere in this document, this historicity gives rise to both practical and policy challenges to carrying out interventions.
- Edinburgh has a higher proportion of homes with uninsulated walls than Scotland (over two-fifths), and in particular has a high proportion of hard-to-treat solid stone walls. One in five homes in Edinburgh do not have double/triple glazing.

8.1.39. No specific opportunities have been identified from the baseline analysis. As a more general point, it is noted that Edinburgh is a generally affluent city with a buoyant housing and commercial property market, meaning investment in upgrading properties may be more forthcoming than in areas with less buoyant markets. Edinburgh is also a compact, densely-populated city which may give rise to economies of scale and efficiencies around the roll-out of some solutions, for example heat networks. Edinburgh also benefits from the presence of many public sector bodies, universities, and other organisations who are expected to be key partners in delivering the Edinburgh LHEES.

9. Generation of Strategic Zones and pathways

9.1. Overview

9.1.1. This chapter of the Edinburgh LHEES sets out Strategic Zones for each of the six LHEES Considerations, identifying what needs to be done at a strategic level to adapt buildings (and the relevant infrastructure) in Edinburgh over the next 15-20 years to achieve the central aims of the Edinburgh LHEES – the "pathways" for decarbonising each element of the building stock.

9.1.2. This analysis sets a starting point for the generation of, and prioritisation, of Delivery Areas, as well as for further engagement and actions in the Delivery Plan.

9.1.3. Through stakeholder engagement and data analysis, the Council has identified the following priority areas of focus:

- Fuel poverty
- Heat networks
- Heat pump ready properties

9.2. Off-gas grid buildings

Introduction

9.2.1. This Consideration concerns the strategy for decarbonising buildings that are not currently connected to the gas grid. As set out in Chapter 8, approximately 9% of homes in Edinburgh are not currently connected to the gas grid. Buildings that are not currently connected to the gas grid represent a natural focus for heat pumps.

9.2.2. The focus of this Consideration is upon categorising the areas of Edinburgh not currently served by the gas grid based upon their readiness for heat pump retrofit. Properties falling into category 1 are deemed to have the greatest potential, followed by those in Category 2. Therefore, the category 1 Strategic Zones are the logic areas of focus for the deployment of heat pumps.

9.2.3. The Delivery Plan identifies Delivery Areas within the category 1 Strategic Zones that are proposed to be short-term areas of focus for heat pump retrofit.

9.2.4. Properties falling in Category 3 are assessed as having the lowest potential for heat pump retrofit. Some of these properties fall into prospective Heat Network Zones, and therefore connection to a heat network may be a viable alternative in these cases. Category 3 properties that do not fall into prospective Heat Network Zones represent the greatest challenge in terms of heat decarbonisation. Depending on the existing heating solution for these buildings, options may include direct electric heating or bioenergy.

Process

9.2.5. Within this Consideration, indicators have been identified for each of the four categories into which properties are to be grouped in terms of readiness for heat pump retrofit.

- Off gas grid – properties to be assessed under this Consideration are initially identified by using the Home Analytics dataset to identify properties not connected to the gas grid.[xxxiii]

9.2.6. Category 0 properties are those currently have a low or zero direct emissions heating system, or are connected to a heat work.

- Properties falling under category 0 are identified by using the Home Analytics dataset to identify properties currently heated using a heat pump or via a heat network.[xxxiv]

9.2.7. Category 1 properties are those considered as being highly suited for heat pump retrofit, being well insulated properties with wet heating systems.

- Category 0 property – properties that fall into category 0 are excluded. Data for this indicator is derived from the Home Analytics dataset.
- Listed property – properties that are listed are excluded from category 1, as listed buildings entail additional considerations for retrofit (such as listed building consent). Data for this indicator is derived from the Home Analytics dataset.
- Conservation Area – properties that are within a Conservation Area are excluded from category 1, as Conservation Areas entail additional considerations for retrofit. Data for this indicator is derived from the Home Analytics dataset.
- Insulated walls – properties must have insulated walls to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.
- Double/triple glazed windows – properties must have double or triple glazed windows to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.
- Loft insulation 99mm+ – properties must have at least 99mm of loft insulation to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.
- Main heating LPG, oil or biomass/solid – properties must be heated using liquefied petroleum gas, oil, or biomass/solid fuel, i.e. a "wet" system, to be included in category 1. This is as wet systems are considerably easier to transition to heat pumps than electric heating systems (or properties with no existing heating system). Data for this indicator is derived from the Home Analytics dataset.

9.2.8. Category 2 properties are those considered as having secondary potential for heat pump retrofit, needing moderate fabric upgrades and/or the addition of wet distribution systems.

- Category 0 or 1 property – properties that fall into category 0 or 1 are excluded from category 2. Data for this indicator is derived from the Home Analytics dataset.
- Insulated walls – properties that have uninsulated solid walls, or are system built, or have timber frames are excluded from category 2, as insulating these wall types to

[xxxiii] This is done by selecting properties where the value for "off gas grid" is "yes", or where the value for "off gas grid" is "unknown" and the value for "main fuel type" is not "mains gas".
[xxxiv] This is done by selecting properties where the value for "main heating system" is "communal" or "heat pump".

an appropriate standard is considered beyond a moderate upgrade. Data for this indicator is derived from the Home Analytics dataset.

- Risk of narrow uninsulated cavity – properties that have narrow uninsulated cavities are excluded from category 2, as these walls will be challenging to bring up to the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.

9.2.9. Category 3 properties are those identified as having the least current potential for heat pump retrofit, i.e. significant fabric upgrades would be required to make them heat pump ready.

- Category 3 properties are identified as off-gas properties that do not fall into category 0, 1, or 2 as part of the above assessment.
- Main heating fuel is oil or LPG – properties must be heated using liquefied petroleum gas or oil to be included in category 3. This is as solid fuel-based systems are considered to be more suited to switching to biomass in these circumstances. Data for this indicator is derived from the Home Analytics dataset.

Outputs

9.2.10. Of the 24,146 homes in Edinburgh not currently connected to the gas grid, 2,218 (9.2%) fall into category 0, i.e. they already have a low or zero direct emissions heating system, or are connected to a heat network. 9,470 properties (39.2%) fall into category 1, i.e. are identified as having the greatest potential for heat pump retrofit, while a further 7,223 properties (29.9%) fall into category 2, i.e. have secondary potential for heat pump retrofit. The remaining 5,235 (21.7%) properties fall into category 3, having the lowest potential for heat pump retrofit. Overall, therefore, approximately 78% of homes in Edinburgh not currently connected to the gas grid already have decarbonised heating or have good/reasonable potential to migrate to heat pumps, while 22% would require significant works to effectively migrate to heat pumps.

Table 34: Breakdown of off-gas domestic properties in Edinburgh by category and tenure

Category	Local authority	Housing association	Owner occupied	Private rented	Total
0	210	653	654	701	2,218
1	1,711	1,249	4,308	2,202	9,470
2	143	365	4,574	2,141	7,223
3	1,157	188	1,870	2,020	5,235
Total	**3,221**	**2,455**	**11,406**	**7,064**	**24,146**

Source: Domestic Baseline Tool

9.2.11. The number of off-gas homes falling into each category for each datazone of Edinburgh is visualised in Figure 16, Figure 17, Figure 18, and Figure 19. It can be seen that there is limited geographical patterning to the distribution of category 1 off-gas homes in Edinburgh, with pockets of category 1 properties throughout the city. Interventions in relation to this consideration are therefore likely to be focused on specific neighbourhoods rather than wider areas of the city. Homes in category 3, i.e. those homes that are least suited to be adapted to heat pumps, are somewhat concentrated in the city centre.

9.2.12. The 10 datazones with the highest counts of category 1 off-gas homes are set out in Table 35. These areas may be strong candidates for early-stage interventions to retrofit homes for the installation of heat pumps.

Table 35: Edinburgh datazones with highest counts of category 1 off-gas homes

Datazone	Name	Cat 1 off-gas homes	Total off-gas homes	% off-gas homes Cat 1
S01008770	Western Harbour and Leith Docks – 03	316	596	53.0%
S01008658	Dalry and Fountainbridge – 08	277	1,197	23.1%
S01008478	Stenhouse and Saughton Mains – 06	266	712	37.4%
S01008569	Moredun and Craigour – 01	264	420	62.9%
S01008456	The Calders – 03	263	537	49.0%
S01008932	Muirhouse – 04	254	423	60.1%
S01008462	Murrayburn and Wester Hailes North – 04	249	357	69.8%
S01008843	Broughton South – 04	200	1,069	18.7%
S01008929	Muirhouse – 01	195	635	30.7%
S01008516	Morningside and Craighouse – 03	175	673	26.0%

Source: Domestic Baseline Tool

9.2.13. The 10 datazones with the highest proportions of category 1 off-gas homes owned by the City of Edinburgh Council are set out in Table 36. This indicates the geographical areas where the Council has the greatest influence in terms of being able to roll-out heat pumps.

Table 36: Edinburgh datazones with highest % of local authority-owned category 1 off-gas homes

Datazone	Name	Council-owned Cat 1 off-gas homes	Total off-gas homes	% off-gas homes Council owned Cat 1
S01008462	Murrayburn and Wester Hailes North – 04	235	259	65.8%
S01008569	Moredun and Craigour – 01	260	273	61.9%
S01008456	The Calders – 03	259	273	48.2%
S01008929	Muirhouse – 01	194	380	30.6%
S01008906	West Pilton – 03	115	135	29.1%
S01008455	The Calders – 02	129	136	23.9%
S01008562	Hyvots and Gilmerton – 04	50	58	10.3%
S01008903	Drylaw – 05	24	27	5.0%
S01008702	Craigmillar – 02	16	22	5.0%
S01008679	Old Town, Princes Street and Leith Street – 06	39	256	5.0%

Source: Domestic Baseline Tool

9.2.14. Overall, the analysis carried out against this Consideration indicates that a significant proportion of homes in Edinburgh not currently connected to the gas grid offer strong

potential for conversion to heat pumps. However, the properties with the greatest potential are largely scattered across the city, with limited obvious focal points.

9.2.15. The most realistic and pragmatic approach for Edinburgh is to begin with less complicated and simpler decarbonisation projects, moving into more complex retrofits as the Council, supply chain, stakeholders and property owners expand their learning. As such, the Council proposes that early interventions should focus on category 1 properties which are most "heat pump ready". The Delivery Plan highlights Delivery Areas with a focus on category 1 properties.

9.3. On-gas grid buildings

Introduction

9.3.1. This Consideration concerns the strategy for decarbonising buildings that are currently connected to the gas grid. As set out in Chapter 8, the vast majority of domestic properties and the majority of non-domestic properties in Edinburgh are currently heated via mains gas. The decarbonisation of the heating of buildings in Edinburgh will necessitate every property served by gas being retrofit with an alternative heating solution.

9.3.2. The focus of this Consideration is upon categorising the areas of Edinburgh currently served by the gas grid based upon their readiness for heat pump retrofit. Properties falling into category 1 are deemed to have the greatest potential, followed by those in category 2. Therefore, the category 1 Strategic Zones are the logic areas of focus for the deployment of heat pumps.

9.3.3. The Delivery Plan identifies Delivery Areas within the category 1 Strategic Zones that are proposed to be short-term areas of focus for heat pump retrofit.

9.3.4. Properties falling in Category 3 are assessed as having the lowest potential for heat pump retrofit. Some of these properties fall into prospective Heat Network Zones, and therefore connection to a heat network may be a viable alternative in these cases. Category 3 properties that do not fall into prospective Heat Network Zones represent the greatest challenge in terms of heat decarbonisation. Green/blue hydrogen may be a potential solution for these properties, albeit as set out in section 4.5 the prospects for hydrogen are still unclear.

Process

9.3.5. Within this Consideration, indicators have been identified for each of the four categories into which properties are to be grouped in terms of readiness for heat pump retrofit.

- On gas grid – properties to be assessed under this Consideration are initially identified by using the Home Analytics dataset to identify properties connected to the gas grid.[xxxv]

9.3.6. Category 0 properties are those already connected to a heat network (or communal heating system), which are deemed to be highly suited to a heat pump solution.

- Properties falling under category 0 are identified by using the Home Analytics dataset to identify properties currently connected to a heat network.[xxxvi]

[xxxv] This is done by selecting properties where the value for "main heating system" is "communal".
[xxxvi] This is done by selecting properties where the value for "off gas grid" is "no", or where the value for "off gas grid" is "unknown" and the value for "main fuel type" is "mains gas".

9.3.7. Category 1 properties are those considered as being highly suited for heat pump retrofit, being well insulated properties with wet heating systems.

- Category 0 property – properties that fall into category 0 are excluded. Data for this indicator is derived from the Home Analytics dataset.
- Listed property – properties that are listed are excluded from category 1, as listed buildings entail additional considerations for retrofit (such as listed building consent). Data for this indicator is derived from the Home Analytics dataset.
- Conservation Area – properties that are within a Conservation Area are excluded from category 1, as Conservation Areas entail additional considerations for retrofit. Data for this indicator is derived from the Home Analytics dataset.
- Insulated walls – properties must have insulated walls to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.
- Double/triple glazed windows – properties must have double or triple glazed windows to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.
- Loft insulation 99mm+ – properties must have at least 99mm of loft insulation to be included in category 1, as this is required to achieve the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.

9.3.8. Category 2 properties are those considered as having secondary potential for heat pump retrofit, needing moderate fabric upgrades and/or the addition of wet distribution systems.

- Category 0 or 1 property – properties that fall into category 0 or 1 are excluded from category 2. Data for this indicator is derived from the Home Analytics dataset.
- Insulated walls – properties that have uninsulated solid walls, or are system built, or have timber frames are excluded from category 2, as insulating these wall types to an appropriate standard is considered beyond a moderate upgrade. Data for this indicator is derived from the Home Analytics dataset.
- Risk of narrow uninsulated cavity – properties that have narrow uninsulated cavities are excluded from category 2, as these walls will be challenging to bring up to the energy efficiency required for heat pumps. Data for this indicator is derived from the Home Analytics dataset.

9.3.9. Category 3 properties are those identified as having the least current potential for heat pump retrofit, i.e. significant fabric upgrades would be required to make them heat pump ready.

- Category 3 properties are identified as on-gas properties that do not fall into category 0, 1, or 2 as part of the above assessment.

Outputs

9.3.10. Of the 241,396 homes in Edinburgh currently connected to the gas grid, 4,778 (2.0%) fall into category 0, i.e. they already have a low or zero direct emissions heating system, or are connected to a heat network. 107,847 properties (44.7%) fall into category 1, i.e. are identified as having the greatest potential for heat pump retrofit, while a further 33,603 properties (13.9%) fall into category 2, i.e. have secondary potential for heat pump retrofit. The remaining 95,168 (39.4%) properties fall into category 3, having the lowest potential for heat pump retrofit. Overall, therefore, approximately 61% of homes in Edinburgh currently connected to the gas grid already have decarbonised heating or have good/reasonable

potential to migrate to heat pumps, while 39% would require significant works to effectively migrate to heat pumps. This indicates that the migration of on-gas homes to heat pumps is likely to prove considerably more challenging than the migration of off-gas homes.

Table 37: Breakdown of on-gas domestic properties in Edinburgh by category and tenure

Category	Local authority	Housing association	Owner occupied	Private rented	Total
0	957	2,403	726	692	4,778
1	20,291	10,174	63,905	13,477	107,847
2	2,278	2,522	22,561	6,242	33,603
3	3,600	3,511	59,574	28,483	95,168
Total	**27,126**	**18,610**	**146,766**	**48,894**	**241,396**

Source: Domestic Baseline Tool

9.3.11. The number of on-gas homes falling into each category for each datazone of Edinburgh is visualised in Figure 20, Figure 21, Figure 22, and Figure 23. It can be seen that there is limited geographical patterning to the distribution of category 1 on-gas homes in Edinburgh, with pockets of category 1 properties throughout the city. Interventions in relation to this consideration are therefore likely to be focused on specific neighbourhoods rather than wider areas of the city. Homes in category 3, i.e. those homes that are least suited to be adapted to heat pumps, are somewhat concentrated in the city centre.

9.3.12. The 10 datazones with the highest counts of category 1 on-gas homes are set out in Table 38. These areas may be strong candidates for short-term interventions to retrofit homes for the installation of heat pumps.

Table 38: Edinburgh datazones with highest counts of category 1 on-gas homes

Datazone	Name	Cat 1 on-gas homes	Total on-gas homes	% on-gas homes Cat 1
S01008549	Gilmerton South and the Murrays – 03	2,263	2,577	87.8%
S01009002	Dalmeny, Kirkliston and Newbridge – 06	1,328	1,597	83.2%
S01008704	Craigmillar – 04	1,240	1,661	74.7%
S01008768	Western Harbour and Leith Docks – 01	1,077	1,515	71.1%
S01008720	Jewel, Brunstane and Newcraighall – 04	766	885	86.6%
S01008931	Muirhouse – 03	709	808	87.8%
S01008920	Granton and Royston Mains – 01	685	1,111	61.7%
S01008908	West Pilton – 05	681	823	82.8%
S01008701	Craigmillar – 01	643	744	86.4%
S01008771	Western Harbour and Leith Docks – 04	627	642	97.7%

Source: Domestic Baseline Tool

9.3.13. The 10 datazones with the highest proportions of category 1 on-gas homes owned by the City of Edinburgh Council are set out in Table 39. This indicates the geographical areas where the Council has the greatest influence in terms of being able to roll-out heat pumps. It can be seen

that the Granton South and Wardieburn and the Murrayburn and Wester Hailes North areas of Edinburgh may offer good potential for Council-led retrofit projects.

Table 39: Edinburgh datazones with highest % of Council-owned category 1 on-gas homes

Datazone	Name	Council-owned Cat 1 on-gas homes	Total off-gas homes	% on-gas homes Council owned Cat 1
S01008918	Granton South and Wardieburn – 03	257	298	86.2%
S01008919	Granton South and Wardieburn – 04	226	267	84.6%
S01008461	Murrayburn and Wester Hailes North – 03	412	557	73.7%
S01008460	Murrayburn and Wester Hailes North – 02	277	380	72.9%
S01008463	Murrayburn and Wester Hailes North – 05	251	364	69.0%
S01008471	Broomhouse and Bankhead – 04	238	360	66.1%
S01008459	Murrayburn and Wester Hailes North – 01	275	426	63.7%
S01008712	Bingham, Magdalene and The Christians – 01	363	580	61.0%
S01008917	Granton South and Wardieburn – 02	237	395	59.0%
S01008930	Muirhouse – 02	414	653	57.2%

Source: Domestic Baseline Tool

9.3.14. Overall, the analysis carried out against this Consideration indicates that a significant proportion of homes in Edinburgh currently connected to the gas grid offer strong potential for conversion to heat pumps, albeit with a substantial majority of homes falling in category 3. However, the properties with the greatest potential are largely scattered across the city, with limited obvious focal points. Several areas of the city where the Council has extensive ownership of category 1 on-gas homes may be logical locations for early intervention.

9.3.15. The most realistic and pragmatic approach for Edinburgh is to begin with less complicated and simpler decarbonisation projects, moving into more complex retrofits as the Council, supply chain, stakeholders and property owners expand their learning. As such, the Council proposes that early interventions should focus on category 1 properties which are most "heat pump ready". The Delivery Plan highlights Delivery Areas with a focus on category 1 properties.

9.4. Heat networks

Introduction

9.4.1. This Consideration concerns the decarbonisation of space heating using heat networks. The Strategic Zones relating to this Consideration are the areas of Edinburgh that are deemed to be particularly suitable locations for the development of a heat network.

9.4.2. Edinburgh has a relatively high heat density, good availability of heat sources, and many buildings with high energy use intensity which can serve as "anchor loads" increasing the viability of a heat network. All of these have resulted in Edinburgh being ranked as the third-highest Scottish local authority area for potential of heat delivered by a heat network. There

may be scope to deliver a city-wide heat network (or "network of networks") covering much of Edinburgh's population.

9.4.3. This Consideration is of particular significance in that the Strategic Zones identified for it will form the basis of a statutory exercise that will be undertaken in line with the Heat Networks (Scotland) Act 2021 and Heat Networks (Heat Network Zones and Building Assessment Reports) (Scotland) Regulations 2023 to legally designate Heat Network Zones in Edinburgh. Therefore, unlike the other Considerations, the Strategic Zones associated with this Consideration will eventually have legal status, albeit the definitions of the Strategic Zones may evolve between the publication of the Edinburgh LHEES and the completion of the statutory exercise that will subsequently be undertaken. As noted in section 6.2, the Heat Network Zones will form the basis of a permitting regime that is intended to catalyse investment in heat networks by providing heat network operations with exclusive access to the consumer base within a Heat Network Zone.

9.4.4. To distinguish between the Strategic Zones relating to the heat networks consideration that are identified as part of the Edinburgh LHEEs and the Heat Network Zones that will be designated as part of the subsequent statutory exercise, the former are hereafter referred to as "prospective Heat Network Zones" and the latter as "statutory Heat Network Zones".

9.4.5. It is important to note that a location not falling within a designated Heat Network Zone does not preclude the development of a heat network in that area; conversely, a location falling within a Heat Network Zone does not guarantee that a heat network will be developed there. Heat network zones purely identify areas that are assessed as having the greatest potential for heat networks, i.e. where heat networks are expected to be most viable. The Heat Network Zones set out in the Edinburgh LHEES are not an exhaustive schedule of the locations in Edinburgh where a heat network may prove viable, but rather the areas where heat networks are judged to have the greatest viability and/or to be of the greatest strategic importance.

9.4.6. Consideration has been given to potential heat sources for heat networks in Edinburgh. It is recognised that the best solution for a given heat network will depend upon site-specific technical and commercial factors, and therefore the Edinburgh LHEES is not prescriptive about heat sources. However, potential sources have been identified and highlighted to inform subsequent work to deliver heat networks. Key potential sources of heat in Edinburgh include:

- Air source heat pumps – producing heat centrally using air source heat pumps.
- Sewer source heat pumps – capturing heat from the sewers running beneath Edinburgh. Scottish Water has advised that only sewers above 300mm in diameter and with potential sewage flow rates of 40 litres per second or faster are likely to be suitable. A plan showing these sewers in Edinburgh has been provided. A map of potential wastewater extraction opportunities is shown at Figure 05.
- Water source heat pumps – capturing heat from watercourses such as the Firth of Forth or the Almond River. Smaller watercourses such as the Water of Leith or Union Canal are unlikely to offer significant potential due to the environmental impact of extracting heat being proportionately greater.
- Seafield Waste Water Treatment Works – capturing heat from the treatment works, which currently discharges water into the Furth of Forth at a temperature of 15°C.

- Mine water heat – capturing heat from disused mine workings under Edinburgh. A map of known workings is shown at Figure 04. The Coal Authority has been appointed to prepare a more detailed initial opportunity map for Edinburgh.
- Waste heat – capturing heat generated as a byproduct of activities in Edinburgh.[65] Analysis of Scotland Heat Map data shows 63 potential waste heat sources in Edinburgh – comprising seven bakeries; two breweries; three data centres; one distillery; 48 supermarkets; and two wastewater treatment plants – with a total combined waste heat potential of 127,372 megawatt hours. A map of potential waste heat sources is shown at Figure 06.
- Millerhill Recycling and Energy Recovery Centre – utilising heat generated from the incineration of waste at the MRERC in Millerhill, Midlothian, which has the potential to offer a maximum heat export of 20 megawatt thermal to a heat network.

Process

9.4.7. Analysis has been undertaken to identify the locations in Edinburgh where it is judged that heat networks may represent a viable heat option. It is noted that the Edinburgh LHEES does not itself formally designate Heat Network Zones; rather, it sets out an evidence base that will support the formal designation of zones via a statutory process at a later date.

9.4.8. Analysis to identify the potential Heat Network Zones was undertaken on behalf of the Council by Ramboll. In line with the LHEES Methodology, Ramboll imported heat demand data from the Scotland Heat Map and created buffer zones around specific linear heat density levels. Detailed information on the methodology is set out in section 5.1.

9.4.9. In July 2023, a workshop facilitated by Ramboll and Turner & Townsend was held with key Council officers along with representatives of the Scottish Government's Heat Networks Regulation Team; SP Energy Networks; the University of Edinburgh; and Edinburgh World Heritage Trust.[xxxvii] The purpose of the workshop was as follows:

- To review the shortlisted options and determine which was the most appropriate on which to establish a baseline map.
- To review the baseline map and suggest any modifications and refinements based upon the knowledge and experience of the workshop attendees.

9.4.10. Key points raised in the workshop included:

- The emerging Heat Network Zones serve many of the most densely populated areas of Edinburgh.
- Heat networks may prove challenging to deliver in areas of archaeological significance, for example the Old Town. Conversely, however, heat networks may be a better solution than heat pumps for many tenemental properties due to avoiding the need for as extensive retrofitting and the need to find a location to install the heat pumps.
- Overly large Heat Network Zones raise the risk that property owners do not invest in zero direct emissions heating systems due to anticipating that they will be served by a heat network (which may take some time to manifest) whereas overly small heat

[xxxvii] It was determined that it would not be appropriate to invite heat network developers/operators to the workshop as the Council was in the process of tendering for a concessionaire to deliver a heat network serving Granton Waterfront and therefore a conflict of interest could potentially arise.

networks raise the risk of stranded assets if zero direct emissions heating systems are installed serving properties that are later connected to a heat network.

- Having a single Heat Network Zone or a small number of zones poses the risk that heat networks will take a very long time to be delivered due to the right to develop the heat network resting with a single developer.
- To operate effectively, heat networks are likely to require a means of storing heat.

9.4.11. Further consultation with key stakeholders identified the following points:

- There is a risk that heat network delivery models will drive unwanted behaviour, e.g. if contracts require off-takers to pay for a minimum quantity of heat, thus compromising efforts to minimise energy usage.
- Fifth generation (ambient) heat networks have the potential to minimise waste by balancing heating and cooling loads. This may work most effectively in areas where there are residential properties and commercial properties in close proximity. Commercial properties such as offices, data centres, and supermarkets may have significantly coolth requirements which can be offset against the heat requirements of residential properties.
- The development of a heat network in the Old Town of Edinburgh may prove challenging due to the solid rock making the deployment of pipework costly.

9.4.12. Following the workshop, the map was further refined to reflect considerations such as alignment with physical barriers (e.g. railway lines).

9.4.13. It is noted that the prospective Heat Network Zones have been informed primarily by technical considerations. Additional work would be required to refine the zones to reflect commercial considerations, for example the minimum size/demand required for a zone to be viable.

Outputs

9.4.14. Based upon the analysis and consultation set out above, 17 prospective Heat Network Zones in Edinburgh have been identified. Table 40 presents summary information on the 17 prospective Heat Network Zones (extracted from the Heat Network Zone Summary tool). A map of the zones is shown at Figure 22.

Table 40: Summary of prospective Heat Network Zones in Edinburgh

ID	Name[xxxviii]	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

[xxxviii] Names are purely illustrative.

ID	Name[xxxviii]	Screening criteria	Annual heat demand (MWh / year)	Anchor loads
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
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

ID	Name[xxxviii]	Screening criteria	Annual heat demand (MWh / year)	Anchor loads
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

Source: Heat Network Zone Summary

9.4.15. The 17 zones cover a significant proportion of Edinburgh. Collectively, they represent 3,733,322 megawatt hours of heat demand.[xxxix] This is a similar quantum to the First National Assessment, which, as set out in section 7.4, identified 41 zones with a total combined heat demand of 3,404,609 megawatt hours per annum.

9.4.16. The zones cover a range of areas, including densely populated inner-city neighbourhoods; suburban residential areas; industrial areas; Edinburgh Airport; and Heriot-Watt University's campus. They encompass a significant proportion of the city's population and the vast majority of its key employment areas.

9.4.17. Further analysis and consultation will be required to fully assess the opportunities presented by each zones. However, the following observations are made:

- The Council is currently in the process of tendering for a concessionaire to build and operate a heat network within the Granton zone.
- Other projects are at various stages of development within the Ingliston; South East Edinburgh; and Portobello & Seafield zones.
- The Old Town & Southside zone has by far the largest heat demand, followed by the Gorgie & Dalry zone and the Leith Walk zone.

9.4.18. Strategic challenges to the roll-out of heat networks in these zones are expected to include:

- Potential difficulties in developing cost competitive proposition for off-takers, particularly for as long as mains gas remains an alternative option.
- Potential difficulties securing connections, particularly while there is no legal requirement for any existing buildings to connect to heat networks.
- Challenges associated with sub-ground conditions, for example the presence of archaeological remains or bedrock.
- Challenges securing appropriate sites for energy centres and substations, particularly in the more central zones which are densely developed and are generally sensitive places to develop in terms of aesthetics.

9.4.19. It is noted that the Council will require to go through a further statutory process to formally designate Heat Network Zones. Given this, the prospective Heat Network Zones set out in the Edinburgh LHEES are likely to evolve somewhat.

9.4.20. Further information on the delivery of heat networks in Edinburgh is set out in the Delivery Plan.

[xxxix] I.e., 1,419 gigawatt hours or 1.4 terawatt hours

9.5. Poor building energy efficiency

Introduction

9.5.1. This Consideration identifies strategic areas of focus in Edinburgh in terms of poor energy efficiency, identifying where interventions are required to drive reductions in heat demand.

9.5.2. Poor energy efficiency has been assessed based on three indicators: single glazed windows, no/minimal loft insulation, and uninsulated walls.

Process

9.5.3. Three indicators have been identified for this LHEES Consideration:

- Single glazed windows – this indicator has a 33.333% weighting. It is a binary indicator used to identify properties with single glazed windows, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.
- Loft insulation – this indicator has a 33.333% weighting. It is a binary indicator used to identify properties with no/minimal loft insulation, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.
- Wall insulation – this indicator has a 33.333% weighting. It is a binary indicator used to identify properties with uninsulated walls, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.

Outputs

9.5.4. Analysis was conducted on the 265,542 homes in Edinburgh with a confirmed heat demand above zero to identify which suffered from poor energy efficiency, utilising the metrics set out above. The data indicates that uninsulated walls is by far the biggest driver of poor energy efficiency, with close to half of all homes in Edinburgh affected by this issue. Slightly under one-fifth of homes have single glazed windows. A significant number of homes (44,403 – 16.7% of the total stock) have both uninsulated walls and single glazed windows. 6,156 homes – 2.3% of the total stock – were afflicted with all three characteristics; these homes could be expected to represent the absolute poorest stock in terms of energy efficiency.

Table 41: Breakdown of poor energy efficiency homes in Edinburgh by characteristic(s)

Characteristic(s)	Number	Percentage
Loft insulation <100 mm	25,823	9.7%
Single glazed windows	51,279	19.3%
Uninsulated walls	129,706	48.8%
Single glazed windows / loft insulation <100 mm	6,686	2.5%
Single glazed windows / uninsulated walls	44,403	16.7%
Uninsulated walls / loft insulation <100 mm	15,598	5.9%
Uninsulated walls / loft insulation <100 mm / single glazed windows	6,156	2.3%

Source: Domestic Baseline Tool

9.5.5. The number of homes with uninsulated walls in each datazone of Edinburgh is visualised in Figure 26. It can be seen that these homes are concentrated in the city centre and in the neighbourhoods to the south, with additional pockets in the north and east of Edinburgh.

Figure 27 shows the distribution of homes with solid stone/brick walls, which are likely to prove particularly challenging to insulate; again these are clustered around the city centre.

9.5.6. The 10 datazones with the highest number of homes with uninsulated walls owned by the City of Edinburgh Council are set in Table 42. This indicates the geographical areas where the Council has the greatest influence in terms of being able to roll-out wall insulation.

Table 42: Edinburgh datazones with highest count of Council-owned homes with uninsulated walls

Datazone	Name	Council-owned homes with uninsulated walls	Total homes	% homes Council-owned with uninsulated walls
S01008929	Muirhouse – 01	227	635	35.7%
S01008746	Northfield and Piershill – 04	198	604	32.8%
S01008787	Great Junction Street – 03	190	212	89.6%
S01008675	Old Town, Princes Street and Leith Street – 02	186	785	23.7%
S01008760	Restalrig and Lochend – 05	158	513	30.8%
S01008757	Restalrig and Lochend – 02	143	417	34.3%
S01008809	Hillside and Calton Hill – 04	141	543	26.0%
S01008785	Great Junction Street – 01	139	533	26.1%
S01008801	Easter Road and Hawkhill Avenue – 04	121	730	16.6%
S01008703	Craigmillar – 03	118	482	24.5%

Source: Domestic Baseline Tool

9.5.7. The 10 datazones with the highest proportions of homes with all three characteristics of poor energy efficiency are set out in Table 43. This indicates the geographical areas with the greatest issues in terms of energy efficiency. It can be seen that the areas in question are largely more affluent areas of the city with significant elements of build heritage. This suggests that poor energy efficiency in Edinburgh is largely a product of the city's aged housing stock.

Table 43: Edinburgh datazones with highest count of homes with all three characteristics of poor energy efficiency

Datazone	Name	Homes with three characteristics	Total homes	% homes with three characteristics
S01008676	Old Town, Princes Street and Leith Street – 03	221	661	33.4%
S01008868	Deans Village – 01	105	673	15.6%
S01008882	Murrayfield and Ravelston – 02	105	446	23.5%
S01008861	Stockbridge – 05	98	414	23.7%
S01008593	Blackford, West Mains and Mayfield Road – 07	84	327	25.7%
S01008627	Morningside – 04	83	262	31.7%

Datazone	Name	Homes with three characteristics	Total homes	% homes with three characteristics
S01008685	Canongate, Southside and Dumbiedykes – 06	82	1235	6.6%
S01008852	New Town West – 04	73	642	11.4%
S01008600	Newington and Dalkeith Road – 02	71	337	21.1%
S01008850	New Town West – 02	70	465	15.1%

Source: Domestic Baseline Tool

9.5.8. The analysis against this Consideration has identified the quantity of interventions that will be required to achieve good energy efficiency across Edinburgh's residential stock. It has also identified the geographical areas where the greatest number of interventions are expected to be required. The analysis shows that the required interventions are concentrated in areas of Edinburgh with significant levels of historic buildings, suggesting that taking forward these interventions will in many cases require a more specialised approach.

9.5.9. The datazones with the greatest proportion of Council-owned homes with poor wall insulation may represent logical candidates for early intervention.

9.6. Poor building energy efficiency as a driver for fuel poverty

Introduction

9.6.1. This Consideration identifies strategic areas of focus in Edinburgh in terms of poor energy efficiency where this is a drive of fuel poverty, identifying where interventions are required to drive reductions in fuel poverty via reducing heat demand.

9.6.2. Poor energy efficiency as a driver of fuel poverty was assessed based on four indicators: the assessed probability of the households of the home in question being in fuel poverty, coupled with three indicators pertaining to poor energy efficiency (single glazed windows, no/minimal loft insulation, and uninsulated walls).

9.6.3. The nature of interventions relating to this Consideration will be influenced by the tenure of the building.

Process

9.6.4. Four indicators have been identified for this LHEES Consideration – one pertaining to fuel poverty and three pertaining to energy efficiency:

- Probability of fuel poverty – this indicator has a 50% weighting. It refers to the assessed probability of the household of the home in question being in fuel poverty. Data for this indicator is derived from the Home Analytics dataset.
- Single glazed windows – this indicator has a 16.666% weighting. It is a binary indicator used to identify properties with single glazed windows, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.
- Loft insulation – this indicator has a 16.666% weighting. It is a binary indicator used to identify properties with no/minimal loft insulation, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.

- Wall insulation – this indicator has a 16.666% weighting. It is a binary indicator used to identify properties with uninsulated walls, which contributes to low energy efficiency. Data for this indicator is derived from the Home Analytics dataset.

Outputs

9.6.5. Analysis was conducted on the 265,542 homes in Edinburgh with a confirmed heat demand above zero to assess properties in fuel poverty and where poor energy efficiency was a likely contributor to that. It is estimated that 54,944 homes (20.7% of the total) in Edinburgh are in fuel poverty, while 18,367 (6.9%) are in extreme fuel poverty.

9.6.6. Incidences of high fuel poverty and poor energy efficiency (measured based on the proportion of uninsulated walls) in each datazone of Edinburgh are visualised in Figure 28. It can be seen that the greatest concentration is shown to be in the historic city centre and the surrounding areas, as opposed to the areas of Edinburgh traditionally associated with deprivation. Given this, the Council has reservations about the robustness of these conclusions. Accordingly, the Council has opted not to focus on these conclusions for the purposes of interventions aimed at mitigating fuel poverty, but rather will continue to concentrate on areas of Edinburgh with high levels of deprivation as identified using the 2020 Scottish Index of Multiple Deprivation (SIMD), as this is judged to be a more robust approach. SIMD data is visualised in Figure 29.

9.6.7. Addressing fuel poverty is a longstanding priority for the Council, and properties at risk of fuel poverty have been the focus of Area-Based Scheme and other initiatives. As and when resources and powers are made available for the delivery of the Edinburgh LHEES, the Council will potentially look to grow activities in these areas further by reaching various tenure types (and potentially also non-domestic buildings) to catalyse area-wide transformation of the building stock. The Delivery Plan identifies Delivery Areas identified for this Consideration.

9.7. Mixed-tenure, mixed-use, and historic buildings

Introduction

9.7.1. This Consideration concerns the strategy for decarbonising buildings that are complex due to being mixed-tenure (i.e. with properties of different tenures within the same building, e.g. a block of flats with privately-owned and Council-owned flats), mixed-use (i.e. occupied by both domestic and non-domestic properties), and/or historic (i.e. listed and/or within a conservation area). These buildings are likely to prove challenging to decarbonise due to the range of stakeholders involved, their design, and planning policies that restrict interventions.

9.7.2. Mixed-tenure buildings present complexities due to the added challenge of securing buy-in from the different parties within the building. A primary example would be multi-storey buildings in which the Council still owns some properties, but others have passed to private owners under the Right to Buy policy (and may in turn have become private rented properties). In buildings such as this, the Council is unable to act unilaterally, but would require to secure buy-in for any interventions from all parties.

9.7.3. Mixed-use buildings, for example a block of flats with commercial units on the ground floor, present complexities due to the different owners/tenancies and design considerations associated with the different use classes.

9.7.4. Historic buildings present complexities due to their design generally not being conducive to the typical interventions that would be carried out to boost a building's energy efficiency, for example solid stone walls that cannot be treated with cavity insulation. This is compounded by planning policies which restrict the interventions that are permissible, for example prohibiting the replacement of traditional sash and cash windows with more energy efficient, but non-historically accurate, uPVC windows. Achieving a high standard of energy efficiency in a historic building can in some cases require complex bespoke interventions.

Process

9.7.5. Within this Consideration, indicators have been identified for each of the sub-Considerations.

9.7.6. Three indicators have been identified for the mixed-tenure sub-Consideration:

- Dwellings in building – this indicator is used to identify if there is more than one dwelling within a building. This indicator has a 25% weighting. Data for this indicator is derived from the Home Analytics dataset.
- Mixed tenure – this indicator is used to identify if there are properties identified as being mixed tenure within a building. This indicator has a 25% weighting. Data for this indicator is derived from the Home Analytics dataset.
- Parent and child UPRNs – this indicator is used to identify buildings with a mix of domestic and non-domestic properties. This indicator has a 50% weighting. Data for this indicator is derived from the One Scotland Gazetteer.

9.7.7. One indicator has been identified for the listed buildings sub-Consideration:

- Identification of listed buildings: listed building grade – this indicator is used to identify if the domestic property in question is registered as a listed building (no data was available to identify listed non-domestic properties). Data for this indicator is derived from the Home Analytics dataset.

9.7.8. Two indicators have been identified for the Conservation Areas sub-Consideration:

- Identification of properties in Conservation Areas: Conservation Area – this indicator is used to identify if the domestic property in question falls within a Conservation Area. Data for this indicator is derived from the Home Analytics dataset.

Identification of properties in Conservation Areas: Conservation Area – this indicator is used to identify if the property in question falls within a Conservation Area. Data for this indicator is derived from the Scotland Heat Map.

Outputs – mixed-tenure and mixed-use

9.7.9. Of the 266,144 homes in Edinburgh, 265,542 have a confirmed annual heat demand above zero. Of these 265,542 homes, 183,583 (69.1%) are located within buildings containing more than one dwelling and 130,211 (49.9%) are located within buildings with more than one tenure represented (i.e. buildings containing some combination of owner-occupied, privately rented, and/or socially rented homes). The former figure reflects the large proportion of flats in Edinburgh, which is characterised by its tenements. The latter figure represents the mix of ownerships across Edinburgh, with tenements often comprising a mix of owner-occupied homes and privately-rented homes, and blocks of flats developed by the public sector often comprising a mix of social housing and owned occupied/privately rented homes acquired as part of the Right to Buy Scheme. Buildings containing multiple homes and where multiple

tenures are represented are likely to prove considerably more challenging to retrofit than mono-ownership/mono-tenure buildings due to the added difficulties of securing agreements, allocating costs, and coordination.

9.7.10. Analysis of Unique Property Reference Numbers (UPRNs) in Edinburgh indicates that there are a total of 20,267 "parent shell" UPRNs (i.e. buildings), of which 18,642 (92.0%) are domestic, 1,162 (5.7%) are non-domestic, and 463 (2.3%) are "mixed". Mixed tenure buildings therefore account for a relatively low proportion of the total building stock in Edinburgh. Mixed tenure buildings in Edinburgh will typically be tenements (or more modern blocks of flats) with commercial units on the ground floor. As with mixed-ownership and mixed-tenure buildings, mixed-use buildings are likely to prove more challenging to retrofit.

9.7.11. The number of homes within buildings within more than one dwelling and within mixed-tenure buildings for each datazone of Edinburgh is visualised in Figure 30 and Figure 31.

9.7.12. The 10 datazones with the highest number of homes within buildings with more than one dwelling are set out in Table 44.

Table 44: Edinburgh datazones with highest number of homes in buildings with >1 dwelling

Datazone	Name	Homes in buildings with >1 dwelling	Total homes	% homes in buildings with >1 dwelling
S01008549	Gilmerton South and the Murrays – 03	1,689	2,577	65.5%
S01008768	Western Harbour and Leith Docks – 01	1,395	1,515	92.1%
S01008651	Dalry and Fountainbridge – 01	1,311	1,311	100%
S01008673	Meadows and Southside – 08	1,302	1,328	98.0%
S01008685	Canongate, Southside and Dumbiedykes – 06	1,197	1,235	96.9%
S01008658	Dalry and Fountainbridge – 08	1,196	1,197	99.9%
S01008843	Broughton South – 04	1,052	1,069	98.4%
S01008665	Tollcross – 07	1,033	1,055	97.9%
S01008920	Granton and Royston Mains – 01	1,009	1,111	90.8%
S01008691	Meadowbank and Abbeyhill North – 03	908	912	99.6%

Source: Domestic Baseline Tool

9.7.13. The 10 datazones with the highest number of homes within mixed-tenure buildings are set out in Table 45.

Table 45: Edinburgh datazones with highest number of homes in mixed-tenure buildings

Datazone	Name	Homes in mixed-tenure buildings	Total homes	% homes in mixed-tenure buildings
S01008549	Gilmerton South and the Murrays – 03	1,277	2,577	49.6%
S01008673	Meadows and Southside – 08	993	1,328	74.8%
S01008658	Dalry and Fountainbridge – 08	815	1,197	68.1%

Datazone	Name	Homes in mixed-tenure buildings	Total homes	% homes in mixed-tenure buildings
S01008843	Broughton South – 04	778	1,069	72.8%
S01008806	Hillside and Calton Hill – 01	735	762	96.5%
S01008800	Easter Road and Hawkhill Avenue – 03	733	735	99.7%
S01008778	The Shore and Constitution Street – 01	704	797	88.3%
S01008691	Meadowbank and Abbeyhill North – 03	687	912	75.3%
S01008496	Gorgie West – 05	677	677	100%
S01008855	Canonmills and New Town North – 03	671	705	95.2%

Source: Domestic Baseline Tool

9.7.14. Overall, the analysis carried out against this Consideration sets out the high proportion of multi-occupancy and mixed-tenure buildings in Edinburgh, reflecting the prevalence of flats in the city and the diverse ownership thereof. With 69.1% of homes in Edinburgh being in multi-occupancy buildings and 49.9% being with mixed-tenure buildings, planning and execution the works necessary to achieve improved energy efficiency and heat decarbonisation is likely to be complex, costly, and challenging.

Outputs – historic buildings

9.7.15. Of the 266,144 homes in Edinburgh, 265,542 have a confirmed annual heat demand above zero. Of these 265,542 homes, 27,282 (10.3%) are located within listed buildings and 68,834 (25.9%) are located within conservation areas.

9.7.16. The number of homes within listed buildings and within conservation areas for each datazone of Edinburgh is visualised in Figure 32 and Figure 33. It can be seen that homes in listed buildings are heavily concentrated in central Edinburgh, reflecting the historicity of the Old Town and New Town of Edinburgh. Homes within conservation areas follow a broadly similar pattern, but with a wider spread that reflects the distribution of Edinburgh's 50 conservation areas.

9.7.17. The 10 datazones with the highest number of homes in listed buildings are set out in Table 46. This indicates the geographical areas where retrofit activities are likely to be more challenging given the nature of the buildings in question and the relevant planning policies. It can be seen that Dean Village and the Old Town and New Town of Edinburgh are the areas with the highest counts of homes in listed buildings, with in some cases virtually all of the homes within the datazones being within listed buildings.

Table 46: Edinburgh datazones with highest number of homes in listed buildings

Datazone	Name	Homes in listed buildings	Total homes	% homes in listed buildings
S01008868	Deans Village – 01	651	673	96.7%
S01008852	New Town West – 04	621	642	96.7%
S01008869	Deans Village – 02	604	778	77.6%

Datazone	Name	Homes in listed buildings	Total homes	% homes in listed buildings
S01008677	Old Town, Princes Street and Leith Street – 04	586	679	86.3%
S01008871	Deans Village – 04	576	593	97.1%
S01008849	New Town West – 01	542	552	98.2%
S01008854	Canonmills and New Town North – 02	501	522	96.0%
S01008850	New Town West – 02	461	465	99.1%
S01008679	Old Town, Princes Street and Leith Street – 06	456	785	58.1%
S01008851	New Town West – 03	451	727	62.0%

Source: Domestic Baseline Tool

9.7.18. The 10 datazones with the highest number of homes in conservation areas are set out in Table 47. Again, this indicates the geographical areas where retrofit activities are likely to be more challenging given the relevant planning policies.

Table 47: Edinburgh datazones with highest number of homes in conservation areas

Datazone	Name	Homes in conservation areas	Total homes	% homes in conservation areas
S01008673	Meadows and Southside – 08	1,328	1,328	100%
S01008685	Canongate, Southside and Dumbiedykes – 06	1,089	1,235	88.2%
S01008859	Stockbridge – 03	788	788	100%
S01008675	Old Town, Princes Street and Leith Street – 02	785	785	100%
S01008869	Deans Village – 02	777	778	99.9%
S01008778	The Shore and Constitution Street – 01	773	797	97.0%
S01008679	Old Town, Princes Street and Leith Street – 06	746	785	95.0%
S01008851	New Town West – 03	727	727	100%
S01008855	Canonmills and New Town North – 03	704	705	99.9%
S01008777	North Leith and Newhaven – 06	681	707	96.3%

Source: Domestic Baseline Tool

9.7.19. Overall, the analysis carried out against this Consideration reflects the historic nature of Edinburgh's built environment, with a high number and proportion of homes within historic buildings and neighbourhoods, particularly in central Edinburgh. The analysis identifies central Edinburgh as the area that is likely to prove most challenging to retrofit in terms of both the practical challenges of adapting the buildings in question and the planning policies governing what changes to the buildings are permissible.

9.7.20. Decarbonising heat in historic buildings is likely to prove challenging regardless of the solution chosen. Heat networks have the advantage of requiring less extensive works to the buildings, but deploying the necessary pipework in areas with (for example) cobbled streets and extensive archaeological remains is likely to be onerous. Heat pumps, however, are likely to prove challenging given the extensive works needed to the building to enable heat pumps to work effectively (for example, making the property highly energy efficient and oversizing the radiators) and the need to identify a suitable location to site the heat pumps themselves (which is likely to be particularly challenging in traditional tenement properties which generally have only a modest curtilage).

9.7.21. It is important to note that not all listed buildings are alike and some will inevitably prove more straightforward or more complex to adapt than others.

10. Edinburgh LHEES findings and next steps

10.1. Summary of Edinburgh LHEES findings

10.1.1. The baseline analysis undertaken as part of the Edinburgh LHEES (Chapter 8) has identified multiple key challenges to decarbonising heat in buildings and improving energy efficiency across a local authority stemming from the particular characteristics of Edinburgh's building stock. In summary, these are:

- A very high proportion of flats and mixed-tenure buildings.
- Very high levels of existing gas grid connections.
- A high proportion of privately-rented homes and relatively small social housing sector.
- An aged housing stock with a significant proportion of listed buildings.
- A high proportion of homes with uninsulated walls, and in turn a high proportion of homes with hard-to-treat solid stone walls.

10.1.2. The analysis undertaken against the six LHEES Considerations has given rise to "Strategic Zones". These Zones are at the heart of the Edinburgh LHEES, setting out at a strategic level potential pathways for decarbonisation of Edinburgh's building stock and identifying areas of pressure in terms of energy efficiency.

10.1.3. The Strategic Zones for the three Considerations relating to heat decarbonisation are summarised below. In effect, the Strategic Zones for these Considerations show where heat pumps are judged to be a good solution, where heat networks are judged to be a good solution, where both are a viable solution, and where neither is judged to be a viable solution. This will help inform activity taken forward to decarbonise buildings.

- The Strategic Zones for off-gas grid buildings set out where there is greatest potential to migrate homes in Edinburgh not currently connected to the gas grid to heat pumps. The distribution of category 1 (highest potential) properties does not follow an easily interpretable geographic pattern.
- The Strategic Zones for on-gas grid buildings set out where there is greatest potential to migrate homes in Edinburgh currently connected to the gas grid to heat pumps. The distribution of category 1 (highest potential) properties does not follow an easily interpretable geographic pattern.
- The Strategic Zones for heat networks set out where there is judged to be greatest potential for the deployment of heat networks in Edinburgh. 17 zones have been identified across Edinburgh, reflecting a broad mix of different areas.

10.1.4. The Strategic Zones for the three Considerations relating to energy efficiency and other outcomes are summarised below. Rather than focusing on solutions, these Strategic Zones highlight areas of Edinburgh where there are the most acute pressures, and where there are characteristics of the building stock that is expected to add complexity to interventions.

- The Strategic Zones for poor building energy efficiency highlight the areas of Edinburgh where there are the highest incidences of poor energy efficiency due to inadequate insulation of walls, windows and/or lofts. These incidences of poor energy efficiency are concentrated in the more historic area of Edinburgh.

- The Strategic Zones for poor building energy efficiency as a driver for fuel poverty highlight areas of Edinburgh with both fuel poverty and high incidences of poor energy efficiency. Due to concerns about the robustness of the data emerging from the analysis relating to this Consideration, the Council has opted to instead use SIMD rankings as a proxy for fuel poverty.
- The Strategic Zones for mixed-tenure, mixed-use, and historic buildings highlight where there are high incidences of buildings that are expected to prove more challenging to retrofit due to their design and ownership. The Strategic Zones around historic buildings are as expected. The Strategic Zones for mixed-tenure and mixed-use buildings do not follow an easily interpretable geographic pattern.

10.2. Edinburgh LHEES areas of focus and approach

10.2.1. Since the Edinburgh LHEES covers a 20-year journey to decarbonisation, it is imperative to be selective about the highest priorities which the Council should bring forward. Three areas of activity have been identified that are assessed as representing the most appropriate focus for the inaugural Edinburgh LHEES:

- Targeting areas with the highest occurrences of fuel poverty and the 20% most deprived areas of Edinburgh as per the Scottish Index of Multiple Deprivation.
- Decarbonising Council-owned housing and non-domestic stock in line with national timescales.
- Supporting wider decarbonisation of Edinburgh within the funding and resources that are made available to the Council, beginning with a focus on facilitating a city-wide heat network (or "network of networks"), and upon area with the largest numbers of heat pump-ready homes as a prospective "quick win" in terms of heat decarbonisation.

10.2.2. Edinburgh's approach to delivering these priorities will need to consider both the role of the Council as well as that of all other parties in delivering the Edinburgh LHEES. It is imperative that the Edinburgh LHEES is not considered as a route to only decarbonise the Council's own (or only public sector owned) buildings, but rather a plan for everyone in Edinburgh to collectively decarbonise the city's stock. This includes a key role for the Council to help organise this activity as well as an indispensable role for the Scottish Government in making the resources and powers available to enable this. However, it also includes an equally important role for every property owner, investors, public bodies, relevant service providers and operators, the supply chain, heat network operators, and many others who will collectively deliver the ambition of the Edinburgh LHEES. Engaging these stakeholders will require appropriate incentives ("carrots and sticks").

10.2.3. The Council will seek to build the Edinburgh LHEES into its effective network of existing partnerships and relationships, and also seek new partnerships where they are productive. This is in recognition of the fact that on its own, the Council is unable to retrofit properties which it does not own or provide funding for those who ineligible for government schemes. Strong partnerships and coordinated activity will therefore be the basis for encouraging and directing wider action toward priorities.

10.2.4. The Edinburgh LHEES covers delivery of energy efficiency and decarbonisation measures across multiple tenures, types, and ages of building as well as heat networks across the city.

It does so with a deadline of 2040 for eliminating fuel poverty and 2045 for achieving net zero, making it one the most complex and urgent challenges facing the city. It is therefore critical to adopt a programmatic approach for delivering the Edinburgh LHEES, accounting for the host of factors that need to be aligned for success, such as: a robust supply chain and efficient avenues to procure work; funding and financing to support property owners; and clear communication on best practice and the help available. The Delivery Plan provides the basis for this approach, which the Council would seek to build upon as and when the Scottish Government makes further resources available for the delivery of the Edinburgh LHEES.

10.3. Edinburgh LHEES principles

10.3.1. The Edinburgh LHEES does not set out actions or allocate resources: these are the preserve of the Delivery Plan, which is the document that translates the evidence base, analysis, and strategic prioritisation set out in the Edinburgh LHEES into activity. The role of the Edinburgh LHEES is to present the scale of the challenges and the most effective pathways for addressing them. However, this section of the Edinburgh LHEES sets out certain high-level principles that are proposed to underpin how the Edinburgh LHEES is delivered and, in turn, how buildings in Edinburgh are made more energy efficient and their heating decarbonised.

[A] Interventions should be on a "fabric first" basis

10.3.2. Mindful of the adage that "the cheapest unit of energy is the one you do not consume", the minimisation of heat demand via improved energy efficiency is crucial to reducing fuel poverty.

10.3.3. While there are challenges around improving energy efficiency, the issues in question are largely practical/technical; energy efficiency improvements are therefore generally considerably less complex than heat decarbonisation interventions, and are considerably more likely to be no regret/low regret.

10.3.4. It is noted that physical interventions are typically not themselves enough to achieve sustained major reductions in heat demand; behavioural change is also vital.

10.3.5. Related to the above, it is important to ensure that solutions do not result in perverse incentives. For example, business cases developed to support the development of heat networks should not be contingent on heat demand rising or plateauing, and contractual arrangements put in place to deliver heat networks should not commit off-takers to consuming a minimum quantum of heat. Generating heat sustainably is a solution to a problem, not an end in itself.

[B] Interventions should be solution agnostic

10.3.6. The specific heating solution that is most appropriate for each building in Edinburgh will depend on a variety of factors, including financial considerations. Given this, it is proposed that the Council should take a solution agnostic approach to the decarbonisation of buildings in Edinburgh rather than favouring or prioritising a particular technological solution. Decisions on solutions should generally be taken on a technical basis. The role of the Edinburgh LHEES is to make the space and provide the direction and opportunities for people to decarbonise their properties in the best way they see fit. Where the Council needs to take direct decisions about energy efficiency and heat decarbonisation technologies (such as for retrofit of its own stock or to aid households in fuel poverty) these will be taken based on

capital and operating costs, practicality, infrastructure constraints and other considerations deemed appropriate by Council officers.

10.3.7. It is, however, recognised that the UK Government and Scottish Government have each undertaken significant measures to support the roll-out of heat pumps and heat networks. These include capital grants, regulatory regimes, supplier development programmes, and skills development programmes. Given this, it is considered that pragmatically, heat pumps and heat networks are likely to represent a more immediate opportunity than other solutions, for example direct electric heating. Further, it is recognised that heat networks are in some cases unlikely to be able to proceed without support from the public sector in the form of connecting anchor loads to the network, meaning in certain areas, e.g. the prospective Heat Network Zones, there may be a strategic case for selecting heat networks over heat pumps as a solution for buildings over which the public sector has influence.

10.3.8. Similarly, the Edinburgh LHEES does not rule out the scope for (green/blue) hydrogen to play a significant role in the heating of buildings in Edinburgh. However, it is recognised that the available evidence suggests there may be significant practical barriers to the widespread roll-out of hydrogen as a space heating solution. Given this, it is considered that the Council should retain an open mind to the use of hydrogen, but avoid relying upon it.

10.3.9. An exception to this principle is that City Plan 2030 mandates connections to existing heat networks.

[C] Interventions must make financial sense for building users

10.3.10. As set out in section 4.5, heat decarbonisation is not straightforward, with all solutions having their own challenges. Due to a combination of technical and economic factors, there is no solution that is universally competitive with gas in terms of cost and performance.

10.3.11. While the importance of migrating away from gas is recognised, this must be balanced against the needs of building users. The Council will generally not be able to support interventions where these result in additional heating costs and/or reduced amenity to building users. In particular the Council will generally not be able to support interventions to social homes that present a risk of increasing fuel poverty or reducing tenants' wellbeing. Additionally, it will generally be challenging to justify the replacement of plant that is not nearing the end of its working life, both from a financial and an embodied carbon perspective.

10.3.12. In the hypothetical event that all buildings in Edinburgh currently heated by gas boilers were somehow immediately migrated to zero direct emissions heating solutions, this would introduce significant cost pressures for many households and other building users.

10.3.13. It is recognised that various models have been developed that entail front-funding of interventions to buildings that reduce running costs and improve user comfort, with building users using some or all of the savings achieved to repay the upfront investment. An optimal arrangement will be financially beneficial for both the building user and the funder of the interventions while improving user comfort and reducing carbon emissions.

10.3.14. Related to the above, it is considered that decarbonisation of heat on a strategic scale is likely to be extremely challenging possible without a major structural change in electricity pricing. The current price differential between gas and electricity, which as set out in section 4.5 is one of the greatest in Europe, makes widespread electrification of heat unviable in many cases.

[D] New build properties offer the greatest potential

10.3.15. Many of the challenges associated with improving energy efficiency and decarbonising heat stem from the practical difficulties associated with retroactively implementing measures in buildings that were never designed for them. This results in design challenges along with ancillary issues such as disruption for building users. Given this, new build properties represent a natural opportunity to address these issues from the outset.

10.3.16. As set out in section 6.4, City Plan 2030 requires all new build properties in Edinburgh to "[achieve], predominantly through ultra-high fabric energy efficiency, a 'net zero' level of operational greenhouse gas emissions". In practice this amounts to a ban on gas boilers in new buildings in Edinburgh. The Scottish Government has also announced a proposed ban on the installation of gas boilers in new buildings in Scotland from 1 April 2024.

10.3.17. As set out in section 7.3, the Council itself ceased installing gas boilers in new Council-built social homes in 2020.

10.3.18. To facilitate the transition to net zero, it is important that planning policies and building regulations ensure that new building properties are designed and built to achieve the various targets set out by the Scottish Government.

10.3.19. Where the redevelopment of properties is concerned, while new build properties will inevitably be more energy efficient than the vast majority of older properties, this must be balanced against the embodied carbon of existing buildings. The choice of whether to redevelop or refurbish buildings will require careful consideration of multiple factors.

[E] Significant additional external funding will be required

10.3.20. As set out in this document, the capital costs of implementing the Edinburgh LHEES are vast.

10.3.21. While the City of Edinburgh Council has prepared the Edinburgh LHEES, it is important to note that the Council does not have sole responsibility for achieving the Edinburgh LHEES. In particular it is noted that responsibility for improving energy efficiency and decarbonising heat for properties that the Council does not own does not sit with the Council. The Council has limited powers and resources to compel other property owners to invest in their properties.

10.3.22. The Council's own financial resources will be focused on works to Council-owned properties, which themselves will be very costly to retrofit. It is extremely unlikely that the Council will be able to put significant resources into works to non-Council owned properties, except where these works are externally funded as in the Area-Based Schemes. Funding for works to non-Council owned properties will need to come from a range of sources, including the building owners themselves, institutional lenders, and grant funds.

10.3.23. As noted, the Scottish Government has established a Green Heat Finance Taskforce with the remit of developing "innovative financial solutions" for the retrofit of buildings in Scotland. Various other initiatives are ongoing around potential mechanisms for financing works to buildings. It is hoped that this work will deliver solutions that can be used to roll-out retrofit works on a widespread basis, albeit it is recognised that previous attempts such as the "Green Deal" have proven highly challenging with limited take-up.

10.3.24. The national funding landscape for retrofit works is complex with a vast array of grant and loan funds. It is suggested that there may be merit in rationalising this.

10.3.25. It is noted that all Scottish local authorities have been awarded a flat budget of £75,000 over the six-year period from 2022/23 to 2027/28 to "develop their strategies and delivery plans". The Council has utilised some of this resource to prepare the inaugural Edinburgh LHEES, and will utilise funding in later years to develop the second iteration. Remaining funding will be used for administration costs and to support the progression of small-scale early-action projects. While this funding is greatly welcomed, it is suggested that additional funding, confirmed over a longer-term period, will be required to fully administer the delivering of the Edinburgh LHEES, in particular the roll-out of heat networks. Further consideration of administrative resources is set out in the Delivery Plan.

10.3.26. Beyond the £75,000 budget, the Council does not currently have a budget in place for the delivery of the Edinburgh LHEES. While there may be some potential to optimise how existing funding streams, such as the Area-Based Schemes, are utilised, it is considered that this potential is fairly limited. Successful delivery of the Edinburgh LHEES will require additional ring-fenced resources.

10.3.27. Where the Edinburgh LHEES and associated workstreams – for example heat networks – give rise to additional duties for the Council for which fees are levied, it is considered that these must be set on a full cost recovery basis to avoid putting pressure on existing Council budgets.

[F] More comprehensive and robust data is needed

10.3.28. The analysis conducted as part of the preparation of the Edinburgh LHEES (and by other local authorities) has highlighted significant gaps and deficiencies in the data available on Scotland's building stock. For example, information on the energy efficiency and heating solutions of non-domestic buildings in Scotland is limited and inconsistent. These data gaps have been compounded by issues with the LHEES Methodology that have emerged over time.

10.3.29. Various areas of relevance to the Edinburgh LHEES are severely lacking in data. For example, data on existing heat networks in Scotland is very limited.

10.3.30. Bridging these data gaps will require both work by local authorities to improve understanding of the local picture and work by national bodies to strengthen data collection and compiling.

[G] Additional levers will be required to catalyse change

10.3.31. While, in line with principle 'C', interventions should ultimately be of the benefit of building users, it is suggested that additional powers to compel change will be required to deliver heat carbonisation in a timeous manner.

10.3.32. Without the appropriate standards, the Council is only able to encourage and inform homeowners and businesses to retrofit their properties after which it is their choice. Another example is that without widely available and easily accessible access to economically attractive finance, homes and businesses are unlikely to retrofit or be able to retrofit; the work of the Green Heat Finance Taskforce is required to unlock these avenues.

10.3.33. As noted, City Plan 2030 will mandate that new buildings connect to existing heat networks where this is possible. However, this policy has not yet been tested. Further, City Plan 2030 cannot compel existing properties to connect to heat networks. It is suggested that, for the roll-out of heat networks to be effective, new primary legislation compelling certain customers to connect to heat networks is likely to be required.

10.3.34. Also as noted, the proliferation of flats and mixed-tenure buildings in Edinburgh will greatly increase the complexity of implementing heat decarbonisation due to the difficulty of securing buy-in from all necessary stakeholders. It is suggested this may require legislative change that make it more straightforward for works to be agreed to be instructed to buildings of this nature, for example reform of the Tenements (Scotland) Act 2004 to widen the scope of the Tenement Management Scheme to cover energy efficiency upgrades and changes to heating systems.

10.3.35. In principle, every gas boiler in Edinburgh will require to be replaced to achieve net zero. Every additional gas boiler that is installed in an existing or new building therefore adds to the scale and cost of work that will be required to achieve net zero. Without action by government to prohibit this, the challenge of achieving net zero will continue to rise as technologies which, from a carbon perspective, are obsolescent continue to be installed. Further, the time and money invested in the installation of gas boilers (and other non-net zero carbon heating solutions) represent resources that could instead have been invested in net zero carbon heating solutions, while so long as gas boilers remain an option migration to other solutions by users and suppliers will be slower. A ban on the instalment of replacement gas boilers in existing buildings is therefore urgently needed.

11. Appendices

11.1. Heat network background information

Schedule of existing heat networks and communal heat networks in Edinburgh

Table 48: Schedule of existing heat networks and communal heat networks in Edinburgh

Name[xl]	Size	Technology	Intermediate area
"(013) / St Margaret's Court"	Unknown	Boiler	Baberton and Juniper Green
"(023) / Veitch's Square"	Unknown	Boiler	Stockbridge
"1 Dorset Place"	Small to medium (≥45kW to <1MW)	Boiler	Bruntsfield
"1 Exchange Crescent"	Large (≥1MW)	Boiler	Tollcross
"11-15 Thistle Street"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"113-115 George Street, Edinburgh"	Small to medium (≥45kW to <1MW)	Gas boiler	Deans Village
"116 Dundas St"	Small to medium (≥45kW to <1MW)	Boiler	Canonmills and New Town North
"1-17 Slateford Green"	Small to medium (≥45kW to <1MW)	Boiler	Gorgie West
"12 Royston Mains Crescent"	Small to medium (≥45kW to <1MW)	Other/unknown	Granton and Royston Mains
"12 Simpson Loan"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"120 Lasswade Road"	Small to medium (≥45kW to <1MW)	Boiler	Gracemount, Southhouse and Burdiehouse
"124-125 Princes Street"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"13 Manor Place"	Small to medium (≥45kW to <1MW)	Gas boiler	Deans Village
"13 Simpson Loan"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"14 Morrison Crescent	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"154 Dalry Road"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"1-6 Atholl Crescent"	Small to medium (≥45kW to <1MW)	Boiler	Tollcross
"160 Dundee Street"	Unknown	Other/unknown	Dalry and Fountainbridge
"17 Lauriston Park"	Small to medium (≥45kW to <1MW)	Boiler	Tollcross
"1984 - Argyle House"	Large (≥1MW)	Boiler	Tollcross
"2 Brandfield Street"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"20/22 Saughton Mains Terrace"	Small to medium (≥45kW to <1MW)	Other/unknown	Stenhouse and Saughton Mains
"21 Queen's Bay Crescent, Joppa, Edi"	Small to medium (≥45kW to <1MW)	Boiler	Joppa

[xl] All sic.

Name[xl]	Size	Technology	Intermediate area
"23-1 South Fort Street, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Bonnington
"24-28 Frederick Street, Edinburgh"	Small to medium (≥45kW to <1MW)	Gas boiler	Old Town, Princes Street and Leith Street
"26 Norton Park"	Small to medium (≥45kW to <1MW)	Boiler	Hillside and Calton Hill
"27 Hyvot Mill Road"	Small to medium (≥45kW to <1MW)	Boiler	Hyvots and Gilmerton
"3 Semple Street Exchange Place 3"	Small to medium (≥45kW to <1MW)	Boiler	Tollcross
"34 South Gyle Crescent"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"343 Gorgie Road"	Small to medium (≥45kW to <1MW)	Boiler	Gorgie West
"38 Thistle Street"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"39-41 George St"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"4/5 Lochside View"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"4/8 South Charlotte St"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"43 Melville Street"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"44/46 Hanover Street"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"45 George Street"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"5 Semple Street Exchnage Place 2"	Large (≥1MW)	Boiler	Tollcross
"6 Royston Mains Close"	Small to medium (≥45kW to <1MW)	Boiler	Granton and Royston Mains
"60 Bingham Drive, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Bingham, Magdalene and The Christians
"6-10 Bellsbrae, Edinburgh"	Unknown	Boiler	Deans Village
"63-65 George Street The Auction Hou"	Small to medium (≥45kW to <1MW)	Gas boiler	Old Town, Princes Street and Leith Street
"6-8 George Street Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"68-70A George Street, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"7 and 9 Lanark Road"	Small to medium (≥45kW to <1MW)	CHP	Currie East
"7 Exchange Crescent"	Large (≥1MW)	Boiler	Tollcross
"7 Lochside View, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"7 Melville Cresent"	Small to medium (≥45kW to <1MW)	Gas boiler	Deans Village
"7 St Nicholas Place"	Small to medium (≥45kW to <1MW)	Boiler	Gorgie West
"8 Simpson Loan"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"80 George St"	Unknown	Other/unknown	Deans Village
"9 Gilmour's Close, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street

Name[xl]	Size	Technology	Intermediate area
"90 - 92 George Street"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"Abbeyhill, 82 Montrose Terrace"	Small to medium (≥45kW to <1MW)	Boiler	Abbeyhill
"Anna Macleod Hall"	Large (≥1MW)	CHP	Currie West
"Ardmore House, 40 George Street, Ed"	Micro (Less than 45 kW)	Other/unknown	Old Town, Princes Street and Leith Street
"Atholl Exchange, 6 Canning St"	Small to medium (≥45kW to <1MW)	Boiler	Tollcross
"Bainfield Student Accomodation"	Large (≥1MW)	Other/unknown	Dalry and Fountainbridge
"Boiler 1, 50 Frederick Street, Edin"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"Boiler 1, 6 Redheughs Rigg, Edinbur"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"Boiler 1, Edinburgh Quay 2, Edinbur"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"Boiler 1, Osborne House, 1-5 Osborn"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"Boiler 1, Quartermile One, 15 Lauri"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"Boiler 2, 50 Frederick Street, Edin"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"Boiler 2, 6 Redheughs Rigg, Edinbur"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"Boiler 2, Edinburgh Quay 2, Edinbu"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"Boiler 2, Osborne House, 1-5 Osborn"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"Boiler 2, Quartermile One, 15 Lauri"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"Boiler 3, 6 Redheughs Rigg, Edinbur"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"Boiler 3, Edinburgh Quay 2, Edinbur"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"Boiler 3, Quartermile One, 15 Lauri"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"Cables Wynd Edinburgh"	Unknown	Boiler	Great Junction Street
"Cables Wynd House"	Large (≥1MW)	Boiler	Great Junction Street
"Capital Building"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"Castlebrae Glebe"	Unknown	Boiler	Craigmillar
"Causewayside House"	Small to medium (≥45kW to <1MW)	Boiler	The Grange
"Centrum house"	Small to medium (≥45kW to <1MW)	Boiler	Canonmills and New Town North
"Chalmers Street"	Small to medium (≥45kW to <1MW)	Boiler	Meadows and Southside
"Christina Miller Energy Centre"	Small to medium (≥45kW to <1MW)	Other/unknown	Currie West
"Christina Miller Energy Centre"	Small to medium (≥45kW to <1MW)	CHP	Currie West
"Commercial Quay"	Unknown	Other/unknown	The Shore and Constitution Street

Name[xl]	Size	Technology	Intermediate area
"Conference House, 152 Morrison Stre"	Small to medium (≥45kW to <1MW)	Boiler	Tollcross
"Cornerstone Building"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"Deanhaugh St, Stockbridge, Edinburg"	Small to medium (≥45kW to <1MW)	Boiler	Stockbridge
"Drum Edinburgh"	Unknown	Boiler	Gilmerton South and the Murrays
"Elder House, 24 Elder Street"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"Elliot House"	Small to medium (≥45kW to <1MW)	Boiler	Hillside and Calton Hill
"Ferniehill Avenue/Drum Avenue"	Small to medium (≥45kW to <1MW)	Boiler	Fernieside and Moredun South
"Fortune Place (St Barnabas)"	Micro (Less than 45 kW)	CHP	Old Town, Princes Street and Leith Street
"Fountain Court"	Small to medium (≥45kW to <1MW)	Boiler	Moredun and Craigour
"George Square 1"	Unknown	CHP	Meadows and Southside
"Greendykes and Wauchope House"	Large (≥1MW)	Other/unknown	Niddrie
"Greendykes C"	Small to medium (≥45kW to <1MW)	Other/unknown	Craigmillar
"Greendykes Edinburgh"	Unknown	Boiler	Niddrie
"Harvester Way, Wester Hailes, Edinb"	Small to medium (≥45kW to <1MW)	Boiler	Clovenstone and Wester Hailes
"Haston House"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"Hays Community Business Centre"	Small to medium (≥45kW to <1MW)	Boiler	Niddrie
"Holyrood Park House"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"Kings Buildings 1"	Unknown	CHP	Blackford, West Mains and Mayfield Road
"Lady Nicolson Court"	Small to medium (≥45kW to <1MW)	Boiler	Canongate, Southside and Dumbiedykes
"Lanark Road West"	Small to medium (≥45kW to <1MW)	CHP	Currie East
"Lighthouse Court"	Small to medium (≥45kW to <1MW)	Boiler	Granton and Royston Mains
"Lochrin Square"	Small to medium (≥45kW to <1MW)	Other/unknown	Tollcross
"Lomond & Leven House, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	South Gyle
"London Road, Edinburgh"	Small to medium (≥45kW to <1MW)	Boiler	Meadowbank and Abbeyhill North
"Maidencraig Court"	Small to medium (≥45kW to <1MW)	Boiler	Blackhall
"Market Court"	Small to medium (≥45kW to <1MW)	Boiler	Granton and Royston Mains
"Milton Road Heating System"	Small to medium (≥45kW to <1MW)	Boiler	Joppa
"Murryburgh House"	Small to medium (≥45kW to <1MW)	Gas boiler	Murrayfield and Ravelston
"Nine Edinburgh BioQuarter, 9 Little"	Unknown	Boiler	Craigmillar

Name[xl]	Size	Technology	Intermediate area
"Omni Centre, 28 Greenside Place"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"Orchard Brae House, 30 Queensferry"	Large (≥1MW)	Boiler	Comely Bank
"Oriam South Bldg"	Small to medium (≥45kW to <1MW)	Boiler	Currie West
"Pollock Halls 1"	Unknown	CHP	Newington and Dalkeith Road
"Princes Edinburgh"	Unknown	Trigeneration	Old Town, Princes Street and Leith Street
"Quartermile One, 15 Lauriston Place"	Large (≥1MW)	Other/unknown	Meadows and Southside
"Riverside House, 502 Gorgie Road"	Small to medium (≥45kW to <1MW)	Boiler	Stenhouse and Saughton Mains
"Roland House, Newbridge"	Micro (Less than 45 kW)	Boiler	Dalmeny, Kirkliston and Newbridge
"Rosewell House, 2A Harvest Drive"	Small to medium (≥45kW to <1MW)	Other/unknown	Dalmeny, Kirkliston and Newbridge
"S0891 Clarendon House"	Small to medium (≥45kW to <1MW)	Boiler	Deans Village
"Sailmaker, Edinburgh"	Large (≥1MW)	CHP	Western Harbour and Leith Docks
"Saltire Court, 20 Castle Terrace, E"	Large (≥1MW)	Other/unknown	Tollcross
"Saltire Street (Upper Strand)"	Large (≥1MW)	Boiler	Granton and Royston Mains
"Saunders Court"	Small to medium (≥45kW to <1MW)	Boiler	Corstorphine
"Shore Road"	Small to medium (≥45kW to <1MW)	Boiler	Queensferry West
"Sirius Building, Clocktower Estates"	Small to medium (≥45kW to <1MW)	Other/unknown	South Gyle
"Slateford Green"	Small to medium (≥45kW to <1MW)	Boiler	Gorgie West
"Slateford Student Accomodation"	Small to medium (≥45kW to <1MW)	Other/unknown	Shandon
"SPACE, 11 Harewood Road"	Small to medium (≥45kW to <1MW)	Boiler	Craigmillar
"Spectrum House, 2 Powderhall Road"	Small to medium (≥45kW to <1MW)	Boiler	Broughton North and Powderhall
"Sports Academy Bldg"	Small to medium (≥45kW to <1MW)	Boiler	Currie West
"St James Shopping Centre"	Large (≥1MW)	Boiler	Old Town, Princes Street and Leith Street
"Station Car Park"	Unknown	Boiler	Old Town, Princes Street and Leith Street
"Stenhouse Mill Wynd"	Small to medium (≥45kW to <1MW)	Boiler	Slateford and Chesser
"Stewart House"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"Tanfield House"	Large (≥1MW)	Gas boiler	Broughton North and Powderhall
"The Green, Longstone Road, Edinburg"	Large (≥1MW)	Boiler	Longstone and Saughton
"The Student Housing Company (Edinbu"	Small to medium (≥45kW to <1MW)	CHP	Abbeyhill
"The Student Housing Company (Edinbu"	Small to medium (≥45kW to <1MW)	CHP	Tollcross

Name[xl]	Size	Technology	Intermediate area
"The Student Housing Company (Edinbu"	Small to medium (≥45kW to <1MW)	Boiler	Dalry and Fountainbridge
"The Tun"	Small to medium (≥45kW to <1MW)	Boiler	Longstone and Saughton
"The Waterfront"	Small to medium (≥45kW to <1MW)	Boiler	Granton and Royston Mains
"Thomsons Court, 58 Grassmarket, Edi"	Small to medium (≥45kW to <1MW)	Boiler	Old Town, Princes Street and Leith Street
"Thorntree Court"	Unknown	Boiler	South Leith
"Vantage Point, 23 St Johns Rd"	Small to medium (≥45kW to <1MW)	Boiler	Corstorphine
"Waterfront Avenue, Edinburgh"	Large (≥1MW)	Boiler	Granton and Royston Mains
"Wemyss House, 6-8 Wemyss Place"	Small to medium (≥45kW to <1MW)	Boiler	New Town West
"West Pilton Crescent"	Small to medium (≥45kW to <1MW)	Other/unknown	West Pilton
"Westcott House"	Small to medium (≥45kW to <1MW)	Boiler	Queensferry East
"Westfield Avenue"	Small to medium (≥45kW to <1MW)	Other/unknown	Gorgie West
"Westfield Court"	Large (≥1MW)	Boiler	Gorgie West
"Wharton Square, Edinburgh"	Large (≥1MW)	Boiler	Meadows and Southside
"William Arrol Building"	Large (≥1MW)	Boiler	Currie West

Figure 01: Plan of existing heat networks and communal heat networks in Edinburgh

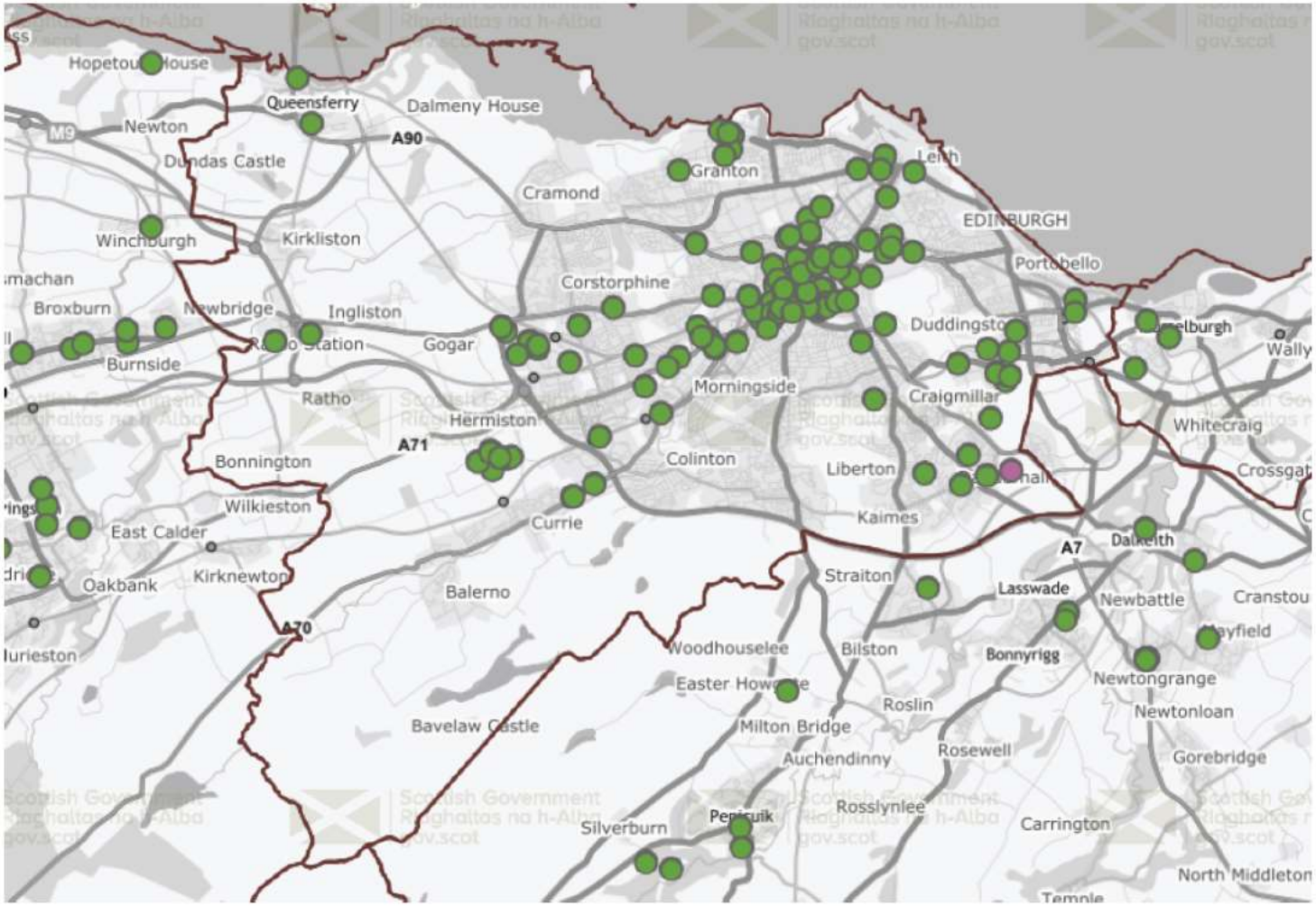


Figure 02: First National Assessment – potential Heat Network Zones identified in Edinburgh (baseline and stringent criteria)

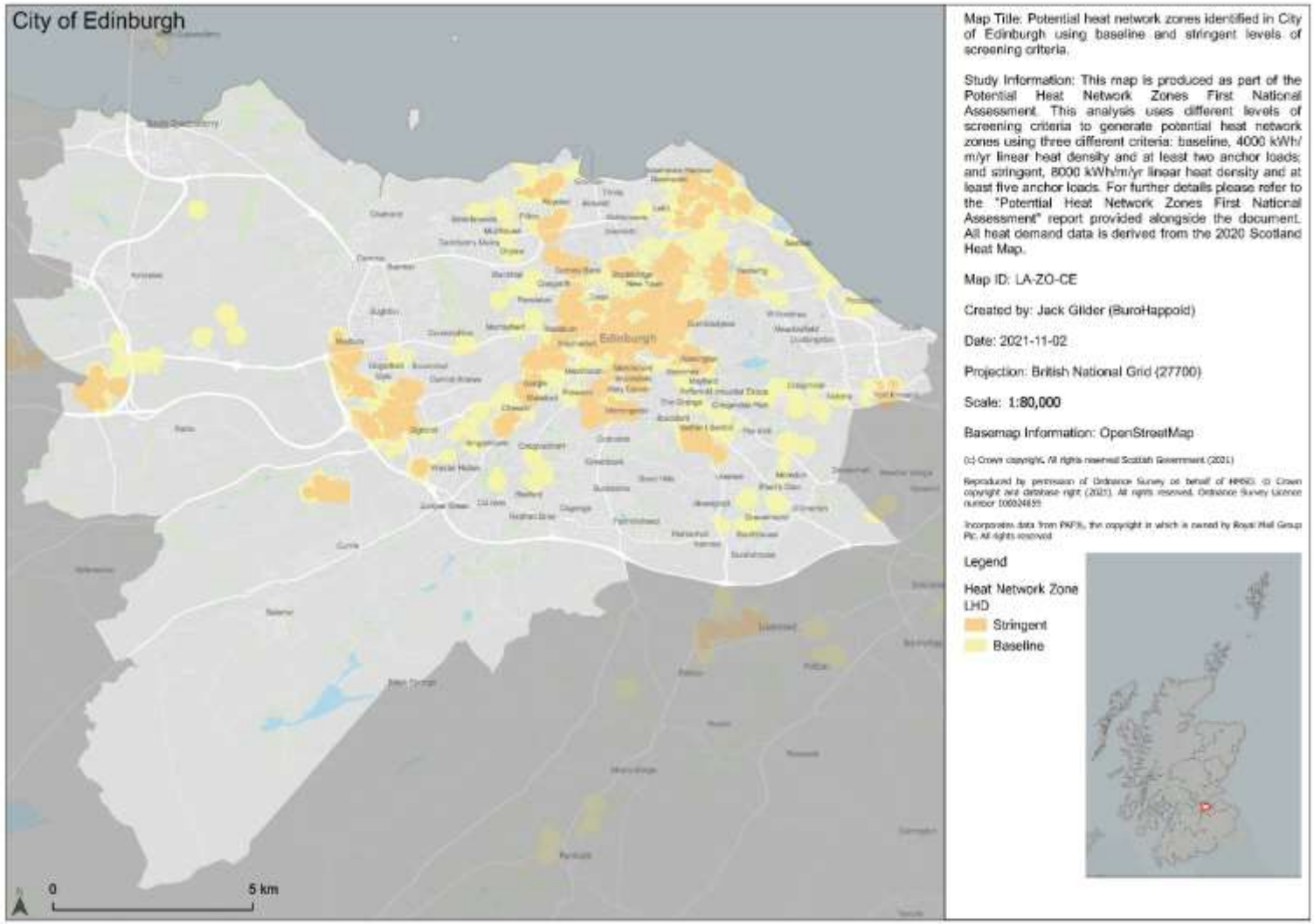


Figure 03: First National Assessment – largest potential Heat Network Zone identified in Edinburgh (stringent criteria)

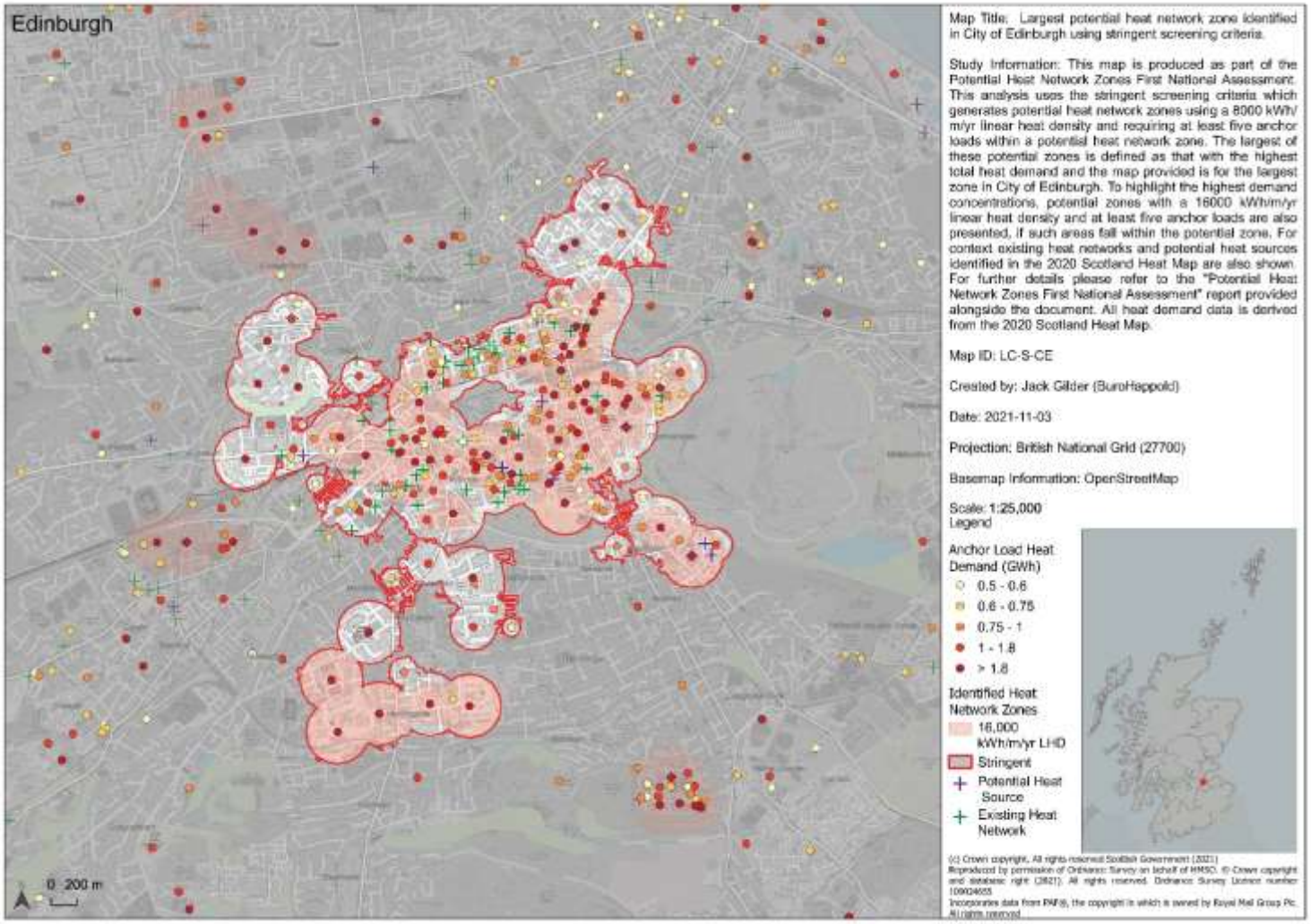
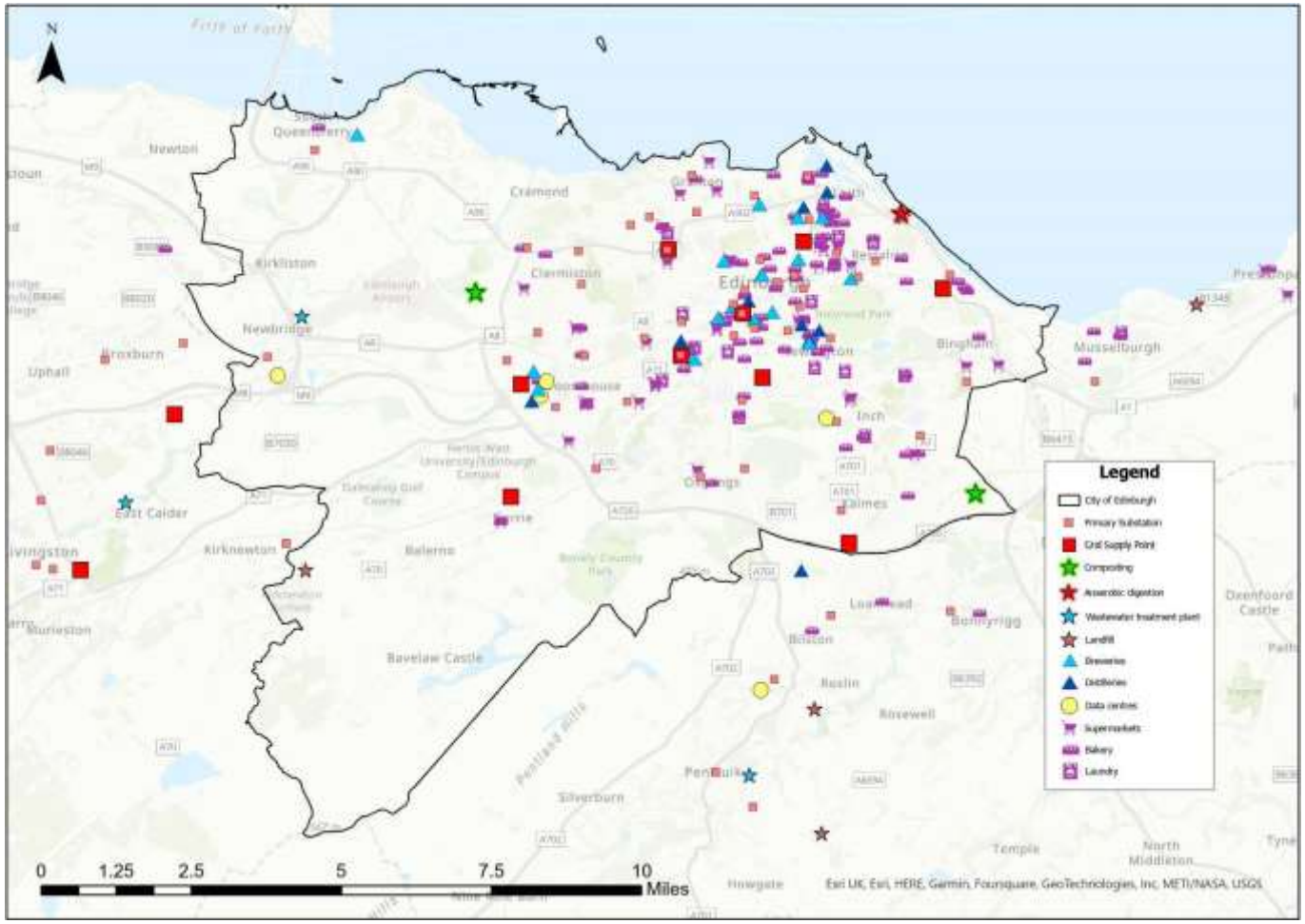


Figure 04: The Coal Authority map of underground workings in Edinburgh [xli] [66]

[xli] Workings are shown in lime green.

Figure 05: Scottish Water map of potential wastewater heat extraction opportunities in Edinburgh [67]

Figure 06: Map of potential waste heat sources in Edinburgh [xlii] 68



[xlii] The potential waste heat sources identified in the figure mirror the sectors identified in the ClimateXChange 2020 report Potential Sources of Waste Heat for Heat Networks in Scotland. The report identifies and quantifies the likely waste heat potential 10 sources (distilleries, breweries, bakeries, paper and pulp, laundry, supermarkets,

Datasets used to identify waste heat sources in Edinburgh

Table 49: Datasets used to identify waste heat sources in Edinburgh

Waste heat source	Evidence source
Data centres	▪ Data Center Map - Edinburgh Data Centers ▪ EPCC – Advanced Computing Facility ▪ University of Edinburgh – ACF Migration Frequently Asked Questions
Breweries	▪ The Brewery Bible – Scotland Breweries
Distilleries	▪ Truly Edinburgh – Edinburgh Whisky Distilleries ▪ Truly Edinburgh – The Best Gin Distilleries in Edinburgh ▪ VisitScotland – Whisky Distilleries in Scotland ▪ Scotch Whisky Association – Distillery Map ▪ Wandering Spirits Global – Scotland Whisky Distillery Map ▪ Whisky Invest Direct – Malt Whisky Distilleries in Scotland
Supermarkets	▪ ArcGIS – OpenStreetMap Shops for Europe
Bakeries	▪ ArcGIS – OpenStreetMap Shops for Europe
Laundries	▪ ArcGIS – OpenStreetMap Shops for Europe
Landfill sites	▪ SEPA – Scotland's Waste Sites and Capacity Data Tool ▪ SEPA – Scottish Pollutant Release Inventory
Primary substations	▪ SP Energy Networks - Distributed Generation SP Distribution Heat Maps – SPD Primary Substations
Grid supply points	▪ SP Energy Networks - Distributed Generation SP Distribution Heat Maps – SPD Grid Substations

data centres, electricity substations, wastewater treatment plants (WWTP), and landfill). While data sharing restrictions currently preclude the sharing of the underlying data, the following map identifies the location of the same sources updated to 2023 with the exclusion of paper and pulp as no facilities were present in Edinburgh. Further steps could be taken to quantify the heat from these sources following the ClimateXChange methodology.

11.2. Heat network methodological information

Datasets used to inform the Heat Network Zone analysis

Table 50: Datasets used to inform the Heat Network Zone analysis

Dataset	Source
Heat demand	Scotland Heat Map
Heat density raster	Scotland Heat Map
Existing heat networks	Scotland Heat Map
Planned heat networks	The City of Edinburgh Council
Local Development Plan sites	The City of Edinburgh Council
NAEI large point emitters	National Atmospheric Emissions Inventory
SEPA waste sites	Scottish Environmental Protection Agency
Energy supply points	Scotland Heat Map
Wastewater treatment plants	CXC Waste Heat Dataset
Process loads - supermarkets, bakeries, breweries, distilleries, laundries, paper and pulp sites	CXC Waste Heat Dataset
Data centres	CXC Waste Heat Dataset
Primary substations	Scottish Power Energy Networks
Grid supply points	Scottish Power Energy Networks
OS greenspace	Ordnance Survey
Rivers and waterbodies	Ordnance Survey (OS OpenMap Local)
BGS Hydrogeology 625k	British Geological Survey
GeoTH Hot Sed Aquifer prospects	Scotland Heat Map
Coal mining reporting areas	British Geological Survey / The Coal Authority
The Coal Authority discharge Points	British Geological Survey / The Coal Authority
Roads, railway tracks, road/railway tunnels	Ordnance Survey (OS OpenMap Local)
Home Analytics	Energy Saving Trust

Figure 07: Linear heat density buffer zone methodology

Figure 08: Buffer zones based on linear heat density of 4,000 kWh per metre per year

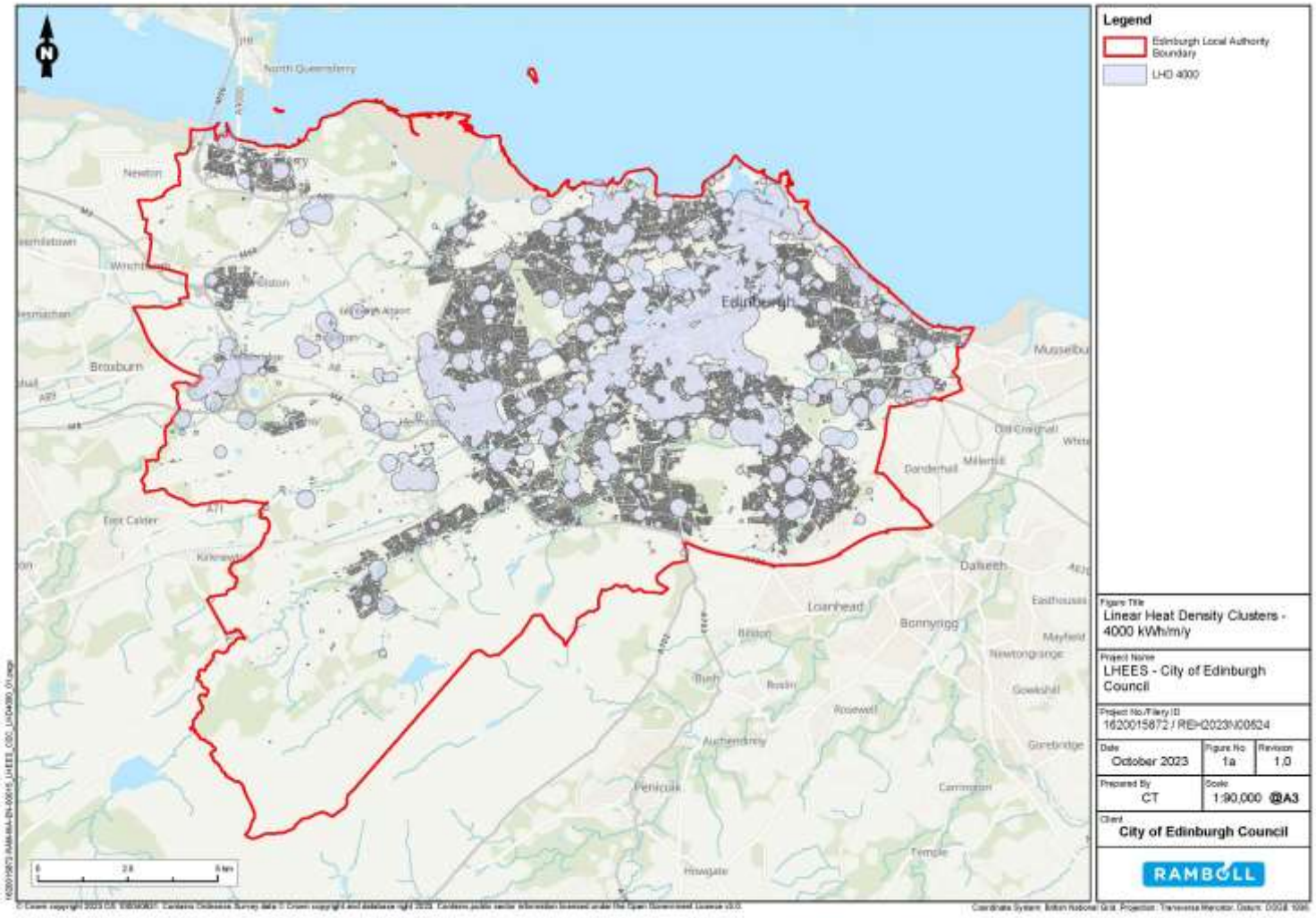


Figure 09: Buffer zones based on linear heat density of 8,000 kWh per metre per year

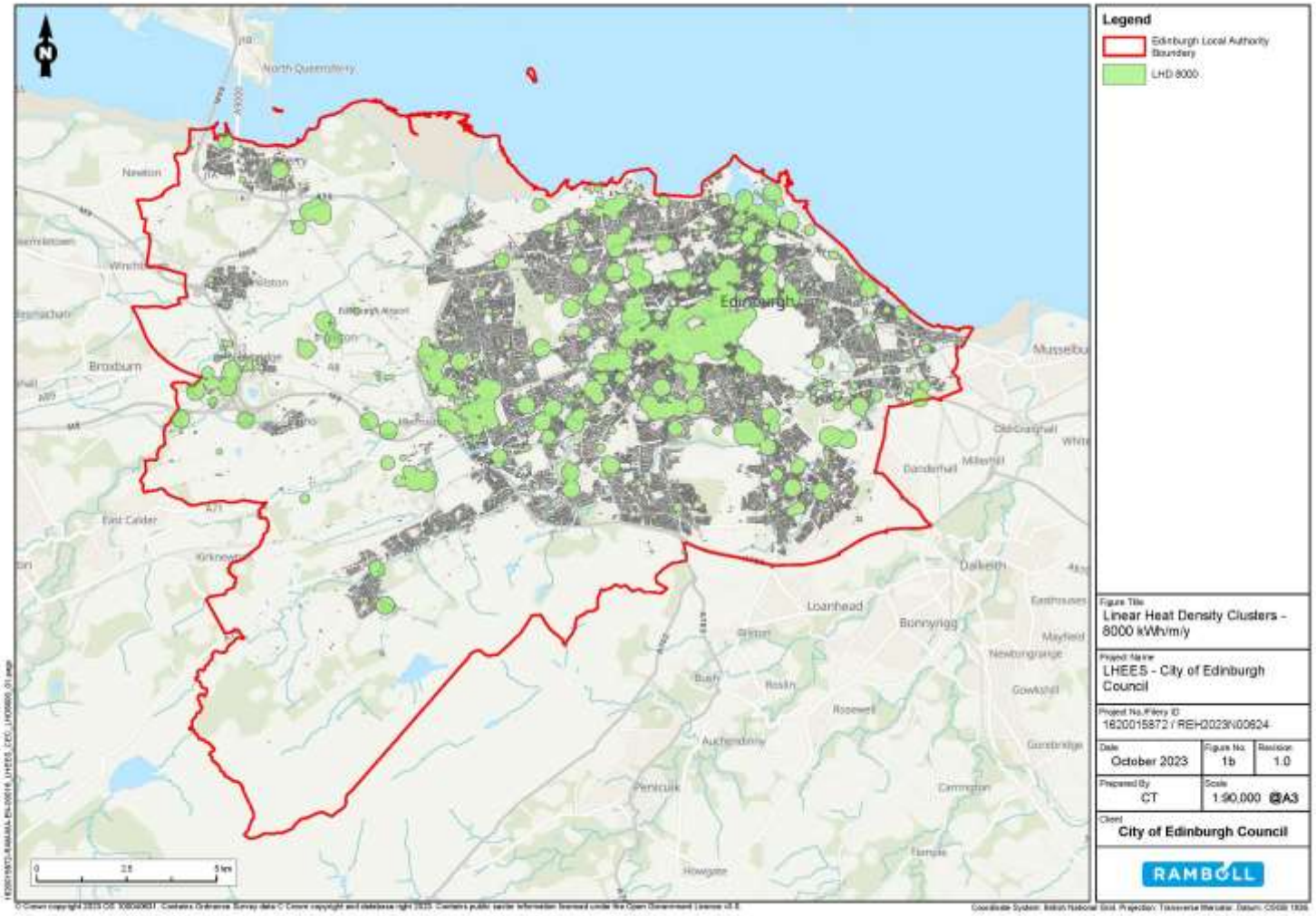


Figure 10: Process for the prioritisation of potential zones

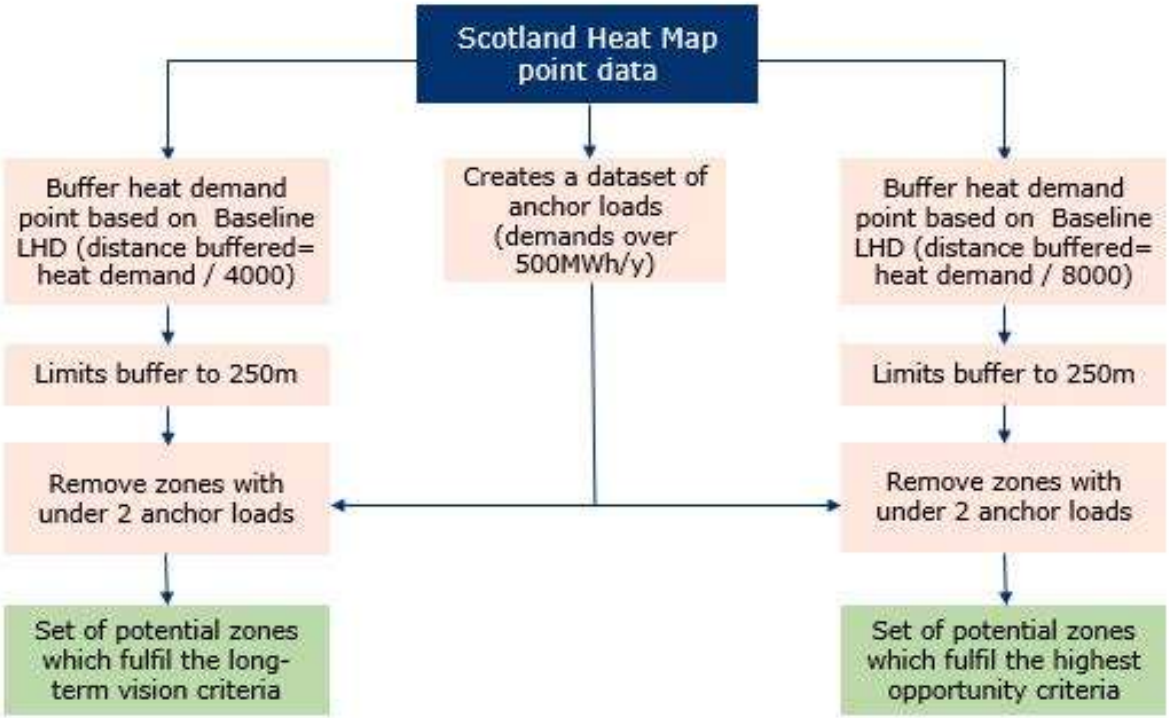


Figure 11: Prioritised potential Heat Network Zones in Edinburgh based on linear heat density of 4,000 kWh per metre per year

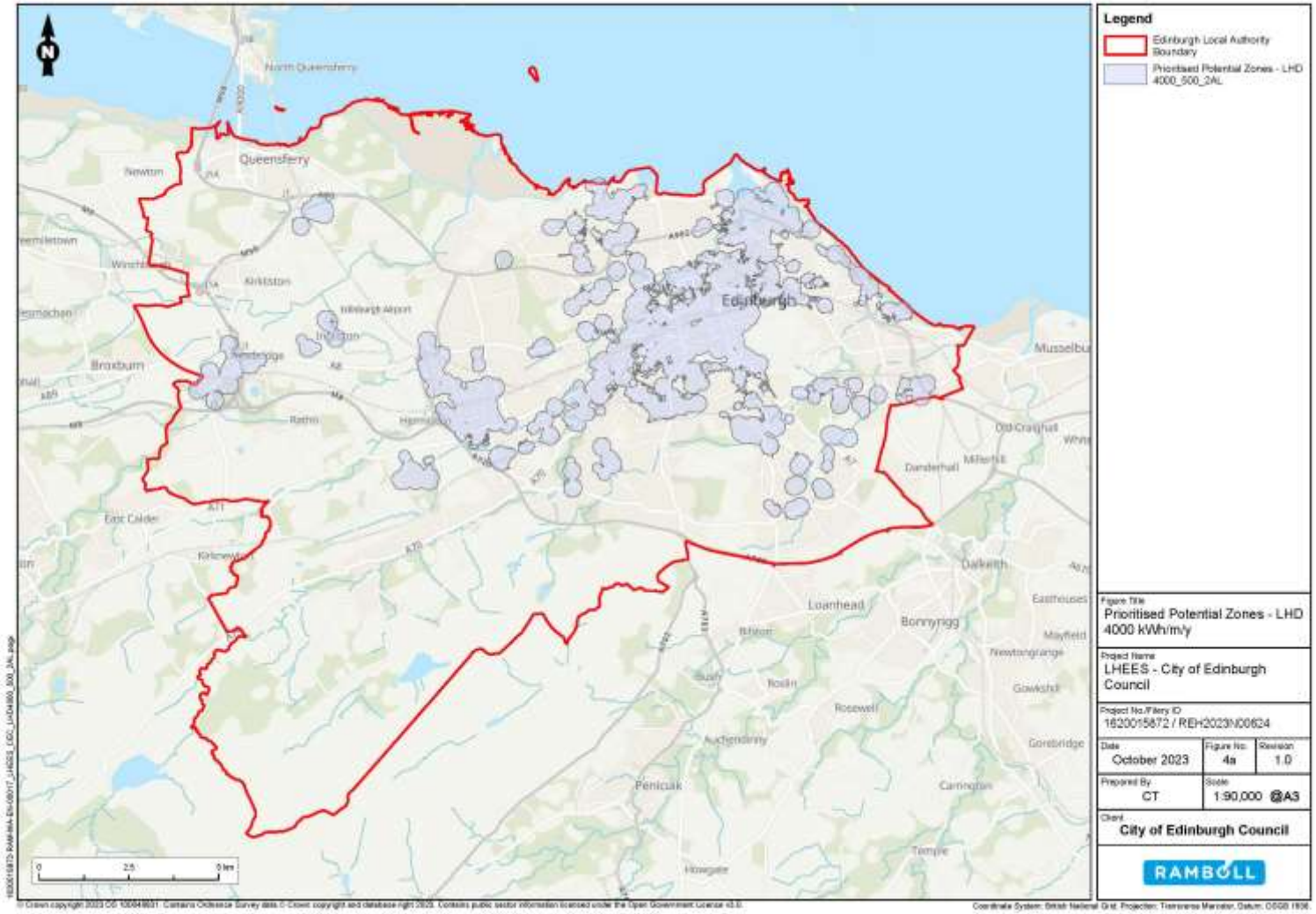


Figure 12: Prioritised potential Heat Network Zones in Edinburgh based on linear heat density of 8,000 kWh per metre per year

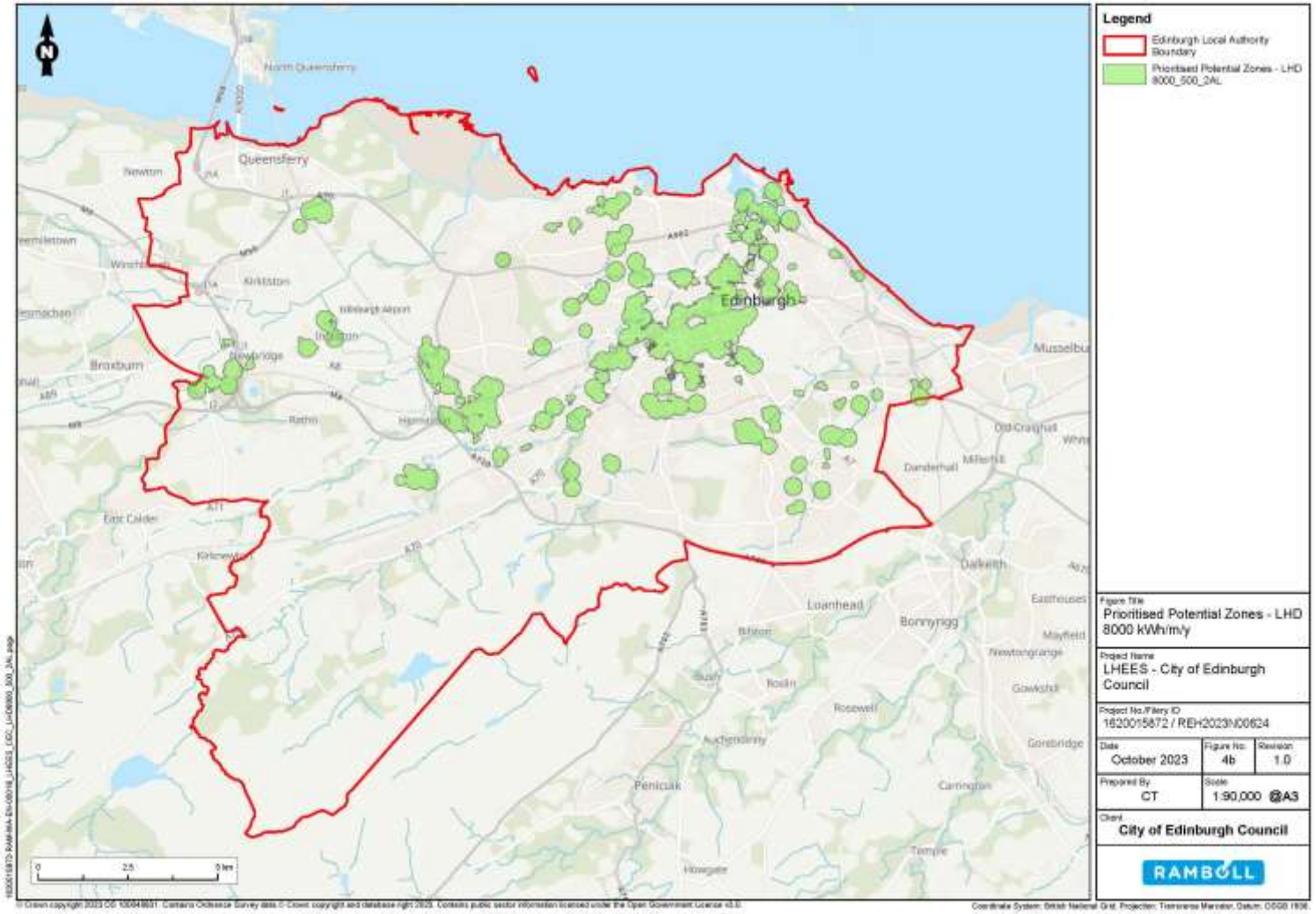


Figure 13: Selected prioritised potential Heat Network Zones in Edinburgh

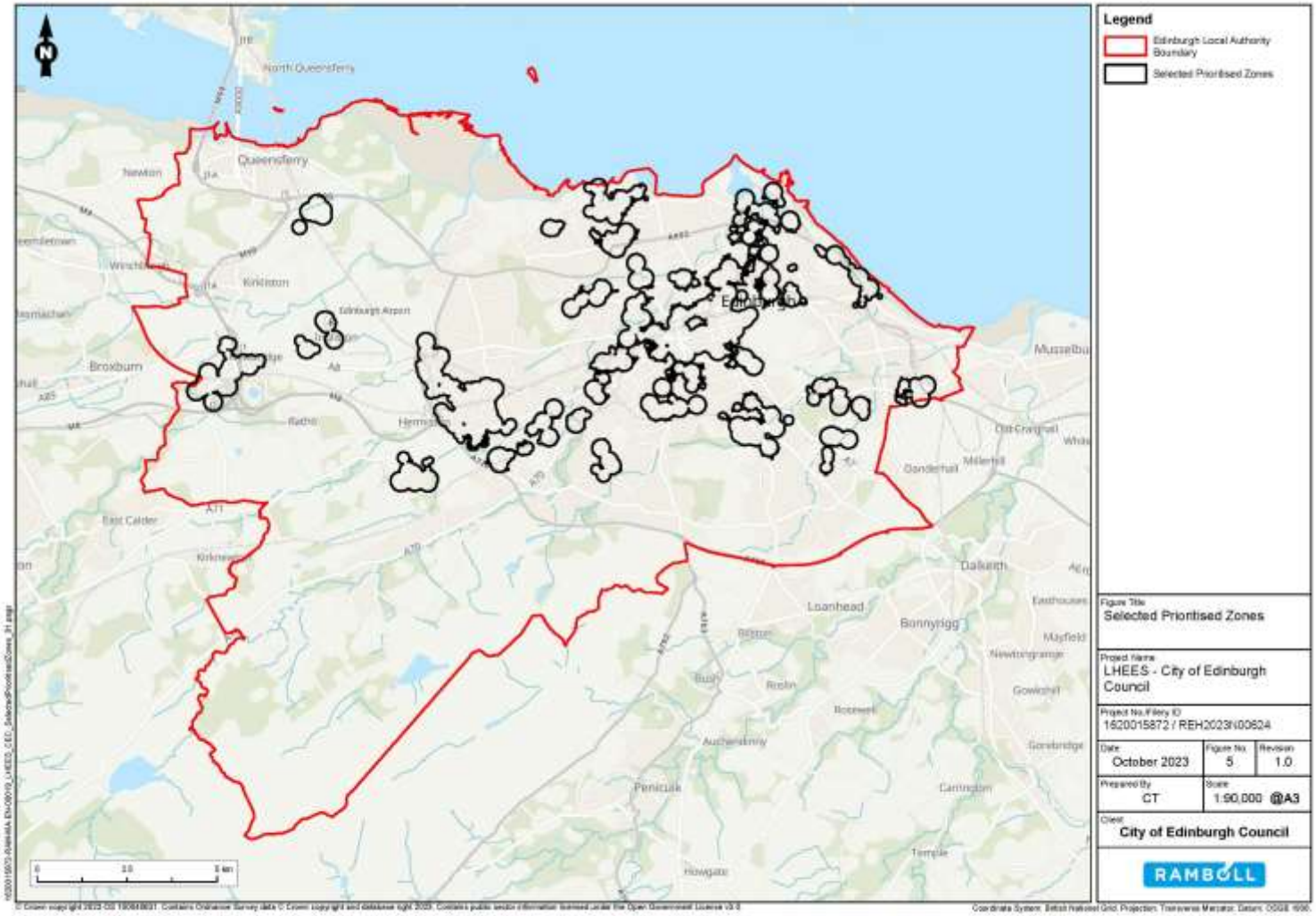


Figure 14: Initial Heat Network Zones in Edinburgh, overlaid with areas of new development and planned heat networks

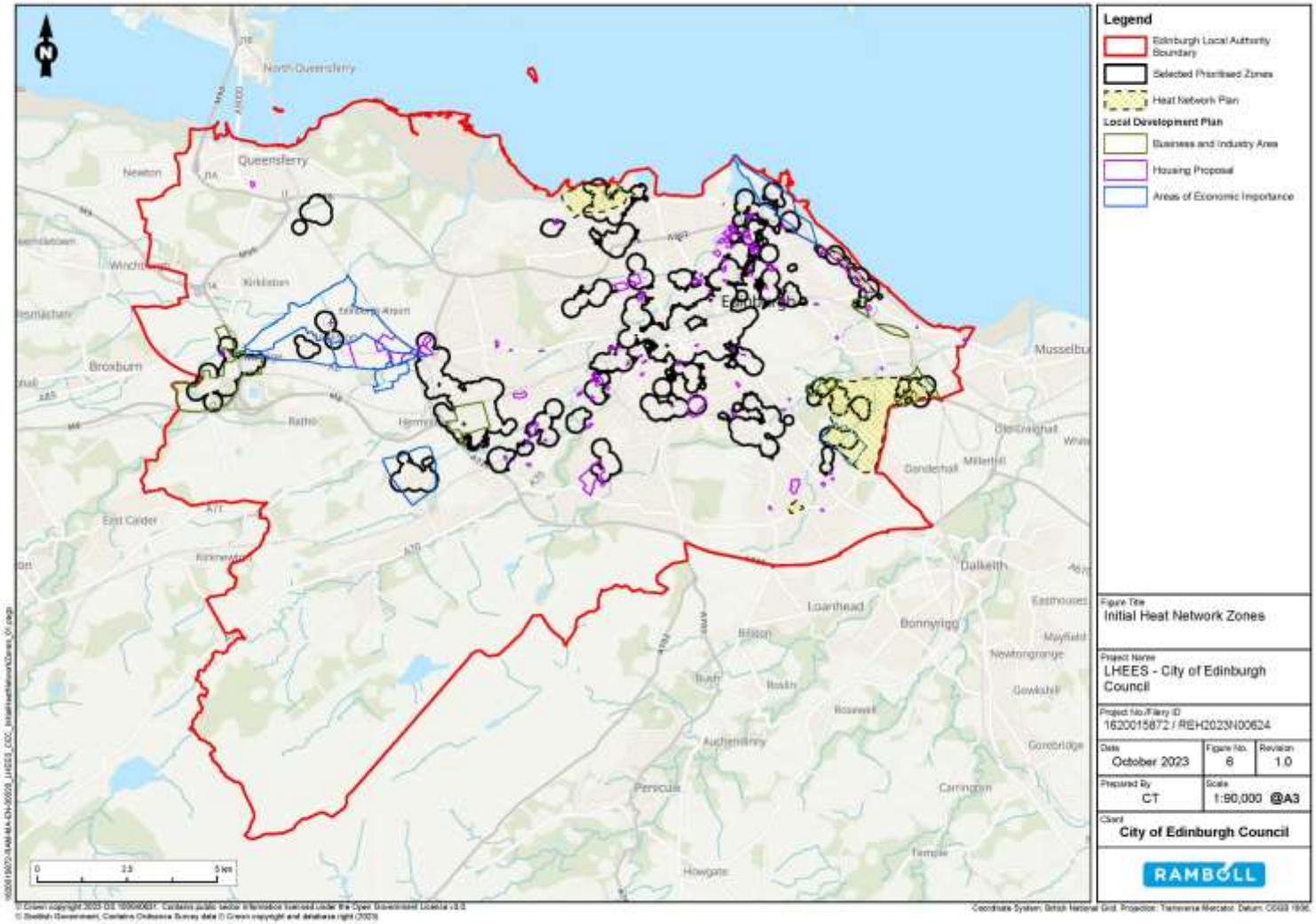
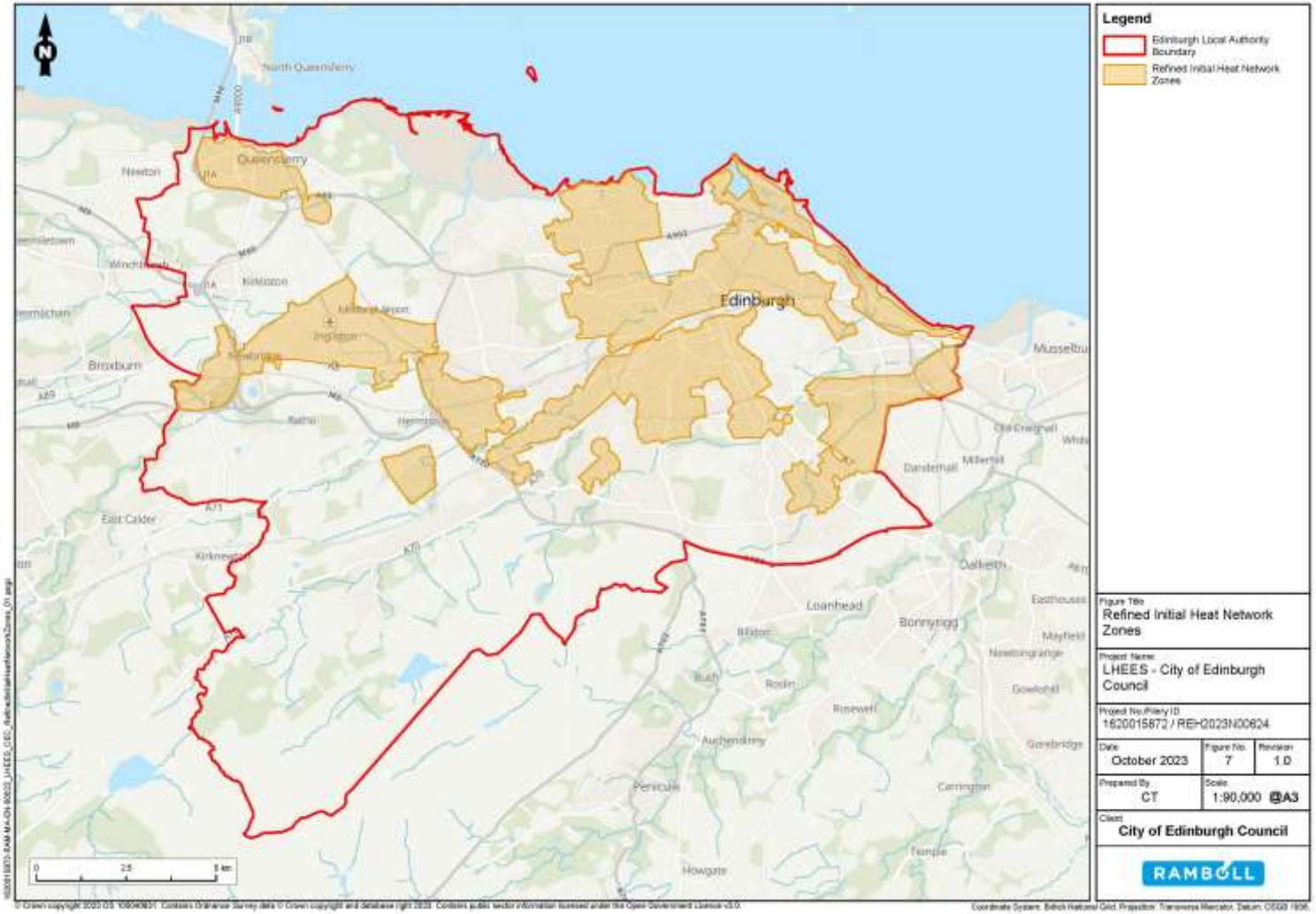


Figure 15: Refined initial Heat Network Zones in Edinburgh



11.3. Strategic Zones

Figure 16: Off-gas homes in category 0

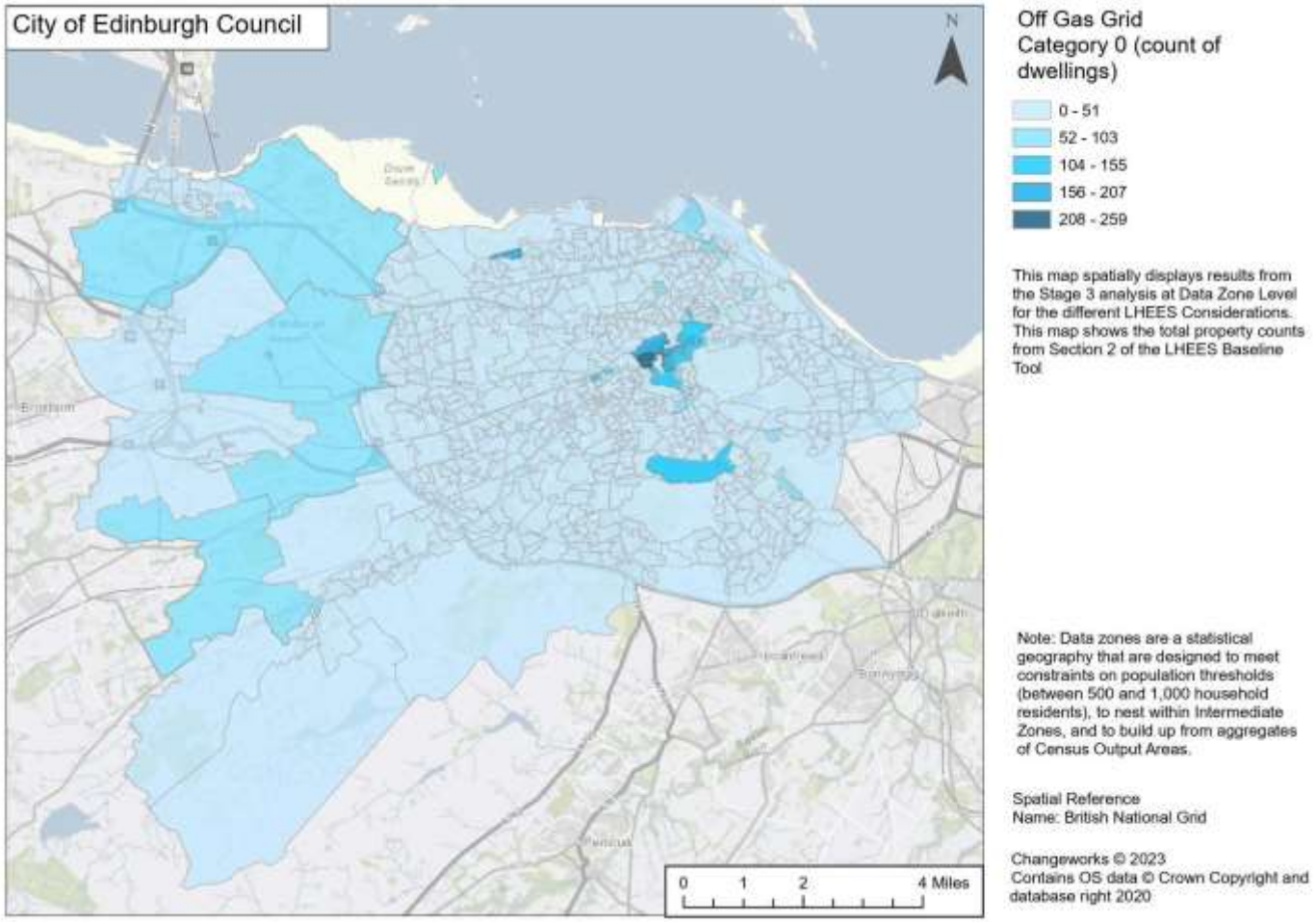


Figure 17: Off-gas homes in category 1

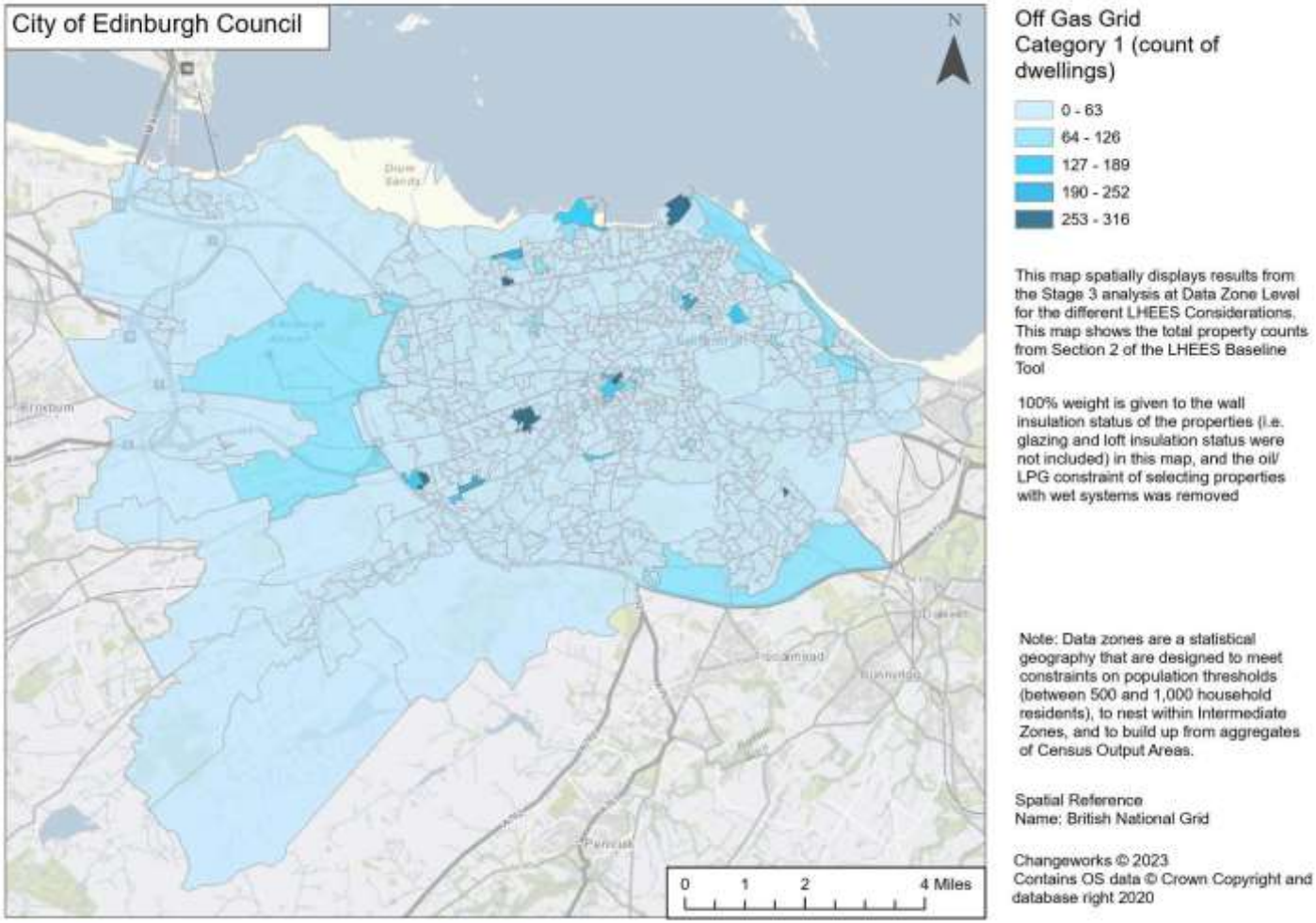


Figure 18: Off-gas homes in category 2

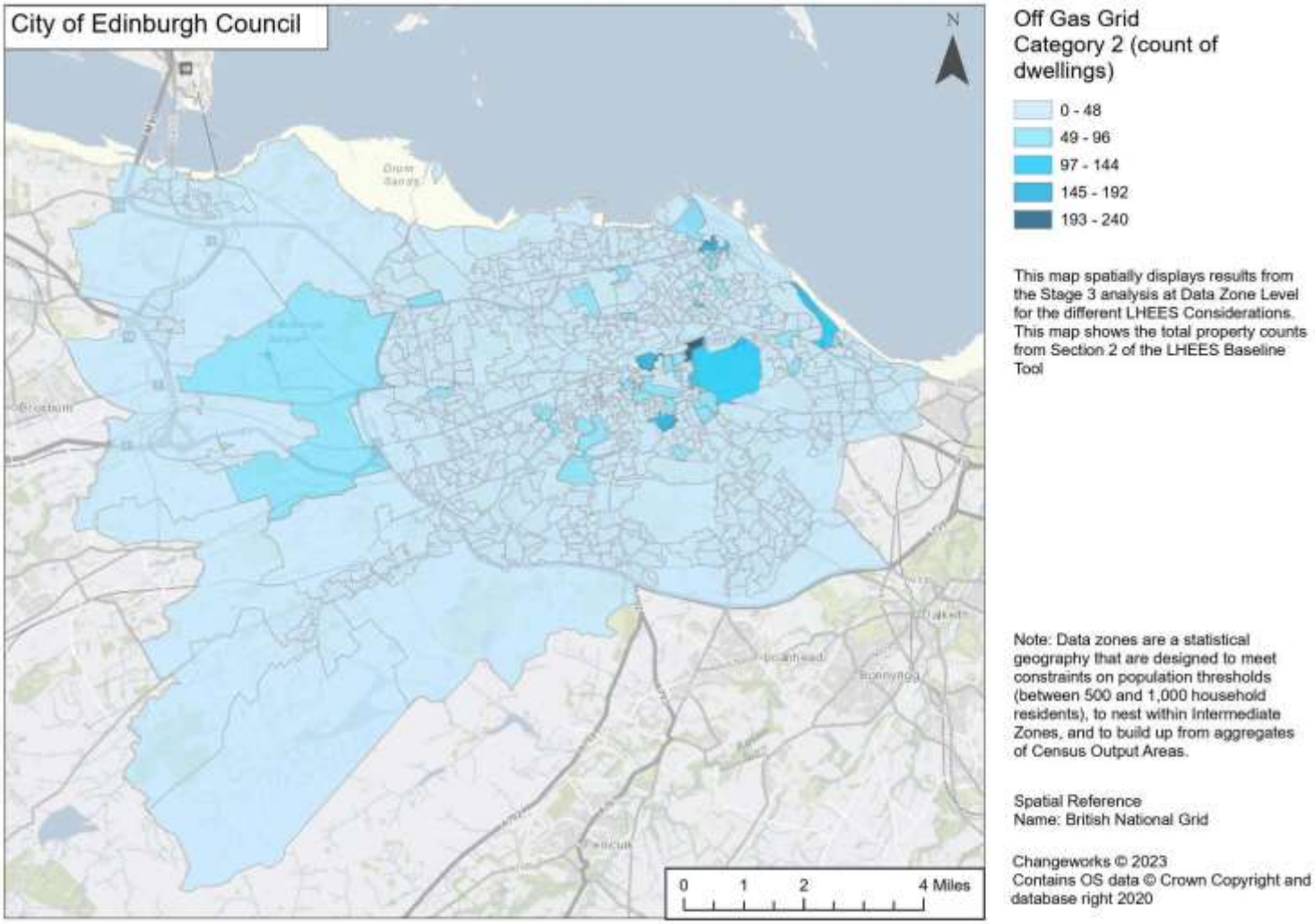


Figure 19: Off-gas homes in category 3

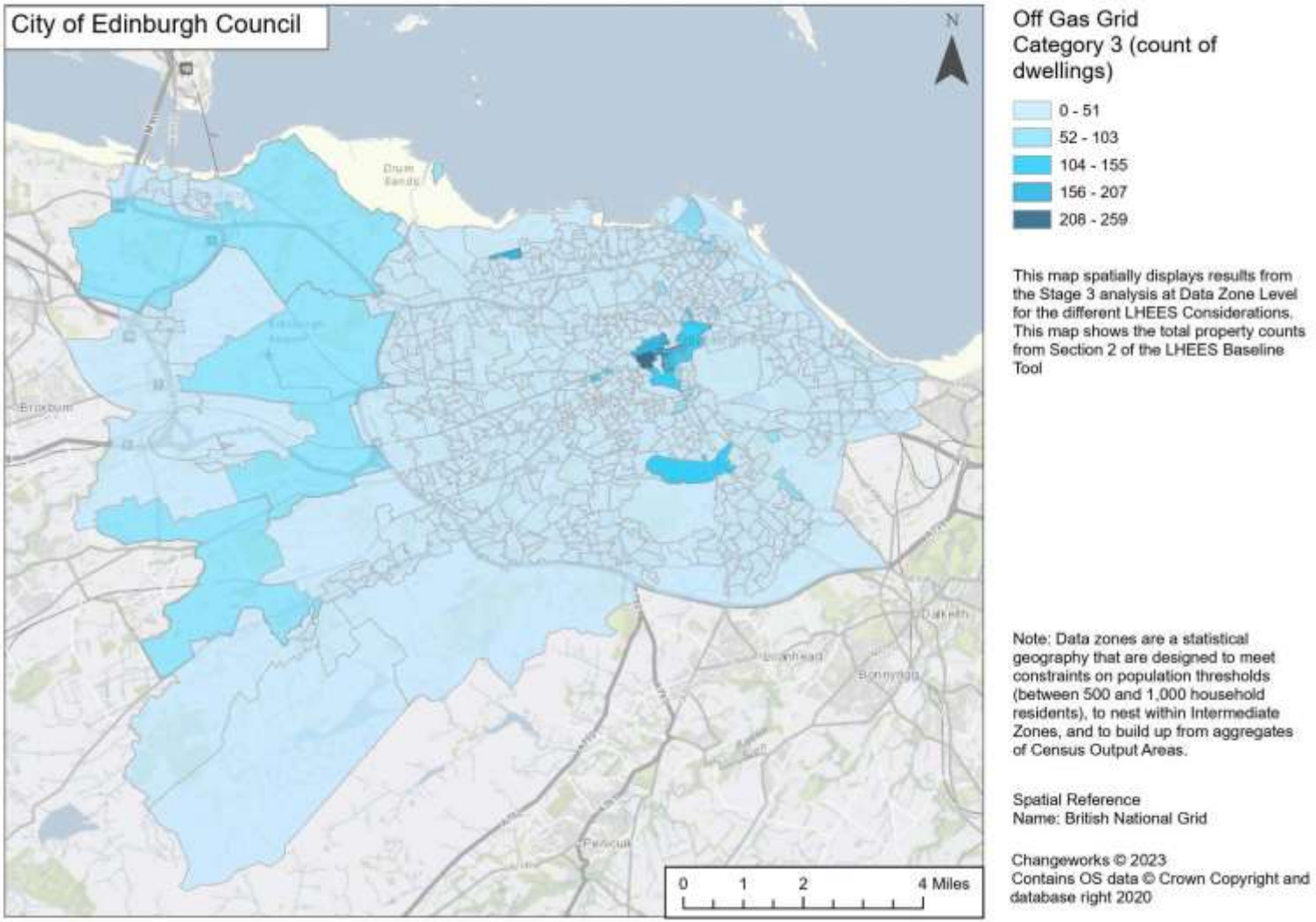


Figure 20: On-gas homes in category 0

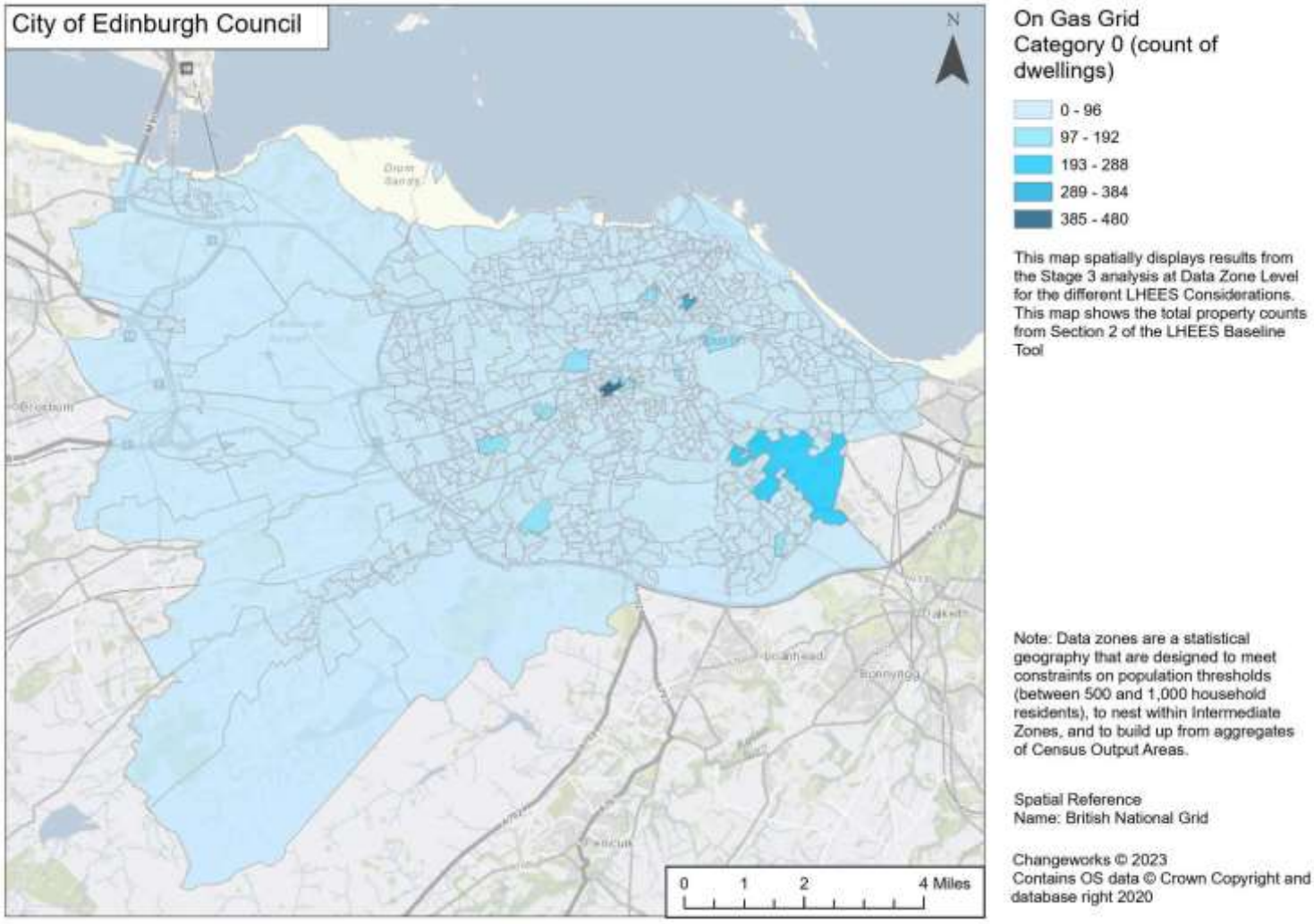


Figure 21: On-gas homes in category 1

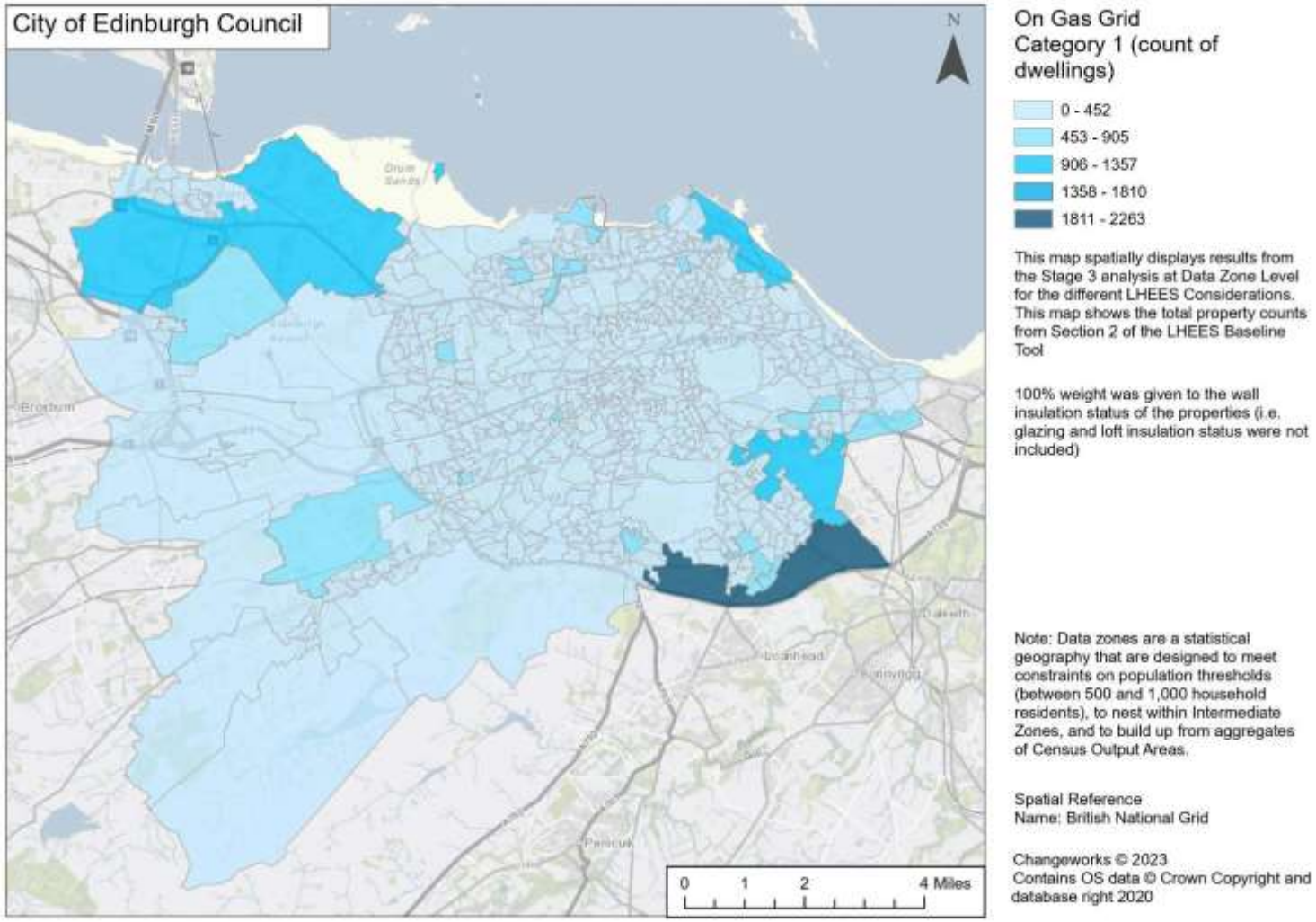


Figure 22: On-gas homes in category 2

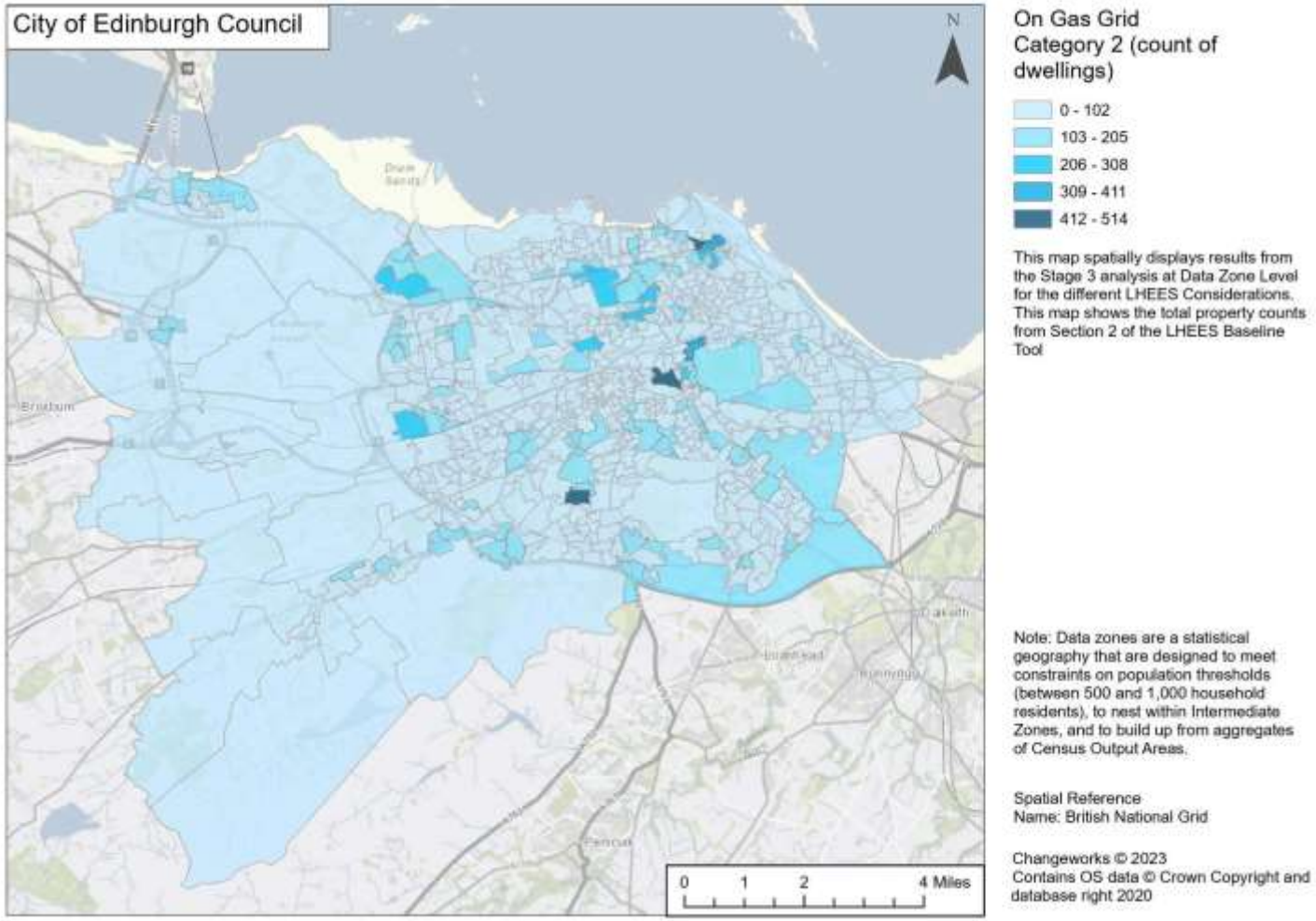


Figure 23: On-gas homes in category 3

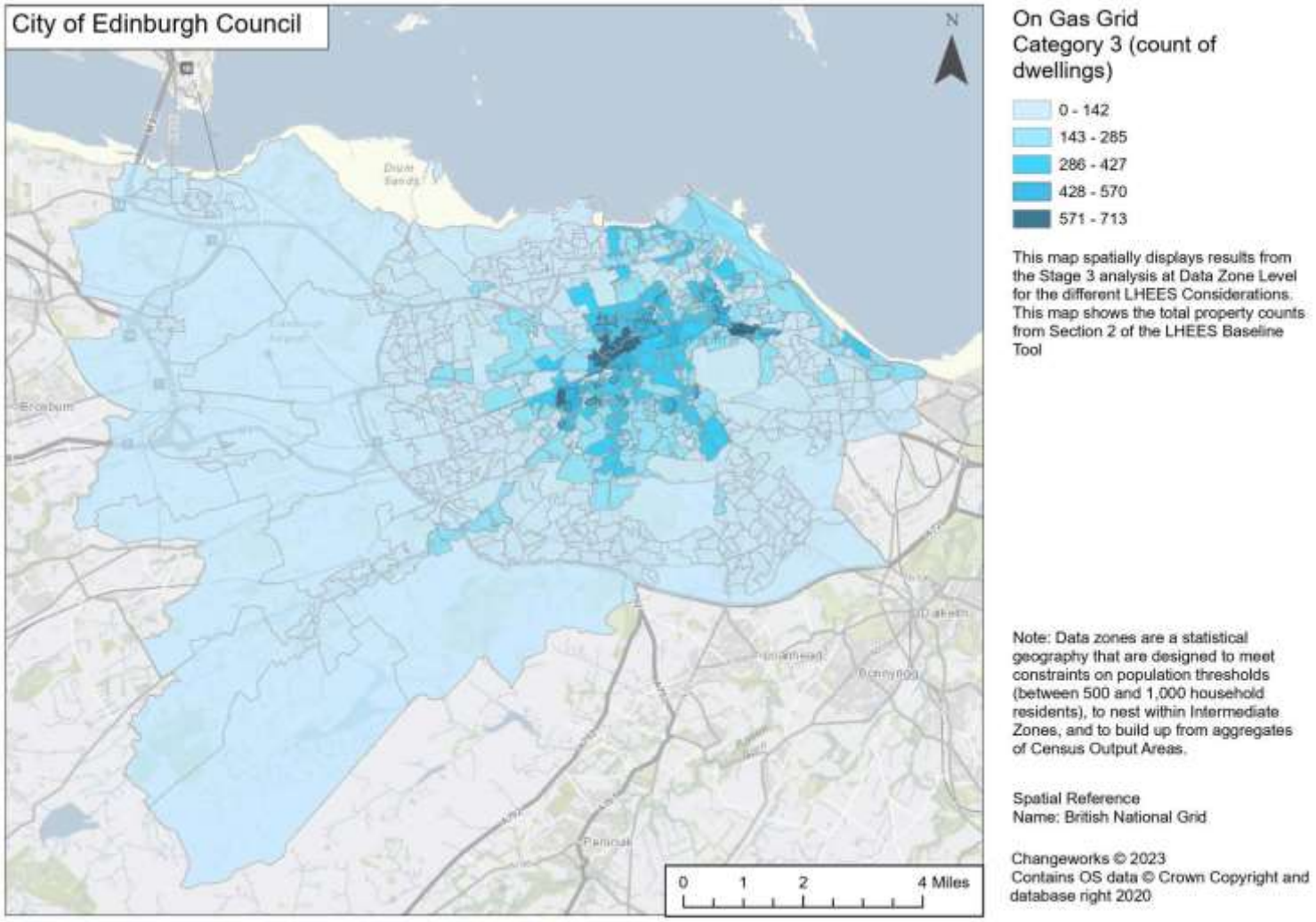


Figure 24: Prospective Heat Network Zones in Edinburgh

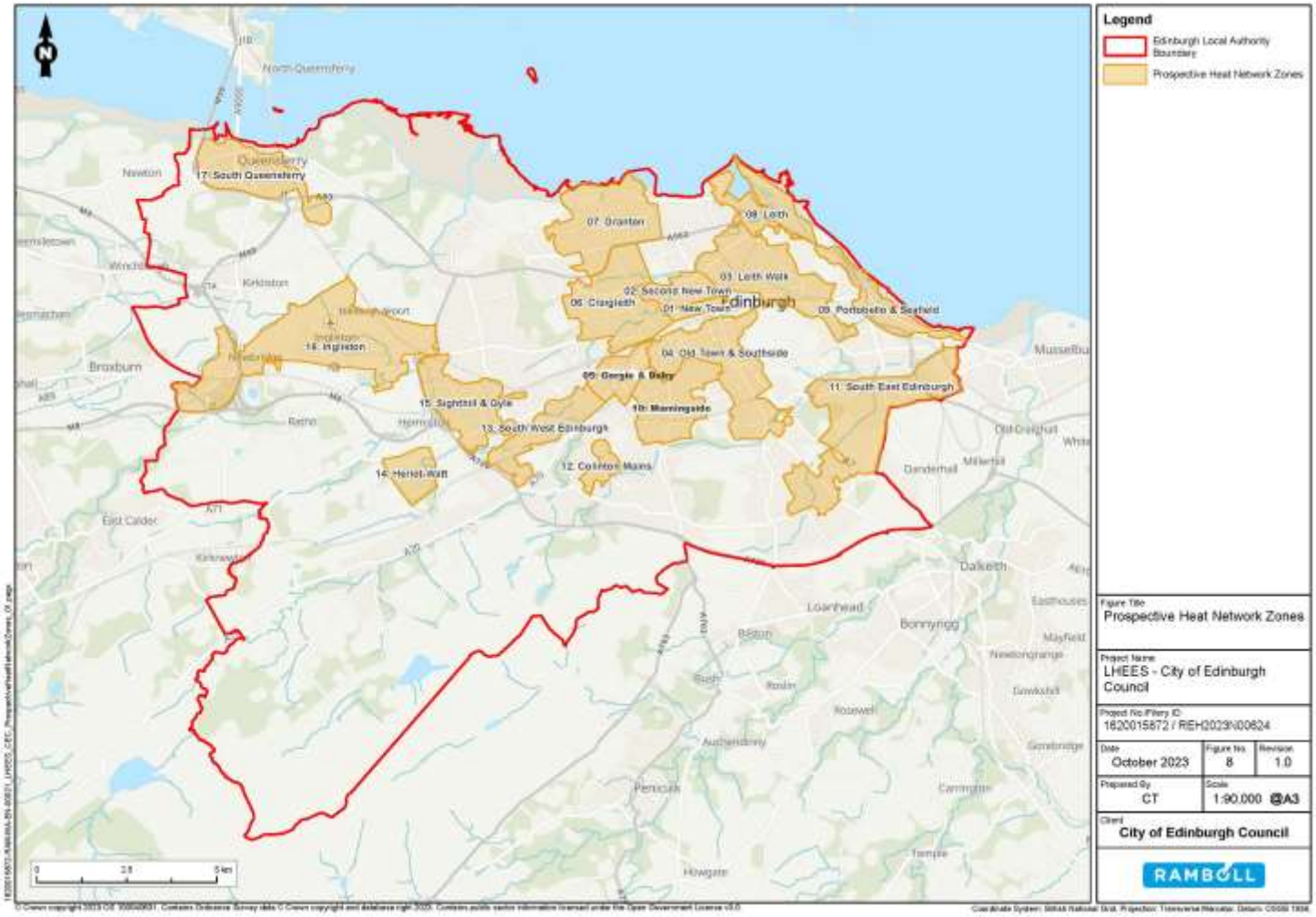


Figure 25: Homes in Edinburgh with solar suitability

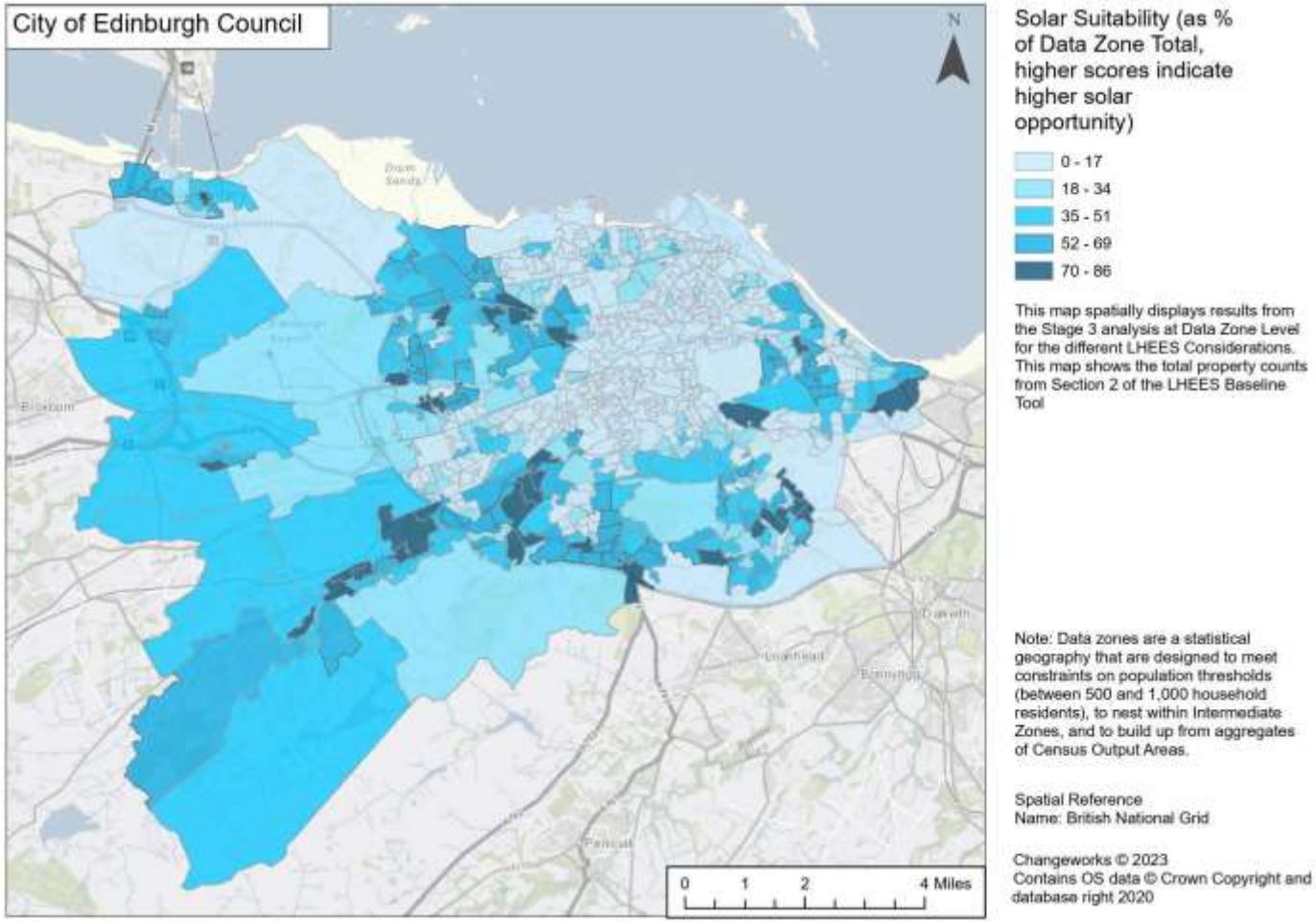


Figure 26: Homes with uninsulated walls in Edinburgh

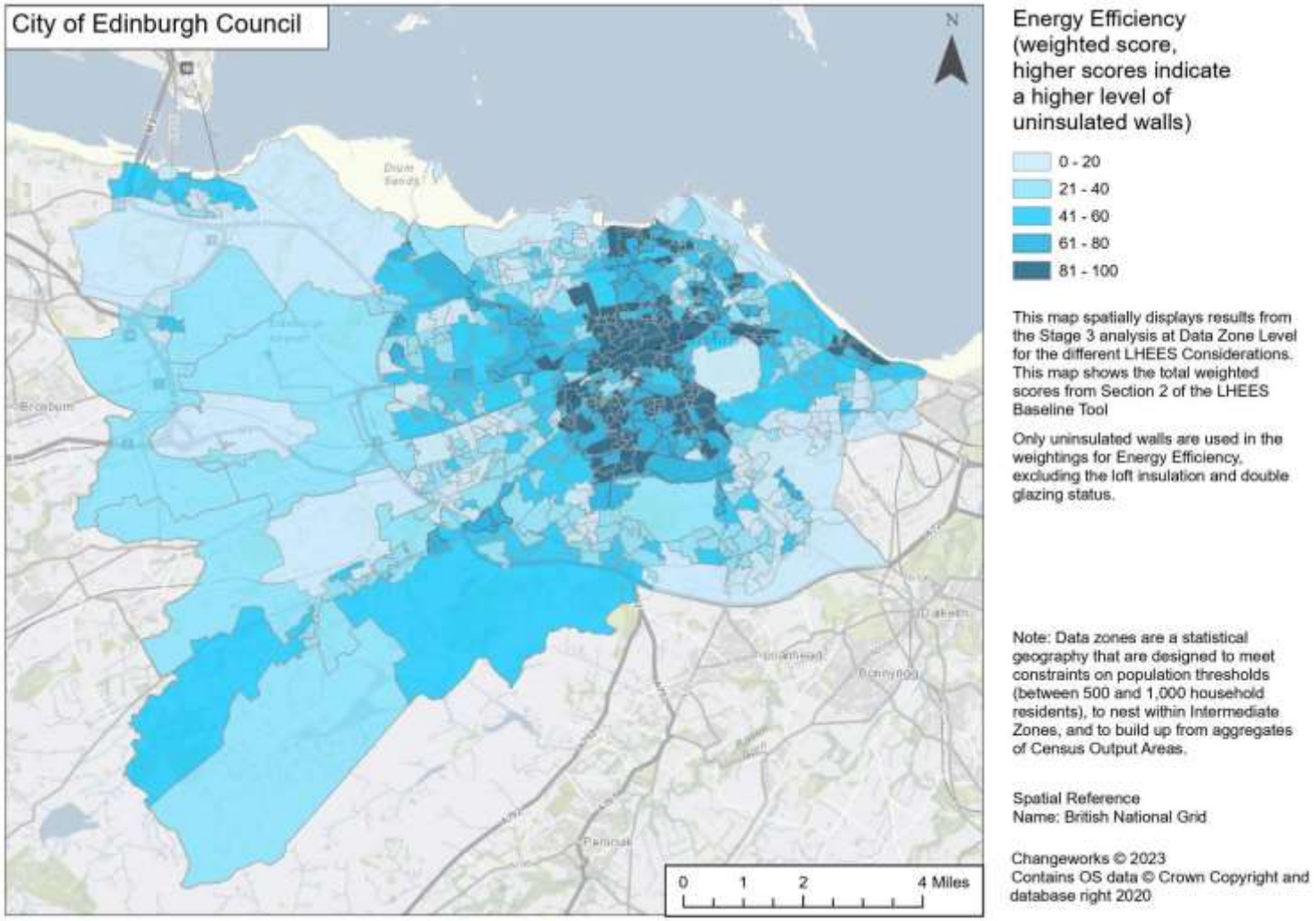


Figure 27: Homes with solid brick/stone uninsulated walls in Edinburgh

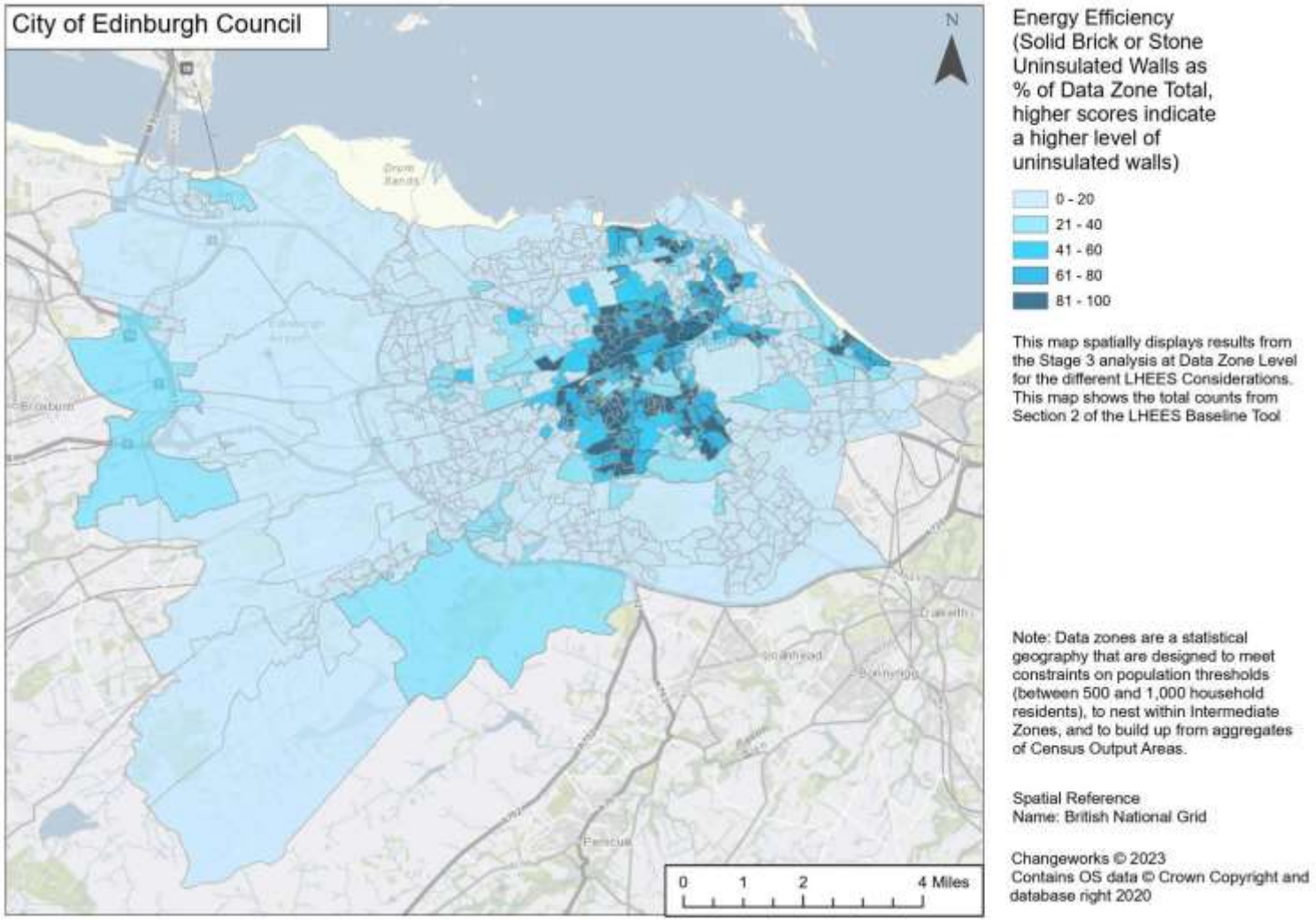


Figure 28: Areas of high fuel poverty and poor energy efficiency

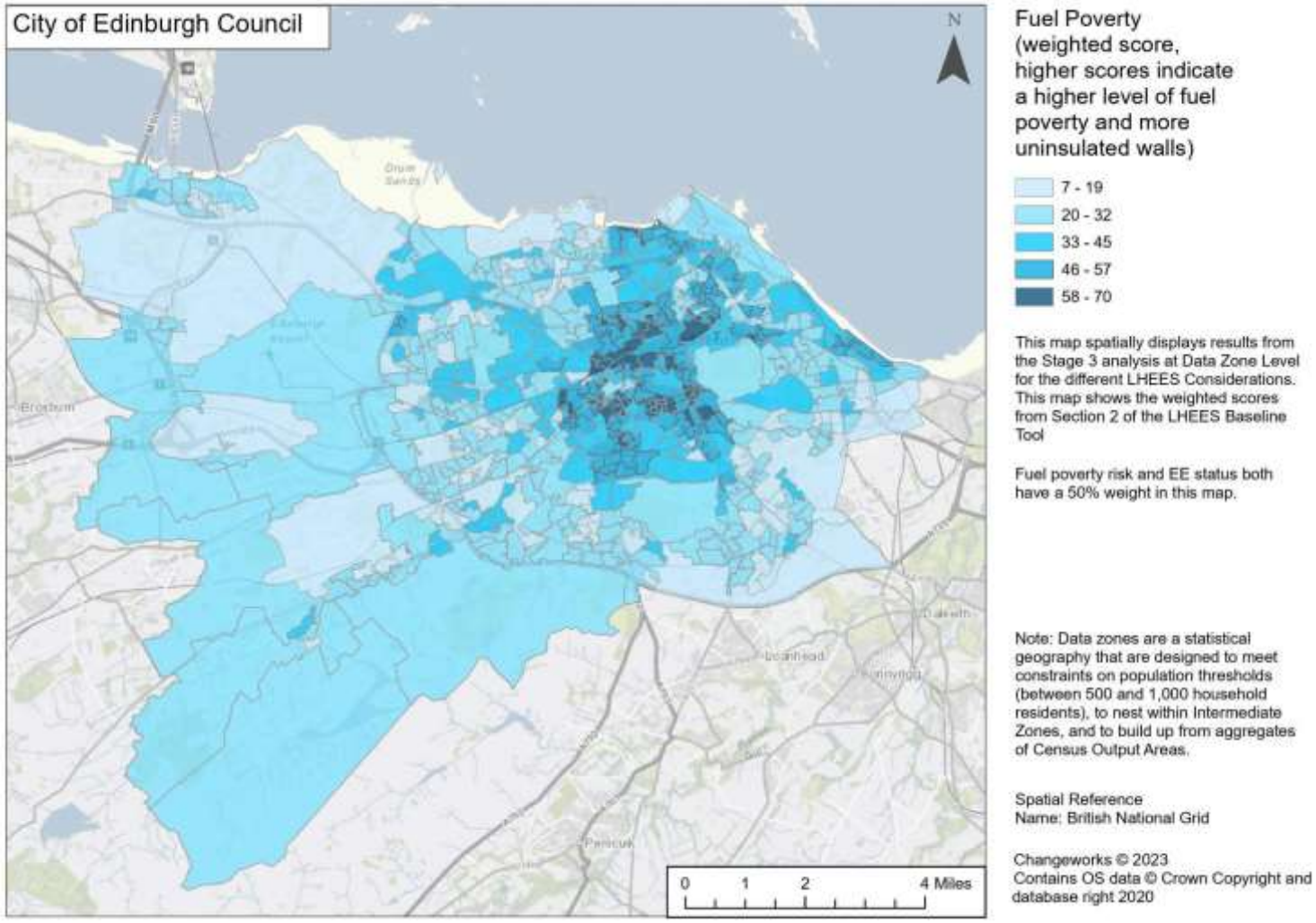
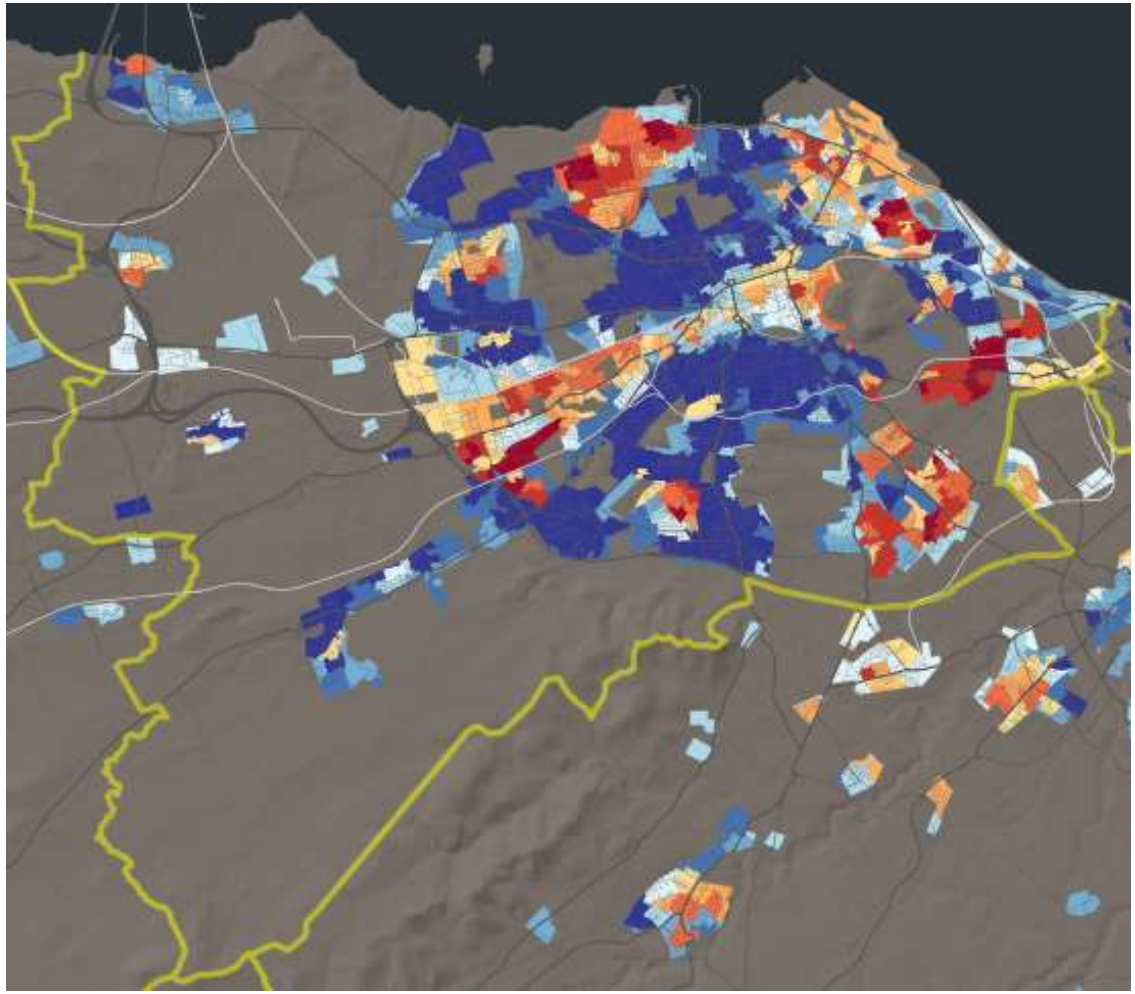


Figure 29: Scottish Index of Multiple Deprivation 2020 heat map of Edinburgh [xliii]



[xliii] "Warmer" areas have a lower ranking on the SIMD, i.e. they are more deprived.

Figure 30: Mixed-tenure homes in Edinburgh

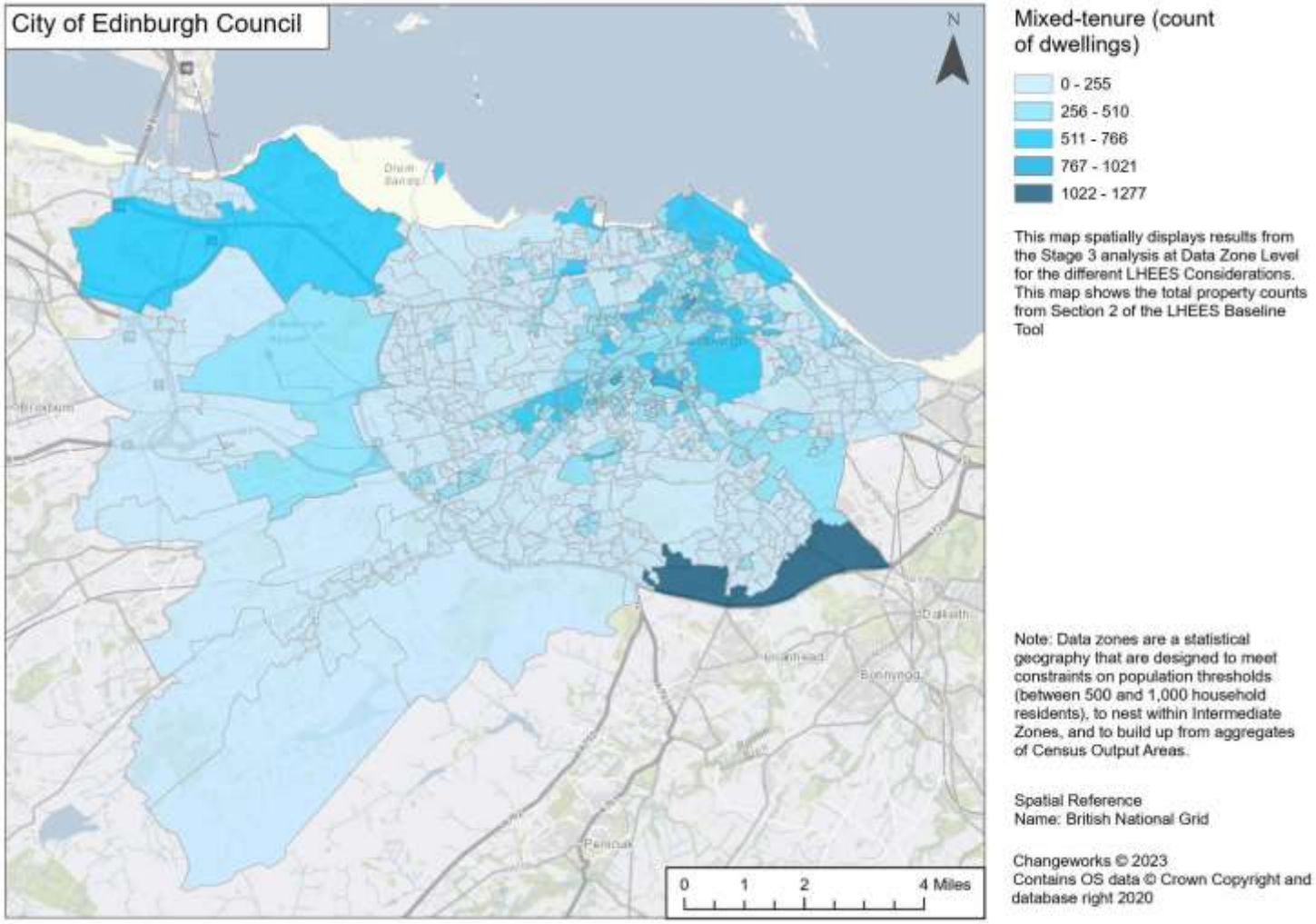


Figure 31: Homes in Edinburgh in buildings with >1 dwellings

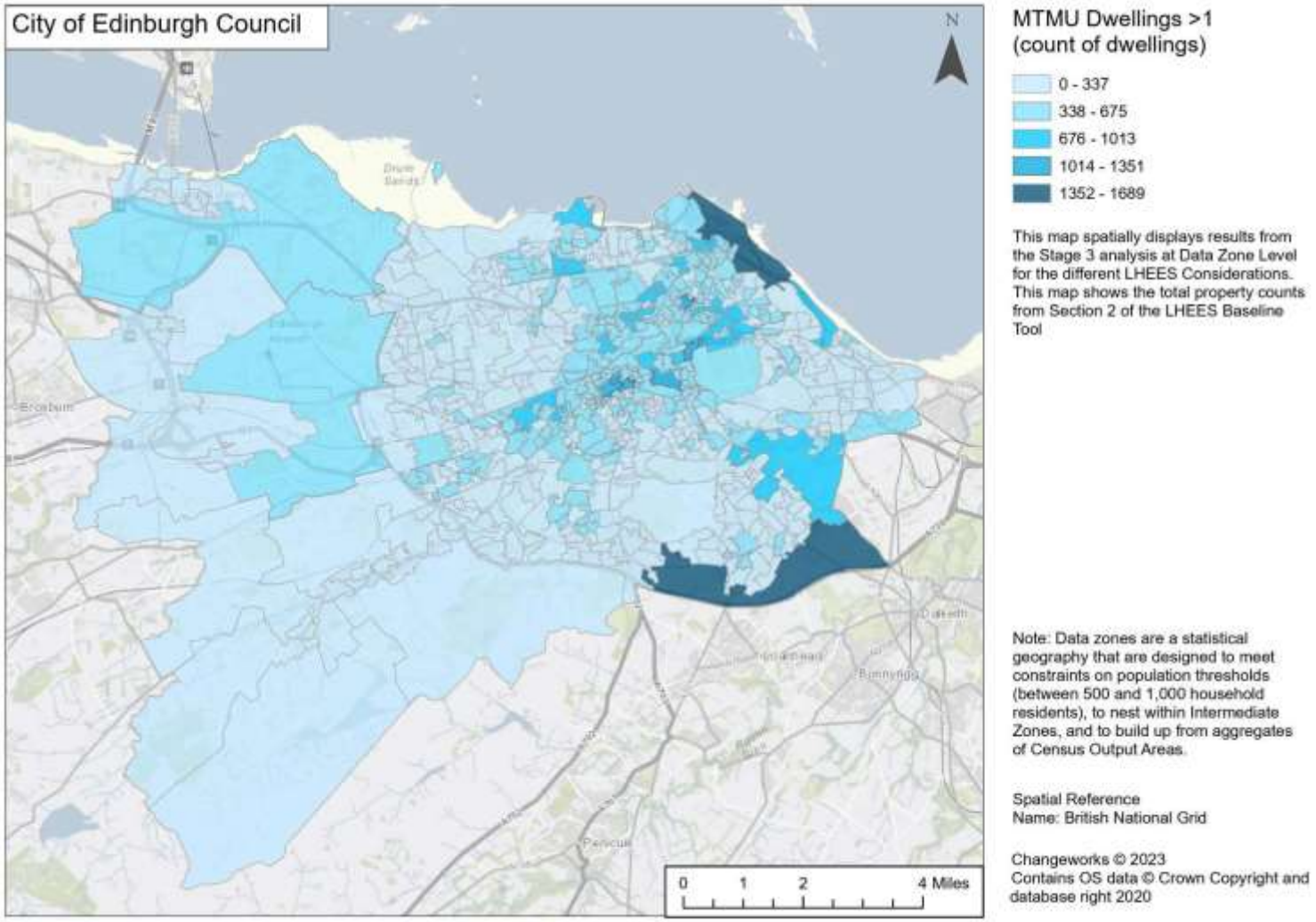


Figure 32: Homes in listed buildings in Edinburgh

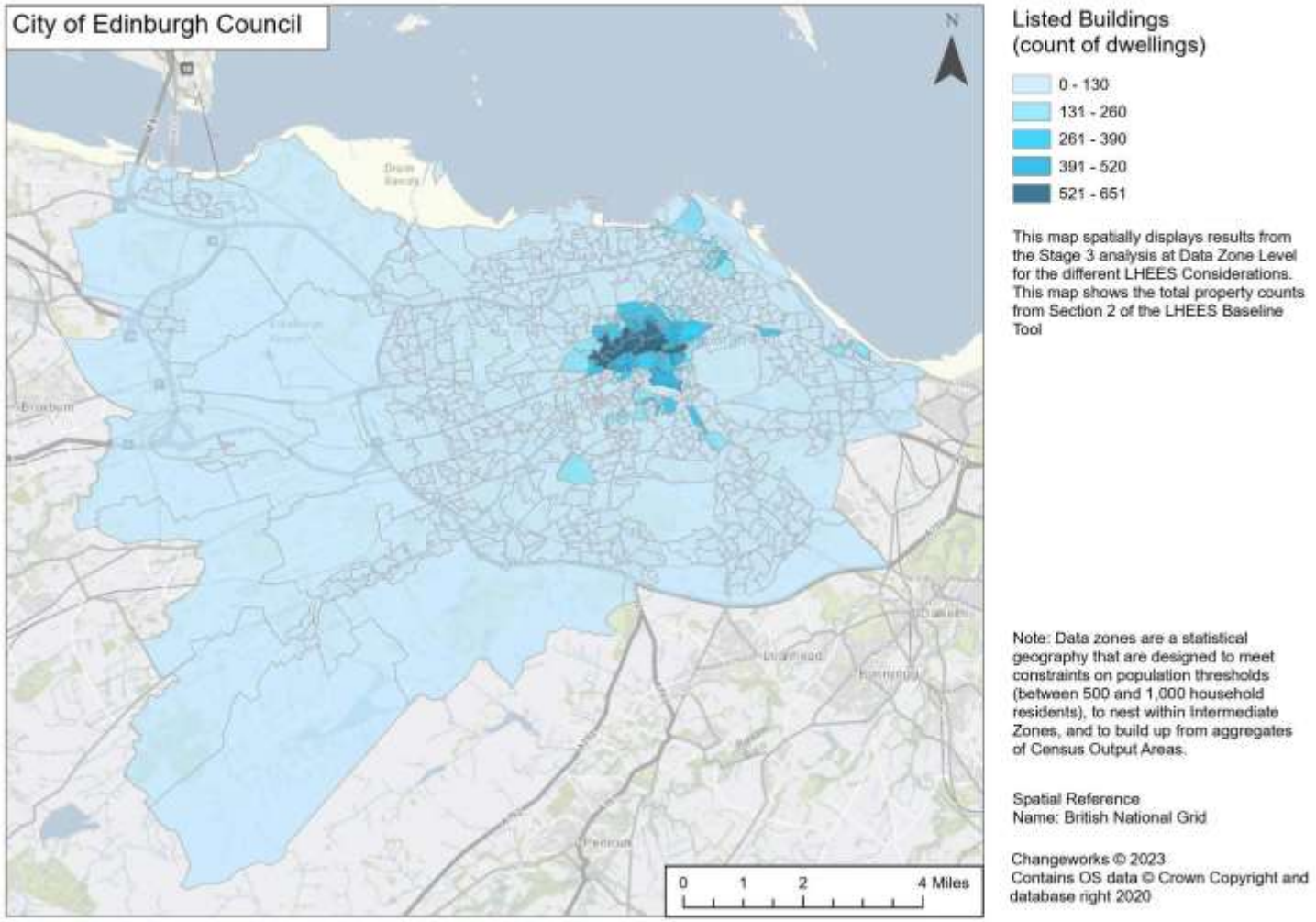
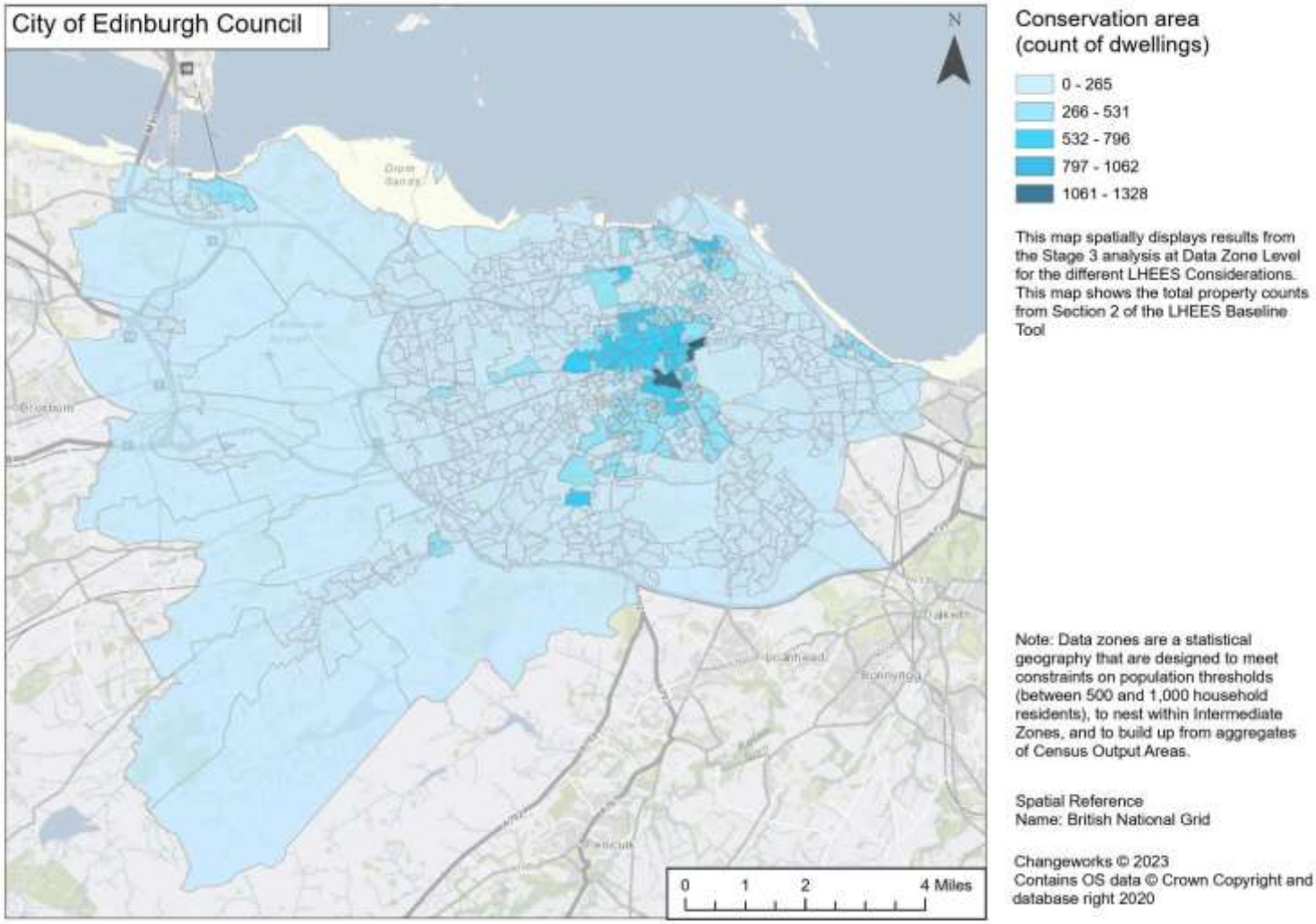


Figure 33: Homes in conservation areas in Edinburgh



11.4. Core stakeholders

Public sector

- Business Energy Scotland
- The Coal Authority
- Energy Saving Trust
- Green Heat Finance Taskforce
- Heat and Energy Efficiency Scotland
- Heat Network Support Unit
- Heat Networks & Non-Domestic Regulations Unit
- Historic Environment Scotland
- Home Energy Scotland
- Local Energy Scotland
- NHS Lothian
- Office of Gas and Electricity Markets (OFGEM)
- Scottish Enterprise
- Scottish Futures Trust
- Scottish Government
- Scottish Water / Scottish Water Horizons
- UK Government

Academic

- Edinburgh Climate Change Institute
- Edinburgh Napier University
- Heriot-Watt University
- University of Edinburgh

Residents and communities

- Association of Community Councils
- Clean Heat Forum
- Edinburgh Tenants Federation
- Our Future Edinburgh

Business

- Edinburgh Chamber of Commerce
- Energy for Edinburgh
- Essential Edinburgh
- Federation of Small Businesses
- Midlothian Energy
- Novoville
- Salix Finance
- Scotia Gas Networks (SGN)
- Scottish Power Energy Networks (SPEN)
- Utilita Energy

Housing providers

- Ark
- Blackwood Homes
- Cairn Housing Association
- Hanover (Scotland) Housing Association
- Harbour Homes
- Hillcrest Homes
- Home Group
- Homes for Scotland
- Lar Housing Trust
- Link Housing Association
- Lister Housing Co-operative
- Manor Estates Housing Association
- Muirhouse Housing Association
- Places for People Scotland
- Prospect Community Housing
- Trust Housing Association
- Viewpoint
- West Granton Housing Co-Operative
- Wheatley Homes East

Third sector

- Changeworks
- Energy Action Scotland
- Edinburgh Community Solar Co-operative
- Edinburgh Voluntary Organisations' Council (EVOC)
- Edinburgh World Heritage
- Greenspace Scotland
- Scotland Excel
- Social Investment Scotland
- Under One Roof
- Zero Waste Scotland

Commissions and partnerships

- Cities Commission for Climate Investment (3Ci)
- City Heat and Energy Partnership
- Edinburgh Building Retrofit and Improvement Collective
- Edinburgh Climate Commission
- Energy Efficiency Public Buildings Partnership
- Net Zero Edinburgh
- Warmworks

11.5. Glossary

Abbreviations

Table 51: Edinburgh LHEES abbreviations

Abbreviation	Definition
3Ci	Cities Commission for Climate Investment
ABS	Area-Based Scheme
ASHP	Air source heat pump
C	Celsius
CAPEX	Capital expenditure
CCS	Carbon capture and storage
CHMM	Clean Heat Market Mechanism
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
COP	Coefficient of performance
EFE	Energy for Edinburgh
EESSH	Energy Efficiency Standard for Social Housing
EESSH2	Energy Efficiency Standard for Social Housing post-2020
ELDP	Edinburgh Local Development Plan
EPC	Energy Performance Certificate
ESCo	Energy services company
EST	Energy Saving Trust
FIT	Feed-in Tariff
FNA	First National Assessment
GIS	Geographic information system
GSHP	Ground source heat pump
GW	Gigawatt
GWh	Gigawatt hour
HEEPS	Home Energy Efficiency Programmes for Scotland
KT	Kiloton
KW	Kilowatt
KWh	Kilowatt hour
LA	Local authority
LED	Light-emitting diode
LHD	Linear heat density
LEAR	Local Energy Asset Representation
LHEES	Local Heat and Energy Efficiency Strategy

Abbreviation	Definition
LPG	Liquefied petroleum gas
MTIS	Mixed Tenure Improvement Service
MW	Megawatt
MWh	Megawatt hour
MWth	Megawatt thermal
NPF4	National Planning Framework 4
OFGEM	Office of Gas and Electricity Markets
PEAT	Portfolio Energy Analysis Tool
SAP	Standard Assessment Procedure
SEA	Strategic environmental assessment
SEG	Smart Export Guarantee
SGN	Scotia Gas Networks
SIMD	Scottish Index of Multiple Deprivation
TW	Terawatt
TWh	Terawatt hour
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPRN	Unique Property Reference Numbe
WHR	Whole house retrofit

Terms

Table 52: Edinburgh LHEES terms

Term	Definition
Anchor load	A building with a large, dependable, long-term, demand for heat which can offer surety of demand to a heat network operator, helping make the heat network commercially viable.
Baselining	Baselining is the purpose of understanding at local authority or strategic level, the current status of the buildings against the LHEES Considerations, targets, and indicators.
Biomass	Combustion of wooden pellets, chips, logs, or some other plant matter to generate heat.
Coefficient of performance	The power output by a system relative to the power input. A higher coefficient of performance represents a more efficient system.
Communal heating system	A smaller-scale heat network wherein heat generated at a central source is distributed to two or more units within a single building
Coolth	Cold as a commodity (Cf. heat / warmth).
Data Zone	Data zones are groups of output areas which have populations of around 500 to 1,000 residents.

Term	Definition
Delivery Area	Delivery areas are at a higher granularity than Strategic Zones. These spatial zones should set out clusters of buildings within a Strategic Zone or across the whole local authority that identify potential solution(s) at a delivery level. They will be an important starting point for identifying a range of projects, regulation and actions that are within the competence of the Scottish Government, local authorities and wider partners (included as actions to be developed in the Delivery Plan).
Delivery Plan	A Delivery Plan is a document setting out how a local authority proposes to support implementation of its Local Heat and Energy Efficiency Strategy.
Direct electric heating	Use of electricity to heat spaces and water directly (rather than interpolating other systems such as heat pumps).
Electric boiler	A boiler that works on the principle of heating water by passing it through an element, with carbon emissions based on the electricity grid emissions factor.
Energy centre	A building in which heat is generated.
Energy efficiency	The amount of energy required to heat a building (given its size) and the building's ability to retain that heat. The most common way to measure energy efficiency is through an Energy Performance Certificate (EPC), which provides a simple rating of energy efficiency of the building, albeit EPCs were originally designed to assess the cost of heating a building rather than the emissions associated with doing so.
Energy services company	A company providing energy services.
EnerPHit	A Passivhaus standard for the retrofit of existing buildings.
Fossil fuel	A non-renewable energy source, e.g. gas, oil, or coal.
Fuel poverty	As defined by the Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019, circumstances in which a household spends over 10% of their net income after housing costs is spend on fuel needs and their residual income is less than 90% of the UK Minimum Income Standard, i.e. is insufficient to maintain an adequate standard of living.
Geographic information system	Software for analysing and displaying geographically-referenced information.
Gigawatt	A unit of power equal to one billion (1,000,000,000) watts.
Greenhouse gas	Gases in the earth's atmosphere that trap heat, in the main carbon dioxide; chlorofluorocarbons; methane; nitrous oxide; ozone; and water vapor.
Heat decarbonisation	Reducing or eliminating the carbon produced as a negative by-product of heating buildings.
Heat network	As defined in the Heat Networks (Scotland) Act 2021, a (district) heat network is "a network by which thermal energy is distributed from one or more sources of production to more than one building".
Heat pump	A heating solution that works on the principle of capturing thermal energy (heat) from a source such as the air, the ground, or a body of water (such as a river, sea, or sewer) and using the refrigeration cycle can convert it to supply

Term	Definition
	heat to the end user. The carbon emissions of a heat pump are based on the grid emissions factor.
Indicator	For a given Consideration, the purpose of an Indicator is: (1) to act as a key information field to help characterise and baseline the local authority; (2) to act as a key information field to support strategic zoning and generation of initial delivery areas; (3) if suitable, to act as a key information field to measure progress against Targets over the duration of the Edinburgh LHEES - set out in the Delivery Plan. For some Considerations, one Indicator may be sufficient, but for others a range may be appropriate.
Insulation	Use of materials to slow the rate at which heat is lost from a building to the outside. This is one of the most affordable and effective ways of reducing heat demand by improving heat retention.
Intermediate Zone	Intermediate zones are a statistical geography that are designed to meet constraints on population thresholds (2,500-6,000 household residents), to nest within local authorities, and to be built up from aggregates of data zones.
Kilowatt	A unit of power equal to one thousand (1,000) watts.
LHEES Considerations	The LHEES Considerations are a list of technologies, building typologies and policy priorities used to identify and target interventions. They comprise: Heat networks; Off-gas grid buildings; On-gas grid buildings; Poor building energy efficiency; Poor building energy efficiency as a driver for fuel poverty; and Mixed-tenure, mixed-use and historic buildings.
Linear heat density	In the context of a heat network, the annual demand for heat per meter of pipework.
Local Heat and Energy Efficiency Strategy	A long-term strategic framework for the improvement of the energy efficiency of buildings in the local authority's area, and the reduction of greenhouse gas emissions resulting from the heating of such buildings.
Megawatt	A unit of power equal to one million (1,000,000) watts.
Mixed-tenure, mixed-use and historic buildings	Mixed-tenure and mixed-use buildings could include a mixture of owner occupied, private rented and social housing, and also non-domestic uses, or simply multiple ownership within the same tenure. Historic buildings include the buildings that are within conservation areas or those that are listed buildings. These categories may require established alternative approaches and regulation for the installation of low carbon heat and energy efficiency solutions and where specific advice and support might be available relating to the installation of these solutions.
Net zero carbon	A scenario in which any carbon emissions are balanced by the removal of the same quantum of carbon from the atmosphere, meaning there has been no net change in carbon.
Passivhaus	A building standard wherein buildings achieve high levels of energy efficiency and user comfort.
Prospective Heat Network Zones	The analysis carried out for strategic zoning and pathways for the heat networks Consideration is to identify prospective zones rather than the otherwise used naming convention of Delivery Areas. The prospective zones identified are to be included in the Edinburgh LHEES and should inform actions

Term	Definition
	around further investigation / progression within the Delivery Plan. The heat networks Consideration analysis and activity carried out within the Edinburgh LHEES is also anticipated to support activity related to formal zone designation as required by the Heat Networks (Scotland) Act 2021.
Raster	A matrix of squares, or grid, used as a method of data analysis in a geographic information system.
Solar photovoltaic	Technology that converts sunlight into electricity energy.
Solar water heating	Use of solar power to raise the temperature of water, which is then stored in a hot water cylinder.
Solid fuel	Solid material that is burned to produce heat, for example coal or wood.
Strategic Zone	Strategic Zones present a visualisation of the potential pathways to decarbonise the building stock at a local authority level. These could, for example, be split out by intermediate zone or data zone. They are useful to understand the baseline performance, the scale of potential and initial areas of focus, which could be used to inform Delivery Areas and follow on engagement.
Tariff	The price charged for energy.
Targets	Targets are the measurable aspect of the Consideration and are likely to be taken directly from national and/or local policy documentation, for example net zero by 2045, or EPC 'C' by 2040. Targets are likely to comprise of end-point targets and milestone targets and would sit along a timeline within (and beyond) the Edinburgh LHEES. This timeline would help to prioritise the types of projects undertaken within the Edinburgh LHEES over its duration.
Terawatt	A unit of power equal to one trillion (1,000,000,000,000) watts
uPVC	Unplasticized polyvinyl chloride
U-value	A measure of thermal transmittance, i.e. the extent to which an object (for example, a pane of glass) allows heat to pass through. U-values generally range from 0.1 (minimal heat loss) to 1.0 (high heat loss).
Watt	The basic unit of power.
Weighting	For some Considerations, one Target and Indicator may be sufficient, but for others a range of Indicators may be appropriate to contextualise and characterise performance against a Target and/or progress towards a Consideration. If multiple Indicators are used in strategic zoning or the identification of delivery areas, a Weighting can be applied based on the importance of each.
Zero direct emissions heating system	A heating system that does not itself emit carbon (albeit the production of the fuel uses to drive it may have emitted carbon).

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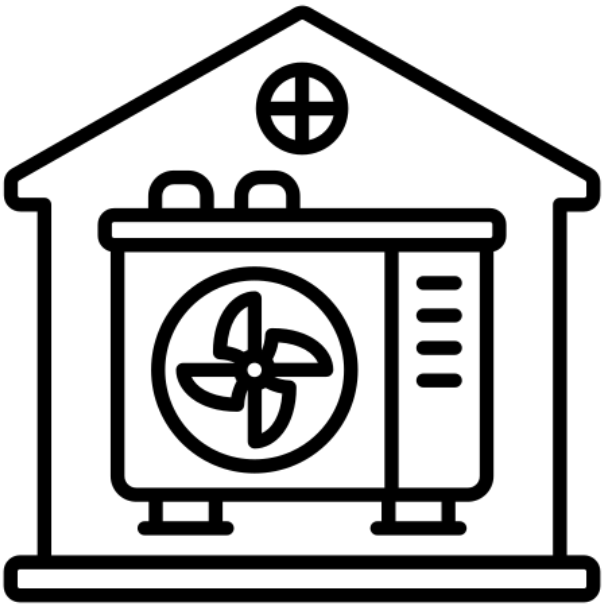
The City of Edinburgh Council

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



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1. Contents

Tables

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.**

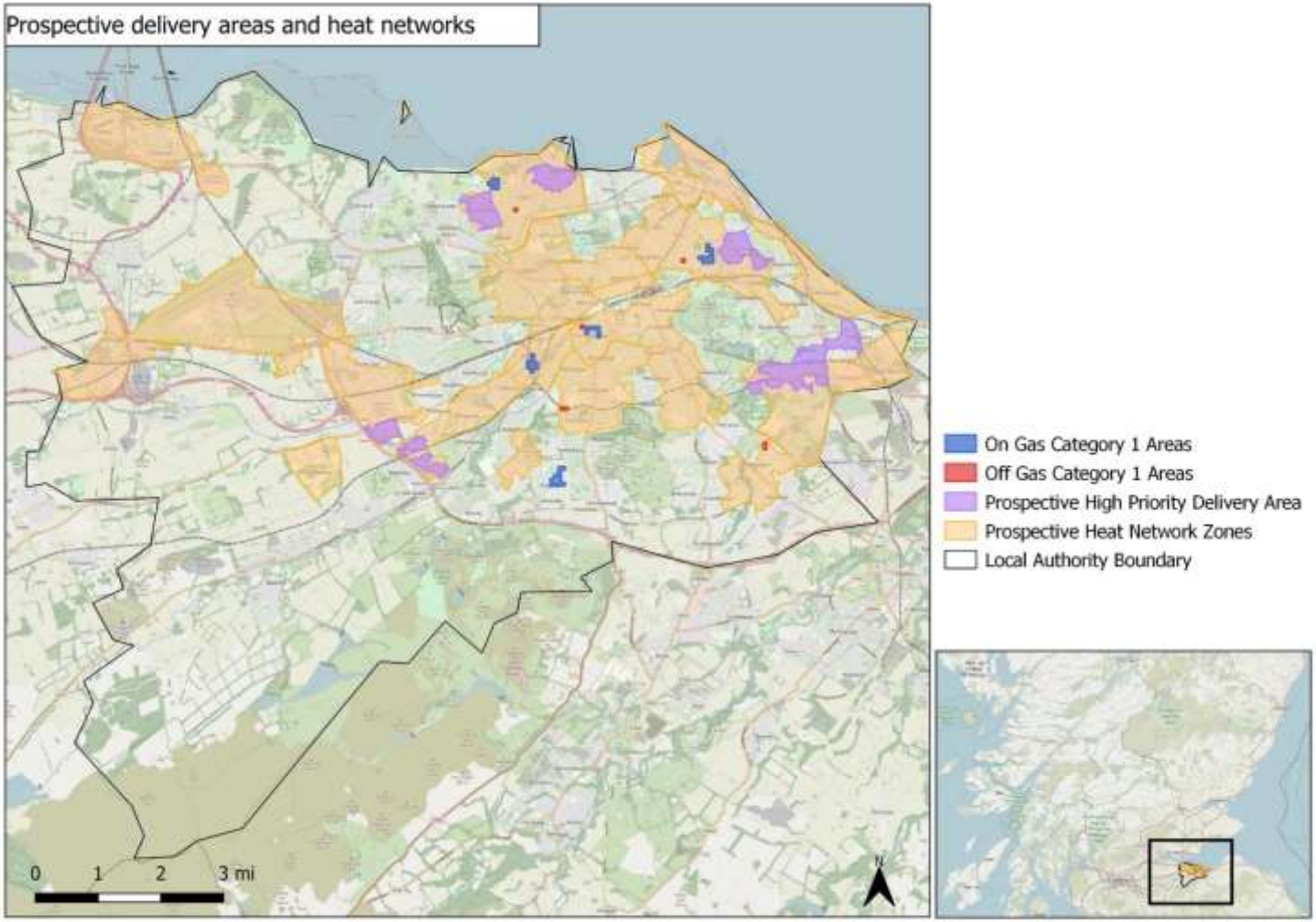
Other housing retrofit measures

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

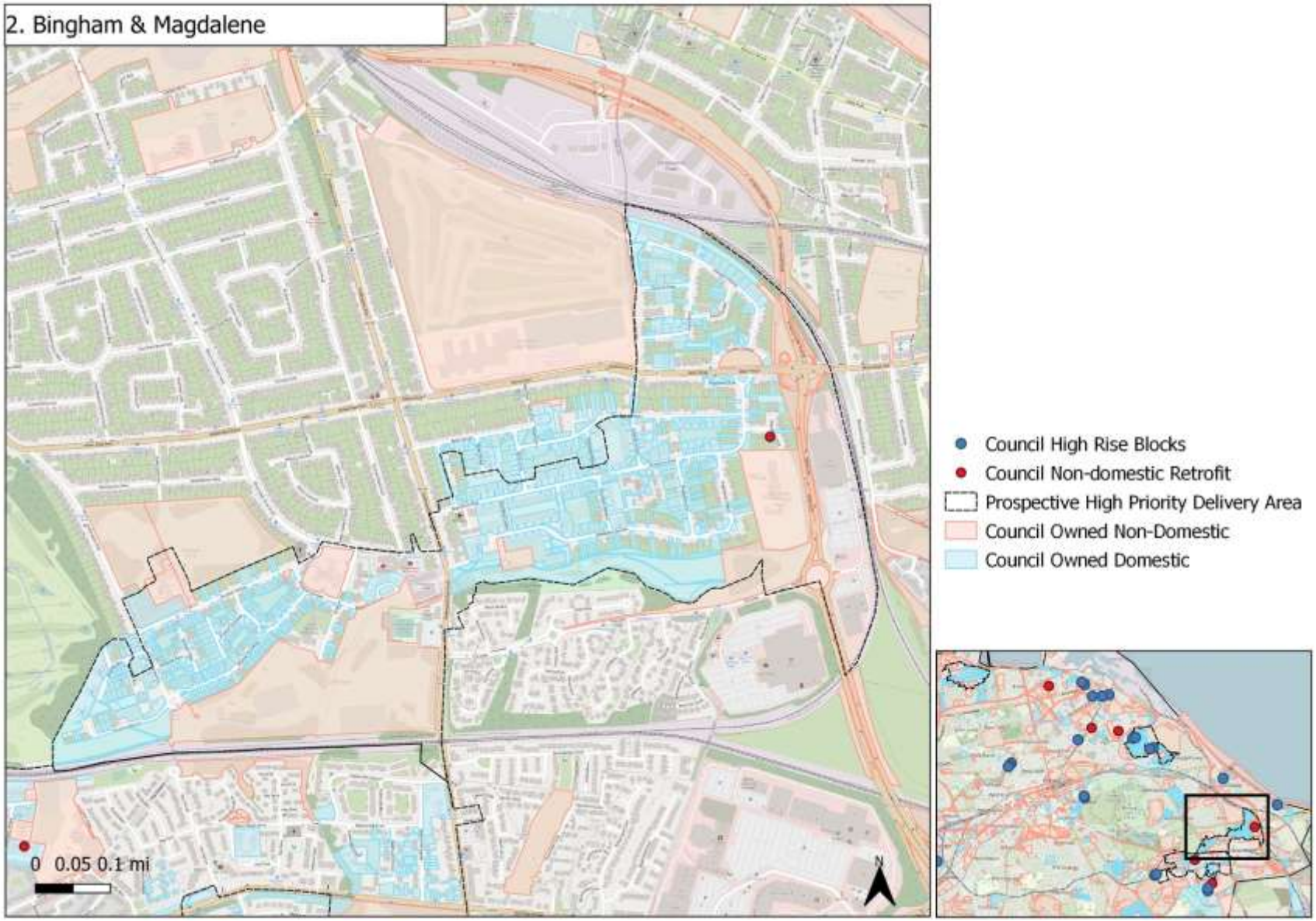
Tenure	Count
Housing association	65
Local authority	834
Owner occupied	575
Privately rented	101

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

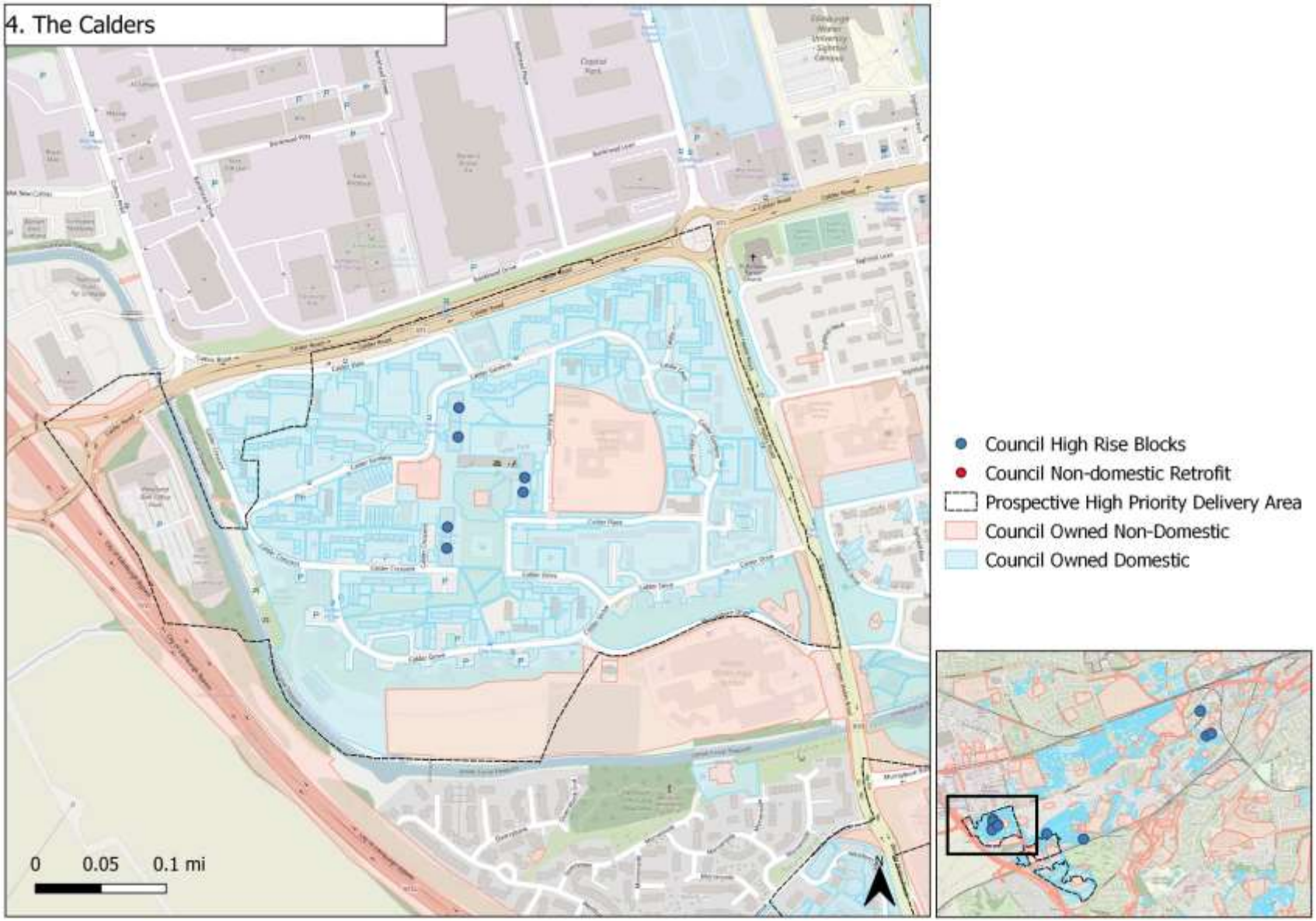
Tenure	Count
Housing association	48
Local authority	889
Owner occupied	379
Privately rented	140

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

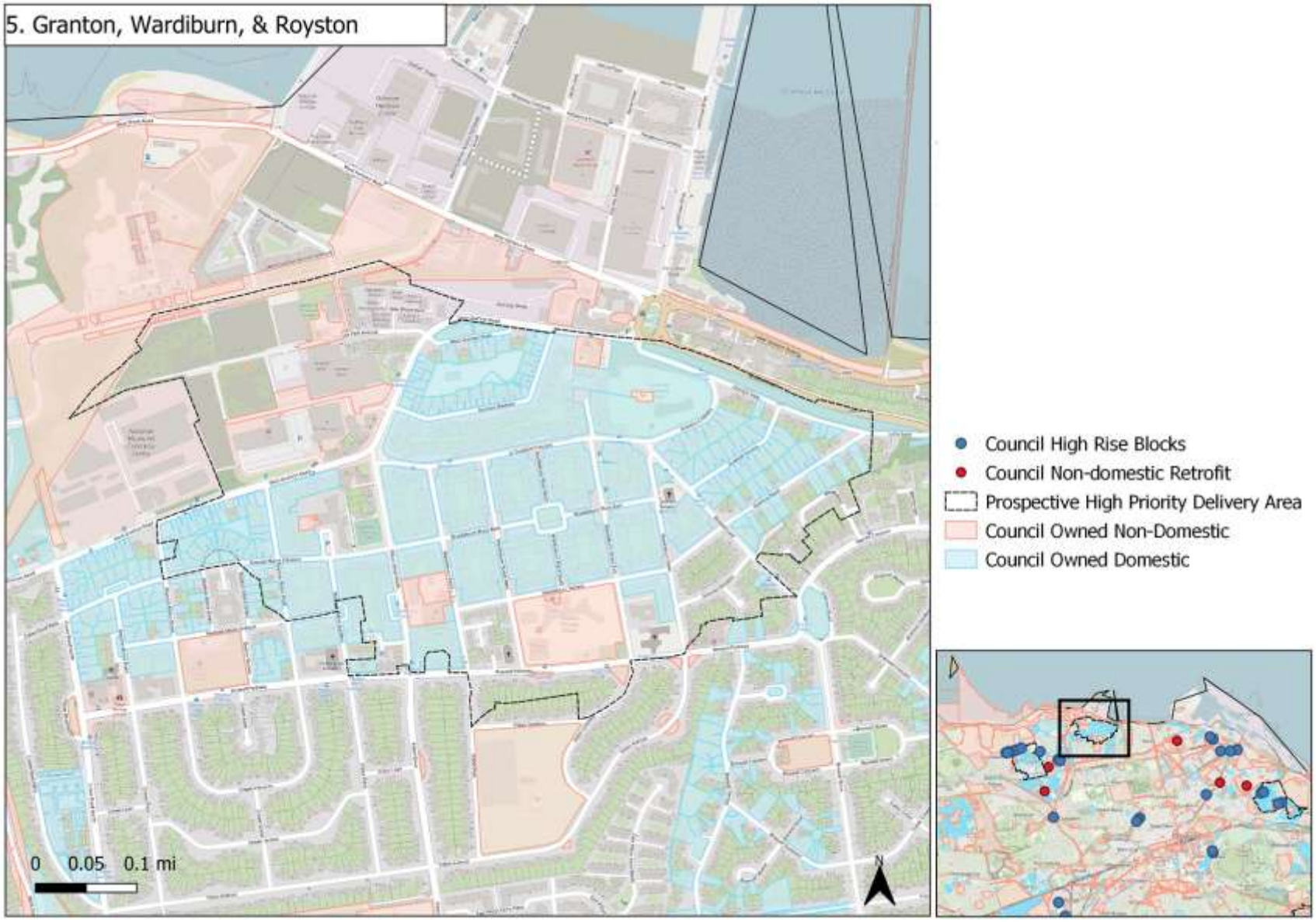
Tenure	Count
Housing association	175
Local authority	1,362
Owner occupied	400
Privately rented	104

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

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

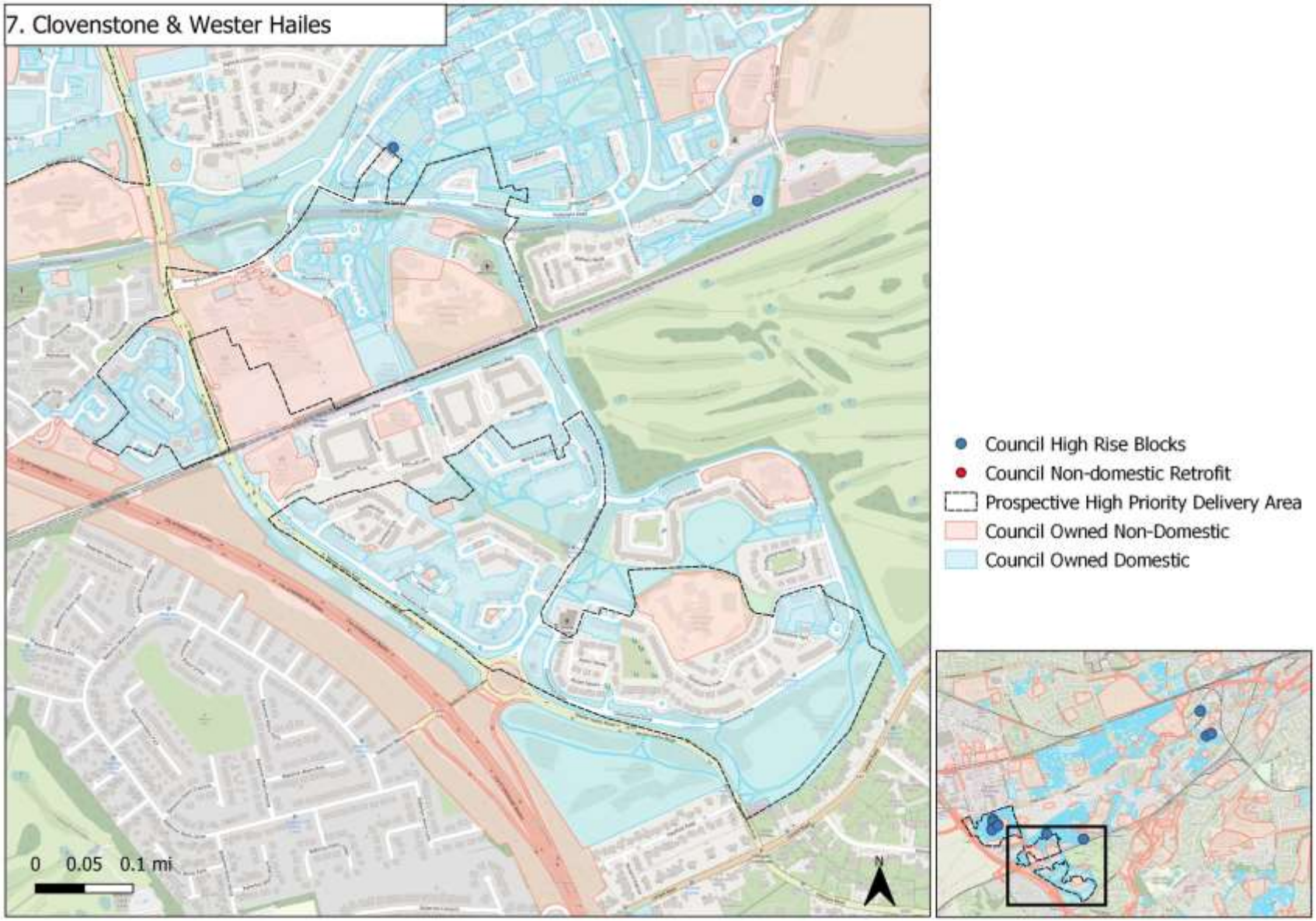
Tenure	Count
Housing association	341
Local authority	776
Owner occupied	202
Privately rented	74

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

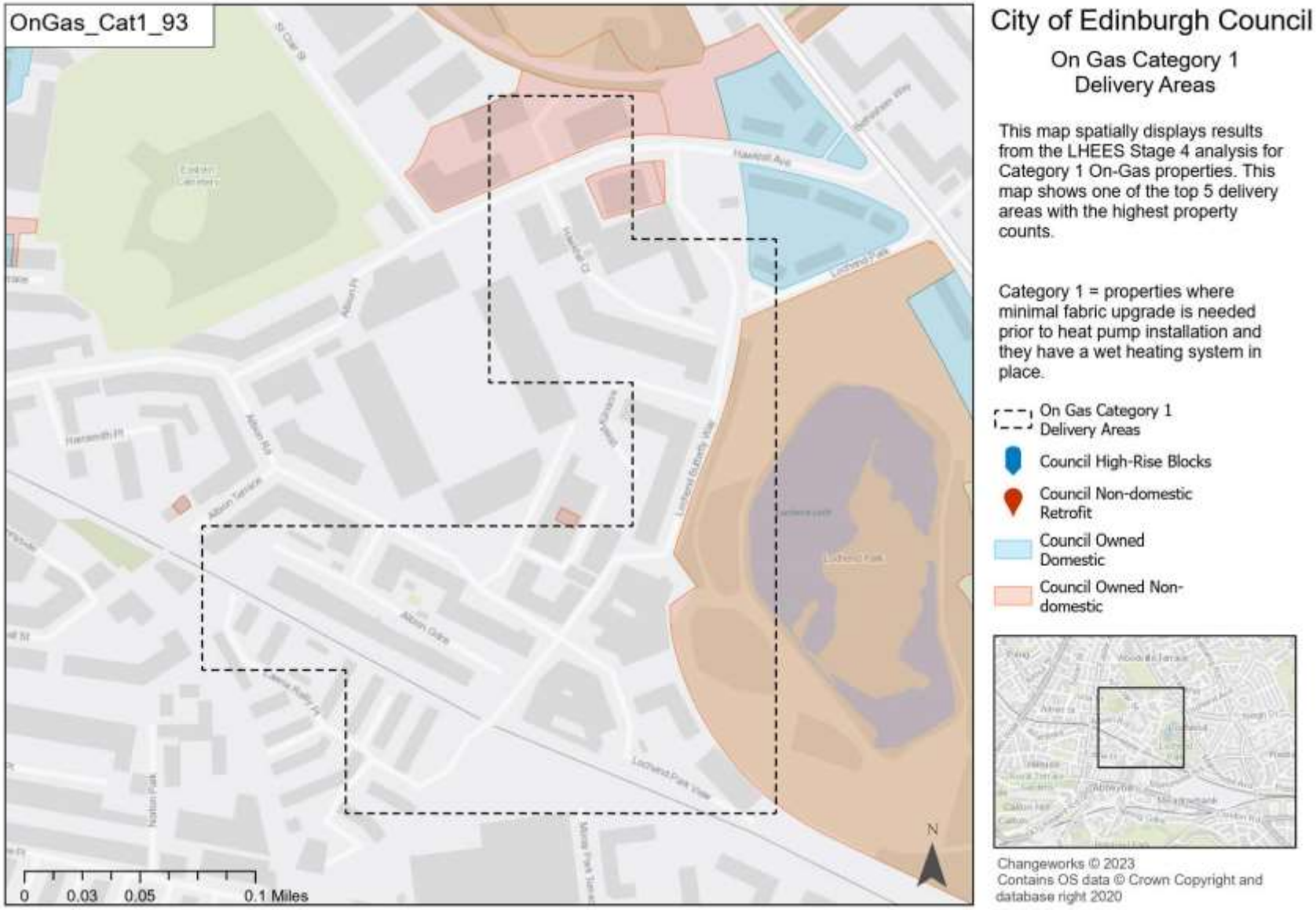
Tenure	Count
Housing association	10
Local authority	2
Owner occupied	571
Privately rented	388

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
N
0 0.03 0.05 0.1 Miles
Changeworks © 2023
Contains OS data © Crown Copyright and database right 2020

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

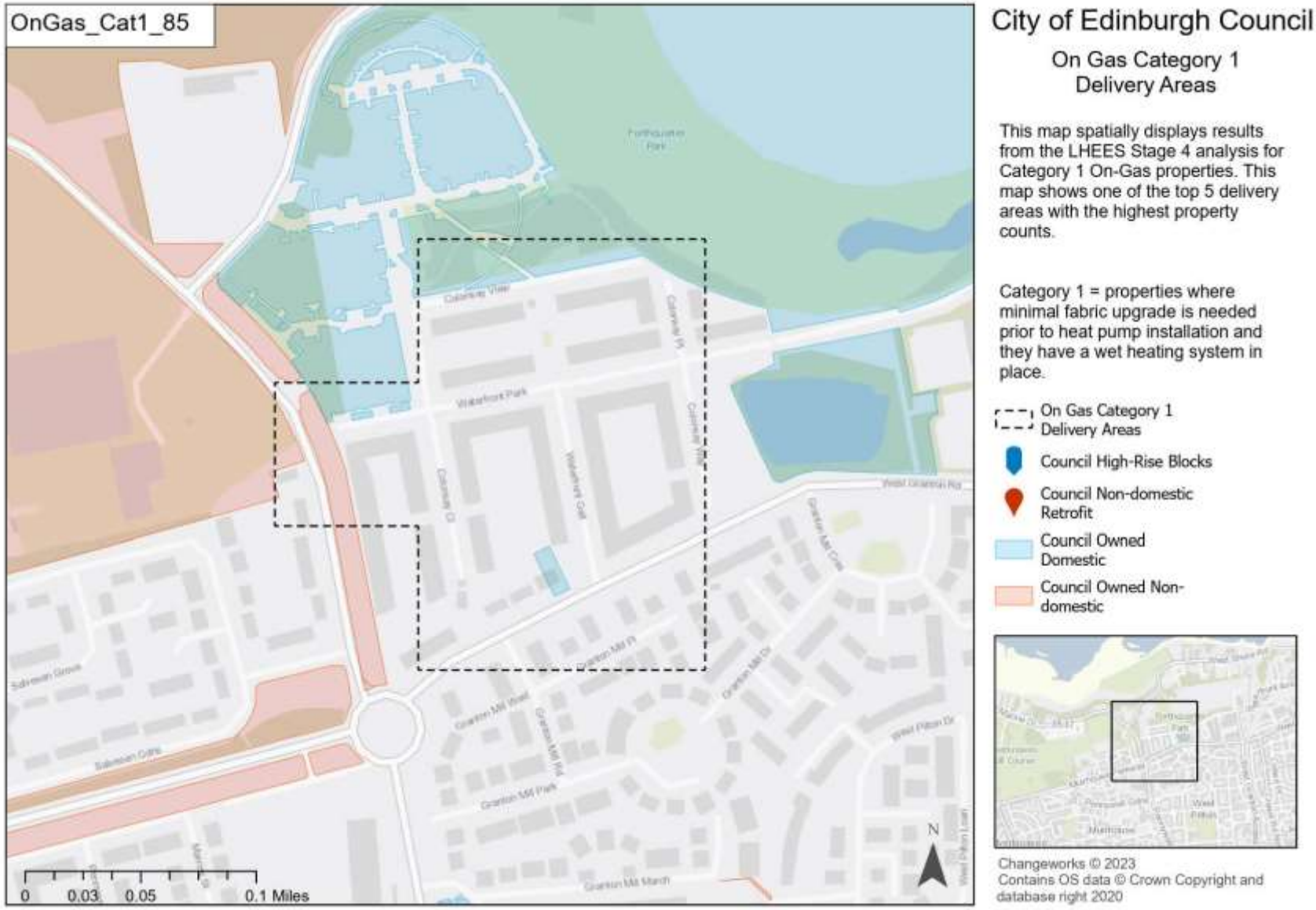
Tenure	Count
Housing association	117
Local authority	17
Owner occupied	427
Privately rented	191

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
Changeworks © 2023
Contains OS data © Crown Copyright and database right 2020

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

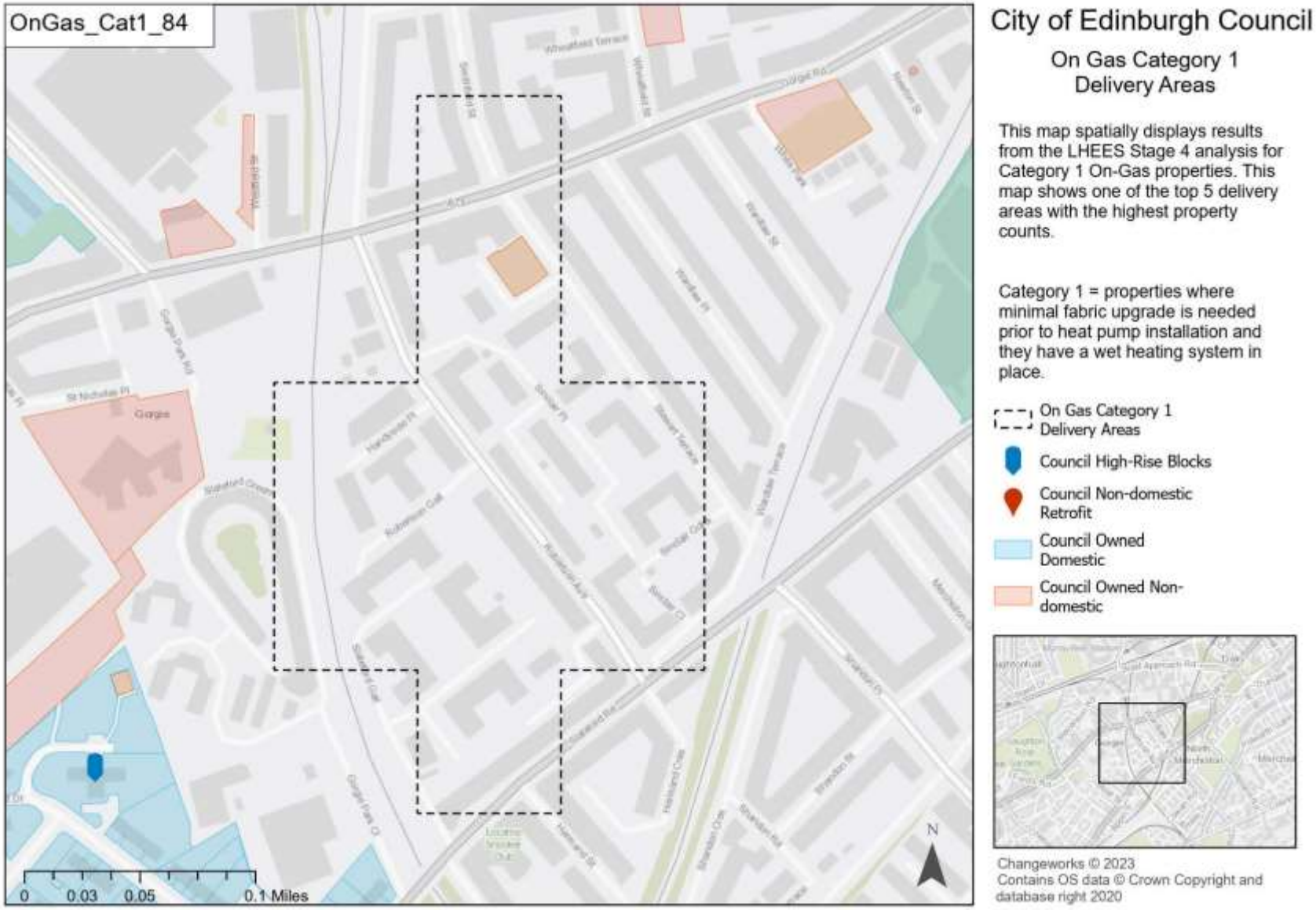
Tenure	Count
Housing association	1
Local authority	12
Owner occupied	433
Privately rented	239

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

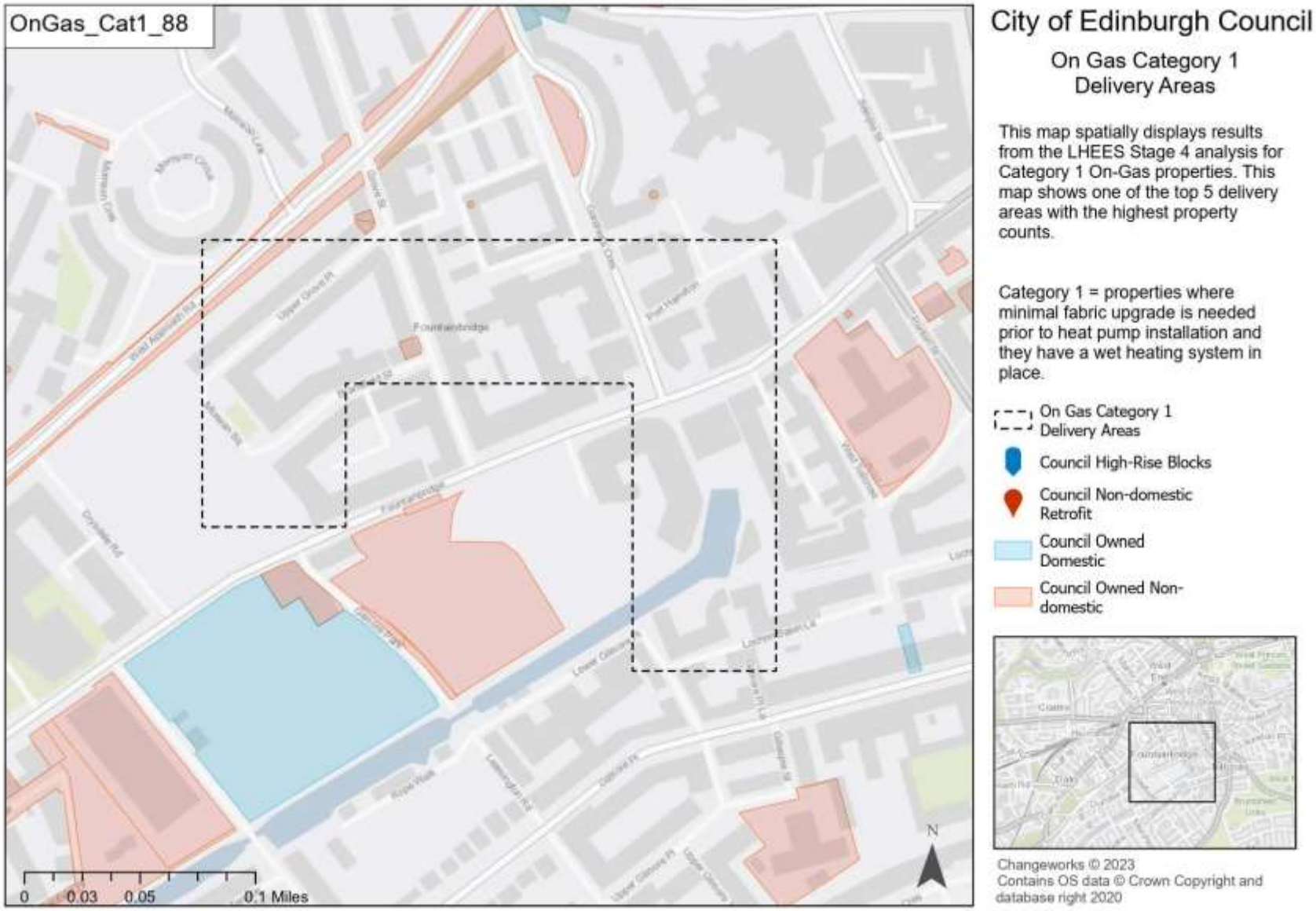
Tenure	Count
Housing association	64
Local authority	3
Owner occupied	235
Privately rented	382

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
Changeworks © 2023
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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

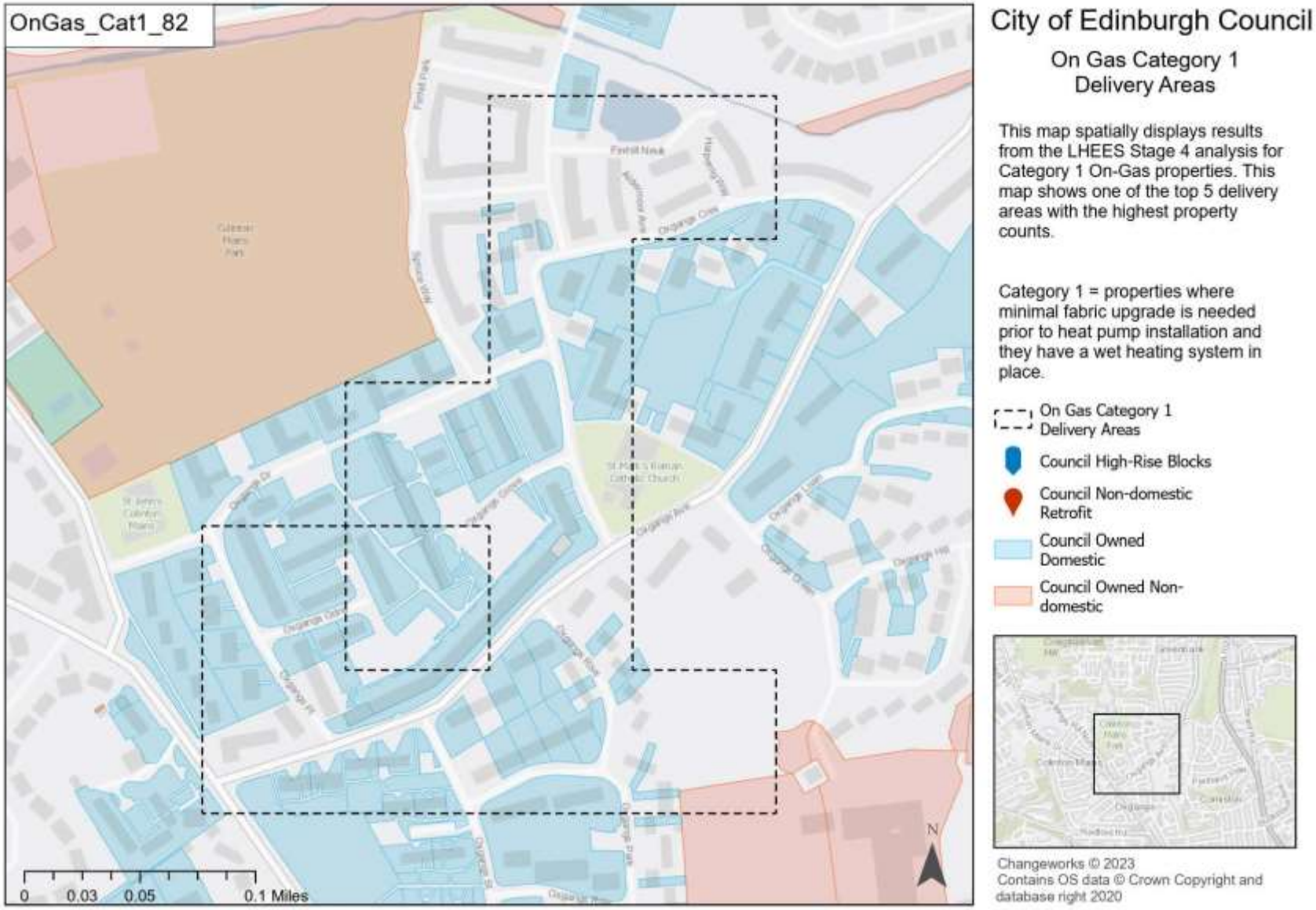
Tenure	Count
Housing association	152
Local authority	282
Owner occupied	187
Privately rented	47

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

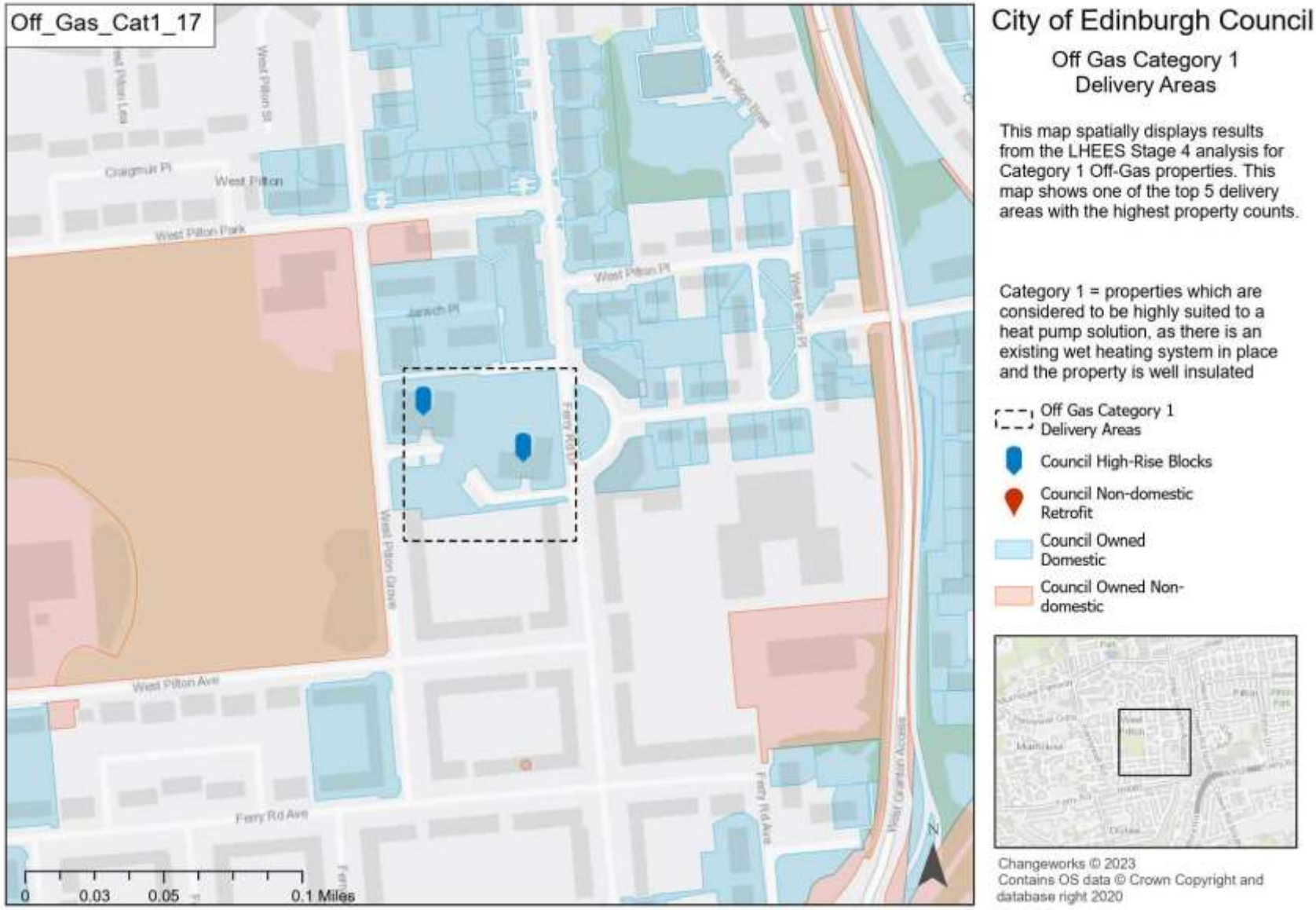
5.15.5. The below table summarises the recommended interventions in this Delivery Area. Virtually all the interventions concern upgrading to double glazing.

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.


Off_Gas_Cat1_17
West Pilton Park
West Pilton Ave
Ferry Rd Ave
West Pilton Grove
0
0.03
0.05
0.1 Miles
N
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
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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

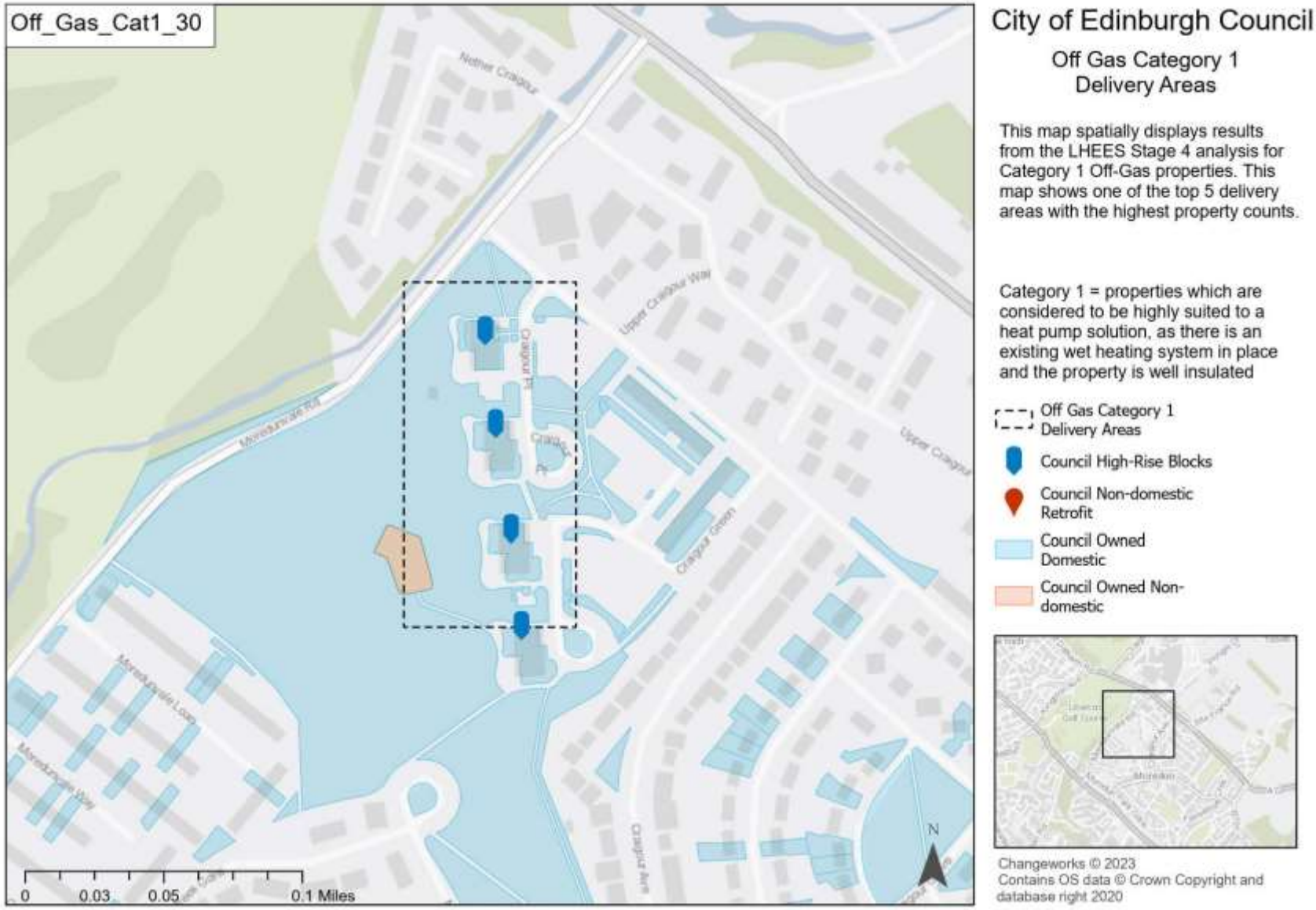
5.16.5. The below table summarises the recommended interventions for Little France House only. All interventions were around double-glazing upgrades.

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

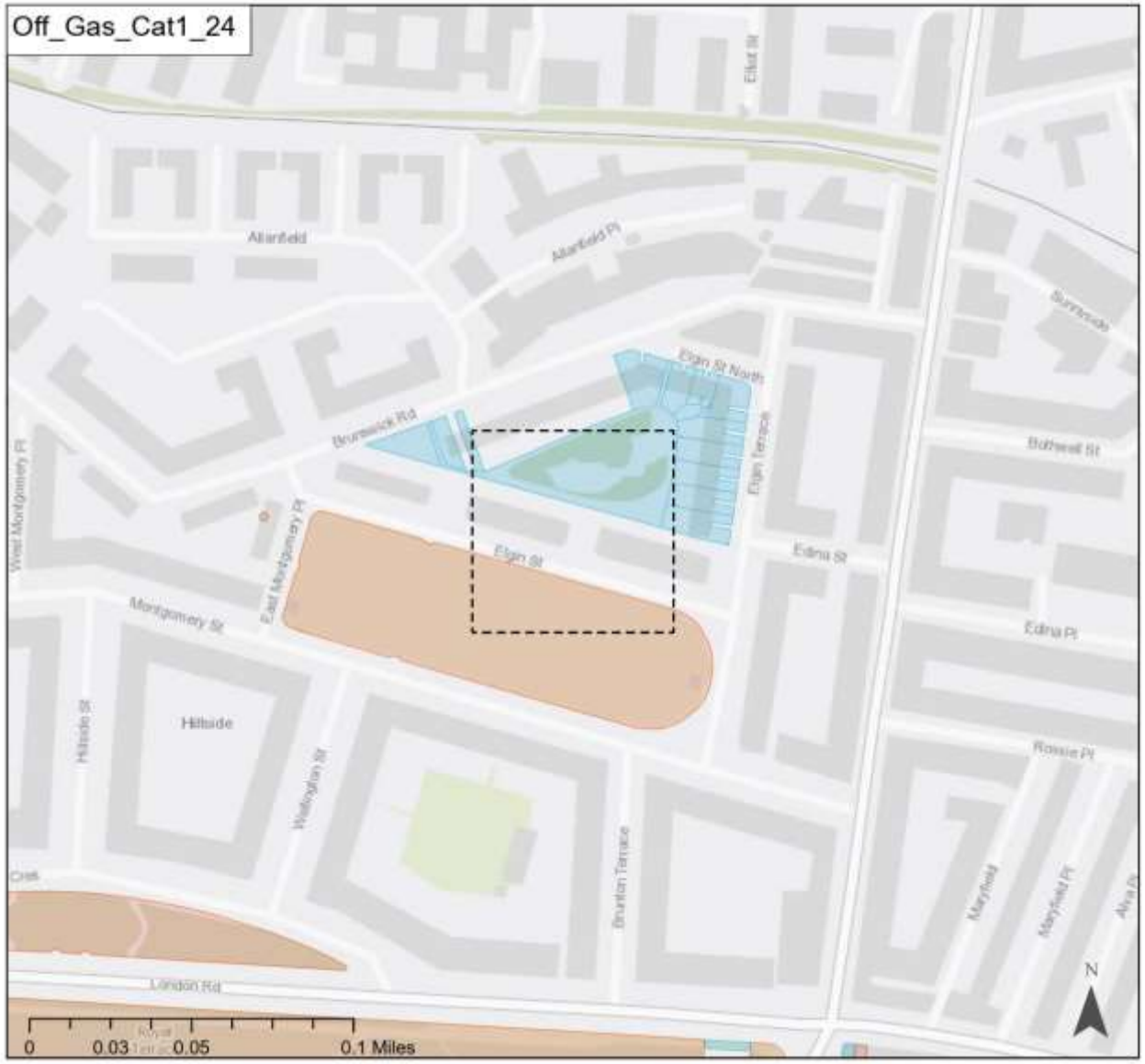
Tenure	Count
Housing association	79
Local authority	0
Owner occupied	0
Privately rented	0

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.



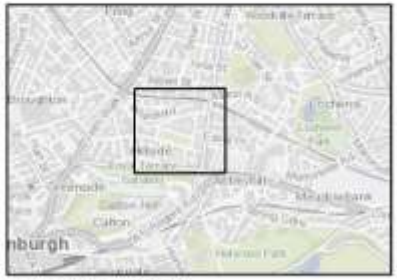
City of Edinburgh Council

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

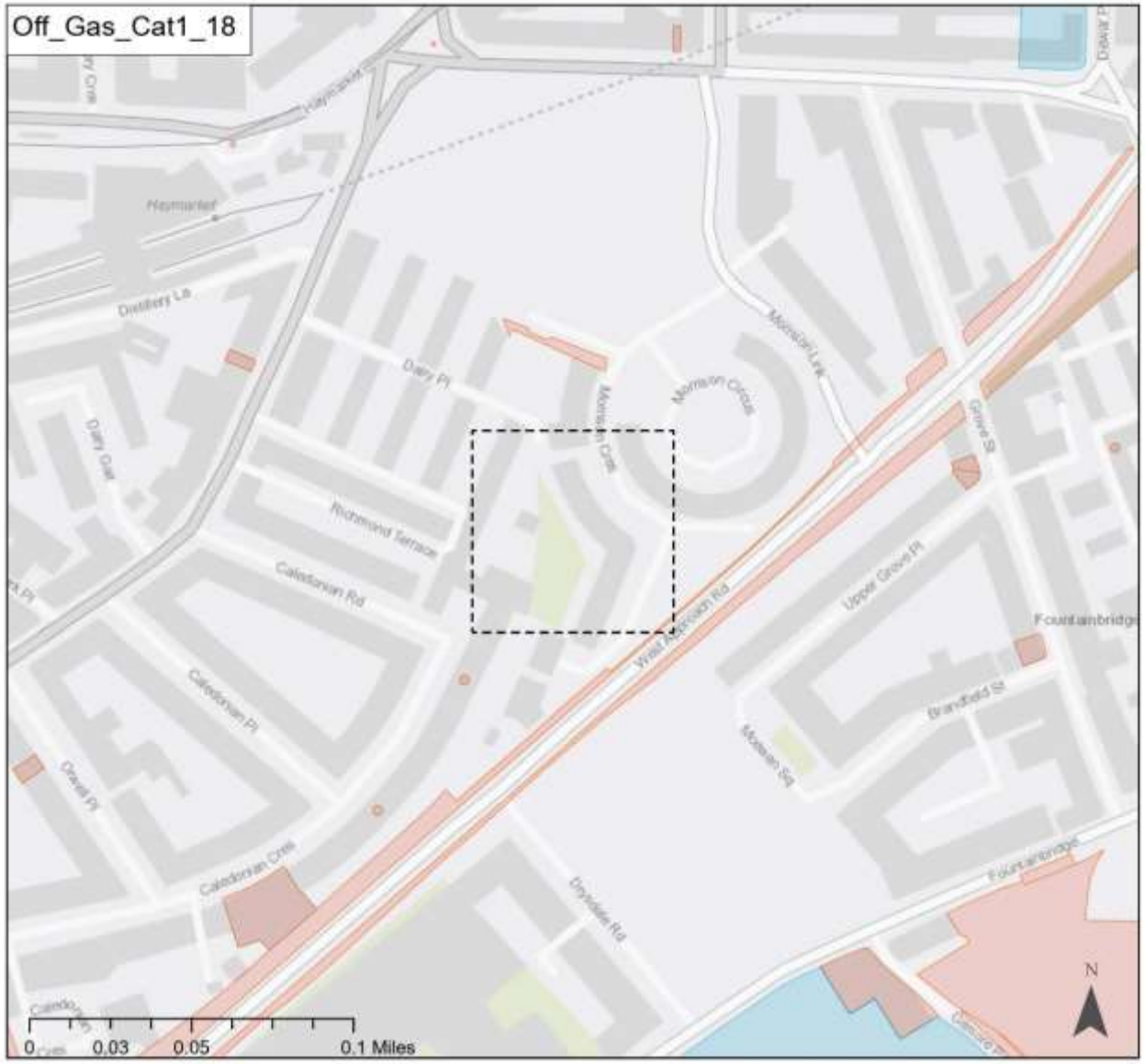
Tenure	Count
Housing association	64
Local authority	0
Owner occupied	5
Privately rented	4

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.



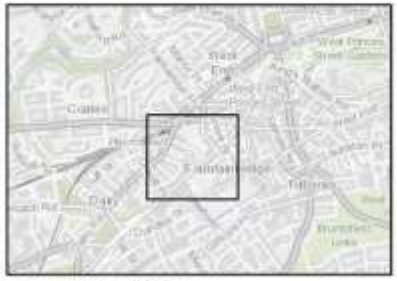
City of Edinburgh Council

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



5.19. 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

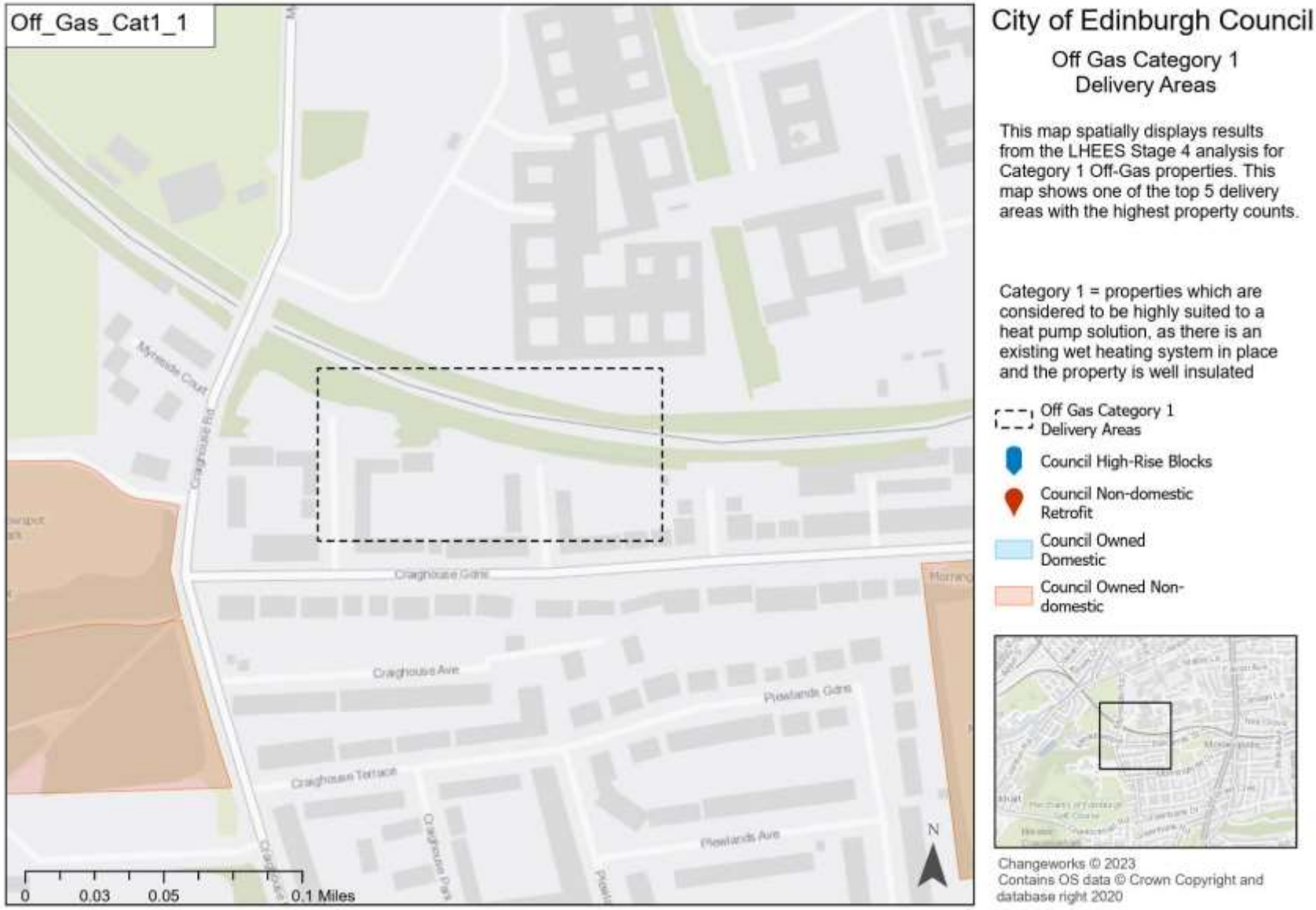
Tenure	Count
Housing association	0
Local authority	0
Owner occupied	56
Privately rented	13

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.


Off_Gas_Cat1_1
Craighouse Rd
Craighouse Gdns
Craighouse Ave
Craighouse Terrace
Craighouse Park
Powlands Gdns
Powlands Ave
N
0
0.03
0.05
0.1 Miles
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
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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.

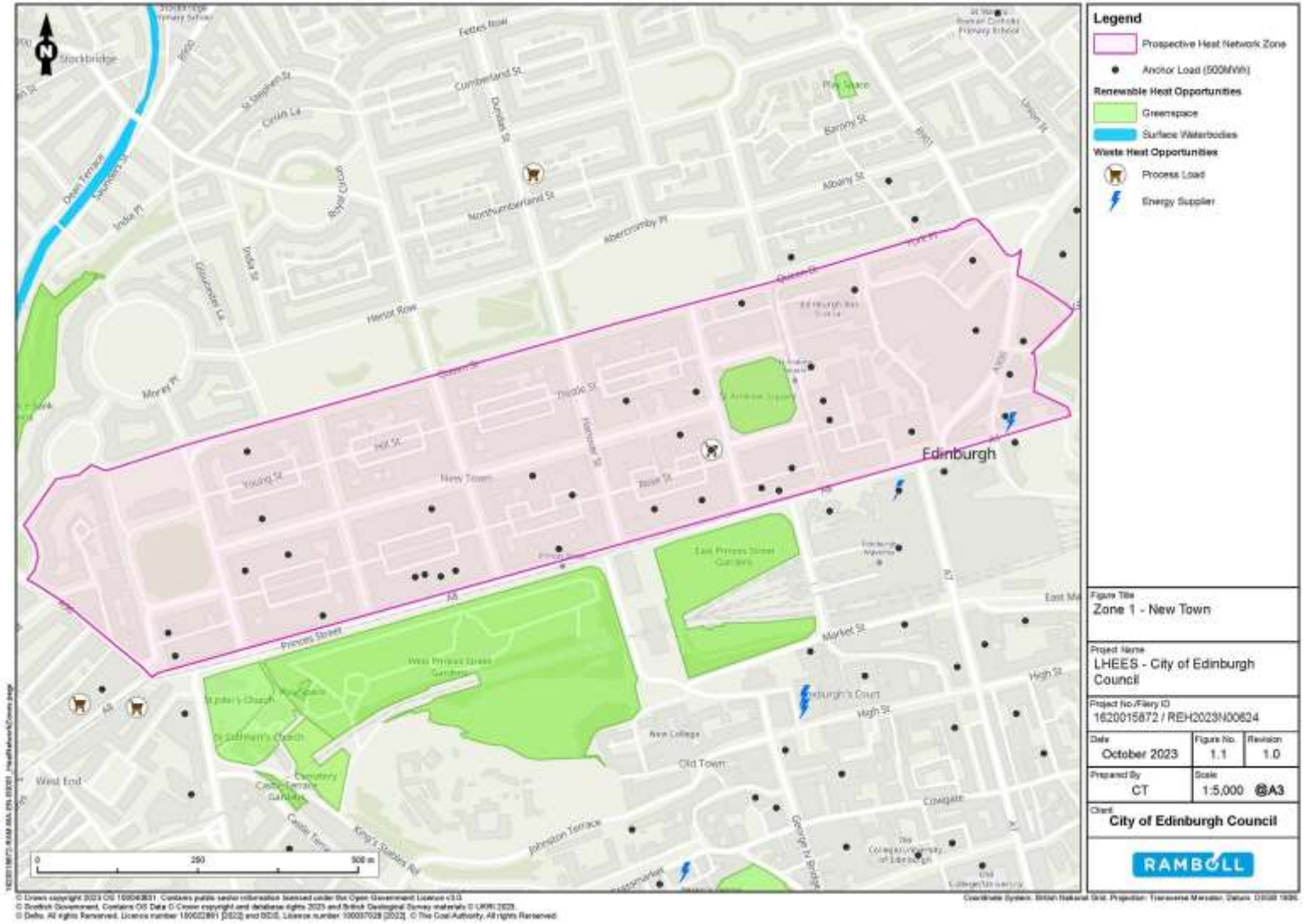
5.20.3. Potential heat sources within this Heat Network Zone include the Sainsbury's supermarket on St Andrew Square, a major sewer running beneath Princes Street Gardens, and green spaces such as Charlotte Square and St Andrew Square.

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

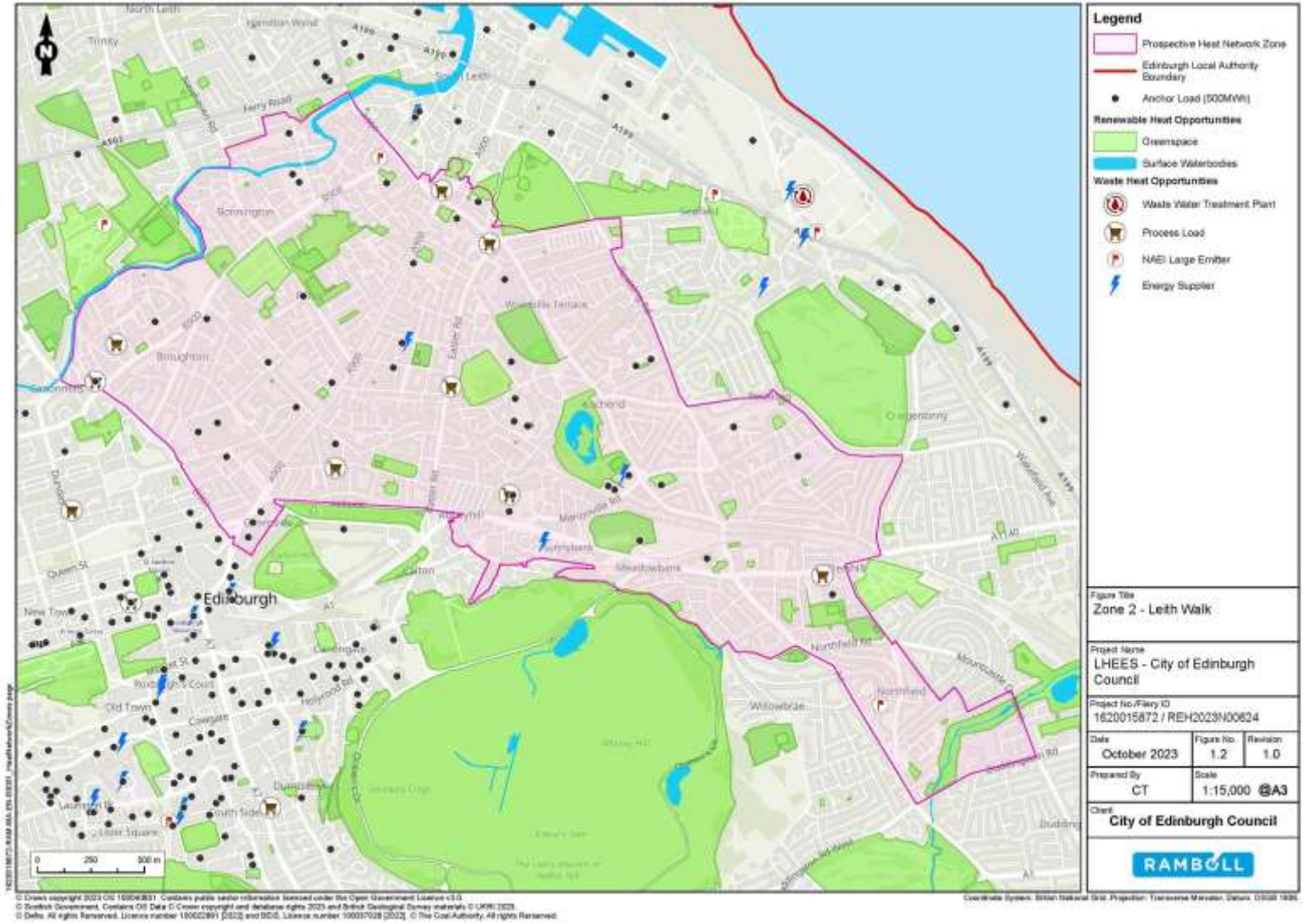
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	439,127
Total loads	15,149
Anchor loads	43
Area	551 hectares

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.

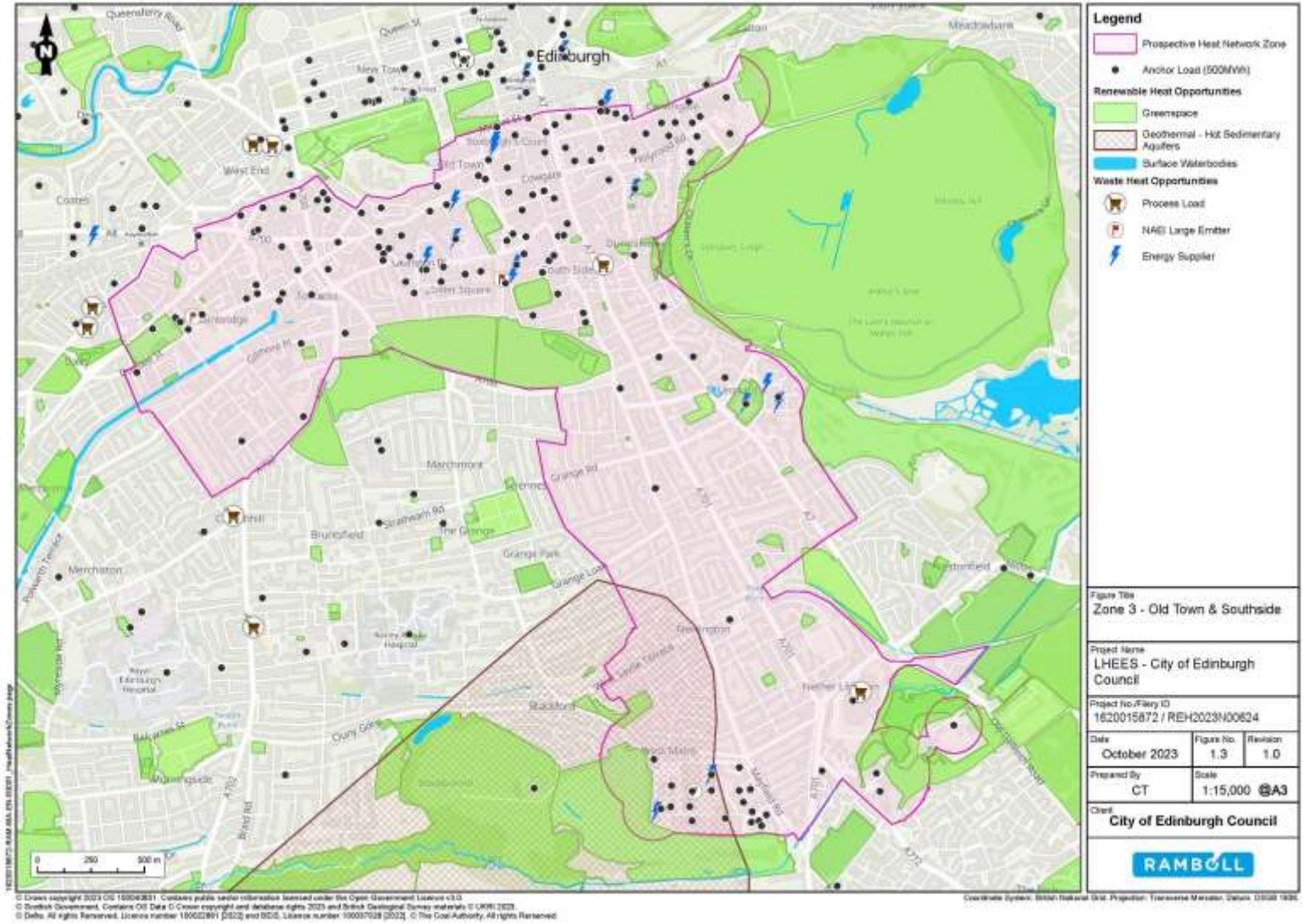
5.22.3. The anchor loads in this Heat Network Zone are somewhat clustered around the arterial roads running west to east from Dundee Street to Holyrood Road, suggesting this may represent a logical pipe route, potentially with a spur running up Lothian Road. Planning public realm and active travel works 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:

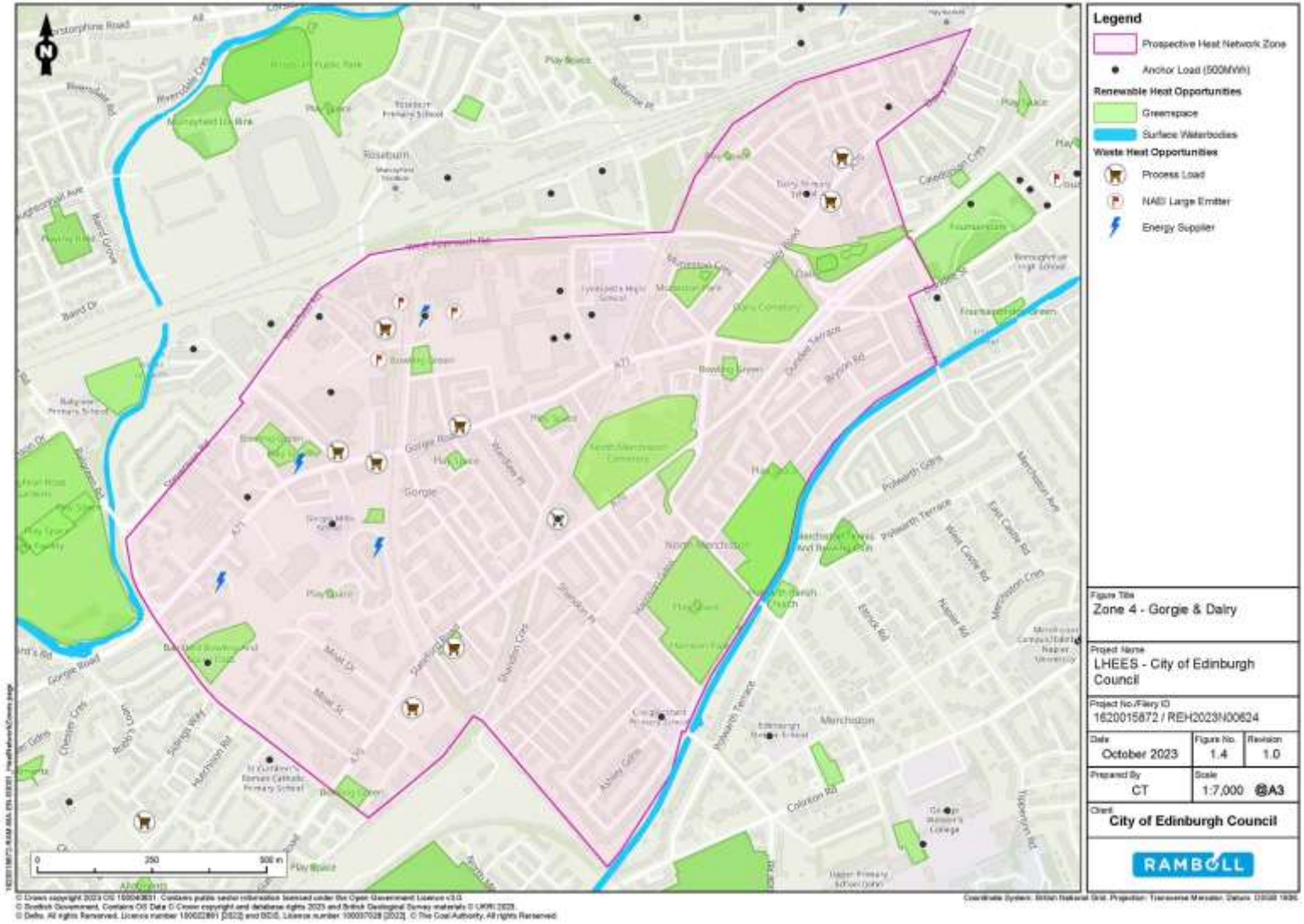
Table 44: Headline information on Heat Network Zone 04: Gorgie & Dalry

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

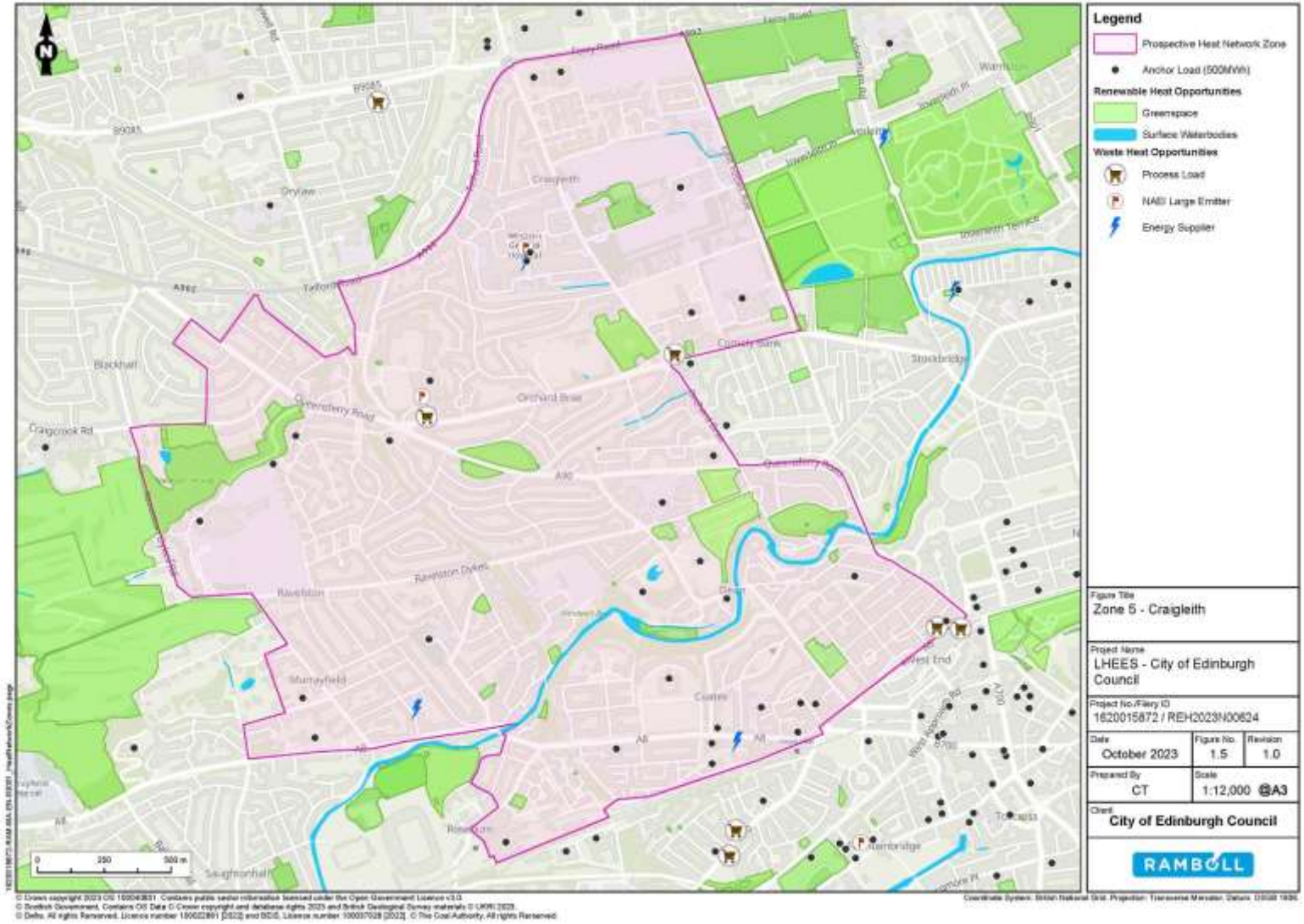
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	287,103
Total loads	7,589
Anchor loads	33
Area	506 hectares

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

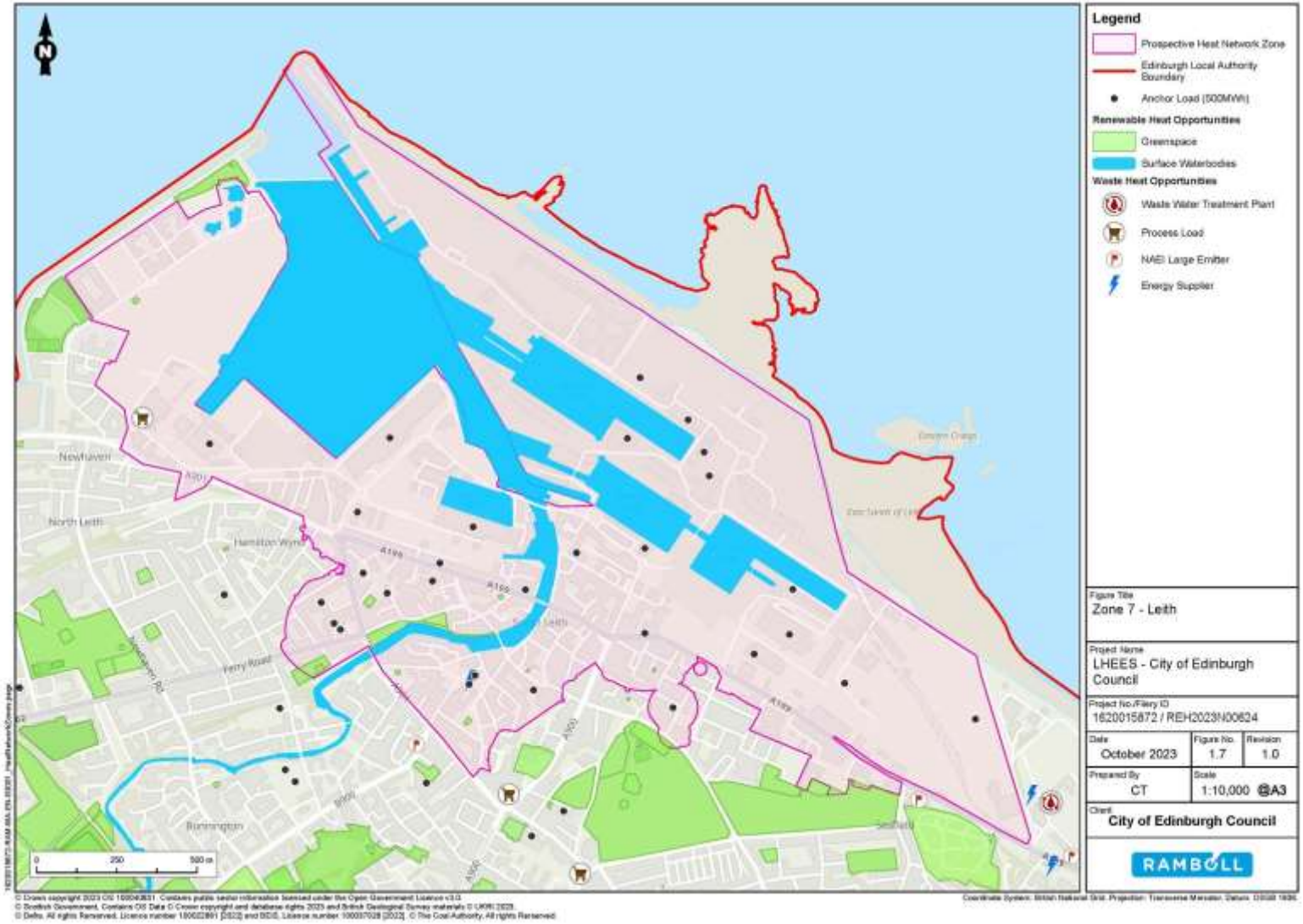
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	119,369
Total loads	2,047
Anchor loads	32
Area	273 hectares

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

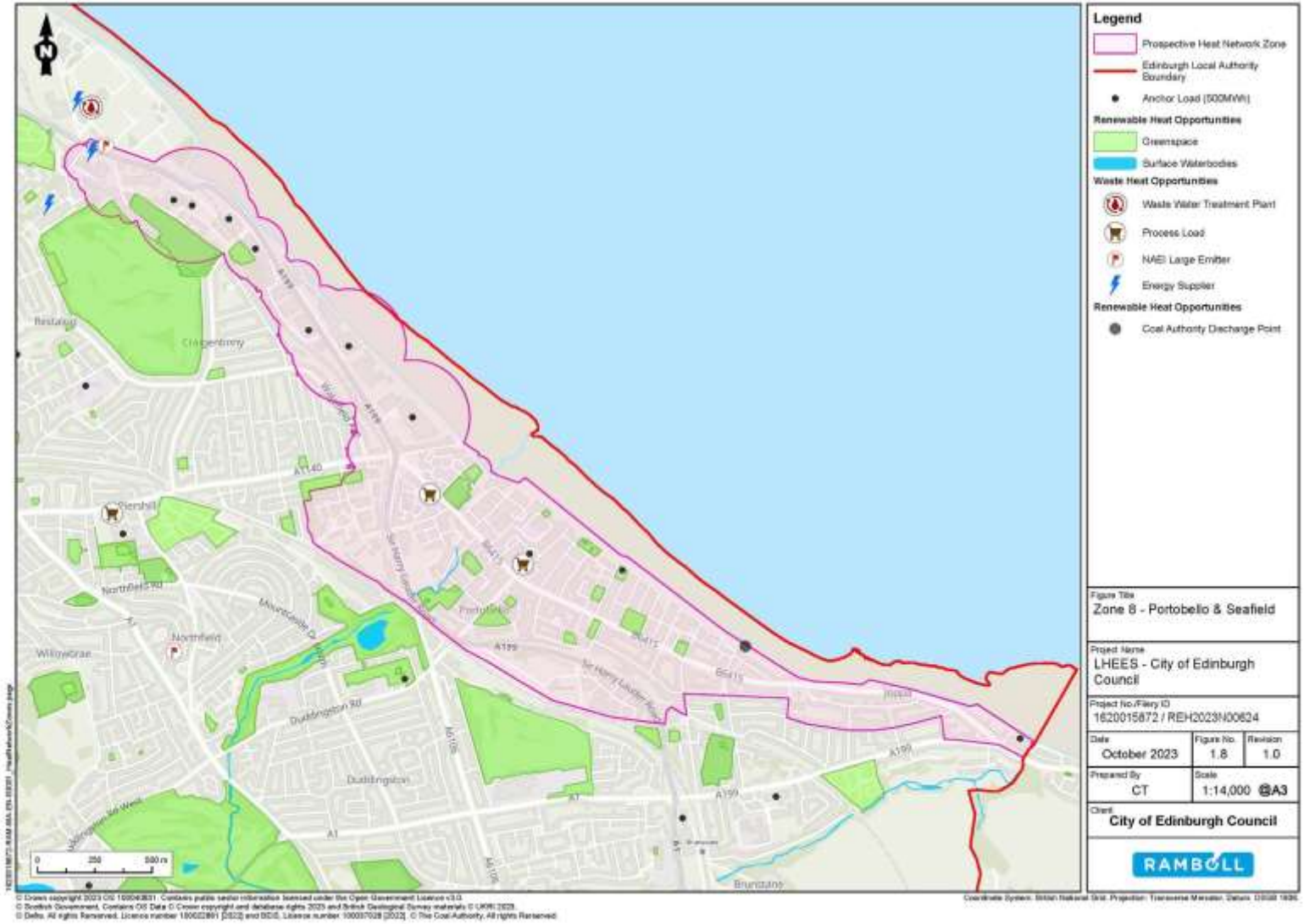
5.27.2. This Heat Network Zone encompasses a strip of land along the coast of Edinburgh between Seafield and Joppa. It includes the historical suburbs of Portobello and Joppa along with land at Seafield primarily occupied by industrial units and retail warehouses. The land at Seafield is proposed to 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

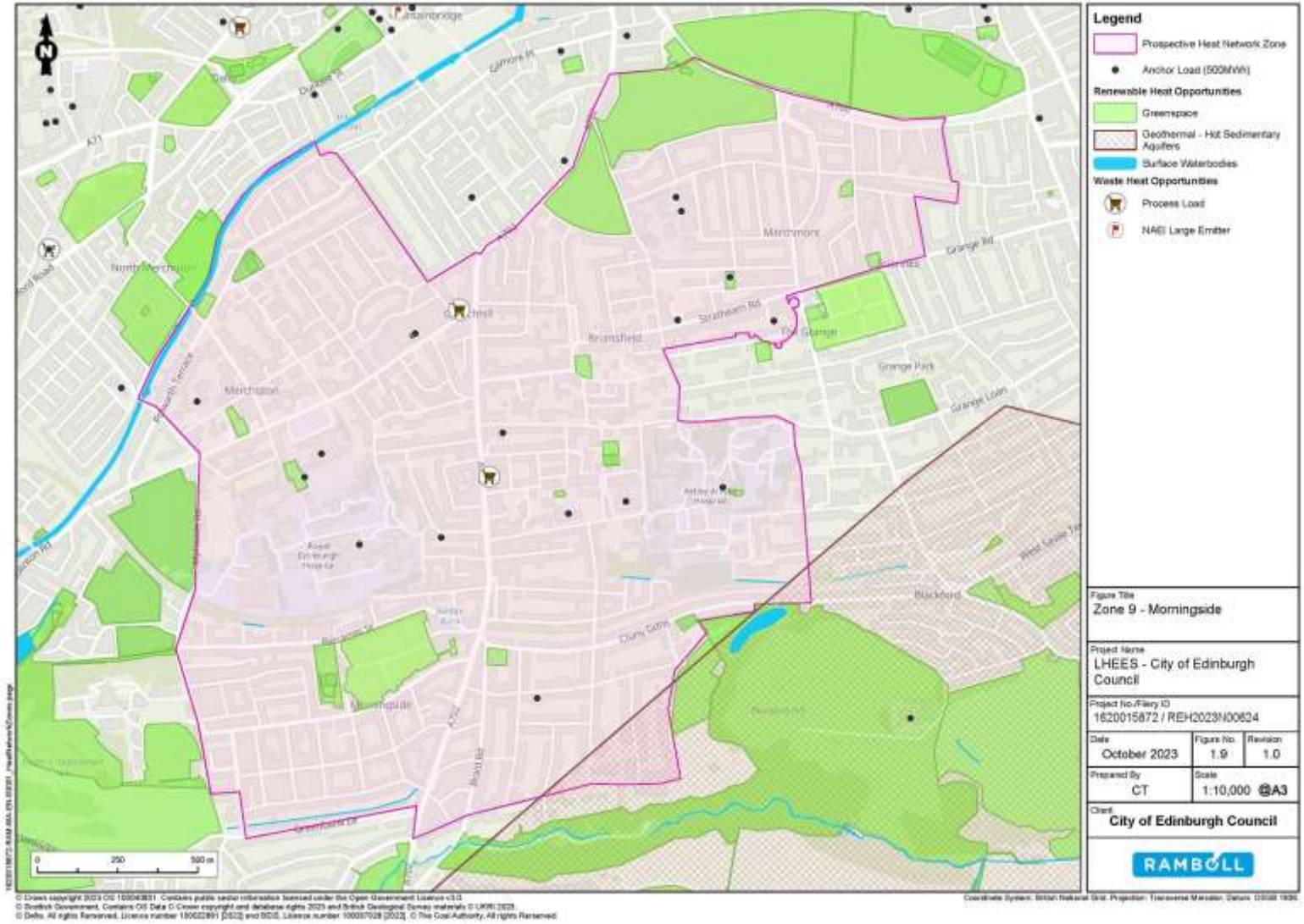
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	283,938
Total loads	7,306
Anchor loads	17
Area	373 hectares

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

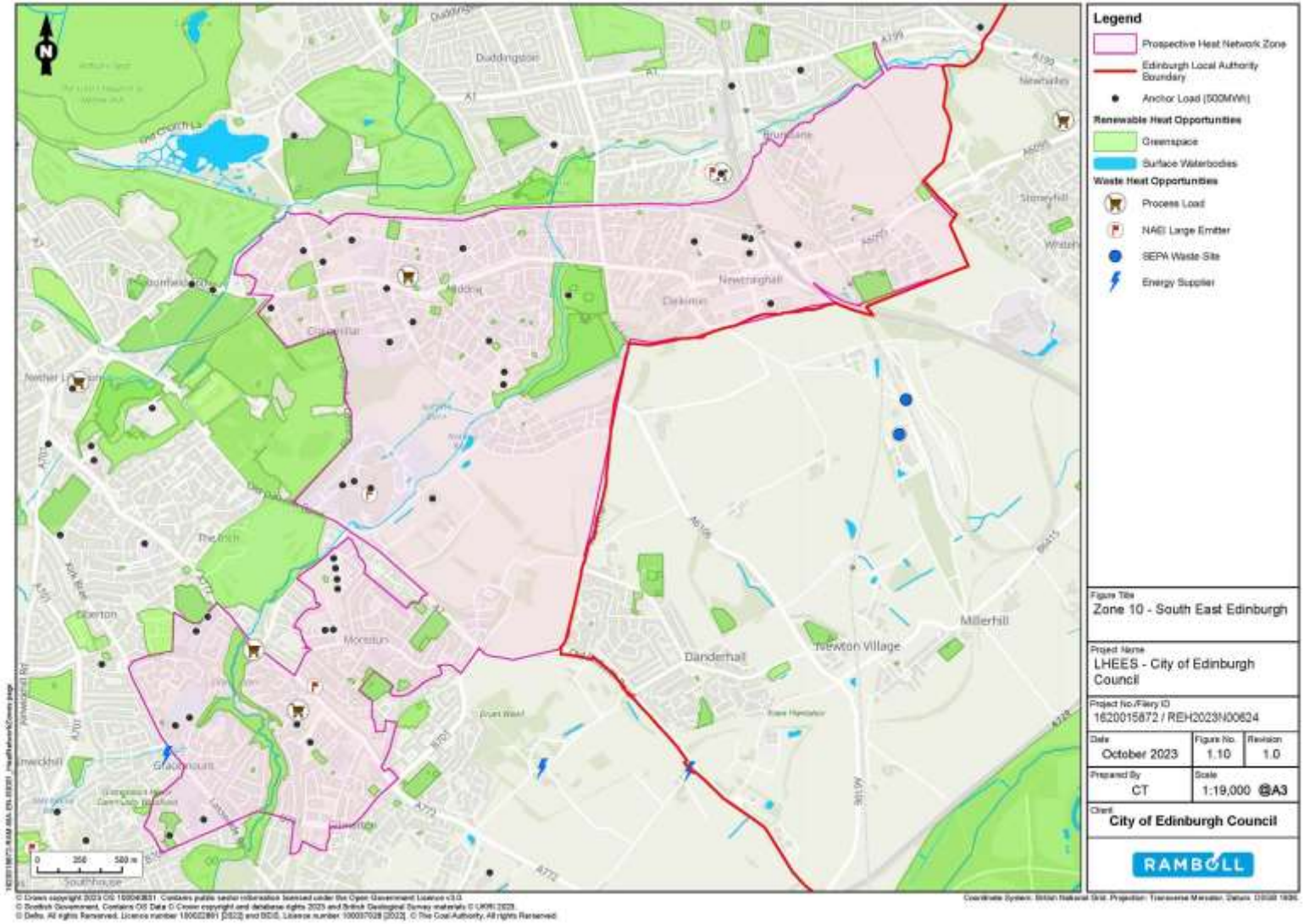
5.29.2. This Heat Network Zone encompasses land in southeast Edinburgh, including the suburbs of Gracemount and Moredun; Edinburgh BioQuarter; the residential neighbourhoods of Craigmillar, Greendykes, and Niddrie; and Fort Kinnaird retail park. It includes major development areas such as Edinburgh BioQuarter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

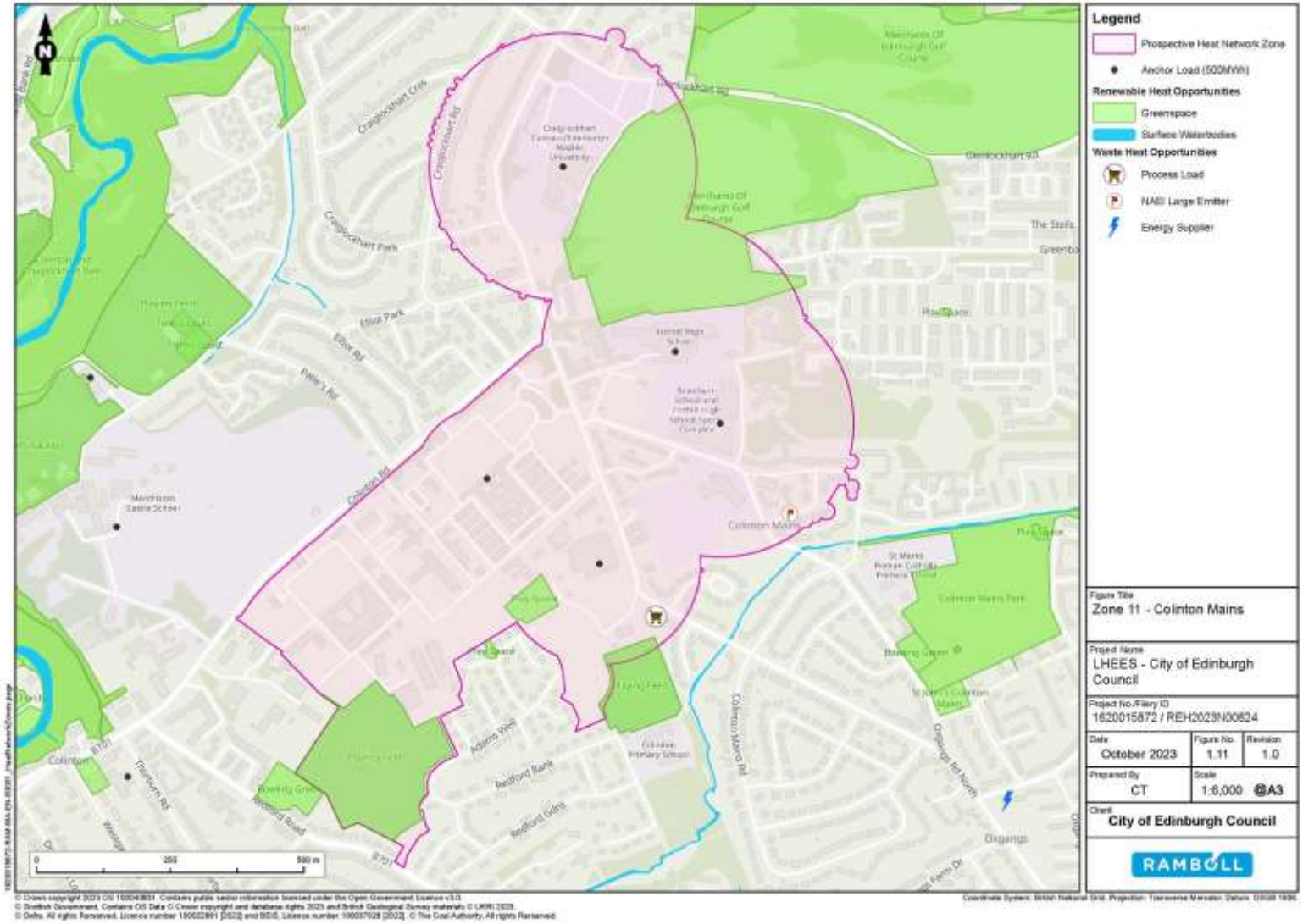
Table 51: Headline information on Heat Network Zone 11: Colinton Mains

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

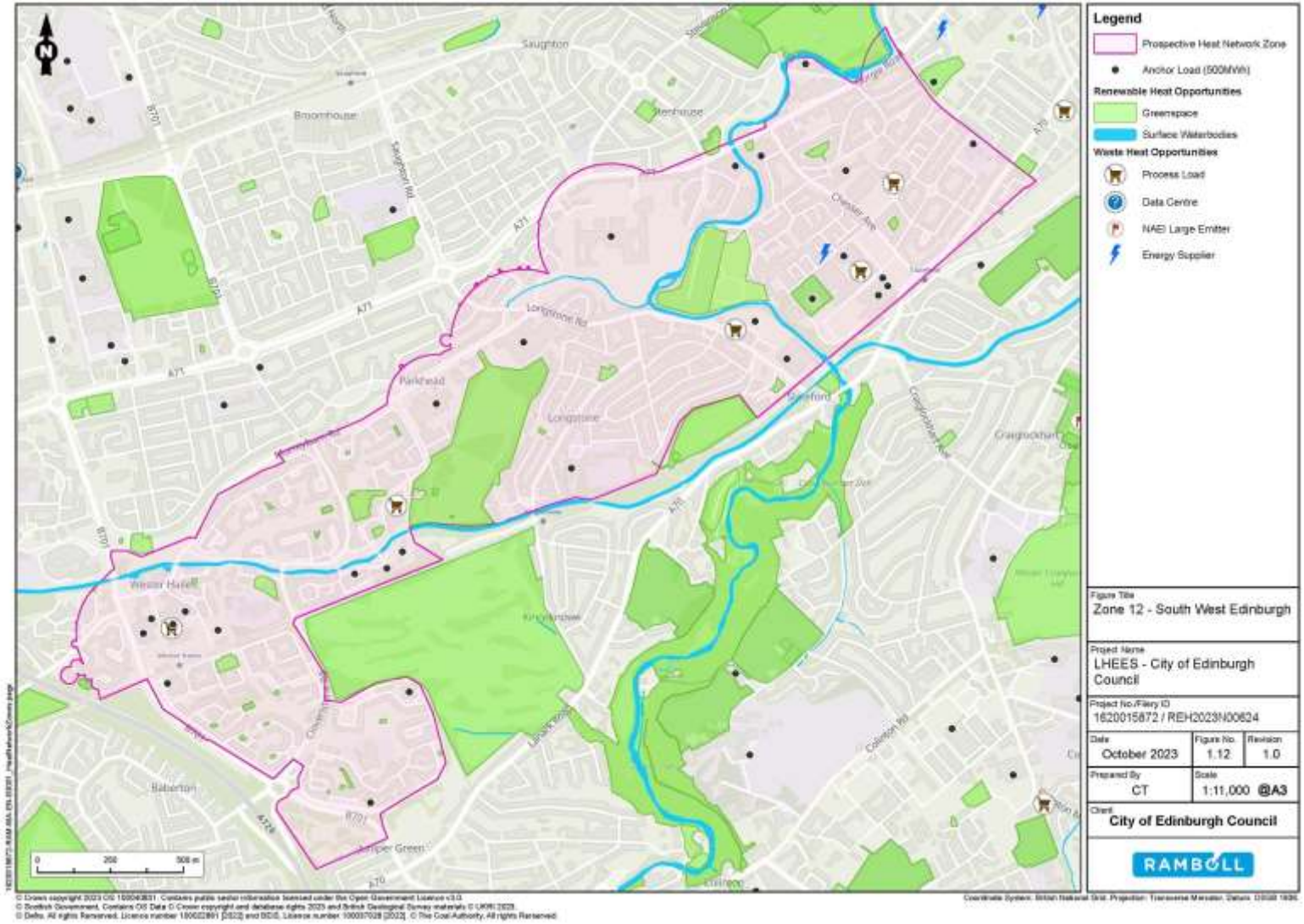
LHD level	8,000 kWh / metre / year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	119,474
Total loads	4,214
Anchor loads	27
Area	276 hectares

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:

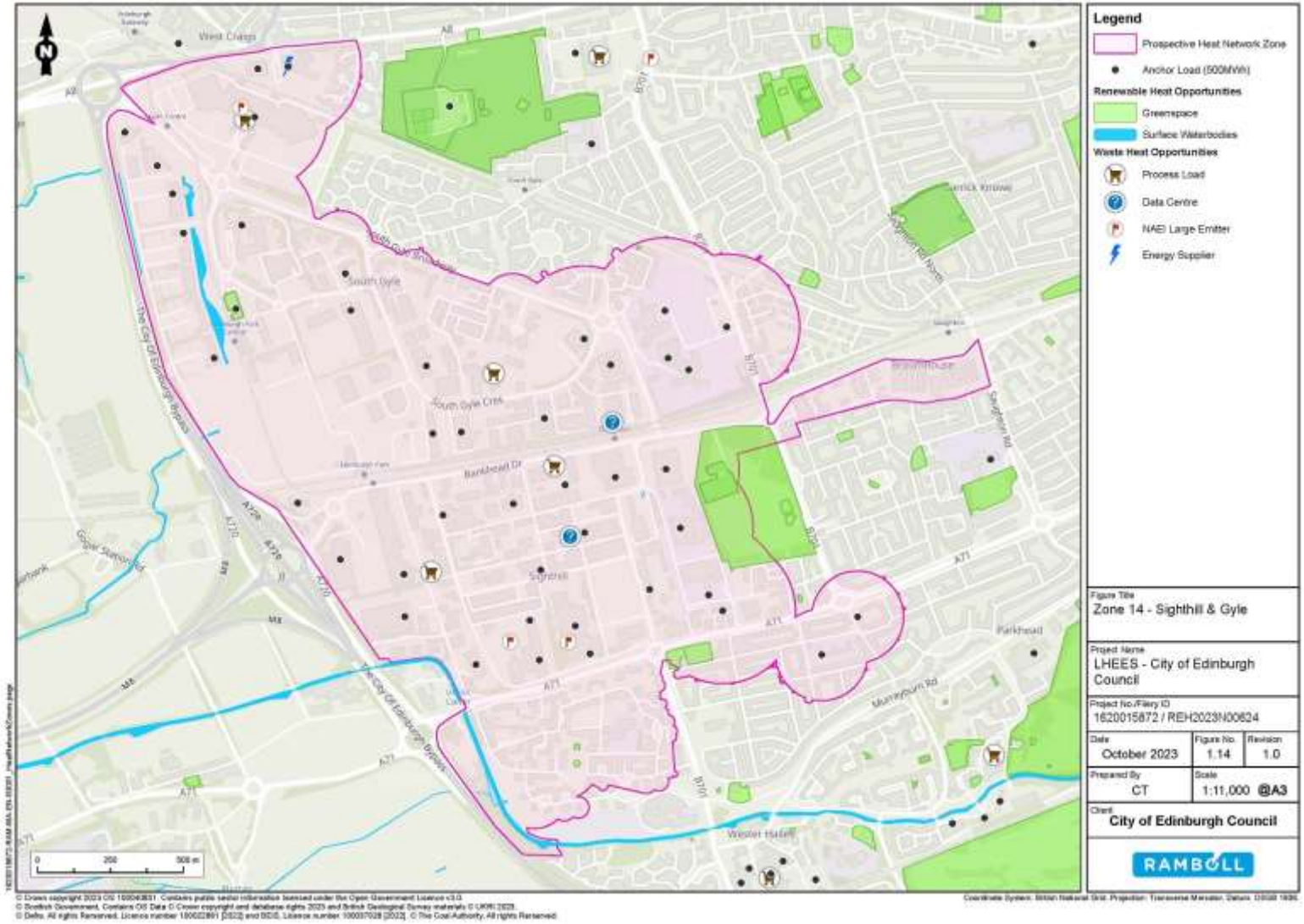
Table 54: Headline information on Heat Network Zone 14: Sighthill & Gyle

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

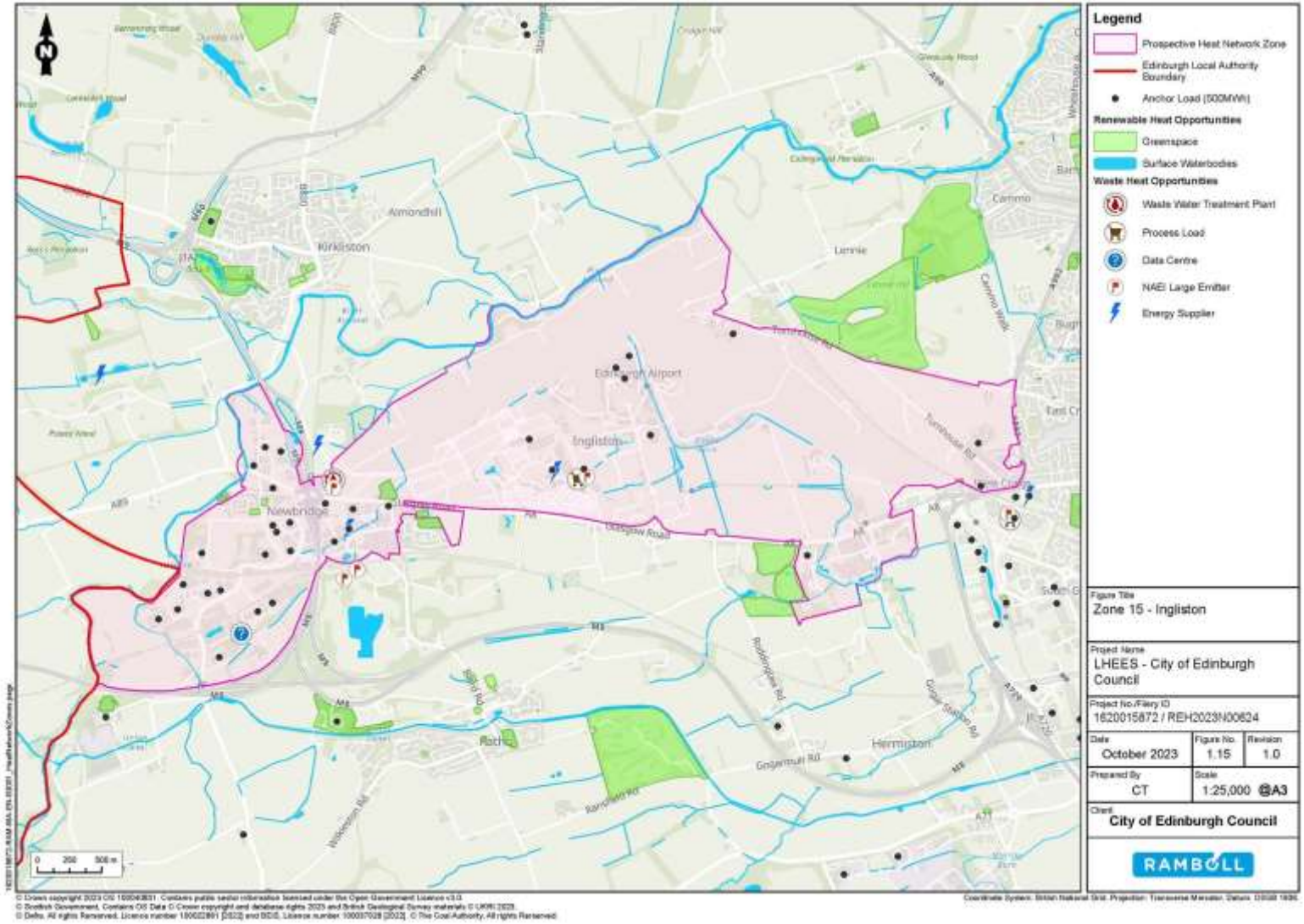
LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	90,287
Total loads	614
Anchor loads	34
Area	1,049 hectares

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

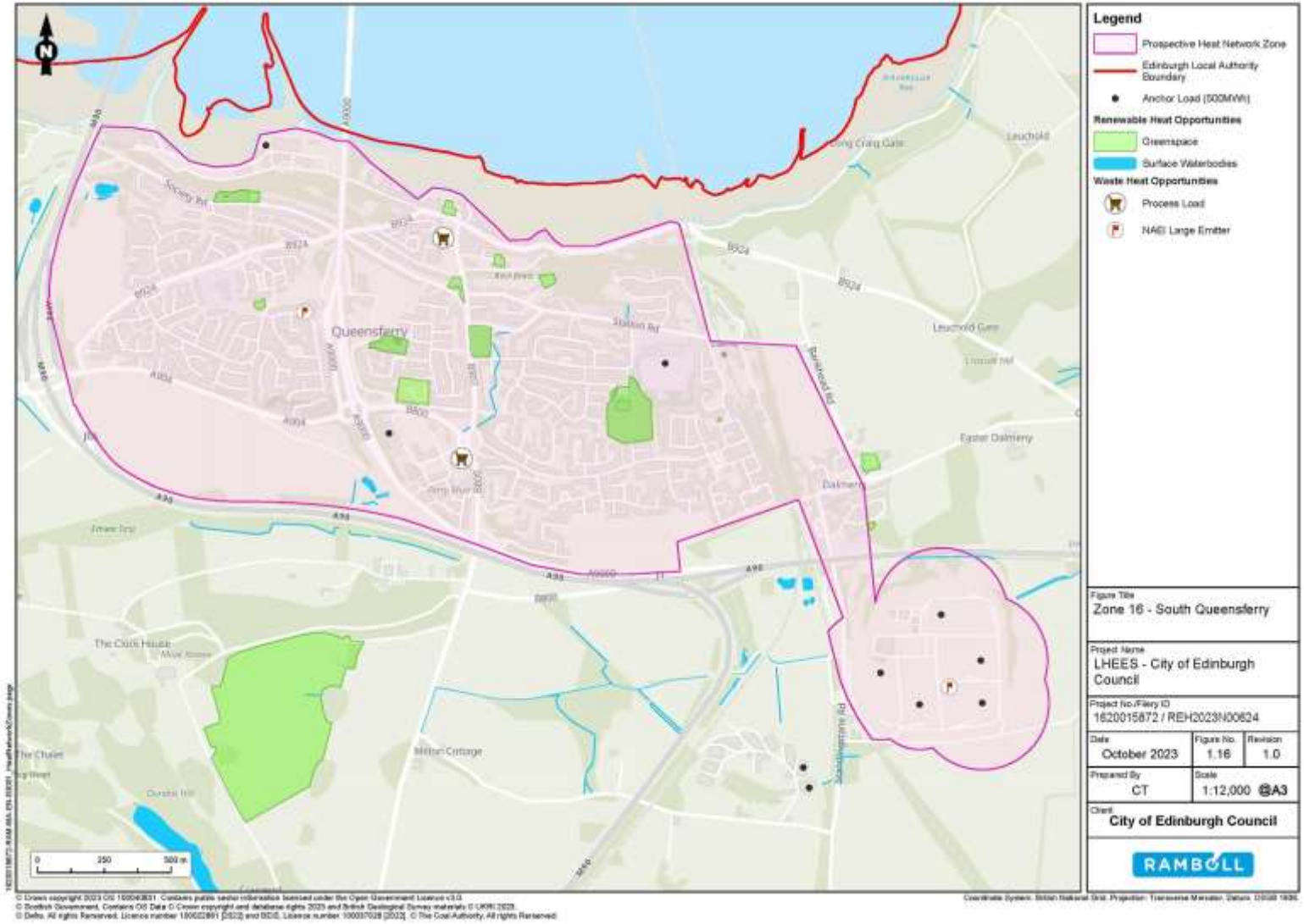
LHD level	4,000 kWh / metre /year
LHD anchor load prioritisation count	≥ 2
Anchor load definition	500 MWh / year
Annual heat demand (MWh / year)	75,742
Total loads	4,253
Anchor loads	8
Area	389 hectares

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

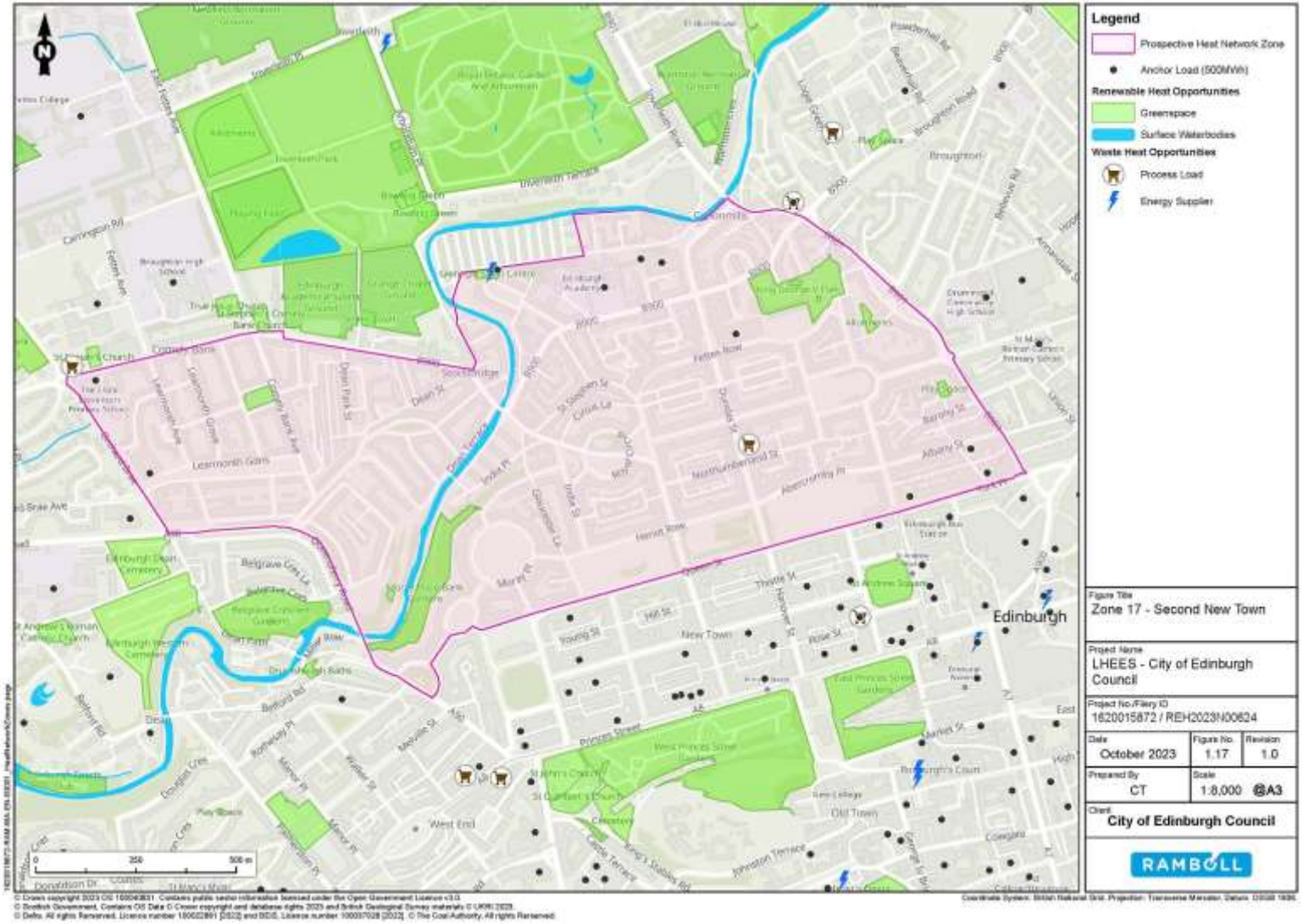
5.36.2. This Heat Network Zone includes Edinburgh's Second New Town, as developed in the early 19th century, and surrounding areas. The Water of Leith runs diagonally through the site.

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

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Planning Committee

2.00pm, Wednesday, 31 January 2024

Edinburgh Urban Design Panel - Annual Review

Executive/routine	**Executive**
Wards	**All**

1. Recommendations

1.1 It is recommended that Committee:

1.1.1 Notes the findings of the Edinburgh Urban Design Panel's annual review; and

1.1.2 Records its appreciation for the voluntary contributions made by the Panel members to the design review process.

Paul Lawrence

Executive Director of Place

Contact: David Givan, Chief Planning Officer and Head of Building Standards

E-mail: David.givan@edinburgh.gov.uk | Tel: 07525618478

Report

Edinburgh Urban Design Panel - Annual Review

2. Executive Summary

2.1 The Edinburgh Urban Design Panel contributes to the aim of raising the quality, sustainability and equality of new development in the city.

2.2 The purpose of this report is to summarise the findings from the annual review of the Panel's work.

3. Background

3.1 The Edinburgh Urban Design Panel was set up by Planning Committee. Its aim is to provide constructive urban design advice, and to promote sustainable development and equality at an early stage in the design process. The Panel's discussion with a developer and/or design team is summarised in a written report which is then used to inform the development of designs. Advice on planning strategy is used to inform the drafting of policies and guidance.

3.2 The Panel is made up of voluntary representatives from a range of member organisations agreed by Planning Committee (see Appendix 1).

3.3 The wide range of skills and experience of the Panel members brings significant benefits in terms of the insight on major and complex projects where a range of design issues will be raised.

3.4 The discussion at Panel meetings benefits from cross-disciplinary contributions and often provokes a design team to reconsider aspects of their early proposals in a broader context. The presentation of proposals at the pre-application and early design stage offers the greatest opportunity to influence design quality.

3.5 Planning Committee established the Panel as an independent source of advice but wanted the process to be embedded within the development management process to have greatest impact. For that reason, the Panel's meetings have always been chaired by a senior planning manager, acting in a facilitating role, and serviced by planning officers with design skills.

3.6 The Panel first met in March 2009 and has reviewed almost 250 proposals over the past 14 years. There is a requirement that an annual review of effectiveness is reported to the Planning Committee, which is the purpose of this report.

4. Main report

4.1 The annual review of the Panel's work programme and operations was carried out on 7 December 2023. The report of that meeting is attached in Appendix 2.

4.2 From May 2020, the Panel continued its business by meetings which were held virtually in response to the COVID-19 pandemic restrictions on meetings. This year's review reflected on this new way of working. While Panel members were of the view that the virtual meetings were generally working well, it was agreed to introduce hybrid meetings in 2024 and review their operation later in the year.

4.3 During 2023, the Panel carried out three reviews of emerging development proposals, two Council led active travel/public realm projects and a Council led framework/masterplan. There have been fewer proposals reviewed in 2023, reflecting that there have fewer emerging developments of a scale and nature which the Panel would normally review.

4.4 In relation to future work, the Panel expressed an interest in providing advice for further town centre proposals as well as temporary structures within the city. This will be addressed by the Panels' secretariat as proposals arise.

4.5 In relation to integrating equality and women's safety into Panel advice, this has been part of the Panel's remit since January 2023. However, given the limited number of development proposals it has reviewed in 2023, and given these did not raise any issues of concern in relation to women's safety, the Panel did not specifically provide advice on this matter. A liaison meeting with the Planning Committee took place in February 2023 to discuss the work of the Panel and, to bolster knowledge in this area, training is scheduled for January 2024.

4.6 Training topics were suggested by the Panel which could assist with their advice and will be addressed by the secretariat.

4.7 Panel members formed part of the 2023 Annual Planning Committee Tour. It was suggested that as part of the agenda for this year's tour, time should be allocated to discuss the proposals as part of the tour's agenda.

5. Next Steps

5.1 Operational changes to be implemented in line with the Panels Remit, Function, Roles and Procedures.

6. Financial impact

6.1 There are no financial impacts arising from this report.

7. Equality and Poverty Impact

7.1 There are no impacts on equality, human rights or socio-economic disadvantage arising from this report.

8. Climate and Nature Emergency Implications

8.1 This report contributes to addressing the Climate Emergency declared by the Council in 2019 and helping to meet the Council's target of net zero emissions by 2030 by considering sustainability as required by the Remit, Function, Roles and Procedures of the Panel.

9. Risk, policy, compliance, governance and community impact

9.1 In the preparation of this report, Panel members were consulted.

10. Background reading/external references

10.1 Edinburgh Urban Design Panel webpage

11. Appendices

11.1 Appendix 1 – List of Edinburgh Urban Design Panel Organisations.

11.2 Appendix 2 - Report: 2023 Annual Review.

Appendix 1 - List of Edinburgh Urban Design Panel Organisations (2021)

Core membership:

Cockburn Association;
Edinburgh Architectural Association;
Edinburgh School of Architecture and Landscape Architecture, University of Edinburgh;
Historic Environment Scotland;
Landscape Institute Scotland;
NatureScot;
Police Scotland;
Royal Town Planning Institute Scotland;
School of Energy, Geoscience, Infrastructure and Society, Heriot Watt University;
Transport Research Institute, Edinburgh Napier University

As required (for development proposals in or significantly impacting on the Old and New Towns of Edinburgh World Heritage Site):

Edinburgh World Heritage.

APPENDIX 2

EDINBURGH URBAN DESIGN PANEL

2023 Annual Review

REPORT
of MS Teams meeting
held on
07 December 2023

Attendees

David Givan	Chair – City of Edinburgh Council	Sam Thomas	Landscape Institute Scotland
James Garry	The Cockburn Association	Charles Strang	EAA
Steven Robb	Historic Environment Scotland	Emma Garland	EAA
Kirsty Towler	RTPI Scotland		
Frazer McNaughton	Naturescot	Sacha Hasan	Heriot Watt University
Sam Campbell	Police Scotland		
Susan Horner	Secretariat City of Edinburgh Council		

Apologies
ESALA

Summary
This report summarises the discussion, recommendations, and actions from the Edinburgh Urban Design Panel's Annual Review of 2023. The Panel has continued to carry out reviews as defined within the remit, functions, roles and procedures of the Panel across the city. The Panel continued to operate within its Remit, Function, Roles and Procedures with its operation adapted to suit the virtual platform. Through the cases it has considered, it was agreed that the Panel is continuing to fulfil its remit.

The Chair thanked the Panel members for their support and contributions during the past year.

Introduction
The Edinburgh Urban Design Panel was constituted by the Council's Planning Committee with a remit, functions, roles, and principles of conduct. The Panel met for the first time in March 2009 to undertake design reviews of major development proposals at pre-application stage and planning policies of urban design significance to the City.

It is part of the Panel's role to undertake a review of its effectiveness each year. Progress reports have been made to Planning Committee yearly since 2010. At its annual review, the Panel reflects on its work programme, organisational changes and opportunity for improvements.

Remit Function Roles and Procedures
The Edinburgh Urban Design Panel aims to promote sustainable development and equality and raise the quality of the built environment within the City of Edinburgh Council area. A copy of this document is available at: www.edinburgh.gov.uk/planning-13/edinburgh-urban-design-panel

Recommendation and actions:
No action required.

2023 Work Programme
The Panel first met in March 2009 and has reviewed almost 250 proposals over the past 14 years.

The Panel normally will carry out around 22 reviews in a year. However, since the pandemic the Panel has been meeting virtually and only reviewing generally one proposal per month.

During 2023, the Panel carried out three reviews of emerging development proposals, two Council led active travel/public realm projects and a Council led Framework/Masterplan.

The Panel noted an interest in reviewing Council led town centre projects and temporary structures.

It was noted that The Edinburgh Design Guidance is being revised and will form part of the Panel's work programme for next year.

Recommendation and actions:
This will be addressed by the Panel's secretariat.

Planning Committee
The Panel attended the Planning Committee Tour and a liaison meeting between Panel members and Councillors of the Planning Committee to discuss the work of the Panel including how equality and woman's safety is being integrated into Panel advice.

It was suggested that time should be allowed to discuss the visited developments as part of the tour agenda.

Recommendation and actions:
Secretariat to provide updates on the Planning Committee Tour. Provisional date is the 13 June 2024.

National Planning Framework 4
A training/briefing was provided to the Panel early this year on NPF4.

Integrating Equality into Panel advice
In relation to integrating equality and women's safety into Panel this has been part of the Panel's consideration in reviews of this year however given the limited number of development proposals it has reviewed this year and given these did not raise any issues of concern in relation to women's safety it has not provided specific advice on this matter.

The issue of women's safety overlaps with the consideration of public safety more generally. Where there are issues of concern, these are highlighted by the Panel. Lighting, passive surveillance and active frontages have been raised by the Panel in the past as matters of importance.

The Panel noted the importance of designing positively for girls and that their needs may be different to those of boys.

The Panel's presentation information template was also updated to incorporate a section on equality including women's safety.

A liaison meeting with the Planning Committee took place on 20 February 2023.

It was previously agreed to bolster the Panel's knowledge. Training for the Panel has been arranged for 18 January 2024.

Recommendations and actions**:**
No further action at this stage.

Panel Meetings

The Panel generally agreed that the support, administration, and format of the meetings was working well.

From May 2020, Panel meetings have been held virtually through Skype and Microsoft Teams in response to the COVID-19 pandemic with their operation adapted to suit the virtual platform as detailed in the Panel's Remit, Function, Roles and Procedures.

It was agreed that from early 2024 the meetings will be held as Hybrid with an operational review later in the year.

Recommendation and actions:

This will be addressed by the Panel's secretariat.

Panel Training

The Panel noted that the following area of training would assist their advice:

- EV charging strategy for the city as this could have implications for the urban realm
- Housing including purpose-built student accommodation
- City policy with respect to how domestic renewables will be rolled out in accordance with Scottish Government Policy

Recommendation and actions:

This will be addressed by the Panel's secretariat.

Planning Committee

2.00pm, Wednesday, 31 January 2024

Funding Edinburgh World Heritage

Executive/routine
Wards

1. Recommendations

1.1 It is recommended that Committee approves the sum of £51,000 for Edinburgh World Heritage (EWH) for financial years 2024/25, 2025/26 and 2026/27.

Paul Lawrence

Executive Director of Place

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Report

Funding for Edinburgh World Heritage

2. Executive Summary

2.1 This report seeks approval for funding for financial years 2024/25, 2025/26 and 2026/27 for Edinburgh World Heritage (EWH) under a Service Level Agreement (SLA). The activities proposed to be delivered under the SLA for 2024/25 are detailed in Appendix 1. The SLA would be reviewed for subsequent financial years.

3. Background

3.1 The aims and objectives of EWH are well aligned with Council planning and place-making objectives to protect, enhance and engage people with Edinburgh's built and natural heritage.

4. Main report

4.1 EWH is in unique position to partner with the Council to fulfil the obligations of the UNESCO World Heritage Site Management Plan and the Council's commitment to improve the environment for communities.

4.2 EWH works in partnership with the Council and Historic Environment Scotland (HES) to implement the Old and New Towns of Edinburgh (ONTE) World Heritage Site Management Plan 2017-22 and preparation (and subsequent partnership delivery) of the new management plan – fulfilling their collective obligation to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the World Heritage Site. Approval is being sought separately from Committee for approval of the draft Management Plan 2024 – 2035 for consultation.

4.3 EWH's work ranges from enabling vital on-site conservation work, to climate emergency solutions, engaging communities inclusively with shared heritage and acting as a balanced, expert city advisor. As a charity it raises significant funding for Edinburgh's conservation, made possible due to the Council's contribution to core funding. The daily liaison and monitoring and delivery of the Management Plan is led by the ONTE WHS Site Co-ordinator based in the Council's Planning Service.

4.4 EWH has continued to deliver the six SLA outcomes. For example:

4.4.1 The Conservation Funding Programme continues to provide specialist support, advice and funding to enable the rolling programme of active conservation. This has prioritised tenements, shopfronts and the public realm programme, including the completion of two tenement projects involving a total of 19 owners, and commencement of two further tenement projects involving 112 properties. Three grants for public realm projects have also been awarded, including Greyfriars Kirkyard, 'Twelve Closes' and Edinburgh Art Festival's 'Queering Public Space' Project. These projects involve conservation and interpretation work that contributes to enhancing the state of conservation of the WHS and to raising public awareness of what makes it special. This programme has promoted traditional skills employing stonemasons, slaters, lead-workers, plasterers and painters, including apprentices, helping to build capacity.

4.4.2 The Energy Efficiency programme has seen the development of Climate Emergency Grants to study conservation and energy efficiency interventions in different building types in the WHS to eventually publish clear and helpful guidance for owners. Around 100 applications have been received over two funding rounds, with five pilot projects underway and a further 60 currently being assessed. A Climate Action Plan and methodology has been developed to understand climate risk to the fabric and the communities of the WHS.

4.5 EWH can unlock and drive forward projects that enhance the quality of life for Edinburgh's communities by improving their local environment. It will continue to award grant funding to building conservation work. This includes stonework repairs, roof repairs, shopfront restoration, limework, restoration of missing original architectural details, window reinstatement and works to railing and steps. Grants are also used for public spaces including conserving, restoring or enhancing monuments and statues, creating greenspaces or new memorials, lighting schemes and repairing boundary walls.

4.6 To ensure EWH's ability to drive the delivery of these types of projects it is essential it is funded adequately. The Council has provided some of its core funding. The funding for EWH from the Council has not increased over the last five years and has remained at £46,000 per annum. To help address budget pressure within EWH, as a result of inflation, it is proposed to increase this to £51,000 for the financial year ahead. To provide increased budgetary surety for the organisation, it is also proposed that this is maintained for the following two years (2025/26 and 2026/27).

4.7 The activities proposed to be delivered under the SLA of 2024/25 are detailed in Appendix 1. The SLA will be kept under review for subsequent financial years.

5. Next Steps

5.1 If Committee approves the funding as recommended, a contract will be signed, and the delivery of the outputs will be overseen by the Council's World Heritage Site

Coordinator and other Council officers. The Council is represented by Councillors and senior officers on the EWH board and liaison, and monitoring will be ongoing throughout the financial year. An annual report will be required to be produced by EWH.

5.2 The draft World Heritage Site Management Plan 2024 – 2035, and associated action plan, is included within the meeting papers for Planning Committee on this agenda for approval to proceed to consultation.

6. Financial impact

6.1 The overall cost of supporting this organisation will be £51,000 for each of the next three financial years and can be contained within the Planning Service revenue budget.

7. Equality and Poverty Impact

7.1 EWH help the delivery of the World Heritage Site Management Plan. This draft document (aims to ensure that all our citizens will benefit from its support of wider Council actions in response to the climate emergency, sustainable visitor management, conservation of buildings, monuments, graveyards, public spaces and streets, with a focus on supporting community and interest groups to affect improvement and change in their local area, supporting community engagement and promoting mixed communities.

8. Climate and Nature Emergency Implications

8.1 The work of EWH helps support the delivery of the World Heritage Site Management Plan. The draft Management Plan helps address climate change.

8.2 Grants provided by the EWH are used to develop an understanding of the adaption and mitigation required to develop a pragmatic conservation response to the climate emergency.

9. Risk, policy, compliance, governance and community impact

9.1 If EWH are not adequately funded, there is a risk that the management of the ONTE World Heritage Site will not be adequately supported and managed.

10. Background reading/external references

10.1 Old and New Towns of Edinburgh World Heritage Site – Management Plan 2017-2022.

11. Appendices

11.1 Appendix 1 – Edinburgh World Heritage – Service Level Agreement Outcomes.

Appendix 1

Edinburgh World Heritage Trust - ONTE WHS Management Plan 2017/22 Outcomes of Service Level Agreement with City of Edinburgh Council 2023/24

Goals and Objectives	Stakeholder	Service, activities and tactics	Assumptions	Roles and resources	Targets and outcomes	Community Benefits	2023/24 Achievements	2024/25 Planned Activities
1. Delivery of the WHS Management Plan	World Heritage Site Steering Group CEC HES UNESCO Residents Visitors	EWH will: - lead and support on the implementation of actions (see below) - prepare, attend and follow-up at WHS Steering Group and other relevant meetings	EWH will work with CEC and HES to locate funding for other actions. This may necessitate a joint mandate from CEC and HES to act on behalf of the partnership in creating funding opportunities and EWH welcomes the opportunity to discuss this further with all partners	The resourcing required to deliver this will include : • Director (0.05 FTE) • Head of Engagement & Operations (0.05 FTE) • World Heritage Engagement Officer (1FTE)	• Implementation of actions (see below) • Implementation of actions from WHS Steering Group meetings	This objective helps to explain the special qualities and values of the WHS, advocates existing protective policies, influences day-to-day management issues, provides supporting information on managing the opportunities and threats facing the WHS for all of its communities and provides a framework for monitoring the condition of the built environment. Driving the effective and resource-efficient proactive action required to protect Edinburgh's historic environment brings economic, social and environmental benefits to communities.	• EWH grants programmes have been promoted through social and traditional media, including Community Spaces Heritage Grants and Climate Emergency Grants • Since March 2023, EWH has held ten events and twelve workshops/presentations with c1500 attending (actions 22, 27) • EWH has attended quarterly Steering Group meetings with CEC and Historic Environment Scotland to monitor the progress in the management of the Site (action 37) • EWH has attended a number of Edinburgh Tourism Action Group (ETAG) meetings and provided input into the delivery of the city-wide tourism strategy covering the period 2020 – 2030 (actions 31, 34) • EWH continues to work proactively with CEC, HES and other stakeholders to develop the Management Plan 23+ • Engagement events including online consultation have been held/are planned within the financial year in partnership with CEC, to inform development of the Management Plan • Distribution of a Quarterly 'Director's Update' on projects, and celebrating CEC's contributions to the historic environment Creation of new 'Friends of EWH' scheme and monthly newsletter • Representation and celebration of the Edinburgh Partnership internationally • Regular engagement with Scottish Government advocating for investment in Edinburgh and sharing successful CEC/EWH joint projects, including site visit to the Canongate Housing Development Project, presentations on CCRA and publication of CVI report	• Promote the EWH grants programme through social and traditional media (actions 1, 2, 3, 9, 11) • Deliver engagement events – likely to be eight to ten events in 2024-25, on a hybrid basis • Attend Edinburgh Tourism Action Group meetings and influence the delivery of the city-wide tourism strategy for 2020-2030 • Attend Steering Group meetings with CEC and Historic Environment Scotland to monitor the progress in the management of the Site • Work in partnership with CEC and HES to finalise and implement the new World Heritage Site Management Plan for 2023+ • Deliver an ongoing programme of active engagement with community representative groups, media professionals, policy-makers, elected officials and other stakeholders • Deliver one interpretation project with an under-represented community
2. Advice on Outstanding Universal Value ONTE WHS Management Plan actions 6, 14, 16, 19, 21, 23, 24	CEC HES Residents	EWH will provide advice to CEC Members and Officers in relation to Outstanding Universal Value, principally in relation to: • Planning applications (as set out in the Protocol for the Consideration of OUV in the Planning Process) • Public realm and streetscape, including on traffic reduction projects and pedestrianisation • Policy development and change	EWH will work with CEC and HES, in accordance with the Protocol for the Consideration of OUV in the Planning Process. EWH requires CEC's continued active engagement and appropriate internal coordination.	The resourcing required to deliver this is: • Director (0.1 FTE) • Head of Conservation (Public Realm) (0.4 FTE) Substantive work outwith these areas will be charged separately.	• Number of planning applications • Number of public realm and streetscape consultations • Policy development and change	This champions the importance of the Outstanding Universal Value to ensure that development takes account of this and preserves and enhances the OUV for the benefit of present and future generations.	• EWH has provided expert heritage and planning advice on over 24 targeted planning applications • EWH has provided heritage and planning advice through the Edinburgh Urban Design Panel • EWH has provided detailed and ongoing pre-application advice on major development proposals, including the Old Royal High School, Jenners Department Store, numerous tall building proposals and Waverley Station development • EWH has provided advice on and contributed support to key city strategies and initiatives, including the City Plan 2030, Edinburgh Slavery and Colonialism Review Group, Festivals management, Short-Term Lets and Transient Visitor Levy • EWH has provided advice as part of multi-disciplinary grouns including the Edinburgh Tourism Action Group, Edinburgh International Group, Net Zero groups • EWH has provided regular meets with select Council Leadership to advise and discuss conservation and heritage matters • Due to value added for CEC and WHS management, EWH's Head of Conservation (Public Realm) has continued on secondment to CEC two days per week, providing expert input into a wide range of public realm and streetscape initiatives • Specific outcomes of the secondment include supporting CEC staff in public realm heritage management matters generally, and advising proactively supporting on over 30 CEC projects/work areas, including: communal bin hubs review, George Street public realm project, Active Travel, Graffiti Strategy, EV charging points, etc	Continue to support CEC and CEC priorities as city partner in matters of historic city management, by continuing to: • Provide practical, expert advice on targeted pre-application and planning consultations • Attend and contribute to the Urban Design Panel • Advise on key city strategies • Provide practical advice to support city priorities via established interdisciplinary groups • Commit EWH staff and provide direct support through the secondment of our Head of Conservation (Public Realm) to CEC for two days per week to provide expert input in relation to public realm and streetscape initiatives

Goals and Objectives	Stakeholder	Service, activities and tactics	Assumptions	Roles and resources	Targets and outcomes	Community Benefits	2023/24 Achievements	2024/25 Planned Activities
3. Grants and Support (WHS Management Plan actions 2, 3)	CEC HES Residents of ONTE WHS	EWH will deliver the Conservation Funding Programme. EWH's key priorities for the 2018/21 HES funding period are: • Tenements • Shopfronts • The Twelve Closes programme Criteria for applicants include areas of social deprivation. EWH also expects to be involved in a number of World Heritage Site projects	Since CEC capital funding for this ceased in 2015, HES has provided 100% of the capital costs, as well as most (90%) of the operational costs. EWH requires CEC's active engagement and appropriate internal coordination to support delivery.	The resourcing required to deliver this is (CEC funding will contribute 7% operational costs only): • Head of Conservation (Buildings) (0.2 FTE) • Conservation Programme Officer (0.1 FTE)	• Number of Tenements • Number of Shopfronts • Implementation of the Twelve Closes programme	There is benefit to the communities who own or occupy these buildings and there is wider benefit to the wider community in enjoying a quality built environment. All works are carried out using traditional building methods and materials in order to meet the best standards of conservation; there is a benefit to those working and training in traditional skills.	• Deliver the Conservation Funding Programme, prioritising tenements, shopfronts and the Twelve Closes programme including: - completion of two tenement projects involving a total of 19 owners - develop 2 major tenement projects involving 112 properties - completion of two other conservation projects including one historic shopfront and one office building - development of pipeline of projects - 3 grants for public realm projects, such as Greyfriars Kirkyard, Edinburgh Art Festival 'Queering Public Space' Project, Twelve Closes - promotion of Neighbourhood Focus approach to increase impact of EWH grants/advice and better support community needs and CEC aspirations	• Deliver the Conservation Funding Programme, prioritising tenements, shopfronts and other projects of high social value • Continue to deliver our proactive public realm projects, including statues, monuments, artwork, lighting, community-led initiatives, interpretation, kirkyards and the Twelve Closes programme • Maximise the heritage, social and economic impact of the above programmes by focussing our work on areas of greatest need in/around the World Heritage Site through Neighbourhood Focus • Review and update CFP methodology to ensure that it meets the needs of applicants and aligns with Neighbourhood Focus priorities
4. Maintenance (WHS Management Plan action 1)	CEC HES Residents of ONTE WHS	As part of the Conservation Funding Programme, EWH will: • Provide support to owners and communities on maintenance issues • Provide educational events and materials • Deliver training events	EWH will continue to work with partners including: • Edinburgh ADAPTS • Community groups	The resourcing required to deliver this is (CEC funding will contribute 7% operational costs only): • Head of Conservation (Buildings) (0.2 FTE) • Conservation Programme Officer (0.1 FTE)		There is benefit to the local residents of the WHS who engage with the expert advice and guidance produced to support building maintenance.	• Maintenance programme reviewed and partnership agreed with ETBF and Developing Young Workforce to provide schools programme and community events from spring 2023 • Social media campaign to promote maintenance and climate emergency grants (17000 reach) • Attended parliamentary event and Royal Highland Show to promote maintenance, traditional skills, conservation and energy efficiency	• Provide support to owners and communities on maintenance issues, including educational / training events and materials
5. Traditional Skills (WHS Management Plan action 22)	CEC HES Residents Visitors	EWH will promote and create opportunities to support traditional skills, supporting employability and the skills pipeline, as part of the Conservation Funding Programme and through events such as the Traditional Building Festival	EWH will work with partners including HES, CEC, the Traditional Building Forum and apprentices	The resourcing required to deliver this is covered by item 3	• Number of traditional skills activities • Number of people engaged • Number of apprentices working on projects	There is a benefit to the local residents and visitors to the WHS who engage with practical workshops and demonstrations of traditional skills through the Traditional Buildings Festival. There is a benefit to the community of traditional tradespeople employed to develop their own skills and those of apprentices in their craft.	• 16 traditional tradespeople have been employed across Conservation Funding Programme funded projects, this included stonemasons, slaters and leadworkers • 5 apprentices have worked on our grant-aided projects • Hosted week-long Traditional Building Festival, over 500 attendees	• Employ traditional tradespeople, including apprentices, across our Conservation Funding Programme funded tenement projects • Collaborate with existing traditional craft skills delivery organisations from across UK to assess effective means to encourage contractors to upskill their workforce in best practice building conservation skills • Support the Traditional Building Festival in August 2024
6. Energy efficiency (WHS Management Plan action 11)	CEC HES Residents	EWH will engage with communities and other stakeholders to deliver a Climate Action Plan that contributes to achieving CEC's 2030 Strategy, through building on the successful methodology developed for the Basil Spence Canongate Project in implementing integrated conservation work and climate action on historic buildings	EWH requires CEC's continued active engagement and appropriate internal coordination to support delivery.	The resourcing required to deliver this is (CEC funding will contribute 7% operational costs only): • Head of Climate Change (0.2 FTE) • Energy Efficiency Retrofit Specialist (0.1 FTE)	• Delivery of successful project • Engagement with owners and community	The benefit here is to the immediate community that owns/occupies these buildings. The wider benefit will be felt across the city where lessons learned from these projects can be taken forward and adapted for other buildings.	• WHS Climate Action developed and implemented, and integrated within the developing WHS Management Plan • Development and launch of Climate Emergency Grant programme to study conservation and energy efficiency interventions specifically as they are applied to building typologies in the WHS • Award of 5 CE Grants to pilot projects, design team appointed (round 1); 60+ applications under assessment for round 2 • Engagement with Scottish Veterans Residences to explore potential for large-scale climate emergency project, including advice on net-zero technologies • Publication of report summarising the methodology and learning from application of the CVI to the WHS • EWH presented CCRA project results and participated in meetings oganised by Energy Efficiency Public Buildings Partnersnip and the Edinburgh Adaptation Partnership • EWH responded to consultations on the Conservation & Adaptation and Permitted Development Rights Phase 2 • Draft of updated, comprehensive and accessible guidance on adaptation and mitigation measures sensitive to the WHS (planned publication summer 24) • Engagement with residents, buildings owners and community groups to provide advice on energy efficiency and climate change adaptation issues, including site visits and over 50 helpdesk responses	• Continue using the CCRA, CVI and other work to further implement the Climate Action Plan to support CEC 2030 targets • Continue and refine our advocacy programme - focusing on local residents, professionals and decision makers - to mainstream principles and guidance for climate action and align EWH conservation-led approach based on best practice • Continue representation on key city cross-organisational working groups, presentations and strategic engagement • Develop an informed understanding of the optimal Climate Emergency approach for key Edinburgh historic building types and public realm within the WHS • Produce and disseminate at least one case study on targeted climate change adaptation interventions • Produce Edinburgh-specific guidance on interventions, providing a 'clear path to adaptation' for Edinburgh's most commmon historic building types • Work with owners and partners to develop and implement integrated conservation work and climate action projects

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Planning Committee

2.00pm, Wednesday, 31 January 2024

Old and New Towns of Edinburgh World Heritage Site Management Plan: draft for consultation

Executive/Routine	**Executive**
Wards	**City Centre**

1. Recommendations

1.1 It is recommended that Committee:

1.1.1 Approves for consultation the draft Old and New Towns of Edinburgh World Heritage Site Management Plan 2024 - 2035 and associated Action Plan 2024 – 2026; and

1.1.2 Notes that, if approved, an eight-week consultation on the draft plan will be held with the aim of bringing the final plan back to the Planning Committee for approval in summer 2024.

Paul Lawrence

Executive Director of Place

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Report

Old and New Towns of Edinburgh World Heritage Site Management Plan: draft for consultation

2. Executive Summary

2.1 The United Nations Educational, Scientific and Cultural Organisation (UNESCO) Convention of World Heritage requires every World Heritage Site (WHS) to have a management system. The current five-year management plan for the Old and New Towns of Edinburgh WHS has been reviewed.

2.2 A new plan (Appendix 1) for the next 10 years, with an accompanying two-year action plan (Appendix 2) is presented in draft for approval. It has been shaped by a programme of public and stakeholder engagement. The action plan will be reviewed every two years.

2.3 The main changes in this draft plan relate to the duration of the document from a five to a ten-year plan, the inclusion of the climate emergency as its own topic and separating out the action plan.

2.4 A range of consultative and promotional activity is planned with the public, community groups and organisations in February to April 2024, prior to finalising the plan for partners' approval by summer 2024.

3. Background

3.1 The Old and New Towns of Edinburgh (ONTE) World Heritage Site was added to the UNESCO's list of World Heritage Sites (WHS) in 1995. The UNESCO World Heritage Committee stated that the Edinburgh Old and New Towns "represent a remarkable blend of two urban phenomena: organic medieval growth and 18th and 19th century town planning".

3.2 The Site extends to some 4.5 square kilometres of the city centre. It includes the Old Town and New Town conservation areas and parts of five others. It is home to a range of institutions of national and civic significance including the Scottish Parliament, the Courts, National Galleries and the University of Edinburgh. It has retained its historic urban form and character to a remarkable extent and contains a wealth of buildings listed for their

architectural character or historic interest. It also has the highest concentration of Category A listed buildings in Scotland.

3.3 The UK currently has 33 WHS'; Scotland has six, including the most recently inscribed, the Forth Bridge. Each Site must demonstrate how it is meeting its obligations under the WH Convention, which requires every WHS to have a management plan which should set out how its Outstanding Universal Value (OUV) will be protected. The United Kingdon (UK) Government is committed to ensuring management plans are produced for all UK World Heritage Sites and encourages local planning authorities to work with site managers, owners and other agencies to ensure management plans are in place.

3.4 The first ONTE WHS Management Plan ran from 2005-2010. The second and third covered the period from 2011-2022. It was not until the late 1990s/early 2000s that it became good practice in the UK to produce management plans and this explains the gap between the date of inscription (1995) and the first Management Plan (2005). In the interim, the ONTE WHS was managed by the New Town Conservation Committee and the Old Town Renewal Trust, who merged to form Edinburgh World Heritage Trust in 1999.

3.5 The Council has taken the lead role in preparing the Plan on behalf of the management partners of the WHS. The management partners include Historic Environment Scotland, the City of Edinburgh Council and Edinburgh World Heritage Trust. Representatives from each partnership organisation sit on the World Heritage Site Steering Group, which has overseen the preparation of this draft Plan.

4. Main report

4.1 A WHS Management Plan is a forward-looking strategic document which sets out the framework for the preservation and enhancement of a Site's cultural heritage. It contains a vision for the Site and objectives and delivery mechanisms for its achievement. It is prepared jointly by the World Heritage Site management partners.

4.2 A new 10-year Management Plan, which builds on the strengths of the existing plan, has been prepared along with a two-year Action Plan. These are presented in draft for approval for consultation at Appendices 1 and 2. The review leading to the draft plan has embraced the opportunity presented in updating how some of the issues/challenges facing the management of the Site are addressed.

4.3 The management partners have used varied and inclusive public and stakeholder engagement in drafting the Plan. This included stakeholder workshops, social media signposting, face-to-face engagement at events (such as Dumbiedykes Gala Day 2022, Greyfriars Kirkyard 'Big Draw' events,

library drop-ins and community council meetings). Online engagement took place via the Consultation Hub and focus groups were carried out. Events were structured around the Scottish Government Place Standard methodology. More than 350 on-line consultation responses were received, and people provided views on 14 themes including the level of care and maintenance of buildings and public spaces, the quality of new development in the city centre, the overall liveability of the WHS, and the impact of the climate emergency on the WHS.

4.4 The WHS designation should facilitate the delivery of the highest quality of environment in a living capital city centre. The draft management plan establishes an updated framework to achieve this, and for the preservation and enhancement of the Site's cultural heritage. Since 2005, when the first management plan was produced, the management partnership has worked together with communities, other agencies, institutions, and businesses on projects on the ground to deliver the core aims of the management plan.

4.5 Much of this activity is ongoing and Appendix C of the Management Plan details examples of achievements from the previous plan. Over the next 10 years, the partners are seeking to focus on addressing the five key themes that scored the lowest in the Place Standard exercise. These priority themes are:

4.5.1 **Awareness, appreciation and activity around WHS status:** Public engagement revealed that awareness of the WHS and its OUV varies through the city, its communities and its visitors and that the qualities that make the WHS unique remain unclear. To ensure that the WHS is looked after as well as possible, the OUV needs to be clearly understood by stakeholders, visitors and members of the public. It is recognised that the management partners must continue to work together to spread the message to as wide an audience as possible, including developing training.

4.5.2 **Climate emergency:** Public engagement highlighted that climate impacts are currently being witnessed, such as stronger winds and increased flooding and erosion to buildings and that there is concern and confusion over retrofitting of buildings to adapt them. Balancing the needs of the city to respond to the climate emergency and to protect its heritage is essential. The Action Plan seeks to address this by engaging with the work already underway in partnership in response to the climate emergency whilst safeguarding OUV. This includes emerging guidance on Conservation and Adaptation of historic properties.

4.5.3 **Conservation and maintenance of buildings and public spaces:** Public engagement highlighted that more could be done for the general

state of repair and ongoing care and maintenance of historic buildings and the condition of road surfaces and drains. The Action Plan seeks to address this by promoting a range of initiatives to secure ongoing investment in the conservation of the Site and ensure the WHS is a baseline consideration for all Council plans and strategies within its boundary that include alterations to the historic built environment.

4.5.4 **Control, guidance, and contribution of new developments to city centre:** Policies are in place to ensure that new development is sensitive to historic character. Management partners have a role in raising awareness on how interventions can contribute to the Site's authenticity. Management partners also have a role in reflecting and interpreting the quality of its surroundings, responding to, and reinforcing distinctive patterns of development, townscape, views, landscape, scale, materials, and quality of the WHS. The Action Plan seeks to improve the tools available to sustain OUV, sustain effective partnerships that support the management of the WHS and ensure that development embraces the context of the WHS and is of the highest quality in terms of architecture, design and materials. A protocol is in place to ensure early consideration of OUV in the planning process and it is proposed to develop a protocol for the public realm. The attributes (features of interest or traditions) that convey the OUV will be published in the Management Plan.

4.5.5 **Sustainable Visitor Management:** Public engagement highlighted the importance of tourism to the city, but questioned the balance between meeting visitor needs versus community needs during peak times in the visitor calendar. The management partners recognise the need to support the operational systems in place to ensure that cleanliness of streets and spaces standards are maintained even during peak visitor times. This contributes to people's sense of pride and ownership of the city. It also creates a positive impression that visitors take home with them. The management partners also recognise the need to signpost good practice from other World Heritage cities where a Transient Visitor Levy is in place, and how this can benefit residents.

4.6 The remaining themes in the Management Plan are not disregarded. The management partners are working with other city stakeholders to ensure the concerns are addressed by other strategies. The scope of the plan includes:

- Explaining the special qualities and values of the WHS;
- Including the shared vision, long-term objectives and short-term actions to preserve the ONTE WHS's OUV;
- Providing information on threats and opportunities facing the WHS;

- Advocating existing protective policies;
- Influencing day-to-day management issues; and
- Providing a framework to monitor the condition of the built environment.

4.7 The Plan's main sections cover vision and aims; a site description; a summary of issues, challenges and opportunities; and proposals for implementation and an action plan.

4.8 The Plan is also related to other policies, plans and strategies: the Edinburgh City Plan 2030, Climate Ready Edinburgh, Edinburgh City Centre Transformation and City Mobility Plan, and the City Vision.

4.9 If approved for consultation, a series of engagement events are planned in the period from February to April 2024. It is proposed that the finalised Management Plan and Action Plan will be resubmitted to the WHS Steering Group and returned to Planning Committee for approval in summer 2024.

5. Next Steps

5.1 It is the management partners' responsibility to clearly show the importance of the impact of public participation. Seeking to capture the biggest and widest audience, the management partners advocate a joined-up approach to consultation. Similar topics will be grouped to make the best use of people's time and contribute to better policy making.

5.2 A range of consultative and promotional activity is planned with the community and stakeholders in the period February to April 2024, if the draft Management Plan is approved for consultation.

5.3 Concurrently to the consultation period, there will be awareness-raising and promotion and stakeholder engagement events. This includes radio advertising, workshops, events on and around World Heritage Day in April and possible joint consultation with 'Climate Ready Edinburgh'. There will be a social media and communications programme throughout the consultation period to make sure it is inclusive, including British Sign Language (BSL) content.

5.4 The Management Plan will be updated with consideration of the results of the public consultation and return to Planning Committee for approval in summer 2024.

6. Financial impact

6.1 There are no direct financial impacts from the consultation draft and, when implemented, the Action Plan will draw on existing resource commitments

from the management partnership and from EWH grant funding programmes and project-based fund raising.

7. Equality and Poverty Impact

7.1 The WHS Management Plan aims to ensure that all citizens will benefit from its support of wider Council actions in response to the climate emergency, sustainable visitor management, conservation of buildings, monuments, graveyards, public spaces and streets, with a focus on supporting community and interest groups to affect improvement and change in their local area, supporting community engagement and promoting mixed communities. Intersectionality was identified as being of key importance to the delivery of the Plan through the benefit in engaging with communities which have intersections with other groups, as well as capitalising on partnership working.

7.2 The Integrated Impact Assessment (IIA) process has commenced, and will be further developed through the consultation period, taking account of feedback emerging from the consultation and other engagement activity outlined above.

7.3 An Interim IIA has been completed.

7.4 A full IIA will be published when the final Plan is returned to Committee in summer 2024. Further IIAs may be carried out as appropriate as the Action Plan is reviewed every two years.

8. Climate and Nature Emergency Implications

8.1 UNESCO has declared that climate change has become one of the most significant and fastest growing threats to people and their heritage worldwide. The WHS management partners have a duty to respond to the climate emergency whilst safeguarding the OUV of the WHS. This can be achieved by ensuring that OUV is a baseline consideration in wider Council actions that need to be taken to continue to adapt the city to address the unavoidable impacts of our changing climate. The Management Plan will contribute to this by providing technical training, sharing best practice and supporting the delivery of Climate Ready Edinburgh, City Mobility Plan, etc. This also supports the Council's response to the Nature Emergency declared in 2023.

8.2 The Management Plan contributes to addressing the Climate Emergency declared by the Council in 2019 and to helping to meet the Council's target of net zero emissions by 2030 by supporting research, guidance and live projects to alleviate the challenges people face to making their properties more energy efficient. Issues relating to the climate emergency arguably impact on almost every other theme of action – conservation and maintenance through damage to buildings brought on by changes to the

weather, to loss of intangible heritage through displaced peoples and everything in between. This is why climate emergency is a new separate topic. It aligns with the Council's draft Climate Ready Edinburgh Plan by directly addressing some of the actions relating to reducing the vulnerability of our built environment to extreme weather events and reducing energy demand for heating in buildings.

8.3 This is a refresh of an existing Management Plan, and a previous iteration has been through a full Strategic Environmental Assessment (SEA). SEA pre-screening for this draft Plan was carried out in November 2023.

9. Risk, policy, compliance, governance and community impact

9.1 The Management Plan has been developed considering the feedback from pre-draft engagement. The key themes that are presented as priorities for the management partners to address over the next 10 years are based on the findings of the pre-draft engagement and have directly informed the Action Plan. The finalised plan with be further informed by consultation planned in the period February to April 2024, if the draft Management Plan is approved. Stakeholders and the community have a significant role to play in implementing the Council's policy and guidance.

9.2 The management of the historic environment contributes directly to sustainability in several ways, including the unique quality of historic environments which provide a sense of identity and continuity. World Heritage is managed via the planning system in the UK. The Council's planning policy and guidance helps to create sustainable development.

9.3 There are no significant risks associated with approval of the report as recommended. However, the management strategy for the WHS acknowledges that challenges arise from the fact that the WHS is a thriving, living city centre, important for tourism, retail, business and government as well as having a large residential population. These are all positive factors, and the strength of the city's economy results in development proposals. Accordingly, the impact of such proposals for change must be assessed in terms of whether they add to, or detract from, the ability to understand what makes the WHS special.

10. Background reading/external references

10.1 UNESCO World Heritage Centre - The World Heritage Convention

10.2 UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention

10.3 Management Plan 2017 - 2022.

10.4 Planning Committee 19 May 2021 - Item 5.1 - Business Bulletin

10.5 Atlas World Heritage

10.6 CVI Heritage

10.7 Scotland's Unesco Trail

11. Appendices

11.1 Appendix 1 - Draft Old and New Towns of Edinburgh World Heritage Site Management Plan 2024 –2035 for consultation.

11.2 Appendix 2 - Draft Old and New Towns of Edinburgh World Heritage Site Action Plan 2024-2026 for consultation.

Appendix 1

The Old and New Towns of Edinburgh World Heritage Site

Draft Management Plan 2024 - 2035

unesco
Old and New Towns of Edinburgh
Inscribed on the World Heritage List in 1995

EDINBVRGH
THE CITY OF EDINBURGH COUNCIL

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

Edinburgh World Heritage

Contents

1.Introduction

1.1 What is World Heritage?

World Heritage captures the cultural and natural aspects of the global community that are the most significant, unique or best examples of their kind according to the United Nations Education, Scientific and Cultural Organisation (UNESCO). It is important because it promotes important cultural traditions and places as belonging to everyone.

There are over 1000 World Heritage Sites globally and UNESCO is the organisation responsible for adding to or removing from the List. The list is intended to 'ensure as far as possible the identification, protection, conservation and presentation of the world's irreplaceable heritage'.

Each site must demonstrate that it is fulfilling its obligations in respect of UNESCO's requirements in implementing the World Heritage Convention.

Extract from UNESCO's Vision for Peace

To strengthen bonds among all nations,
the preservation and protection of cultural heritage and the equal dignity of all cultures, on all continents, is fundamental.

UNESCO aims to promote sustainable development, protect culture and foster peace through its lists and designations around the world. UNESCO's vision for peace underlines its very existence, and the role the preservation of cultural heritage plays in this is an invaluable one.

The UN's Sustainable Development Goals (SDGs) aim to help achieve this by being a "shared blueprint for peace and prosperity for people and the planet, now and into the future." The seventeen goals highlight priorities such as gender equality, affordable and clean energy, sustainable cities and communities, and climate action. **Throughout this plan, we will pinpoint which of the SDGs relate to the area in discussion.**

The World Heritage Convention's 'five Cs':
Credibility
Conservation
Capacity building
Communication
Communities

The Old and New Towns of Edinburgh

Edinburgh has long been celebrated as a great city: an ancient capital, the medieval Old Town alongside the world renowned eighteenth century classical New Town, all situated in a spectacular landscape of hills and valleys beside the wide estuary of the Firth of Forth.

It is the recognition of these qualities that led to the city's inscription by UNESCO as a World Heritage Site in December 1995.

All World Heritage Sites have an associated Statement of Outstanding Universal Value (SOUV), which explains the importance of the Site. The SOUV is the term UNESCO applies to the detailed description of what is unique about the Site.

World Heritage Properties in the United Kingdom

To date, there are 33 World Heritage Sites in the United Kingdom – 28 cultural, 4 natural and 1 mixed. The five other Scottish Sites are New Lanark, St Kilda, the Heart of Neolithic Orkney, the Frontiers of the Roman Empire (the Antonine Wall) and the Forth Bridge. Other urban centres in the UK with World Heritage Site status are Bath, Greenwich, Durham, and Westminster.

1.2 Scope and status of the plan

The geographical scope of the plan relates to the WHS itself. This is clarified in section 3.1 (location).

The Plan is a partnership document. It represents the consensus view of the members of the Old and New Towns of Edinburgh World Heritage Site Management Partners.

The Management Plan sets out what is significant about the Old and New Towns of Edinburgh World Heritage Site, as a basis for understanding its important qualities, in order to determine the action necessary to protect and manage it.

The management plan:

- Includes the shared vision, long-term goals and shorter-term actions to preserve the Old and New Towns of Edinburgh World Heritage Site's OUV
- Helps to explain the special qualities and values of the Site
- Advocates existing protective policies
- Influences the day-to-day management issues
- Provides supporting information on managing the opportunities and threats facing the Site
- Provides a framework to monitor the condition of the built environment

The Management Plan's success is dependent upon the achievement of its objectives which, in turn, depends on stakeholders across the Site making a commitment to the Action Plan. The careful coordination of partner organisations is possible through the World Heritage Site Steering Group. Through collective effort it will be possible to use resources to best effect. The remit and expertise of each partner adds a strength to this process that is greater than the sum of its parts.

The Management Plan works within the Local Development Plan of the City of Edinburgh, which sets out planning policies to guide development. The Management Plan is a material consideration in the

planning process and will continue to inform and respond to other policies and management proposals relating to the WHS area.

1.3 Planning and Policy Framework

Scottish Planning Policy and Environmental Assessment Regulations require planning authorities to take account of OUV both in their policies and decisions on cases.

Amongst other policies that serve to protect the historic environment such as conservation areas, listed buildings, designed landscapes and the city skyline, the Edinburgh City Plan 2030 includes Policy Env 9 to protect the OUV of the Site. Historic Environment Scotland (HES) is a statutory consultee and engages with the planning process from the earliest stages through a Planning Protocol.

Where HES objects to a planning application, and the Council is minded to grant consent, Scottish Minister must be notified for them to determine if they wish to call-in the application for their decision.

PROPOSED CITY PLAN 2030 (draft text)
City Plan 2030 is currently at the examination stage and as part of this process, a Hearing took place on 26-27 September 2023. Details of the Hearing can be found on the DPEAS's website.

City Plan 2030 sets out policies and proposals to guide development. Its policies are used to determine planning applications. The Old and New Towns of Edinburgh World Heritage Site is protected by City Plan 2030 policy Env 9 –World Heritage Sites:

"Development which would harm the qualities of World Heritage Sites and which justified the inscription of the Old and New Towns of Edinburgh and/or the Forth Bridge as World Heritage Sites or would have a detrimental impact on a Site's setting, its Outstanding Universal Value, integrity, authenticity or significance will not be permitted".

2050 Edinburgh City Vision: working towards a city that is **fair**, **pioneering**, **welcoming** and **thriving** – a city that belongs to all of us, and where we all belong.

1.4 The Management Partners (graphics to be added)

The City of Edinburgh Council

The City of Edinburgh Council is the Planning Authority. It implements the planning system in the city, which is the mechanism for managing World Heritage Sites in the UK. The Council is responsible for providing political leadership and governance for a comprehensive range of services across the city.

It is also responsible for the provision of a range of public services that affect day-to-day life within the World Heritage Site, including strengthening and supporting communities, providing jobs and ensuring its residents are well cared for.

Historic Environment Scotland

Historic Environment Scotland is a non-departmental public body. It is the lead public body established to investigate, care for and promote Scotland's historic environment. Its board is appointed by Scottish Ministers.

Historic Environment Scotland offer technical expertise, support and significant funding to the historic environment via in-house experts and various grants schemes, directly employing the highest number of traditional crafts staff in Scotland and actively fostering apprentice development. HES is also a statutory consultee in the planning process.

Edinburgh World Heritage

Edinburgh World Heritage is the independent charity dedicated to the city's proactive conservation. It provides the grants, advice and support required to enable a rolling programme of vital conservation work. It engages communities with their shared heritage, works to ensure heritage is embedded into the city's response to the climate emergency and acts as the city's independent, expert advisor.

Edinburgh World Heritage is formally charged by the City of Edinburgh Council and Historic Environment Scotland with facilitating the work of the World Heritage Steering Group and overseeing the implementation of the Management Plan since 1999.

Stakeholders

Management of the World Heritage Site also lies within its communities, ranging from individual property owners and tenants, businesses and institutions. It is proposed to strengthen the governance of the management plan delivery by setting up an Oversight Group to allow a more strategic discussion of the issues emerging from the delivery of the Management Plan and Action Plan. The Oversight Group will pursue issues through its members' own organisations.

Co-ordination

A World Heritage Site coordinator post was created in 2009 to bring a focus to World Heritage issues across the partnership. The post ensures effective liaison and co-ordination of activities between the partners.

(Insert partner logos)

1.5 Preparation and structure of the Plan

This is the fourth management plan for the ONTE WHS. The Steering Group has taken the lead role in shaping the Plan. It is divided into 5 chapters covering:

- The role of the plan
- Its vision and aims
- Key facts and figures and why the WHS is special
- Key challenges and objectives
- Implementation and monitoring

There is a separate Action Plan that will be updated every two years as part of the monitoring process.

This management plan relies on information gathered from a consultation process from October to December 2022 coupled with a series of pre-draft engagement events, including focus groups held between March to April 2023, that were the source of the actions. (draft wording – to be updated post-consultation)

2. Vision and aims

2.1 The Vision

We share an aspiration for the World Heritage Site to sustain its Outstanding Universal Value by safeguarding and enhancing its exceptional historic environment. This underpins a confident and thriving capital city centre, its communities, and its cultural and economic life.

2.2 Aims of the Management Plan

The main aims of the Management Plans are to proactively:

1. Promote a sustainable approach that integrates conservation with the needs of all communities and visitors to the site

2. Build and maintain strong partnerships between local, regional and national organisations to help deliver the actions of the plan

3. Interpret and present the history and significance of the Old and New Towns of Edinburgh to the highest quality and promote equality of opportunity to access and enjoyment

4. Ensure that the Outstanding Universal Value of the Site and its setting is understood, protected and sustained

The ONTE WHS Management Plan links directly with the Council's high level aims to address climate change, eradicate poverty, promote sustainable economic growth and create great places.

3. Description of the Site

3.1 Location

The Old and New Towns are located in the centre of Edinburgh, which sits on the southern shore of the Firth of Forth. Edinburgh is Scotland's capital and second most populous city.

Figure 1: Map of the World Heritage Site boundary

The World Heritage property covers a total area of around 4.5 km^2. It comprises almost 4,500 individual buildings, of which over 75% are listed for their special architectural or historic interest.

3.2 The World Heritage Property

The World Heritage property encompasses both the Old Town and the New Town together with the ancient mill settlements of Bell's Mill, the village of Dean and part of Stockbridge on the Water of Leith, where it cuts through high ground to the northwest of the area.

It covers the very centre of the city, encompassing many institutions of national significance including museums and galleries, the Court of Session, and much of the city's public administration, along with its office-based activity and its retail core. Prior to the Covid-19 pandemic, it was the daily place of work for over 70,000 people and is home to around 23,500 residents (about 5% of the city's total population).

The World Heritage property has retained its historic urban form and character to a remarkable extent. In the New Town the integrity of the street layout is a key defining factor of its character, while in the Old Town, the 'spine and ribs' pattern of the High Street and its closes and wynds maintains the medieval street and its associated land holding pattern. Equally important is the overlaying of the Old Town in the late 18th and early 19th centuries with wide streets as a result of the City Improvement Acts and commercial ventures. There are many open spaces and graveyards throughout the property.

The urban landscape setting is formed by the ridges and valleys of ancient glacial terrain within the property that created the Old Town ridge and the glacial hollows that form the Grassmarket, Princes Street Gardens and the Waverley Valley. The North and Waverley Bridges and the Mound cross the Waverley Valley and link the Old and New Towns.

3.3 Key facts

(graphics to be added)

- UNESCO inscribed the Old and New Towns of Edinburgh as a World Heritage Site in 1995.
- The inscription recognised the striking contrast and quality in architecture between the medieval Old Town and the Georgian New Town. The medieval Old Town has retained its distinctive pattern of narrow passageways, known as closes and wynds. The New Towns, first designed in 1767, is the largest and best preserved example of Georgian town planning in the United Kingdom.
- Edinburgh is built on an extraordinary landscape of hills and valleys, formed millions of years ago by volcanoes and ice sheets. Together these factors have created a truly distinctive skyline and stunning views which are recognised around the world.
- The Site contains nearly 4,500 individual buildings, of which over 75% are listed for their special architectural or historic interest.
- The Site also contains Scheduled Monuments, the best-known being Edinburgh Castle.
- The Site has retained its historic urban form and character to a remarkable extent.
- The Site 'represents a remarkable blend of two urban phenomena: the organic medieval growth of the Old Town and the eighteenth and nineteenth century town planning of the New Town'.
- In the New Town, the integrity of the street layout is a key defining factor in its character. In the Old Town the 'spine and ribs' pattern of the High Street and its closes and wynds maintains the medieval street pattern.
- The Old Town was overlaid in the nineteenth century by wide streets as a result of the City Improvement Acts.
- There are many open spaces and graveyards throughout the Site.
- The Old Town contains two twelfth century burghs with two early royal palaces (one within the castle), a medieval abbey, and a wealth of early buildings.
- The New Town contains a high concentration of remarkably intact world-class neo-classical buildings; best known being the Royal High School, Register House and Charlotte Square
- The Site contains the dramatic river valley of the Water of Leith. The valley includes the original mill settlements of Bell's Mill, the village of Dean and part of Stockbridge

- The wealth and grandeur of Edinburgh in the 18th century is inseparable from slavery. Many of its citizens, including those linked with the Scottish Enlightenment had connections, and benefited directly or indirectly from the exploitation of enslaved people.

3.4 Key Figures

Key figures from the World Heritage Site

	Figures in 2011-2016	Figures in 2017-2022
Community heritage or education grants	38	n/a?
Properties improved by grants	134	44
Applicants in receipt of grants	354	Approx. 200
Events organised	351	66 – members events only Missing data: Traditional Skills, Climate Emergency events, CPDs, Graveyards, Interpro,
Buildings at Risk repaired	25	Including: City Observatory 2 x watchtowers (Old Calton, St John's)
Value of grants distributed	£4,145,830	

Impact to date of the World Heritage Site status

Please note: full figures from both EWH and CEC to follow

Infographic to be added to include up-to-date 'Edinburgh by Numbers' data on:

- ***Breakdown of population data (resident population, working population, commuter data)***
- ***Breakdown of visitor data (visitor numbers, average trip duration, top paying visitor attractions)***
- ***Impact of COVID-19 pandemic***

2021-22

- Public realm – awarded £97,775; further investment £377,999
- Buildings – awarded £447,811 (HES and EWH combined); further investment £3,121,252

These figures are based on grants awarded and drawn down from HES but not all completed

2018-2021 – from evaluation report

- Public realm – awarded £400,281; further investment £600,421
- Buildings – awarded £1,924,410; further investment £3,421,173

Figure 2 from new EWH website

A listed buildings		1847
B listed buildings		1868
C listed buildings		340
Total for the World Heritage Site		4055
Scheduled ancient monuments	5	1. Edinburgh Castle 2. Edinburgh Town Wall, Flodden Wall, Johnston Terrace to Grassmarket 3. Edinburgh Town Wall, Flodden Wall and Telfer Wall, Heriot Place 4. Edinburgh Town Wall, Flodden Wall, Drummond Street to Pleasance 5. Holyrood Abbey, precinct and associated remains *Source: HES online portal*
Designed landscapes	3	1. Dean Cemetery 2. New Town Gardens 3. Palace of Holyrood House
Conservation areas	7	Coltbridge and Wester Coates (part) – Dean (part) – West End (part) - New Town (part) – Old Town (part) – South Side (part), Marchmont, Meadows and Bruntsfield (part)
New listings since 2016	4	1. Dalhousie Land, University of Edinburgh, 15 St John Street, Edinburgh (Cat C - 2016) 2. Castle Terrace Car Park including external concrete steps and painted steel railings, Castle Terrace and King's Stables Road, Edinburgh (Cat B - 2019) 3. Hunter Building, University of Edinburgh, Edinburgh College of Art, Lauriston Place, Edinburgh (Cat B - 2020) 4. Scottish Automobile Club Sign, on the corner of Lennox Street and Oxford Terrace, Edinburgh (Cat C - 2021)

Listed buildings and designated assets

(To be included in final design: Atlas maps: http://www.atlaswh.eu/files/publications/24_1.pdf

4 Key challenges and objectives

4.1 Introduction to the pre-draft consultation

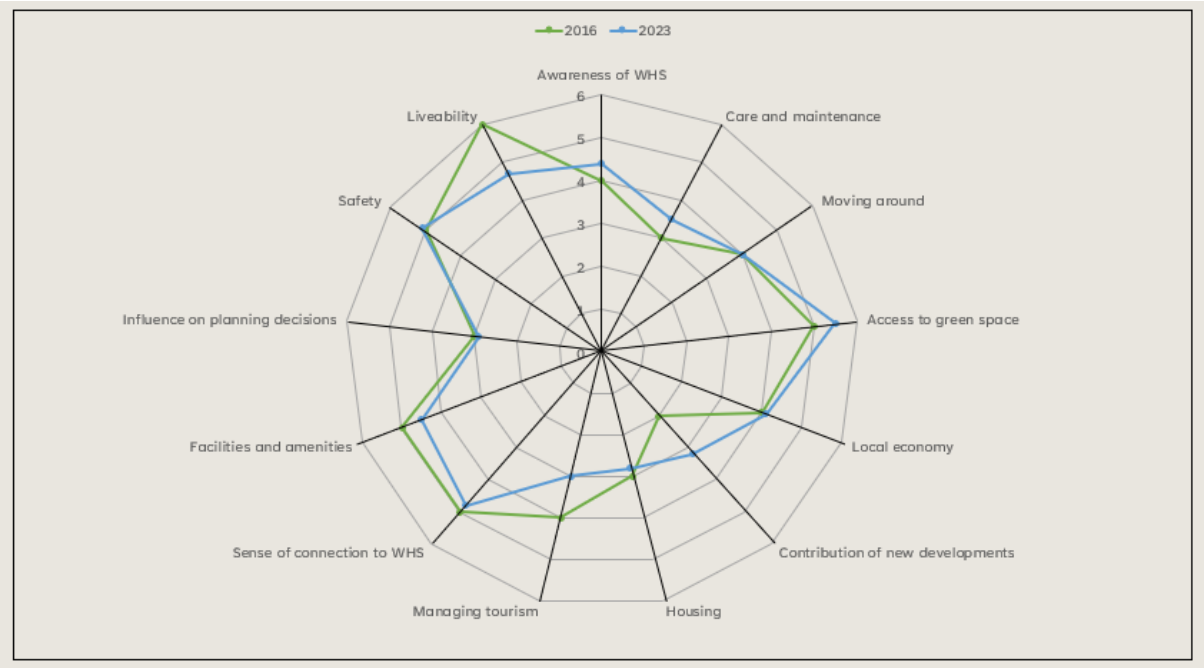
World Heritage Site designation is a celebration of heritage that is already preserved. The designation should facilitate the delivery of the highest quality of environment.

Sustaining a living capital city centre is a balance between protecting the environment, strengthening society, and supporting a vibrant cultural scene. It should allow uses to evolve and provide for places to live and work (and access to them), without damaging the outstanding universal value of the Site. However, the OUV of the WHS will, at times, be challenged by activity that has the potential to adversely impact on the unique qualities of the Site.

It is important that the Plan not only reflects the views of the key organisations involved in its management but those of its users, including residents, visitors to the city and broader stakeholders. With that in mind, an extensive programme of public consultation was carried out.

The online public consultation undertaken from October-December 2022 has informed the issues taken forward in this chapter; as have the discussions at various stakeholder workshops, community council meetings, social media signposting, face to face meetings in libraries, parks, graveyards and hairdressers, over the entire engagement strategy timeline from late-2021 to mid-2023. See Appendix D.4 for more information.

Each element of the public consultation was based on the Place Standard methodology. It consists of 14 questions which cover both the physical and social elements of a place. The questions were tailored to reflect the World Heritage issues. The same methodology was used in the previous plan, allowing for comparison of results:



Consultation results

Research consultants were employed to analyse the findings of the online consultation and the focus groups. This part of the project was delivered through City Centre Transformation funding to ensure cross-compatibility. The following summarises the key findings:

Overall, the research indicated that there is action needed by the WHS Partners in relation to all the key themes of the research. That said, there was also an indication that the priorities for locals are:

- A greater commitment shown by WHS Partners to tidying the city
- Specifically around climate change, the need to see more activity to ensure buildings within the WHS are maintained and retrofitted
- A regeneration plan for Princes Street - to give it more of a sense of value and appeal for locals and to enhance the sense of community within the WHS
- A tourist levy - with money being ringfenced to reduce the impact of tourism and to benefit locals
- Promotion of a clear plan in relation to mobility around the WHS- and through this, to give locals a sense of what the 'end goal' is and when this will be reached
- Finally, there needs to be a review of how planning decisions are made- to allow locals to feel more involved

Many ideas were expressed for how to address these themes for the improvement and progression of the World Heritage Site. These themes are cross-cutting. For example, tourism is an important activity in the Old and New Towns, it influences developments within the city centre, it is an important factor in considering the interpretation and understanding of the WHS and it has an impact on the operational management of the city. It is therefore critical that the actions in this plan allow room for this interrelationship.

Partnership working

The management partners now have over 25 years' experience in understanding the challenges that an urban World Heritage Site faces. The Management Plan's success will be dependent upon careful coordination of partner organisations to ensure that collective resources and objectives are aligned to pursue actions to the best effect. The management partners must convey the importance of the World Heritage Site to the right people who can influence how actions are delivered in order to safeguard OUV. This includes communicating and engaging with all sectors: climate; tourism; economy; and local government.

4.2 Five Key Challenges

The action plan seeks to address the issues that scored the lowest on the Place Standard "wheel" during pre-draft engagement.

Those five lowest-scoring themes are:

1. Awareness, appreciation and activity around World Heritage Site status
2. Climate emergency
3. Conservation and maintenance of buildings and public spaces
4. Control, guidance, and contribution of new development to city centre
5. Sustainable visitor experience

The remaining themes from the Place Standard have not been disregarded. However, they extend beyond the scope of this Management Plan alone and are not addressed here. It is important to note that the previous theme of 'Influence and sense of control' has been embedded throughout the plan.

As stated in chapter 1.3, the management partners are working with other city stakeholders to ensure that the safeguarding of the World Heritage Site is a consideration in other city-wide strategies. Appendix B.2 sets this out, and this is addressed in more detail in chapter 4.4.

A new sixth theme concentrates on the increasing interaction between WHS partners and Edinburgh's universities. This research pipeline outlines opportunities for further collaboration to enhance our understanding of the site from multiple perspectives and via different disciplines. This will be discussed in chapter 4.5.

4.2.1 Awareness and value of World Heritage Site status

Objective 1: To coordinate the actions to ensure a broad level of understanding of the WHS and to widely transmit its value

Sustainable Development Goals:

- 4: Quality education
- 11: Sustainable cities and communities

Interpretation and engagement

Awareness of the World Heritage Site and its Outstanding Universal Value and wider cultural value to the city varies. Based on the engagement feedback, the qualities that make the Site unique – of "outstanding value" - appear to remain unclear: the concept of World Heritage Site status was known, but not necessarily understood. Yet, to ensure that we all look after the World Heritage Site as best as we can, the OUV needs to be clearly understood by stakeholders, residents and visitors.

Communication

The work undertaken under the World Heritage banner is exceptional. Achievements include innovative collaborative projects from the climate emergency to, providing grants for buildings in need of repair and sharing expertise internationally. This work should be more widely promoted.

The number of stakeholders, collaborators and different groups working under this banner is so widespread that the message can get diluted. It is recognised that to address this we must continue to work together and communicate what we do.

Consultation Feedback

When asked to think about the level of awareness of World Heritage Site status, the consultation feedback stated that the concept of World Heritage Site status was known, but not necessarily understood.

- **Limited understanding** of WHS status and its meaning. Edinburgh 'the brand' attracts tourism and boosts the local economy, but there is confusion over conservation and restrictions and associated funding.

- *"My understanding is it basically just means that Edinburgh's buildings, like the castle or the old style buildings are protected…"*
- *"People, will be looking at all the UNESCO sites across the world and putting Edinburgh on their bucket list".*
- *"I guess there's a tension between preserving the WHS and actually living in the city."*

- **Liveability predicated on appreciation of city's history** – the character of the WHS evokes a sense of pride, but there is concern over housing and over-tourism, with both positive and negative feedback over transport links and access to amenities.

- *"Central Edinburgh is a unique and wonderful place, I fear for its future."*
- *"I choose to live in the World Heritage Site because there are few better places to live within a reasonable budget and have a quality way of life to bring up a family."*

- **A sense of belonging** to the WHS is both at the expense of, and enhanced by, tourism.

- *"Things like the fringe and the festivals actually make me feel like I belong a lot more, because I'm not originally from Edinburgh, so I like going down and seeing all the people that have come here."*
- *"I feel pushed out of the city a little bit now. I don't feel it is the same city it used to be. I'm not saying tourism is a bad thing – I certainly love the students coming in, and it can be a bit manic, but very exciting. But I just don't think Edinburgh has the infrastructure to cope with it all."*

- **Value of WHS not necessarily reflected by retail opportunities** – Princes Street no longer felt to be one of the world's 'great city streets', but St James Quarter welcomed as a positive addition to the city centre.

- *"It's a really common complaint in Edinburgh that Princes Street is just ugly and full of rubbish. It devalues living here as well as visiting."*

- **City's green spaces a significant strength of the WHS** – despite concerns over privatisation of public space, the green spaces in the WHS were considered to be one of its most valued assets.

- *"[Green space] is one of the undoubted strengths of the World Heritage Site."*
- *"While there is a lot of GOOD natural space, so much of it is hijacked for events."*

4.2.2 Climate emergency

Objective 2: to coordinate actions to ensure an appropriate response to the climate emergency whilst safeguarding OUV

Sustainable Development Goals:

- 11: Sustainable cities and communities
- 13: Climate action

Climate emergency

Issues relating to the climate emergency arguably impact on almost every other theme of action – conservation and maintenance through damage to buildings brought on by changes to the weather,

to loss of intangible heritage through displaced peoples and everything in between. However, we thought it important to separate this part of the discussion as we continue to refine how we embed our response to the climate emergency in our everyday lives. This is also evident in how we brought up the theme of the climate emergency in the consultation – we recognise how wide-ranging and multi-faceted the issues are, and how it cannot be easily summarised into a single question with an answer on a sliding scale.

We will continue to work closely with our partners to develop understanding of how we frame the issue of the climate emergency in the management of the World Heritage Site, including engagement with Climate Ready Edinburgh.

Consultation Feedback

When asked to think about the climate emergency in relation to the WHS, participants sought to have a greater understanding of its impacts and the tools available to mitigate damage.

Discussion centred on the following points:

- **Some effects of climate change are being witnessed,** including stronger winds, flooding and erosion to buildings, but the issue is not currently front-of-mind. This typically related to the perception that climate change is a long-term issue, and other priorities take precedence.

- *"The city has seen increases in flooding etc. Part of this many well be to do with the lack of drain clearing - some road drains are full of rubbish right to road level. It would appear that there isn't much action on areas which a repeatedly flooded."*
- *"Obviously you're aware of the effects of climate change, but not specifically for how it impacted the world heritage site."*

-

- **There is concern and confusion over retrofitting buildings and mitigating damage.** There is perceived high cost associated with maintenance and retrofitting, and confusion over best practice.

- *"Necessary adaptations to historic buildings/spaces may not always conform to desirable heritage best practice."*

4.2.3 Conservation and maintenance of buildings and public spaces

Objective 3: To ensure ongoing investment in the conservation of the Site

Objective 4: To work in collaboration with stakeholders to sustain the 'state of conservation'* of the Site
*'State of Conservation' includes the physical condition of the WHS and the conservation measures in place to protect it.

Objective 5: To ensure the World Heritage Site is a baseline consideration for all Council plans and strategies within its boundary that include alterations to the historic built environment

Sustainable Development Goals:

- 11: Sustainable cities and communities
- 12: Responsible consumption and production

Grants

Edinburgh retains most of its significant buildings and spaces in good condition. More than 200 applicants *(final figures to follow)* received a grant in the lifetime of the previous management plan. However, this reflects investment in buildings rather than streets and public spaces, which explains the misstep in public perception. This is a decrease in the number of projects awarded funding from the previous plan which reflects the difficulty in delivering the grants programme during the COVID-19 pandemic.

Treatment of public spaces and public realm

The spaces between buildings, known as the 'public realm' make an essential contribution to the OUV of the WHS. This plan must provide the context to support the existing guidance.

City life happens in the spaces between the buildings. There is a high demand for public space use all year round. There needs to be a balance of use and greater transparency of decisions about the events and activities that take place in them.

The cleanliness of streets and spaces contributes to people's sense of pride, ownership and safety of the city. It also creates the impression that visitors take home with them. It is vital that the management partners help to shape and support the systems in place to ensure that a suitable standard is maintained, even during peak visitor times.

Consultation Feedback

When asked to think about issues relating to the conservation and maintenance of the World Heritage Site, including safety, sense of upkeep of buildings and streets, and the impact of the climate emergency on the fabric of the site, respondents felt that there is still a lot to be done.

- **There is a sense that the city's built environment is not well-maintained.** Maintenance is seen as a high cost, and there are concerns over poor quality of road surfaces and drains.

- *"Generally, not very well (maintained), especially street and public spaces. The level of care is disappointing."*
- *"I would say some places are better cared for than others -- e.g. income from tourism keeps the Castle and Holyrood Palace and other major attractions keeps them well-cared-for. But Rose Street, Princes Street, and other parts of the city are either neglected or slowly becoming empty commercial spaces under the pressure of lack of funding."*

- **Safety in the WHS is generally favourable**, however, concerns over untidiness (litter, graffiti) contributes to a feeling of "lawlessness."

- *"I feel safe. I am fortunate to live in an area of the New Town where streets, homes, and open spaces do not feel threatening."*
- *"The unchecked growth of graffiti in all parts of the city but especially the city centre has contributed to a general feeling of lawlessness and lack of safety. Street begging is a major issue, and inevitably makes visitors feel unsettled. Litter and bags of garbage on the street merely add to the uncared-for image, and I am sure visitors feel a lot less safe than I do."*

4.2.4 Control, guidance, and contribution of new developments to city centre

Objective 6: to improve tools to sustain Outstanding Universal Value

Objective 7: To sustain effective partnerships that support the management of the WHS

Objective 8: To ensure that development embraces the context of the WHS and is of the highest quality in terms of architecture, design and materials

Sustainable Development Goals:

- 11: Sustainable cities and communities
- 12: Responsible consumption and production

Planning process

Managing change is a key priority for the Management Plan. To ensure that the OUV is safeguarded, the management partners must retain an overview of all the systems in place to make this happen.

Management partners have a role to play in raising awareness on how interventions can contribute to the Site's authenticity. Management partners also have a role in reflecting and interpreting the particular quality of its surroundings, responding to and reinforcing distinctive patterns of development, townscape, views, landscape, scale, materials and quality of the WHS. Is it the management partners' role to make sure these qualities (i.e. the OUV) are taken into account.

The WHS's skyline and setting are vulnerable to unsympathetic development. The city's topography and visual characteristics (landmarks, townscape characteristics) create a uniquely visible landscape setting for the city. A majority of key views from the 'Skyline Study' cut across the WHS; their protection is essential to the protection of the historic environment.

Interpretation and engagement

It is the management partner's responsibility to guarantee that all stakeholders understand the context to allow respectful change in line with the character of the area. Where harmful change occurs, the management partners have a statutory duty to make it clear that this is not acceptable.

There is advice and support for owners of historic homes in maintaining their building. It is essential that this advice is pulled together so that owners can navigate through and find what they need.

Advocacy

The city is a dynamic, thriving capital city. It will evolve over time with new trends. The management partners must ensure that they are engaged with the broadest range of activities and strategies within the city. This will ensure that they can participate in change and influence decision making in such a way that change sustains the OUV of the Site.

The management partners will also need to promote the maintenance of traditional skills. Historic buildings need a variety of crafts for their repair and conservation, from stonemasonry to metalwork, joinery and slating. With over 75% of all the buildings within the WHS being listed, maintaining these traditional skills is vital to the conservation of the city's built heritage.

Informing design quality

The vast majority of building stock in the WHS is traditionally constructed (often local sandstone under pitched roofs and covered with Scots slate). New materials should have the quality an integrity that befits this special context, and detailing should be carefully considered to ensure their long term visual success. Management partners have a role in raising awareness on how interventions can contribute to the Site's authenticity.

Influencing new development

Development within the WHS is expected and welcome. The management partners must influence the way in which this change can happen.

Consultation Feedback

Consultees discussed a number of issues relating to the management of the site and the contribution of new developments to the city centre. Topics included discussion over new developments such as St James Quarter, and the experience of engaging in the planning process.

- **Views on new developments are polarised.** There is a tension between understanding that Edinburgh needs to develop and evolve, whilst fearing that this will harm the city's historic fabric. There is, however, appetite for development of Princes Street to restore some of its former glory.

- *"The world is changing, even though we're trying to preserve the heritage, it's like giving a new lease of life, bringing something new."*
- *Hate hate hate all the bland developments being allowed that use mock sandstone and uniform windows. Hate any attempts at pastiche. If you're going to build new then build exciting - new materials, new shapes, which can coexist with heritage that tells a new story moving into the future?"*

- **Participation in the planning process is still seen as complicated and challenging.** There is also the feeling that becoming involved in the process is inconsequential to the result of the planning decision.

- *"We participate in endless surveys largely initiated by Edinburgh Council but rarely get any feedback."*
- *"I would probably go to the local councillors to take up any opinion I had, but other than that I genuinely have no idea how to get involved."*

4.2.5 Sustainable visitor experience

Objective 9: To improve understanding of the value of WHS status to tourism within the WHS and the city

Objective 10: To sustain effective partnerships to advocate for and secure sustainable tourism within the WHS and the city to safeguard OUV

Sustainable Development Goals:

- 10: Reduced inequalities
- 11: Sustainable cities and communities
- 12: Responsible consumption and production
- 15: Life on land

Tourism

Sustainable tourism continues to be a key concern and driver of action throughout the World Heritage Site. The management partners and tourism stakeholders have a role in helping to preserve the environmental and cultural integrity of the site and supporting the sustainable development of its communities.

Public engagement highlighted the importance of tourism to the city, but questioned the balance between meeting visitor needs versus community needs during peak times in the visitor calendar. The management partners recognise the need to support the operational systems in place as discussed under section 4.3.3 Conservation and maintenance of buildings and public spaces. The management partners also recognise the need to signpost good practice from other World Heritage cities where a Transient Visitor Levy is in place, and how this can benefit residents.

Consultation feedback

Discussion over visitor management entered into almost every discussion during the consultation. Here, we have distilled some key points covering tourism's positive contribution to the city, the volume of visitors, the disconnect between residents and the pressures of accommodation in the city.

- **Tourism can be enhancing** by creating jobs and boosting the local economy. The WHS brings recognition to the city on a world stage.

- *"Tourism is definitely important to bring a recognition to the city, and ultimately money and industry."*

- **Too high a volume of tourists** was a concern, especially during the summer and winter festivals. From a care and maintenance standpoint, this adds to the wear and tear of city streets.

- *"Tourism is prioritised every time. We need roads that work and housing we can afford. A city centre that is not a version of Disneyland every season."*

- **Overwhelming sense that WHS businesses are solely for tourists** selling 'tartan tat' and souvenirs rather than providing amenities for local residents.

- *"Tourism needs to give back more to local council funding and services - A tourist tax has gone too long without implementation. Otherwise tourism is a positive, bringing investment and interest to the city."*

- **Demand for accommodation for tourists** puts pressure on local housing availability. Housing is being repurposed for short-term lets and is driving up the cost of living within the WHS.

- *"Tourism is great and should be supported. But the balance doesn't seem quite right. Too many short-term lets, too frequent closure of public space for "festivals" and tacky Christmas*

events. Tourism is only desirable (for everyone including tourists) if there is a thriving local community to support it."

4.3 Other challenges

Sustainable Development Goals:

- 3: Good health and wellbeing
- 10: Reduced inequalities
- 11: Sustainable cities and communities
- 12: Responsible consumption and production

The management partners will ensure that the consultation feedback on the nine remaining themes consultation that have not been discussed in detail here will be raised at an appropriate level to inform emerging plans and strategies across the partnership. A summary of the discussions is presented below:

Moving around	Discussion over transport concerns the relatively compact size of the WHS in terms of its walkability, but highlights issues with congestion and cycling.
Facilities and amenities	Amenities were considered to be generally accessible, with a good mix of leisure facilities. Everyday services were considered harder to access in the WHS, such as GPs and supermarkets.
Liveability	Discussion ranged from appreciation of the city's beauty and history, to concern over tourism and housing.
Identity and belonging	Discussion covered appreciation for the diversity of residents and visitors to the city and the sense of connection it brings, as well as concern for the city centre feeling like it caters solely to tourists.
Natural space	Discussion centred on the good provision of well-maintained green spaces which was considered to be one of the strengths of the WHS.
City centre economy	Discussion ranged from concern over Princes Street feeling generic and the sense that there is difficulty for new independent business to get started, as well as positivity surrounding the new St James Quarter as a positive addition to the city centre.
Feeling safe	Whilst this is connected to the theme of maintenance, it's a subject in its own right which is addressed elsewhere in the council. Discussion ranged from the sense that the WHS generally feels safe, but graffiti and the closes of the Old Town can contribute to a sense of discomfort.
Housing	Discussion over housing is entwined with concerns over short-term lets and student housing. There is concern over too few opportunities for affordable housing in the WHS, but an understanding that the current student housing stock supports the student population well.

Common areas of focus

As the management plan is not a generic city plan, there are inevitably issues raised which are not directly related to the Outstanding Universal Value of the site and are best addressed by other plans and strategies.

The ONTE WHS Management Plan shares common aspirations and will compliment a range of plans and strategies in managing the complex range of issues facing the city centre and thus, the World Heritage Site.

Council plans, policies and strategies relating to the city centre

Strategy	Opportunities to meet common goals
Waste and recycling strategy	"Edinburgh City Centre is a place where people live, as well as work, and a World Heritage Site. This presents particular challenges both in terms of balancing the competing priorities of the different stakeholders, and in terms of providing a comprehensive recycling service." (p.11)
City Mobility Plan inc. Active travel	Multiple reference to WHS. "A walkable city centre core right at the heart of the World Heritage Site, enabled by a pedestrian priority zone and a network of connected, high quality, car-free streets;" "High-quality streets and public spaces where improvements allow for people to be inspired by the city's unique heritage while they interact, relax or play;" (both p.46)
Tourism	Multiple references to WHS. Specific recommendation for tourism sector to engage with WHSMP (p.17)
Climate Ready Edinburgh	Multiple references to WHS. Clear cross-referencing.
Biodiversity Action Plan	No specific mention of WHS, but n.b. p.9 mention of importance of private gardens to Edinburgh's biodiversity
Edinburgh 2050	No specific mention of WHS, but does mention skyline in Theme: Pioneering Edinburgh – in terms of architecture, culture and good quality of life
Princes Street Framework	Specific mention of WHSMP
Poverty	No specific mention of WHS/OUV, but potential for engagement via themes of connection and belonging, and wellbeing
Open space	Specific reference to EWH and graveyards conservation. Specific mention of WHSMP development (p.42). India Place Allotments case study references EWH grant (p.55). Specific reference to working with EWH to realise historical value of open space assets (p.58).
Flood risk management	Specific reference to WHS and the impact of flooding to it
Culture	Specific reference to WHS
Digital	No specific mention of WHS
City housing	No specific mention of WHS
People	No specific mention of WHS. Opportunity to engage via training
South East Locality Improvement Plan 2017-2022	ONTE WHS Management Plan 2017-22 referenced common themes with the Locality Improvement Plan. Opportunity exists to engage with the updated plan, this could include supporting engagement via heritage values in Dumbiedykes.

4.4 Research pipeline

Achieving best practice

The management of the Old and New Towns of Edinburgh World Heritage Site is considered as an example of best practice internationally. People come from all over the world to research our practices. Research needs to be sustained to keep the management of the Site current and relevant to global trends and there are current knowledge gaps. Building on existing relationships with universities in Edinburgh and internationally will play a key role in bridging these gaps.

Such gaps include, but are not limited to the following opportunities:

- Understanding the World Heritage Site from multiple perspectives
    - Hope Wang's research: Co-creating the values of World Heritage Sites with Refugees
    - Exploring the peripheries of heritage sites: their communities and values and how they relate to the WHS: CUMET project - Cultural Heritage in the Metropolitan Peripheries
- Fulfilling the recommendations of Historic Urban Landscape (HUL)
    - Management Partners/ University of Edinburgh / University of Seville
- Research into materials:
    - Understanding the materials used in new developments in the WHS
    - Understanding the historic materials used in the public realm
- Research into green spaces:
    - understanding impacts on green spaces via data gathering - anticipate future problems / landslides
- Understanding the condition of previous EWH grant-funded projects
    - Basic maintenance surveys of our 12 monuments and other past WH projects so we can find out what state they are in and push CEC to maintain.
    - Algorithm for learning what to look for in building at risk to reduce time spent surveying
- Monitoring the WHS from a macro view – what technology can we use for this?
    - To allow EWH to target work and be proactive, rather than just being reactive to what grants are being applied for
    - LIDAR scanning, AI, citizen science – multitude of approaches from University of Edinburgh to achieve the above

- Understand the WHS existing building stock: breaking the buildings into typologies to be able to better target people with specific maintenance advice, and to define best practice in relation to energy retrofit and climate change adaptation interventions

- Research into climate change – collecting baseline climate data for the WHS:
    - Create tools to monitor the impacts of climate change on the WHS
    - Collect and compile data on natural hazards (flooding, ground/slope instability) in the WHS
    - Carry out a high-level risk and vulnerability assessment of the WHS in relation to urban heat island effect
    - Carry out a high-level climate change risk and vulnerability assessment for parks, garden, green spaces, and natural setting in the WHS

- Collect and compile data on fauna and flora in the WHS to establish a baseline and propose solutions to protect and enhance it
- Map intangible heritage in/linked to the WHS and assess risk/vulnerability to climate change
- Based on data collected, pressing issues and gaps in knowledge, research specific climate change impacts on the WHS (per type and/or area in the WHS)

Research guidelines:

- Outline when partners get involved with research projects and provide clear guidance for how to engage with the results.
- Research should fulfil a specific outcome and contribute to our appreciation and understanding of the WHS, ideally filling a gap in knowledge that does not already exits
- Research should not take up an unreasonable amount of resource from the Management Partners
- Research should be conducted or supervised by appropriately qualified staff
- Research should align with the purpose of the Management Plan and should be shared and communicated to a wide audience.

4.5 The Actions

About the Actions

This Management Plan has a separate Action Plan. This allows for the actions to be more dynamic and for them to be updated as necessary during the 10-year life of the Management Plan. This sharpens the focus on what the Action Plan can deliver throughout the life of the Management Plan, without the need to refresh the Management Plan itself so frequently. This flexibility will aid the monitoring and delivery of the actions.

The actions reflect what can be achieved by the management partnership. Through the consultation process, they seek to amplify the voices of the local population, visitors and broader stakeholders, as well as the views and expertise of the management partners. They will focus their concentration on heritage and what makes the Old and New Towns of Edinburgh a World Heritage Site. However, a key strength of the Management Plan is that it is not constrained to land-use issues and can cover a broader spectrum of subject areas than a typical planning document, such as visitor management, education and interpretation and culture more broadly. The Place Standard Tool recognises the correlation between the quality of the built environment with health and wellbeing, so this can also be seen as a benefit of a well-managed WHS. The plan can be used as an advocacy tool to support the actions of other city partners. It can also be used to influence funding and political support.

Summary of objectives from the consultation process

The following phrases emerged repeatedly from the pre-consultation engagement across all five key challenges that are being taken forward in the plan:

Below are the objectives from sections 4.3.1-4.3.5 summarised in a table:

Objective	
1	To coordinate the actions to ensure a broad level of understanding of the WHS and to widely transmit its value
2	To coordinate actions to ensure an appropriate response to the climate emergency whilst safeguarding OUV
3	To ensure ongoing investment in the conservation of the Site
4	To work in collaboration with stakeholders to sustain the 'state of conservation' of the Site.
5	To ensure the World Heritage Site is a baseline consideration for all Council plans and strategies within its boundary that include alterations to the historic built environment
6	To improve tools to sustain Outstanding Universal Value
7	To sustain effective partnerships that support the management of the WHS
8	To ensure that development embraces the context of the WHS and is of the highest quality in terms of architecture, design and materials
9	To improve understanding of the value of WHS status to tourism within the WHS and the city
10	To sustain effective partnerships to advocate for and secure sustainable tourism within the WHS and the city to safeguard OUV

5 Implementation and monitoring

5.1 Monitoring

Monitoring is a responsibility of World Heritage Site inscription. This includes both monitoring the condition of the Site (State of conservation) and monitoring the implementation of the actions.

State of conservation report

UNESCO monitors the state of conservation of each World Heritage Site through its Periodic Reporting process. The last Periodic Report was completed in 2013, the most recent Periodic Report was completed in 2023 and awaits publishing. These reports are an important tool to gather information that identifies possible changes to the condition of a Site.

Action Plan Monitoring

Case studies in Appendix C reflect a number of the key actions delivered across the partnership through the previous plan. Their progress has been tracked by the Steering Group throughout.

5.2 Risk Preparedness

UNESCO Operating Guidelines (September 2023) recommend that risk assessment and response is a key tool in site management. Managing a site that covers the expanse of a city centre differs from that of an individual monument.

Physical risk - fire and flood risk, climate emergency, development pressure, pandemics.

Fire and flood risk

General risk responses for the city are provided by the fire and police services, and the Council's Emergency Planning Team. Individual buildings have their own strategies and insurance in place.

HES co-operates with Fire and Rescue Services in managing a Historic Buildings National Fire Database, which provides fire-fighting crews with information on the importance and value of category 'A' listed buildings.

Similarly, SEPA (Scottish Environment Protection Agency) is the lead body in dealing with flood emergencies. During the life cycle of previous plans, a flood prevention scheme for the Water of Leith was implemented; flooding poses a threat to a limited part of the World Heritage Site, principally around the Dean Village and Stockbridge. However, it is now also acknowledged that increased surface water is an impact of the climate emergency and there are more frequent and localised instances of flood damage. A flood map of the WHS has been produced and will influence mitigation.

Climate emergency

Understanding the physical impact of climate change and responses to it on the built and natural environments of the World Heritage Site is necessary. Known impacts of the climate emergency are affecting building fabric (for example, speeding up stone decay, increasing pressure on historic drainage systems) as well as creating pressure for the adaptation of buildings to reduce carbon emissions.

Energy efficiency programmes and research by the Site's management partners to change habits, address fuel poverty and to understand the sensitive adaptation of historic buildings remains a significant focus for the next ten years. Research projects such as the Climate Vulnerability Index and Climate Change Risk Assessment are informing next steps.

Development pressure

The success of the city and its World Heritage Site creates pressure for development. There is also pressure from the cumulative impacts of small-scale development. Development which undermines the Outstanding Universal Value and threatens World Heritage status is a risk. The risk is managed through planning policy and guidance. Development pressure and the effectiveness of the protective measures are subject to monitoring.

Pandemics

National and international health events can impact the World Heritage Site in a number of ways, including suspension of awareness-raising activities, events, and all but essential building and maintenance projects. Closure of public buildings might also impact their routine maintenance and upkeep, as well as the need for public services to remain in the city centre. Restrictions on travel could be at the detriment of the tourism industry yet could be a positive impact on the local community in terms of creating more space to meet freely outside. How space within the World Heritage Site is used might change, with parks and public realm being used for gathering whilst indoor venues remain closed.

Intellectual risk – apathy, lack of awareness/understanding

The delivery of several Partners' projects during the period of the last Management Plan, such as establishing World Heritage Day events and creating a social media presence to raise the profile of the World Heritage Site, has seen some of the risk associated with lack of awareness and understanding mitigated. It will be important to facilitate access to ONTE WHS documentation in order to maintain the narrative of its management.

Organisational risk – poor change management, lack of co-ordination, inadequate resourcing and lack of succession management around key staffing and economic risk locally and nationally.

The organisations and bodies that are focused on the management of the World Heritage Site require adequate funds to actively manage, effectively coordinate and carry out actions in relation to sustaining and enhancing the World Heritage Site.

APPENDIX A – OLD AND NEW TOWNS OF EDINBURGH WORLD HERITAGE SITE

A.1 Description of the Site

[Pictures to be added throughout]

Topography

The City of Edinburgh possesses one of the most spectacular urban landscapes in the world. Its dramatically varied terrain rests on a complicated geological pattern of sediments, extinct volcanoes, lava flows and igneous intrusions. This pattern has been emphasised by the differential weathering of hard and soft rocks.

The city's topography is central to the character of the Site. It shaped the city's spectacular townscape and creates the dramatic views into, out of, and through the Site, including the key views out to the 'mountain' of Arthur's Seat; down to the Firth of Forth (the River Forth estuary); towards the green slopes within the city; to open countryside up to 30 kilometres beyond; and to views down from high vantage points onto roofscapes and open spaces.

Within the Site the landforms created the setting for the dramatic juxtaposition of the Old and New Towns across the green valley of Princes Street Gardens (the drained Nor' Loch). The Castle Rock and its geological 'tail' provided the perfect location for the original settlement of the medieval planned Burgh, shaping its subsequent development pattern of narrow property holdings on a single main street. Its steep, rocky slopes also ensured that a highly visible 'island' of natural landscape has been retained in the heart of the Site.

Archaeology

Edinburgh's World Heritage Site, particularly the Old Town, is an area of high archaeological significance and potential, containing a range of nationally important scheduled monuments and extensive areas of well-preserved archaeological deposits. The area was analysed in 1981 as part of the Scottish Burgh Survey (Turner et al. 1981).

Archaeological excavations have shown that Edinburgh's origins extend back into prehistory.

Edinburgh's Castle Rock was fortified from the late Bronze Age (around 900 BC) and is arguably the longest continuously occupied site in Scotland.

By the eleventh century, settlement had almost certainly begun to develop along the rocky ridge that later became the Royal Mile.

Every time there is a significant development in the Old Town, there is potential for undiscovered archaeology.

Architectural History

Edinburgh's architecture and its historical importance set it apart from most other cities of the world. The particular nature of Edinburgh's duality is unusual: on the one hand, on a high ridge is the ancient Old Town, while in contrast lying below and to the north, is the eighteenth and nineteenth century New Town (the name 'New Town' applies to the whole area developed in classical style between the 1760s and the 1870s).

The Old Town

The Old Town contains two planned twelfth century burghs with two early royal palaces (one within the Castle), a medieval abbey, and a wealth of early buildings. The tradition of building taller was regulated and limited to five storeys on main streets through by-laws in the seventeenth century but the tendency was predominantly vertical and the sloping nature of the Site allowed for the creation of tenements that must have been the world's tallest buildings of their age, some of them still to be seen.

The Old Town grew along the wide main street (the Royal Mile) stretching from the Castle on its rock through the Canongate to the Palace of Holyroodhouse. Edinburgh Castle dominates: a medieval military fortress extended as a Royal Palace within a square in Renaissance times but later re-classified as an army barracks and hugely extended as such from the mid eighteenth century. Of special interest are the twelfth century St Margaret's Chapel and the Great Hall of 1500. At the other end of the Royal Mile are Holyrood Abbey and the Palace of Holyroodhouse.

Along the Royal Mile is an array of architecturally and historically outstanding buildings. The Parliament House and High Court of Justiciary complex comprise the two-storey T-plan Parliament House, a key building of the Scottish Renaissance by Sir James Murray of Kilbaberton (1632-39) with neo-classical additions and extensions as a court of justice complex by Sir Robert Reid and others in the earlier nineteenth century. The City Chambers (formerly a multi-use complex with the Royal Exchange at its core and from 1811 the headquarters of the city council) on the High Street are the work of John and Robert Adam (1753); the plan is that of a private square protected from the Street by a single-storey rusticated screen. The Canongate Tolbooth c.1590 is identified by its powerful turreted steeple. Other notable public buildings within the Old Town include George Heriot's School (1628-60), built in the area 'outside' the townenclosed by the contemporary Telfer Wall, Surgeons' Hall (1829-32, Playfair), and the Old College of the University (1815-27, Robert Adam, completed by Playfair).

By the early seventeenth century, much of the wealth of the Scottish nation had come into the hands of the Edinburgh merchant elite, which resulted in considerable new building. The nobility also built high-quality town houses and all this activity came under the strict control of the municipal authorities. The heyday of the Old Town was the sixteenth and seventeenth centuries.

From the 1790s and especially after the development of the New Town, a slow social and economic decline began. During the later nineteenth century, the withdrawal of the middle classes from the Old Town began to be seen as a problem. In 1892 Sir Patrick Geddes proposed that the Old Town should be 'regenerated' by attracting back to it the university, the bourgeoisie, and the intelligentsia. The value of the pioneering efforts of Geddes in early restoration and new build housing infill, especially along the Royal Mile, was substantial both in terms of conservation and in maintaining the residential population of the area. These are exemplified at the theatrical red-roofed and half-timbered Ramsay Garden which was intended to reflect the character of the medieval town. Sir Patrick Geddes was also active in establishing community gardens or pocket parks in the Old Town during the early part of the 20th century. As part of his Civic Survey of Edinburgh in 1909, 75 open spaces in the Old Town were identified as having potential for community gardens. By 1911, nine of the gardens were 'in working order'. They are now represented by: Advocate's Close; the Patrick Geddes Memorial Garden on the south side of the West Port and the Scottish Wildlife Trust Garden which occupies a prominent position on the south side of Johnston Terrace, adjoining the Patrick Geddes Steps and the former Castlecliff Workshops.

The New Town

The New Town is important for two main reasons: its high concentration of world-class neoclassical buildings and the sheer extent of the area covered with classical ashlar- faced (highly finished stone) architecture, all consistent to a degree without parallel and, perhaps crucially, all now surviving remarkably intact.

The New Town consists of seven successive major developments, each different from, but closely related to, its predecessors, built in a continuous programme of construction from 1767, arguably until as late as 1890.

The First New Town originated in proposals published by Lord Provost Drummond in 1752. These were embodied in an Act of Parliament, which envisaged the development of the city's lands to the north of the Old Town, linked by an urban viaduct across the valley, the North Bridge. The rectangular layout of the first New Town was the competition-winning work of James Craig, redrawn in 1767 after consultation with John Adam. The second New Town followed from 1801, planned by Sir Robert Reid, and William Sibbald, and located to the north of the first, breaking away from the previous strictly rectangular plan by the incorporation of some curved terraces. The third New Town, the work of Robert Brown from 1813 onwards, essentially continues the approach of its predecessors.

The pattern of terraces and crescents changed with the fourth New Town, planned by William Henry Playfair. Instead of imposing a grid-iron upon the landscape, the buildings exploit the contours, view and trees of Calton Hill in a romantic manner. The fifth New Town, built from 1822 on the lands of the Earl of Moray to designs by James Gillespie Graham, cleverly links the first three New Towns as a unified scheme. It was intended as a self-contained enclave for aristocrats and professional gentry. The sixth New Town followed in the 1850s on Lord Provost Learmonth's Dean Estate, to the north of the Water of Leith, linked since 1831-32 by a spectacular bridge designed by Thomas Telford. The seventh and final New Town brought the hitherto detached Raeburn estate together with the rest, but building continued well into the later nineteenth century within the generally established precepts of the New Town ideal. Although the original idea was that the New Town should be a purely residential suburb, it rapidly proved to be attractive to business and government; drawing this element of the city away from the Old Town.

Most noteworthy for its planned ensembles rather than its individual buildings, the New Town has, however, a number of notable public buildings, including Register House (1774, Robert Adam), the Royal Scottish Academy (1822-36, W H Playfair), and the Royal High School (1829, Thomas Hamilton). The New Town was to become the location for some of the finest public and commercial monuments of the neo-classical revival in Europe.

Monuments symbolic of Scotland's past were grouped together on Calton Hill, in the aspiration to live up to the city's intellectual soubriquet, the 'Athens of the North'.

[Timeline to be added from the 2017 Plan]

Streetscape

Natural stone paving slabs, extensively used throughout the eighteenth and nineteenth centuries, have an uninterrupted smooth surface which complemented the design of buildings.

The slabs were laid with the same precision as the stone courses of adjacent buildings. Much of the remaining stone paving is carried through into private staircases, closes, and finally even into the

hallways, kitchens, bathrooms and cellars of the dwellings themselves. Many of the setted streets in Edinburgh are now more than 150 years old and this represents a remarkable survival. Footways in the New Town were made from various materials, from the horonized paths of Drummond Place, made of slivers of spoil from stone working, to the Hailes-flagstoned pavements of Dundas Street. The Old Town was largely repaved in the nineteenth century with high-quality Carmyllie or Hailes flagstones.

What is now referred to as the 'public realm' was constructed to an extremely high standard in Edinburgh, although this quality was eroded to some extent in the second half of the last century. Carriageways, kerbs, pavements, footpaths, closes and wynds, boundary walls, railings, gatepiers, street signs, lamp posts, some historic bollards, and police boxes and other street furniture were either there from the beginning or were, for the most part, sensitively added as the materials became available or circumstances demanded an intervention.

Local residents' initiatives have also made a contribution. For example, in many streets in the New Town, residents have reinstated original railing-mounted streetlamps.

Parks and Gardens

Edinburgh's parks and gardens are integral to the New Town's layout and architectural composition. In the Old Town the designed landscape at the Palace of Holyroodhouse covering the Palace Yard at Holyrood and the garden enclosed within the boundary wall were identified for their significance in Volume 5 of the first Inventory of Gardens and Designed Landscapes in Scotland (1987). The Old Town also contains gardens – early 'pocket parks' laid out by Sir Patrick Geddes – which are also significant for the part they played in the 'regeneration' of the Old Town and are essential in providing a pleasant environment.

Calton Hill is the most dominant 'designed' landscape within the Site due to its prominence and character. This never completed project attracted complementary schemes of commemoration to focus on Calton Hill, including the Nelson Monument, the Burns Monument and the Playfair Monument.

The most significant of the many designed gardens in the Site is Princes Street Gardens, a green space planned like Queen Street Gardens to offer uninterrupted garden views to one sided streets at each edge of the first New Town. Protected from 1752 as a pleasure ground in the 'proposals' document, the gardens were formally opened in 1821. East Princes Street Gardens was re-designed in 1840 to receive the Sir Walter Scott Monument, one of a number of elaborate Gothic episodes planned within the geometric layout of the New Town. Overlaying its historical role as private pleasure ground, Princes Street Gardens has an important collection of monuments and statuary.

Colour

The original stones of which the city was built were variations of yellow, which have now mellowed to grey. Edinburgh has, at certain times in its life, been colourful by modern standards. Windows have been painted white, green, brown and most other rich dark colours.

New Town railings were also painted in various vibrant shades. Venetian blinds and planted balconies added to the scene. At some point in its history, however, probably around the time of Lord Cockburn in the early nineteenth century, Edinburgh took on an architectural mantle of respectability, often severe. Ruskin noticed this, with dismay. A delayed architectural reaction came eventually in the form of Rowand Anderson's Gothic, red sandstone, National Portrait Gallery (1885-90), Well Court in Dean (1883) and, later in the Old Town, Geddes's white and red-walled, red-roofed, Ramsay Garden (1892-94) which re-visited the perceived architectural chaos and confusion

of the medieval town. Along with colour in the later nineteenth century Old Town came an interest in the romantic architectural effects of self-consciously random rubble construction. Layers of harling or limewash were often stripped from existing buildings, or new buildings designed to conform to this aesthetic. The colour issue has ebbed and flowed ever since, but the epoch of New Town conservation brought a renewed interest in 'sanity' and simplicity in keeping with the principles of modernism. The post-modern period revived colour and picturesque outline, notably at Ian Begg's Scandic Crown Hotel (now the Radisson SAS) and Richard Murphy's neo-Geddesian infills in the Canongate and off the High Street.

Materials

From 1674 even the most ordinary buildings were constructed of stone. The main formations used for building are the Upper Old Red Sandstone (Devonian) at Craigmillar, and the carboniferous system of the Craigleith, Ravelston, Hailes, Dunnet and Binny sandstones. The geological processes that formed Edinburgh's landscape also provided the materials for its buildings. Until the mid-nineteenth century the cost of imported building materials was prohibitive, and Edinburgh, situated amidst beds of local sandstone, used this high-quality local material as its main building and paving material. This, together with Scottish slate and the occasional use of high-quality imported stone, has contributed a vital ingredient to the essential character of the Site.

Looking at Rothiemay's famous 1647 map of Edinburgh we can see the important introduction of stone-fronted tenements which takes us to the very beginning of the use of stone in 'ordinary' dwellings. As early as 1550, the expatriate Scot Alexander Alesius wrote that Edinburgh's Royal Mile was 'lined with buildings not constructed from bricks, but natural and square stones, so that even private houses can be compared with great palaces'. What distinguishes Edinburgh from other European capitals is the consistent use of ashlar (dressed stone) in the 'show' parts of the facades: those parts of the building which are on public view. Only in a handful of early New Town houses was rubble-work, originally stuccoed to represent ashlar, adopted for front elevations.

Slate roofs also make an extremely important contribution to the Edinburgh townscape. Generally, roofs are finished in West Highland slate laid characteristically in random widths and diminishing courses with a deeply textured, uneven appearance. New Town roofs were not generally 'architectural' and were concealed behind a parapet in views from the street.

Nevertheless, the topography of the city is such that slate roofs become a dominant feature in distant views.

Conservation

From at least the sixteenth century – early in a European context – building control was enforced through a key burgh figure, the Dean of Guild, whose role was crucial for the direction of future planning in Edinburgh. The Dean's Court controlled, among other matters, new buildings and the role was successively consolidated throughout the coming centuries. For example, as a precaution against fire, all roofs had to be of tile or slate from 1621, and in 1674 this was extended to building facades, which had thenceforth to be of stone, although many timber-fronted examples survived well into the nineteenth century.

What was just as remarkable as the formal force of the grand plan for a new monumental city was the consistency with which it was carried out over the following decades, through increasingly restrictive development controls by the Town Council and the private landowners and trusts concerned. It was a unique formula, using Town Council speculation along with Dean of Guild and

feuing restrictions imposed by private speculators to protect the amenity of successive developments and therefore their value.

After the Second World War, habitation in the Old Town continued to decline. A similar pattern, if much less pronounced, was evident in the New Town where the need for conservation and restoration was first recognised in the late 1960s. A survey carried out by the Edinburgh Architectural Association was followed by an international conference in 1970, the outcome of which was the establishment of the Edinburgh New Town Conservation Committee.

The committee utilised Government and City Council aid to initiate a major programme of repair and rehabilitation. In 1980 the problems of the Old Town were again recognised by a small group of architects, resulting in the establishment of what was to become the Edinburgh Old Town Renewal Trust in 1985. In 1999 this organisation and the Edinburgh New Town Conservation Committee were merged to form the Edinburgh World Heritage Trust with a broad remit focused on the whole Site.

Recent Development

Over many hundreds of years the Site has proved itself capable of adaptation to new uses and new ways of living. However a very important feature of the Site's cultural history has been its self-referential devotion to the idea of an ordered city where heritage has been highly valued. Edinburgh's deeply ingrained culture of conservation has created the conditions for the City's remarkable survival.

A considerable amount of development has taken place since the Site was inscribed. Most of the major changes which have taken place are measurable under the existing monitoring arrangements. However, the nature of the Site is such that often very small changes can have a considerable incremental effect on its character and archaeology. The Site has a complex, multi-layered and very detailed significance. This requires, simultaneously, an overview related to setting, infill and development and a close attention to minute details of building fabric, streetscape and landscape design.

A.2 Justification for inscription

[Pictures to be added throughout]

Inscription on the list as a cultural site requires one or more of six criteria measuring Outstanding Universal Value to be met.

The Old and New Towns of Edinburgh met two criteria (II), (IV)

Criterion (ii) – Have exerted great influence, over a span of time or within a cultural area of the world, on developments in architecture, monumental arts, or town planning and landscape design.

The successive planned extensions of the New Town, and the high quality of its architecture, set standards for Scotland and beyond, and exerted a major influence on the development of urban architecture and town planning throughout Europe, in the 18th and 19th centuries.

Criterion (iv) - Be an outstanding example of a type of building or architectural ensemble or landscape which illustrates (a) significant stage(s) in human history.

The Old and New Towns together form a dramatic reflection of significant changes in European urban planning, from the inward looking, defensive walled medieval city of royal palaces, abbeys and organically developed burgage plots in the Old Town, through the expansive formal Enlightenment planning of the 18th and 19th centuries in the New Town, to the 19th century rediscovery and revival of the Old Town with its adaptation of a distinctive Baronial style of architecture in an urban setting.

A.3 Integrity

[Pictures to be added throughout]

It is the exceptional quality and contrast in architecture and streetscape between the medieval Old Town and the Georgian New Town and its scale – it covers $4^{1/2}$ km^2 and over 75% of the building stock within the Site is listed for its architectural or historical importance which sets the baseline for gauging the integrity of the Site.

This clarity of the urban structure is what needs to be maintained to ensure integrity remains intact. The combination of the topography and the buildings upon it creates a spectacular urban landscape which is punctuated with church spires, steeples and monuments. The integrity of the Site is fragile as it relies on the legibility of the skyline. The cumulative effect of the mass, height, form, design and materials of a proposed development could potentially damage the skyline and surrounding townscape, impacting landmark buildings, features in the urban area, and the landscape setting of the city. Development that fails to respect the skyline could introduce a form that detracts from the spectacular views, panoramas and iconic skyline that give Edinburgh its integrity.

Irreversible change to the skyline has the potential to compromise the integrity of the site.

A.4 Authenticity

[Pictures to be added throughout]

The Site continues to retain its historic role as the administrative and cultural capital of Scotland, while remaining a vibrant economic centre.

High-quality workmanship is an aspect of Edinburgh's authenticity which is extremely important to maintain. The identification and support of sources of craft expertise and the necessary traditional materials needed for repair and restoration is a key challenge for the Management Plan.

Material authenticity extends beyond the fabric of buildings, to the patterns of urban form and the qualities of urban spaces.

Edinburgh's setting is an indispensable part of its character and is widely understood as being a key feature of the Site's authenticity. The need to maintain key aspects of the city's setting- such as the view out to Arthur's Seat or down to the Firth of Forth as well as many other key vistas and views that contribute to this quality cannot be over-emphasized.

The concern for maintaining these patterns is present everywhere. In the New Town, the integrity of the street layout is a key defining factor in maintain the New Town character. In the Old Town,

concern was for the ‘spine and ribs’ pattern of the High Street. The closes and wynds maintain the existing- and reinstated lost- relationships with the medieval street pattern.

APPENDIX B – MANAGEMENT OF THE WORLD HERITAGE SITE

B.1 Governance

[Diagram Governance structure to be added – an update from the 2017 Plan]

World Heritage Sites are subject to local, national and international scrutiny.

Local

The day-to-day management of the World Heritage Site is overseen by a Steering Group that is made up of members from Historic Environment Scotland, City of Edinburgh Council and Edinburgh World Heritage Trust. There is a communications sub-group of the Steering Group that manages communication of the key messages around the delivery of the Management Plan. This partnership must demonstrate that it is fulfilling its obligation in meeting the requirement of the World Heritage Convention.

To ensure a strong governance of the management plan, an Oversight Group will be set up to allow a more strategic discussion of issues emerging from the review. The Oversight Group will be made up of the convener and vice convener of the planning committee, representatives of the community councils within the Site, ICOMOS UK, the chamber of Commerce and the management partners.

It will consider the outputs of the Steering Group and check whether the reports and outputs provided have met the project objectives. The Oversight Group will pursue issues through its members’ own organisational arrangements to ensure that decisions are properly informed.

National

The UK Government ratified the World Heritage Convention in 1984. DCMS (Department for Digital, Culture, Media & Sport) has overall responsibility for managing World Heritage Sites in the UK in complying with the World Heritage Convention. This is not devolved but Scottish Government has a role in ensuring DCMS meets the Convention. The management of the historic and natural environment in Scotland is a devolved matter, with responsibility sitting with Scottish Ministers. A concordat between DCMS and the Scottish Government means that Scottish Ministers are responsible for the proper management of the Scottish World Heritage Sites.

UNESCO membership is reserved to the UK Government. DCMS acts as the State Party to UNESCO and is also responsible for nominating sites in the UK for inscription under the Convention. Under the 1999 post-devolution concordat between the UK Government and Scottish Government, DCMS looks to Scottish Ministers to ensure compliance with the Convention in relation to Sites in Scotland, and to identify Scottish Sites that should be on the UK tentative list for possible nomination as World Heritage Sites. As lead public body for the historic environment, Historic Environment Scotland carries out these functions on behalf of Scottish Ministers.

International

UNESCO is the UN agency with global responsibility for protecting cultural heritage internationally. ICOMOS (the International Council on Monuments and Sites) are UNESCO's advisers on cultural world heritage sites.

The 1973 World Heritage Convention deals with the identification, protection and preservation of cultural and natural heritage around the world that is on outstanding value to all humanity. The WH Convention has now been ratified by 195 States Parties and, as of 2023, there are currently 1,199 properties on the WH List. There are 33 World Heritage Sites in the UK. Liverpool was delisted in 2021.

B.2 Planning, Policy and Legislative Framework

National

National Planning Framework 4 (NPF4) is the national spatial strategy for Scotland. It was published in February 2023 and sets out the spatial principles, regional priorities, national developments and national planning policy.

NPF4 recognises the international importance of World Heritage Sites. It asserts that proposals affecting a World Heritage Site or its setting will only be supported where OUV is protected, and it notes that the beneficial outcomes for the historic environment asset or places should be secured early in the phasing of development.

This responds to the international importance of World Heritage Sites and the obligations associated with their inscription.

The Town and Country Planning (Scotland) Act 1997 (as amended by the Planning (Scotland) Act 2019) and The Planning etc (Scotland) Act 2006 provide a framework for local and regional planning policy and act as the principal pieces of primary legislation guiding planning and development in Scotland. Additionally, individual buildings, monuments and areas of special archaeological, architectural or historic interest are designated and protected under The Planning (Listed Building and Conservation Areas) (Scotland) Act 1997 and the 1979 Ancient Monuments and Archaeological Areas Act.

Our Past Our Future, the Historic Environment Strategy for Scotland, emphasises the need to understand the historic environment holistically, combining both intangible (those aspects we cannot see- stories, traditions and concepts) and tangible heritage (physical things).

Normal statutory controls for each of these designations still apply, and there are local plan policies seeking to protect them.

EIA

EIA is a process for identifying the environmental effects of development proposals. It aims to avoid, reduce and offset any adverse effects. Certain types of development, and development in environmentally sensitive areas, are more likely to require EIA.

UNESCO's guidelines state that 'Impact assessments for proposed interventions are essential for all World Heritage properties.' World Heritage Sites are specifically mentioned in the EIA regulations as a factor which might influence whether or not EIA is required.

The EIA process should address the impact of proposals on a Site's OUV and its specific attributes is available on the Scottish Government's website.

HIA

HIA is used to assess and evaluate both tangible and intangible impacts on OUV. This includes any effects on specific attributes, setting and underlying archaeology. The International Council on Monuments and Sites (ICOMOS) has produced Guidance on Heritage Impact Assessments. UNESCO encourages assessors to refer to this and use it as a starting point in considering impacts.

When an EIA is required, this assessment should be incorporated into the process. When EIA is not a formal requirement, it is still essential to assess the impact of a proposal for change on the OUV of the World Heritage Site. The planning authority or conservation body may therefore request an HIA to show how proposals will affect OUV.

Local

OUV is also a material consideration in the planning process and City Plan 2030 policy Env 9 –World Heritage Sites - is in place to protect it. Policy Env 9 states:

"Development which would harm the qualities of World Heritage Sites and which justified the inscription of the Old and New Towns of Edinburgh and/or the Forth Bridge as World Heritage Sites or would have a detrimental impact on a Site's setting, its Outstanding Universal Value, integrity, authenticity or significance will not be permitted".

City Plan 2030 sets out policies and proposals to guide development. It establishes the long term vision for land use in the city. It includes general policies focused on the city-wide built heritage as well as specific guidance regarding the World Heritage Site. These documents are the main source of reference in making decisions on planning applications.

In addition the Council's wider policies and guidance on the design of development provide detail on issues such as heights, massing, detailing and the appropriateness of materials. The Skyline policy plays an important role in protecting the setting of the World Heritage Site. This policy identifies key public viewpoints and is used in assessing proposals for high buildings. This is necessary to protect some of the city's most striking visual characteristics, the views available from many vantage points within the city and beyond, of landmark buildings, the city's historic skyline, undeveloped hillsides within the urban area and the hills, open countryside and the Firth of Forth which create a unique landscape setting for the city.

Local National Panels

The Urban Design Panel

The Edinburgh Urban Design Panel gives design advice. Its aim is to raise the quality of new buildings, streets and spaces in Edinburgh. It does this by reviewing schemes and giving reports on them. These reports help designers, developers and planners improve their plans.

The panel meets monthly and reviews between one and three schemes per meeting. As well as new developments, the Panel also reviews Council policy and guidance that has an impact on urban design.

Once a planning application is made Panel reports are put online. You can see these in the Panel's directory.

Who are the Panel members?
The members are drawn from a range of organisations including Architecture and Design Scotland, Edinburgh World Heritage, Historic Environment Scotland, The Cockburn Association, Police Scotland, the Royal Town Planning Institute.

APPENDIX C – CASE STUDIES

C. Case studies

(pictures to be added)

Key achievements of the previous management plan are set out below:

Care and maintenance

The bricks and mortar that makes up the physical fabric of our city needs constant care and attention. We achieve this in two ways: by providing grants, and by undertaking public realm projects.

Edinburgh World Heritage runs a Conservation Funding Programme, funded by Historic Environment Scotland, which provides grants to property owners and community groups to conserve and enhance buildings and public spaces in and around the World Heritage Site. As well as offering funding to carry out the works, the Conservation Funding Programme engages with owners and the local community, supporting traditional skills and materials, offering advice, and fostering a greater awareness for the importance of the site or building being conserved.

For our work in the public realm, we are at pains to ensure the importance of what makes the Old and New Towns of Edinburgh World Heritage Site special and unique the world over – the Outstanding Universal Value – is included and celebrated in project discussions and outputs.

Twelve Closes project

The closes of the Old Town

Twelve Closes is an exciting and challenging urban renewal initiative to enhance and improve twelve of Edinburgh's historic pedestrian streets running off the Royal Mile. The project, launched in 2015, puts the communities who live and work in the closes at the heart of the improvements. The project is being delivered in partnership with the City of Edinburgh Council and Edinburgh Napier University.

Edinburgh World Heritage receives part of its funding from Historic Environment Scotland which enables us to support our projects.

Why the closes?

The project was designed in response to the condition of many of the closes in the Old Town. These steep, narrow, alleyways are a critical feature of the city's character and inform the designation of Edinburgh's urban core as a World Heritage Site.

The medieval development of the city included the street pattern that can be observed today, one that is often described as resembling the bones of a fish, with the Royal Mile as the spine. These through-routes provide excellent pedestrian links across the Old Town. However, they are often

perceived as smelly, dirty and unsafe – and that is if they are known about. This project makes improvements to the closes to encourage awareness and exploration of the Old Town beyond the main street and create a sense of custodianship for the closes by local businesses and residents.

Small changes, big impact

The project aims to make the closes more interesting, attractive and visible, increasing footfall which will in turn will make feel them safer and less prone to anti-social activity.

Tangible solutions such as creative lighting, interpretation and artwork help to reveal the incredible history and fascinating stories contained within the closes. The project also identifies any management issues associated with each close, such as poor signage and waste management, and consider how any new interventions could help mitigate them.

Working together in partnership

We work with the School of Creative Industries from Edinburgh Napier University to deliver community workshops for each of the closes. These workshops generate debate about the current state of the close and what enhancement may be desirable to enhance the spaces. Participants are encouraged to think about the history and development of the close and how it could inspire lighting and artistic interventions. Edinburgh Napier University first draw up proposals, which are then developed and refined through consultation. Once the final design has been agreed, a schedule and specification is drawn up by the University.

The City of Edinburgh Council, as custodian of the public realm, is a crucial partner. They lead on the clean-up of the closes, the installation of any new features or artwork and will take responsibility for management and maintenance thereafter. The council's Street Lighting team help progress lighting specifications by designing the electrical circuits, procuring the fittings and installing the interventions in the closes.

Outcomes

The project intends to create a template for future co-design public realm projects, engaging people with the city's outstanding historic built environment and enabling them to have a say in how design is used to improve their local area. The design solutions must be attractive and understandable and enhance the essential character of the closes. This approach is critical to the successful management of the World Heritage Site.

Canongate Housing Project: Tackling a post-war building

The Canongate Housing Development is a post-war complex, designed by Sir Basil Spence and completed in 1969. The Category B-listed modernist development consists of three blocks of flats comprising of one- and two-bedroom flats, 30 in total, and 4 business units located on the Royal Mile.

The project was funded through the Scottish Government's Energy Efficiency Scotland programme, SP Energy Network's Green Economy Fund, Edinburgh World Heritage's Conservation Funding Programme (funded by Historic Environment Scotland) and carried out in partnership with the City of Edinburgh Council.

Work on site began in March 2020 with John Gilbert Architects and Redpath Construction.

The complex occupies a critical and historically sensitive location in Edinburgh's Old Town, has a modern appearance but does not contradict with other buildings on the Canongate. Sir Basil Spence was one of Scotland's most accomplished and prolific 20th-century architects with a portfolio including Coventry Cathedral and the British Embassy in Rome.

Despite being listed for its architectural qualities, there was an opportunity to upgrade the complex to meet modern environmental standards. Doing so would reduce the cost of heating apartments, and ensure the building is wind and watertight. Edinburgh World Heritage consulted with residents to improve the energy efficiency of the Canongate Housing development, alongside undertaking vital conservation work on the buildings.

Through the project, we hoped to demonstrate how the core principles of conservation and sustainability are aligned. Research we conducted in 2016 found that a poorly maintained building can result in higher fuel bills – up to +15% in some cases. This in turn increases the building's carbon footprint.

This project was funded by the Scottish Government through SEEP – Scotland's Energy Efficiency Programme and carried out in partnership with the City of Edinburgh Council. SEEP aims to encourage local authorities to find innovative ways to reduce emissions and tackle fuel poverty.

The project also received funding from Scottish Power Energy Networks Green Economy Fund to cover capital costs associated with energy efficiency measures. This support was crucial as it enabled us to comply with the SEEP requirement to match its funding and to finalise the project funding package. SP Energy Networks had committed to voluntarily contribute up to £20 million over a two year period to support initiatives that will benefit the people of Scotland and support Scotland's ambitious green energy plans and local economic growth.

Then Scottish Government Minister for Business, Energy and Innovation, Paul Wheelhouse, said: "This project will have a positive impact on people's lives, ensuring they have warm homes and businesses, while at the same time, through generating information on the performance of technology deployed, helping us develop strategies to address fuel poverty that can be rolled out in other buildings throughout Scotland.

"Finding the right sustainable solution for historic, listed buildings such as this will be invaluable to implementation of the national SEEP programme as a whole.

"This is one of a number of pilots being taken forward across Scotland, under the SEEP programme, that will help to identify optimal solutions for different building types and locations, which will then allow us to best direct investment to the right places to ensure we not only grow our renewable heat capabilities, but also fulfil our commitments to tackle fuel poverty."

The Edinburgh Spyster Trail

This story trail has been designed to make children more aware of traditional buildings in the city, get them involved in identifying simple signs of decay and neglect, and encourage a conversation about the importance of maintaining our buildings.

Written by children's author Vivian French together with Edinburgh World Heritage, this resource was supported by a grant from the Scottish Book Trust, and published as part of #BookWeekScotland2020.

Designed as an outdoor activity, the resource takes the form of a 'story trail' and is aimed at children in primaries 3 – 4 and their families, who are invited to help Moe the Magpie spy evidence of neglect on poorly maintained traditional buildings in Edinburgh.

Participants could submit their findings to Edinburgh World Heritage via email or post and received a special spyster badge from Moe as a reward.

Thank you to Vivian French, Annamaria Nizi, Scottish Book Trust and the children and staff of Lorne Primary School for their support in creating this resource.

Climate change and sustainability

Heritage and sustainability go hand in hand, and we have been working hard to solidify these connections in all that we do in order to protect the World Heritage Site for future generations. Most notable has been our involvement in the Climate Change Risk Assessment and Climate Vulnerability Index work.

Climate Change Risk Assessment (CCRA)

The Climate Change Risk Assessment (CCRA) project was supported by the Place-Based Climate Action Network (P-CAN) and the Atlas World Heritage (Atlas.WH) project. It aimed to understand and define the challenges posed by climate change to the Old and New Towns of Edinburgh (ONTE) by extensively engaging with its communities to inform appropriate mitigation and adaptation solutions relevant to its international and local values. An extensive bottom-up approach was tested to identify the impacts of climate change on ONTE and its communities, using two climate change risk and vulnerability assessment methodologies - one methodology developed during the project, and the CVI process applied for the first time to an urban WHS during a specific workshop. The outcomes include a robust dataset of evidence that informed the draft ONTE Climate Action Plan, a replicable and integrated approach to climate change risk assessment, learnings dissemination and new research opportunities.

Climate Vulnerability Index assessment (CVI)

The CVI methodology is based on a risk assessment approach and builds on the vulnerability framework described by the Intergovernmental Panel of Climate Change. The CVI process enables a systematic evaluation of the threats of climate change. It comprises two distinct primary outcomes, assessing: 1) **OUV vulnerability**, evaluating potential impacts to the values and attributes for which the property has been internationally recognised; and 2) **Community vulnerability**, assessing the level of economic, social and cultural dependence that associated communities (local, national and international) have on the WH property.
Workshops were carried out in May/June 2021, involving site managers, researchers, community representatives, business owners, management agency representatives, and other stakeholders, to identify the climate stressors that present the greatest threat to The Old and New Towns of Edinburgh (ONTE). Both OUV and Community vulnerability were assessed as 'Moderate' overall, indicating loss or alteration to some key World Heritage values, but not leading to a significant decline in OUV, and acknowledging a moderate level of adaptive capacity within the community.
As with the CCRA, the outcomes include a robust dataset of evidence that informed the draft ONTE Climate Action Plan, a replicable and integrated approach to climate change risk assessment, learnings dissemination and new research opportunities.

Highlight: Climate emergency manifesto

In September 2020, Edinburgh World Heritage published a manifesto which proposes key principles to address these challenges while stressing the importance of preserving the 'heritage values' of the Old and New Towns World Heritage Site.

The Edinburgh World Heritage climate manifesto calls for the historic environment to be at the heart of the city's response to the climate emergency through a 10-point programme aimed at policymakers, experts and residents.

Published against a backdrop of changing weather patterns in Edinburgh, the manifesto points out ways in which Edinburgh's traditional buildings – such as tenements, houses, shops and public buildings, can be sensitively improved to reduce energy consumption and better adapt to changing weather patterns.

Control and guidance

In cities like Edinburgh, there is a multitude of guidance, polities and strategies each working to manage and protect a different area of city life. We wanted to better understand how heritage is perceived as a means of management, and how it could be better integrated in management processes.

Mainstreaming heritage study

In late 2020 as part of the AtlaS.WH project, Edinburgh World Heritage undertook a comprehensive study into barriers preventing the mainstreaming of heritage in city management to better understand how we can improve not only stakeholders' sense of control in city management, but also local residents.

The main findings and recommendations within this report are based on three main sources:

- International comparisons and case studies, primarily drawing on two key publications from the AtlaS.WH project: *The Thematic Study of Common Challenges* and the *Diagnostic Study of Urban World Heritage Sites within the Atlantic Area*.
- Interviews with heritage managers other UK local authorities, including Manchester, Durham, Stirling, and Inverness.
- Interviews with senior officers and politicians within City of Edinburgh Council.

The report has revealed four main barriers preventing the mainstreaming of heritage in Edinburgh:

1. Heritage is not viewed consistently as a key driver of urban renewal
2. There is an inconsistent interface between the World Heritage Site Management Plan and other city management systems, plans and processes
3. Heritage is often seen as an issue to be managed within the planning department, which can prevent it playing a broader role across diverse areas of city life
4. Resources dedicated to the management of the city's heritage, both financial and organisational, are constrained

These barriers are not unsurmountable. We therefore recommend 10 interventions designed to realise this potential. Highlights from these new measures include:

- Comprehensive training, provided by Edinburgh World Heritage, across departments within City of Edinburgh Council and other institutions
- Integrated planning and governance for the World Heritage Site Management Plan, in line with recommendations from the AtlaS.WH partnership
- Providing additional expert resource to City of Edinburgh Council, via secondments, to address skills gaps
- Giving heritage a 'seat at the table' when key decisions are taken

We believe that mainstreaming heritage will result in a wide range of benefits to the city in areas as diverse as health and wellbeing, the provision of affordable housing, and the response to the climate emergency. More specifically, implementing these recommendations will lead to:

- More informed decision making across all areas of city life, including the crucial response to the climate emergency.
- Heritage will play a greater role in supporting people's well-being and mental health
- Staff working in city institutions will have a greater sense of ownership and understanding of the city's cultural heritage
- Money will be saved because heritage is considered at a project's outset, and therefore re-work is avoided.
- And the site becomes better protected for both current and future generations

Identifying and mapping attributes that convey the Outstanding Universal Value of the Old and New Towns of Edinburgh World Heritage Site

Understanding the OUV and the attributes (features of interest or traditions) that convey the OUV is fundamental for the protection and management of the World Heritage Site. The identification of attributes and of related other values helps to better understand World Heritage property and its wider setting.

The Operational Guidelines (para 82, Annexe 5) suggests the following attributes might be considered to convey Outstanding Universal Value:

- Form and design;
- Materials and substance;
- Use and function;
- Traditions, techniques and management systems;
- Location and setting;
- Language, and other forms of intangible heritage;
- Spirit and feeling; and
- Other internal and external factors

The Statement of Outstanding Universal Value, the original Nomination Document, the UNESCO Advisory Body evaluation and the WHS Management Plans were used to define the attributes.

Key themes were identified:

- Conservation
- Culture
- Early origins
- Enlightenment
- Green space
- Materials
- Quality of architecture
- Skyline

- Status
- Topography
- Urban morphology

Within these key themes, 270 attributes were identified and many corresponding individual receptors. Vulnerability to change, likelihood of change and mitigation tools are also considered.

Contribution of new city centre developments

The success of the city and its World Heritage Site creates pressure for development. Approximately 1000 planning applications are determined in the WHS each year. A small number of those are major developments associated with the natural growth of a thriving and dynamic city centre.

Royal High School

The Site

The former Royal High School is a category A listed building (reference 27987, listed on 19 April 1966) in the New Town Conservation Area and ONTEWHS. It is an integral part of the landscape and setting of Calton Hill which itself is a national cultural asset and a SSSI. The building is acknowledged as an internationally important landmark in the evolution of European Neo-Classicism.

The City of Edinburgh Council (CEC) owns the building. It ceased to operate as a school in 1968 and has been in a number of different uses since this time. It is currently unoccupied. In 2009 CEC initiated a procurement competition to find a new use for the building. The preferred bidder, Duddingston House Properties (later also including Urbanist Hotels) proposed a hotel use for the site.

Background

CEC Planning advice was given in 2010 raising concern over the scale of development and the interventions proposed to the listed building, detailing the following issues for consideration: the scale of development that can comfortably be accommodated without detrimental impact on the setting of a category A listed building of key importance in the WHS; and the impact any proposal would have on how the building, its setting and views are considered more widely as part of the landscape character of Calton Hill.

The pre-application process for the proposed development formally began in 2012 and applications were submitted in 2015 and 2017.

Decision

CEC refused planning permission and listed building consent for the proposed development, which was appealed by the developers. The appeals were heard at Public Local Inquiry (PLI) by Scottish Government Planning and Environmental Appeals Division (DPEA) Reporters. CEC (as Planning Authority), Historic Environment Scotland (HES), Edinburgh World Heritage Trust (EWH), The Cockburn Association (the Edinburgh Civic Trust), and a number of other groups and organisations made representations against the proposals at the PLI (the New Town and Broughton Community Council; The Architectural Heritage Society for Scotland; the Royal High School Preservation Trust; The Regent, Royal and Carlton Terraces and Mews Associations)

The DPEA recommended refusal of all four appeals to Scottish Ministers, who upheld this recommendation, dismissed the following appeals and refused planning permission for the proposed development.

Managing heritage in a changing world online learning platform

Providing training to city managers to be better aware of the issues facing the World Heritage Site is a crucial means of managing development in the World Heritage Site. Over the last five years, the World Heritage Site management partners have provided hours of training to council officers, politicians, students, and heritage managers in various ways. Notably, as part of the AtlaS.WH project, a brand-new, free to access online training platform was developed as a lasting legacy of the project, to introduce learners to the fundamental concepts of managing World Heritage Sites, to its day-to-day implications here in Edinburgh. We hope that with greater

contextual awareness of the theory and practice of managing a World Heritage Site will continue to impact decisions on new developments throughout the city.

Over five modules, this training explores the key questions around how Edinburgh's World Heritage Site can be best managed in in the context of our vibrant, fast-changing capital city.

This training is aimed at anyone who wants to understand how Edinburgh's world heritage site is managed within a living and breathing capital city. This may include heritage professionals, council officers of any department, developers, architects and students.

It covers the principles governing the management of an urban world heritage site in the UK, and enhance your learning with case studies and examples of best practice from Europe and the wider world. This course will help to inform your thinking about heritage and maximise the wider benefits it can bring to city management.

This online training course has been developed as part of the Interreg-funded AtlaS.WH project which is working towards sustainable heritage management in five European urban world heritage sites.

Awareness of WHS status

Awareness of the Old and New Towns of Edinburgh World Heritage Site is always top of the list of ongoing actions and achievements. Having awareness of the World Heritage Site and what this means for Edinburgh underpins everything we do to care for and celebrate this beautiful corner of the world. We have held themed events for residents, promoted fascinating stories of local histories on our website resource and social media, adapted our offers during the Covid pandemic and strove to seek new and engaging ways to bring the World Heritage Site's relevance to the masses.

Making Lasting Impressions: Greyfriars Kirkyard Community Learning and Interpretation Project

During the summer of 2021, a holiday club led by Edinburgh World Heritage and Archaeology Scotland worked with young people from 6VT Youth Café and through a series of games and activities helped them learn about some of the beliefs, ideas and history that created Scotland's most famous graveyard.

As part of the National Lottery Heritage funded Making Lasting Impressions: Greyfriars Kirkyard Community Learning and Interpretation Project, the young people were also given the opportunity to develop graveyard games and a visitor survey which will be given to future project participants.

This invaluable feedback is being used to inform our understanding of the value of Greyfriars Kirkyard, which is owned by the City of Edinburgh Council, to people today, and will be part of efforts to manage the site in an inclusive, balanced and sustainable way.

The holiday club was part of the ongoing partnership between Edinburgh World Heritage and 6VT Youth Café, whose young people also designed the logo for the Making Lasting Impressions project and took part in its launch.

To coincide with Scottish Archaeology Month, Edinburgh World Heritage and Archaeology Scotland have made available activities to help more young people engage with the people, places, and events of Greyfriars Kirkyard.

Originally developed as part of the holiday club, the young people recommended that they be made available to the public.

The holiday club represents the first of many activities with young people that Edinburgh World Heritage will be delivering in partnership with Archaeology Scotland, who awarded Heritage Hero certificates to all the young people who took part in the holiday club.

Tron Exhibition – 'Our World Heritage'

"Our World Heritage" - an exhibition that showcased the Old and New Towns of Edinburgh, as well as Scotland's other five World Heritage Sites, attempted to capture the essence of the place through the voices and opinions of local people.

'Our World Heritage' exhibition opened at the historic Tron Kirk in Edinburgh on 26 July 2018.
This exhibition showcased the Old and New Towns of Edinburgh, as well as Scotland's other five World Heritage Sites. The exhibition, housed within the atmospheric 17th century former kirk, captured the essence of the World Heritage Site in Edinburgh through the voices and opinions of local people. The story was told in a series of videos, quotes, and specially commissioned portraits from award-winning Scottish photographer Alicia Bruce.

'Our World Heritage' explained what makes Edinburgh's heritage so special and internationally recognised as well as highlighting some of the issues associated with the World Heritage Site. A series of sections, with titles such as 'City of Contrasts', 'Survival Stories', and 'High and Mighty' set out the formal reasons for the city's UNESCO inscription, but also challenged residents and visitors to think differently about the city and consider some uncomfortable questions. These ranged from whether we are doing enough to conserve the authenticity of the site, the role of the transatlantic slave trade in funding the city's extraordinary 18th and early 19th century expansion, and the absence of women in the city's many grand statues and monuments.

Go Auld Reekie handling box

In October 2022, Historic Environment Scotland's World Heritage team launched a new teaching resource called 'Go Auld Reekie': an object handling box and teaching pack based on life in Edinburgh during the 18th century. A key aim was to make the resource inclusive, diverse and to give an honest depiction of this period. It includes direct reference to the fact that the growth and success of the city was a result of Edinburgh's links with Britain's colonial past and connections to the Atlantic Slave Trade. Individuals in the resource represent real people of the time, including those from under-represented groups who lived and worked in Edinburgh during this time. 'Go Auld Reekie' is one of the first diverse resources produced by HES and is timely in recognising Scotland's colonial history. It also helps fulfil a key recommendation from the 'Edinburgh Slavery and Colonialism Legacy Review' undertaken by the City of Edinburgh Council by providing learning materials to fill a gap in respect to Scotland's role in slavery and colonialism.

Further information about can be found and downloaded free from the HES website

Visitor management

We have been hard at work behind the scenes inputting into Edinburgh's 2030 Tourism Strategy. The strategy, launched in January 2020 and commissioned by the Edinburgh Tourism Strategy Implementation Group, focuses on authenticity, people, and place, with an emphasis on managing growth more effectively. It asks such questions as, how can tourism work better for the city and enhance the quality of life for Edinburgh's residents? Unsurprisingly, conversations around short-term lets were high up on the agenda.

UNESCO Trail

Like UNESCO, Scotland is a country which is dedicated to making the world a more sustainable place. This begins by making Scotland a sustainable place to visit, and the UNESCO Trail is part of this important journey.

Sustainable tourism continues to be a key concern and driver of action throughout the World Heritage Site. We helped to shape a UNESCO National Trail for Scotland, a world first connecting Scotland's multiple sites of interest, promoting sustainable travel choices and responsible tourism year round.

We've tried to give you all the information you need to make responsible and sustainable choices when you are following Scotland's UNESCO Trail. This will help preserve the environmental and cultural integrity of the sites and support the sustainable development of the communities which care for them.

Influence and sense of control

We understand that the planning system can be complex to engage with for individuals or business owners in the WHS. The City of Edinburgh Council and Historic Environment Scotland have mechanisms in place for online consultation to support policy development and systems in place to engage with new development. Edinburgh World Heritage complements this by providing independent expert advice, acting as a bridge between interested parties, to help support communities to protect their heritage. The partnership as a whole wants to provide a more active role for stakeholders to participate in the process and feel a greater sense of influence and control in planning decisions.

Neighbourhood Focus

Edinburgh World Heritage launched a new neighbourhood focus approach targeting areas of the city that will benefit most from our grants and advice.

This new neighbourhood focus approach will build on our previous area-based work, and will maximise the community and public value of what we do.

Property or business owners in or around the Canongate, Cowgate, South Bridge, Lothian Road/Tollcross, or Forrest Road may be eligible for grants for conservation work, maintenance and energy efficiency improvements.

What are our Neighbourhood Focus aims? By supporting neighbourhood areas with grants and conservation work we hope to:

- Empower communities to connect with and protect their heritage
- Improve the condition of buildings and restore the historic character of the area
- Make buildings more energy efficient through sensitive, visually unobtrusive means
- Respond to local needs to make the area a better place to live and do business

From June 2022 we are offering the following support:

- Grants and expert advice for the external conservation and repair of tenements, shops, and places of heritage or community value
- Grants for building maintenance
- Grants and advice for community public realm work such as interpretation, streetscape materials, historic railings and monuments
- Grants and expert advice for sensitive energy efficiency and climate change adaptation improvements
- Support for generating action on key local matters raised by residents and businesses

APPENDIX D – FURTHER INFORMATION / PLANNING TOOLKIT

D.1 Conservation Areas

Map of the WHS with 7 conservation areas-
Link to all the 7 relevant conservation areas embed in the map

Coltbridge and Wester Coates
Dean
Marchmont, Meadows & Bruntsfield
New Town
Old Town
South Side
West End

Map to be added

D.2 Key View Policy

Diagram to be added
Key Views – Centre

D.3 Attributes

Annotated photos to be added, plus attributes table, and new setting diagram below

Diagram 1

Sources; GLVIA 3rd Edition. SNH Landscape Character Assessment Guidelines for England & Scotland. Managing Change in the Historic Environment Setting.

D.4 The Consultation Process

The Old and New Towns of Edinburgh WHS has been designated since 1995. The management partners have over 25 years of experience in understanding the threats to the health of the WHS.

A public, pre-draft consultation process was undertaken in December 2022. It was informed by discussions at stakeholder workshops, community council meetings, social media listening exercises, as well as face to face meetings in libraries, playgrounds, graveyards and hairdressers. The consultation was overseen by the WHS Steering Group.

The first steps

A review of the first and second plan was carried out to reflect the current context. Other similar national and international examples of Management Plans were looked at (Bath, Bruges, Vienna, Regensburg, Florence and Porto) for their good practice.

This international perspective was also bolstered by Edinburgh World Heritage's involvement in the AtlaS.WH project between 2018-2021 which explored participatory governance in the sustainable management of urban World Heritage Sites in the Atlantic Area, providing a strong basis for review and development of Edinburgh's management plan.

Building on best practice: a people-centred approach

The engagement strategy from the previous plan provided the benchmark for how to undertake the consultation for this plan. This chimes with the aims of the Management Plan which highlights a people-centred approach to the Site's various stakeholders, and balances protecting the built environment of the city with its intangible qualities.

When developing the engagement activities for the Management Plan and more widely through partnership activities, we aimed to engage with people with protected characteristics. This included newly arrived families and refugees, the D/deaf community, Edinburgh's Black and Caribbean communities, and LGBT+ communities.

However, we remain aware that our engagement can find itself speaking with the same audiences who are already engaged in their local heritage as members of community councils or local heritage groups. We want to continue to improve how we reach those from less traditional backgrounds.

Engagement activities

An aligned approach to consultation and engagement for the Management Plan was important to ensuring a level understanding of the connection with the City Centre Transformation strategy. The Management Plan must reflect the views not only of the organisations involved in its management, but also the users of the Site: those who live, work in and visit it. Extensive consultation activities to capture this wide range of stakeholders formed the engagement strategy which is summarised in the table below.

Tool / Event	**Description**
Professionally recruited focus group discussions (I)	Representative panels of residents across the city. Qualitative information on key threats and opportunities. Key finding: the Management Plan should consider what additional measures or provisions are needed to centre the experience of local people without compromising the touristic offer to the city.

	December 2021.
Professionally recruited focus group discussions (II)	A further set of focus groups with residents within and outwith the World Heritage Site. The format was on the modified Place Standard Tool to allow for comparison across all engagement activities and would include a deep dive on key topics identified by pre-consultation, supported by Sustrans Places for Everyone funding scheme. March-April 2023.
Online forums	Two online forums were held in which a vast cross section of stakeholders were invited, including representatives from the community, local organisations and residents. This combines the community and expert workshops of the previous engagement plan. 27 October 2022 and 10 November 2022.
Individual group engagement and other community events	Individual community councils and community groups participated in bespoke engagement activities following on from blanket call-out and subsequent follow-ups, including: • Southside Community Council • Edinburgh Tourism Action Group (ETAG) • Edinburgh Urban Design Forum • Edinburgh Civic Forum • NTBCC (and India Street residents assoc.) • Dumbiedykes Gala Day • The Big Draw event at Greyfriars Kirkyard September-December 2022.
Online consultation	Via CEC's online Consultation Hub. Alignment with City Centre Transformation and supported by social media engagement. October-December 2022.
Social media engagement	'Softer', self-selecting online engagement in the style of a weekly question/thematic poll promoted on Facebook and Twitter, based on the themes and prompts used for the wider community consultation e.g. 'Is it easy to live in the World Heritage Site?' October-December 2022.

Place Standard Tool

Each of the engagement activities was based on the modified Place Standard Tool to ensure comparability. The Place Standard methodology consists of 14 questions which cover both the physical and social elements of a place. The questions were tailored to reflect the World Heritage issues.

Out of the 14 themes of the Place Standard, 9 were kept:

- Moving around *(Infographic)*
- Natural space *(Infographic)*
- Facilities and amenities *(Infographic)*
- Work and local economy *(Infographic)*

- Housing and community *(Infographic)*
- Identity and belonging *(Infographic)*
- Feeling safe *(Infographic)*
- Care and maintenance *(Infographic)*
- Influence and sense of control *(Infographic)*

And 5 "Outstanding Universal Value" related new ones were added:

- Awareness of World Heritage Site status *(Infographic)*
- Consciousness of climate change and its impacts *(new - needs infographic)*
- Contribution of new developments to the city centre *(Infographic)*
- Livability *(Infographic)*
- Visitor management *(Infographic)*

The public was asked what they think worked well, and where improvements could be made.

The online consultation gathered the views of 376 respondents.

The thought process: designing actions

Once we gathered these views through the use of a tailored Place Standard activities, we held a series of workshops to come up with deliverable actions to tackle the issues emerging from the consultation. These were based on the Edinburgh World Heritage Site Management Plan Development Research report delivered by research consultancy JRS in May 2023. The Executive Summary is shared below.

These actions formed a separate Action Plan. This Action Plan is a live document which captures key information known at this stage. It is intended to be dynamic, and actions will need to be flexible. It will be reviewed and updated every two years as part of the Management Plan's monitoring schedule.

Executive Summary of JRS Research report, May 2023

Introduction

Edinburgh's World Heritage Site (WHS) partners commissioned the JRS Research Consortium to undertake two elements of research to support the development of the WHS Management Plan 2023. First, JRS analysed findings from the 376 responses to the WHS Partners' consultation. JRS also undertook a series of 14 group discussions with a sample of people who live, work and / or regularly visit the WHS. The sample for the group discussions included a wide range of demographic subgroups and only involved individuals who stated they would not typically respond to a public consultation.

The WHS consultation ran from October 28th 2022 to December 12th 2022, and the group discussions were undertaken between 28th of March and the 5th of April 2023.

The objectives of the research were to explore attitudes to 14 themes identified as important to the WHS Management Plan. These themes, as outlined below ranged from 'how safe people feel within the WHS' to 'attitudes towards housing provision in the WHS'.

This report provides the findings from the research undertaken by JRS.

Summary of Findings

Overall, most who live, work and / or regularly spend time in Edinburgh's WHS for leisure purposes are positive about and proud of their city. That said, there were issues or concerns expressed in relation to all of the themes explored within the research. A topline overview of key findings in relation to each theme, order as in the report are as follows:

Context

- Q1- is there good awareness of the WHS (Consultation Score 4.4/7; Groups Score 5/7 *1 – unaware; 7 - extremely aware*)
    - While respondents recognised that it was good that many would be aware of Edinburgh's WHS status, concern was also expressed about the volume of tourism within the WHS at this time. As such, many felt it was important to be careful about the degree to which the WHS status is promoted
- Q10- feeling of connection to the WHS (Consultation Score 4.8/7; Groups Score 4.9/7 *1 - no sense of belonging; 7 - strong sense of belonging*)
    - Generally respondents felt they did feel a sense of belonging to or in the WHS. That said, many also had concerns that the WHS was being 'taken away from them' and developed solely for the benefit of tourists
- Q14- easy to live, work and visit- the WHS (Consultation Score 4.7/7; Groups Score 4.9/7 *1 Not easy at all; 7 Very easy*)
    - Respondents found this question too general and wide reaching to be answered easily or meaningfully. That said, most were positive about the quality of their lives in relation to Edinburgh although there were many challenges noted, including- with travel and with housing

Fundamental needs

- Q13- feeling safe (Consultation Score 5.1/7; Groups Score 5.3/7 *1 - feel extremely unsafe; 7 - feel extremely safe*)
    - The WHS was felt to be broadly safe- with this being reflected in the positive scores received from the consultation and the groups. The only issues that were expressed related to either specific circumstances (such as times where lots of alcohol has been consumed), or specific 'hot spot' locations (such as the Meadows and the darker lanes of the old town)
- Q9- balance visitor vs local needs (Consultation Score 3.0/7; Groups Score 3.9/7 *1 - unhealthy balance; 7 - healthy balance*)
    - The question relating to 'the balance of needs between locals and visitors' received amongst the most negative scores across the research. In simple terms it was widely felt that the WHS is being developed solely for the benefit of tourists and without any real consideration for the needs of locals in relation to issues such as retail offering, housing and movement
- Q8- housing (Consultation Score 2.8/7; Groups Score x2.8/7 *1 - fails to support community needs; 7 - exceeds community needs*)

- Housing also received negative scores with many respondents stating that they felt the housing situation in Edinburgh was at a crisis point. Specifically within the WHS it was felt that too many properties are being taken away from potential use by locals and used for short term lets or student accommodation. This, it was felt, has led to an imbalance in supply and demand which has resulted in very high property prices and often poor quality

- Q5- local economy (Consultation Score 4.1/7; Groups Score 4.0/7 *1 - very inactive; 7 - extremely active*)
    - The local economy, at least as it relates to retail, catering and leisure offerings within the WHS was not felt to be thriving. Princes Street in particular was felt to be evolving in a very disappointing way- with no sense of community
- Q11- facilities and amenities (Consultation Score 4.5/7; Groups Score 4.7/7 *1 - my needs are not met at all; 7 - my needs are met in every way*)
    - Generally respondents were relatively positive about the provision of facilities and amenities in the WHS. That said, most respondents appeared to answer this question in relation to amenities accessible within or from the WHS

Additional needs

- Q3- moving around the WHS (Consultation Score 4.0/7; Groups Score 4.6/7 *1 - extremely difficult; 7 - extremely easy*)
    - Scores from the question on 'ease of movement' around the WHS were within the middle of the range of scores. Positive scores typically related to the relative ease of walking around what is regarded as a relatively small area. Despite this, many or most respondents expressed concerns about at least one mode of travel within the WHS- e.g. road congestion that causes difficulties with use of public transport or private cars, or the ongoing risks of cycling
- Q4- access to green spaces (Consultation Score 5.5/7; Groups Score 5.3/7 *1 very little natural space; 7 a great deal of natural space*)
    - Respondents across the research felt positive about the WHS offering of green space- although it was noted that this included green space within or accessible from the WHS. The main issues expressed related to cleanliness, anti-social behaviour and occasional restrictions to access during festival periods

Care

- Q2- care and maintenance of buildings and streets (Consultation Score 3.5/7; Groups Score 4.0/7 *1 - poorly cared for; 7 - excellently cared for*)
    - Many had concerns about the care being shown to the WHS. The main issues related to the litter problem and the belief that buildings are not being cared for enough

- Q6- conscious of climate change (Consultation Score 4.8/7; Groups Score 3.4/7 *1 - I feel no impact of the effects of climate change in the World Heritage Site; 7 - I feel a great deal of impact of the effects of climate change in the World Heritage Site*)
    - It should be noted that the question on climate change was interpreted in a variety of ways by respondents. That said, the main concerns around climate change were the need to see more activity to ensure buildings within the WHS are both maintained as a result of weather related erosion and retro-fitted to ensure they contribute to the efforts to reach net-zero targets. Both of these challenges, it was felt, would require significant ongoing public sector financial support

Control and input

- Q7- new development (Consultation Score 3.2/7; Groups Score 3.8/7 *1 - very negative contribution; 7 - very positive contribution*)
    - Despite some respondents being positive about some developments (e.g. the St James Quarter) and feeling strongly that Edinburgh needs to keep evolving to ensure it remains a modern city, most had concerns about some recent developments, especially the St James Quarter and Haymarket Edinburgh). These developments were felt to not be in keeping with Edinburgh's historic heritage
- Q12- influence on planning and decision making (Consultation Score 2.9/7; Groups Score 2.3/7 *1 - do not feel able to participate in decision-making; 7 - feel able to participate in decision-making*)
    - Overall, respondents did not feel they were able to participate in planning decision making within the WHS. This was due to either a lack of awareness of the process, the perceived complexity of the process or because it was felt that their contributions would not be listened to

Overall, the research indicated that there is action needed by the WHS Partners in relation to all the key themes of the research. That said, there was also an indication that the priorities for locals are:

- A greater commitment shown by WHS Partners to tidying the city
- A regeneration plan for Princes Street- to give it more of a sense of value and appeal for locals and to enhance the sense of community within the WHS
- A tourist levy- with money being ringfenced to reduce the impact of tourism and to benefit locals
- Promotion of a clear plan in relation to mobility around the WHS- and through this, to give locals a sense of what the 'end goal' is and when this will be reached
- Finally, there needs to be a review of how planning decisions are made- to allow locals to feel more involved

Appendix 2

THE OLD AND NEW TOWNS OF EDINBURGH WORLD HERITAGE SITE

DRAFT ACTION PLAN 2024 – 2026

This Action Plan sets out how the Old and New Towns of Edinburgh World Heritage Site Management Plan will be delivered and should be read in conjunction with the Management Plan.

This Action Plan is a live document which captures key information known at this stage. It is intended to be dynamic, and actions will need to be flexible. It will be reviewed and updated every two years as part of the Management Plan's monitoring schedule.

Monitoring and evaluation

Monitoring is a responsibility of World Heritage Site inscription. This includes both monitoring the condition of the Site (State of Conservation) and monitoring the implementation of the actions.

State of conservation report

UNESCO monitors the state of conservation of each World Heritage Site through its Periodic Reporting process. The last Periodic Report was completed in 2013, the most recent Periodic Report was completed in 2023 and awaits publishing. These reports are an important tool to gather information that identifies possible changes to the condition of a Site.

Delivery and oversight

Actions will be delivered by the management partners. The remit and expertise of each partner adds a strength to this process that is greater than the sum of its parts. Monitoring will be carried out on a biennial basis with reports presented to the Steering Group and Planning Committee and/ or other relevant Council Committees.

Governance of the management plan will be further strengthened by the setting up of an oversight group which will meet annually to review its progress. The Oversight Group will pursue issues through its members' own organisational arrangements to ensure that decisions are properly informed.

The Oversight Group will also be responsible for supporting project objectives and key tasks in response to changing circumstances as delivery of the management plan progresses.

Partnership working

The Management Plan's success is dependent on people giving up their time to tell us what they think. In return, it is the management partners' responsibility to clearly demonstrate the importance of the impact of this participation. A lead partner has been assigned to each action to ensure collaboration across the partnership.

Role of the partners

The City of Edinburgh Council	Historic Environment Scotland	Edinburgh World Heritage
The City of Edinburgh Council is the Planning Authority. It implements the planning system in the city, which is the mechanism for managing World Heritage Sites in the UK. The Council is responsible for providing political leadership and governance for a comprehensive range of services across the city beyond Planning that affects the World Heritage Site. It is also responsible for the provision of a range of public services that affect day-to-day life within the World Heritage Site, including strengthening and supporting communities, providing jobs and ensuring its residents are well cared for.	Historic Environment Scotland is a non-departmental public body. It is the lead public body established to investigate, care for and promote Scotland's historic environment. Its board is appointed by Scottish Ministers. Historic Environment Scotland offer technical expertise, support and significant funding to the historic environment via in-house experts and various grants schemes, directly employing the highest number of traditional crafts staff in Scotland and actively fostering apprentice development. HES is also a statutory consultee in the planning process.	Edinburgh World Heritage is the independent, expert charity dedicated to the proactive conservation of the World Heritage Site. It provides grants and advice to unlock a rolling programme of vital conservation work, engage all communities inclusively with their shared heritage, and works to ensure that heritage can play a key part in the solution to the climate emergency. EWH provides independent, expert advice on balanced historic city management to all, enabling a sense of ownership for the care and conservation of the WHS.

Co-ordination

A World Heritage Site coordinator post was created in 2009 to bring a focus to World Heritage issues across the partnership. The post ensures effective liaison and co-ordination of activities between the partners.

Action Plan Themes

During pre-draft engagement, members of the public were asked to rate the 14 themes of the Place Standard. The action plan seeks to address the issues that scored the lowest on the Place Standard "wheel".

Those five themes are:

- Awareness, appreciation and activity around World Heritage Site status
- Climate emergency
- Conservation and maintenance of buildings and public spaces
- Control, guidance, and contribution of new development to city centre
- Sustainable visitor experience

Many ideas were gathered in the consultation to support the conservation, improvement and progression of the World Heritage Site. The themes are cross-cutting. For example, tourism is an important activity in the Old and New Towns; it influences developments within the city centre, and it is an important factor that affects the interpretation and understanding of the WHS and it has an impact on the operational management of the city. It is therefore critical that the actions in this plan allow room for this interrelationship.

Awareness, appreciation of, and activity around World Heritage Site status				
Objective	**Action**	**Lead delivery partner(s)**	**Resources**	**Monitoring**
To co-ordinate actions to ensure a broad level of understanding of the WHS and to widely transmit its value	Explain the qualities that make the World Heritage Site of Outstanding Universal Value and use as a tool to inform the understanding of the WHS. This will include: - Developing and promoting educational materials to reflect the site as a resource for learning and training for all ages and across all sectors. - Advocating for the WHS across different platforms and workstreams such as through dedicated technical training for decision-making staff in partnership and stakeholder organisations. This should include training for councillors to reflect how the WHS is a baseline consideration beyond just the Planning Committee. We want to do this to engender a sense of pride and ownership in the WHS to ensure that appropriate measures are taken for its protection and conservation for future generations. - Liaising with WHUK, UNESCO UK and other Scottish/UK World Heritage Sites to share knowledge and expertise on common issues.	ALL	This is a core commitment of the management partnership. Funding will have to be found for individual projects within existing budget streams.	Feedback loop Collate evaluation from individual projects
	Cross-promote both the tangible and intangible value of the World Heritage Site to ensure that it can be better representative of and meaningfully engaged with a diverse audience. This is not exhaustive, but through the life of this plan will include the following pipeline projects: - Newly arrived families - LGBTQ+ communities - Socially under-represented groups outwith the WHS - Collaborating with the emerging Accessibility Commission and its findings and the Feminist City agenda. - Continued collaboration with the work of the Edinburgh Slavery and Colonialism Implementation Group	EWH	NLHF project funding (tbc), cross-funded with HES?	Collate evaluation from individual projects

Climate emergency				
Objective	Action	Lead delivery partner(s)	Resources	Monitoring
To engage with the work undertaken by management partners in response to the climate emergency whilst safeguarding OUV	The Management Partners' duty is to protect the WHS and therefore seek measures to support that commitment. National and council policy is emerging in response to the climate emergency across several areas: - Adaptation - Green/Blue Network - Energy Retrofit - Future Streets Framework The role of the partnership is to ensure OUV is a baseline consideration within these policies, to ensure harm is prevented, and to help find best practice methods to assist in this process. We will do this by: - Engaging with existing projects in these areas - As above, technical training for decision-making staff to better embed WHS values into projects from the start - Cross-referencing where we are responsible for actions in Climate Ready Edinburgh	CEC (with Scottish Water)	This is a core commitment of the management partnership. Funding will have to be found for individual projects within existing budget streams.	Feedback loop Collate evaluation from individual projects
	Advise, develop, seek to fund and advocate for appropriate responses to the climate emergency energy retrofit and adaptation in historic buildings via: - Climate emergency grant programme - Developing replicable responses from pilot projects dealing with different building typologies - Provide opportunities for advocacy and training on the climate emergency, such as through the emerging Climate Action Plan and Climate Ready Edinburgh - CEC policy work to shape the adaptation and conservation of historic buildings to meet the needs of Net Zero - Ensuring the historic environment is conserved and enhanced as part of these responses	EWH, CEC	This is a core commitment of EWH, including the use of HES funding. Further funding will have to be found for individual projects within existing	Feedback loop Collate evaluation from individual projects. Multiple overlapping CEC workstreams in this area

			budget streams.	have existing monitoring in place that we will feed into.
	Advise, develop and seek to fund and advocate for appropriate responses to the climate emergency in the public realm and green spaces via: - Ensuring the maintenance of drainage system and green spaces (falling branches, diseases, etc.) across the WHS – as the first step to adaptation - Refining the understanding of flood risks in the Site for the public realm and green spaces - Developing sensitive adaptation interventions for the Site's public realm and green spaces via pilot projects - Raising awareness and produce guidance for best practice climate change adaptation in the public realm and green spaces - Ensuring the historic environment is conserved and enhanced as part of these responses	CEC, EWH	This is a core commitment of Management Partners. Funding will have to be found for individual projects within existing budget streams.	Feedback loop. Collate evaluation from individual projects. Multiple overlapping CEC workstreams in this area have existing monitoring in place that we will feed into.

Conservation and maintenance of buildings and public spaces				
Objective		**Lead delivery partner(s)**	**Resources**	**Monitoring**
To ensure ongoing investment in the conservation of the Site	Continue delivering and promoting the repayable grants programme to ensure ongoing investment in and active conservation of the fabric of the World	EWH	HES funding	Feedback loop

	Heritage Site. This will coincide with promoting maintenance awareness to public and private stakeholders through: • collaboration with the Traditional Building Forum's events • developing maintenance guidance • working with external partners to provide training and awareness-raising events			Collate evaluation from each grant awarded and project undertaken
To work in collaboration with stakeholders to sustain the "state of conservation" of the Site To ensure the World Heritage Site is a baseline consideration for all Council plans and strategies within its boundary that include alterations to the historic built environment	Ensuring OUV is conserved and enhanced during a significant period of change to the city centre through public realm projects. We will do this by: - engaging with strategies such as City Centre Transformation, City Mobility Plan, Active Travel Plan and the Future Streets Framework - Advocating for the use of high quality, appropriate interventions to sustain the authenticity and integrity of the Site - Signposting the potential negative impact of small scale, cumulative change on OUV	CEC, EWH	HES funding	Feedback loop Collate evaluation from each grant awarded and project undertaken
	Define a protocol for engagement in streetscape and public realm improvements. We will do this by: - member of EWH staff seconded to CEC for two days a week - defining partners' role in projects that impact on the public realm through a series of workshops with the relevant stakeholders - support the delivery of heritage statements and impact assessments for public realm projects in the Site.	CEC, EWH	Staff time	Buy-in from stakeholders

Control, guidance and contribution of new development to the city centre				
Objective	**Action**	**Lead delivery partner(s)**	**Resources**	**Monitoring**
To improve tools to sustain Outstanding Universal Value To sustain effective partnerships that support the management of the WHS To ensure that development embraces the context of the WHS and is of the highest quality in terms of architecture, design and materials	Ensure that all new CEC policy, plans and strategies safeguard the OUV of the WHS, with expert advice from EWH. Including but not limited to: • Waste and Recycling Strategy • Active Travel • Tourism Strategy • Climate Ready Edinburgh • Edinburgh Street Design Guidance	CEC	Staff time	Stakeholder buy-in Evaluation of influence
	Engage with development proposals in the WHS to ensure that the OUV is safeguarded, including the following: • Early engagement in public realm changes (Placemaking and Mobility) • Maintain positives around early engagement in development management (Planning) • Signposting the potential negative impact of small scale, cumulative change on OUV from all development proposals. • Ensure heritage is robustly conserved in planning and public realm decision-making to sustain its vital economic, cultural, social and environmental role	ALL	Staff time	Stakeholder buy-in Evaluation of influence
	Proactively seek to build relationships and opportunities, including funding, to work across departments to ensure World Heritage becomes a baseline consideration in future plans and strategies in the city centre.	ALL	Staff time	Stakeholder buy-in Evaluation of influence

Sustainable visitor experience				
Objective	**Action**	**Lead delivery partner(s)**	**Resources**	**Monitoring**
To improve understanding of the value of WHS status to tourism within the WHS and the city **To sustain effective partnerships to advocate for and secure sustainable tourism within the WHS and the city to safeguard OUV**	To work with partners to influence decision-making on enhancing the experience of both visitors and residents to mitigate the risk tourism poses to WHS, as identified by UNESCO in their 50th anniversary convention. We will do this by: - Presenting the wider benefits to the city of having a well-managed and maintained historic environment - Continuing to engage with Edinburgh Tourism Action Group and wider tourism stakeholders - Collaboratively develop and seek to secure at least one 'virtuous cycle' system with a responsible tourism/hospitality operator that secures sectoral investment and support for conservation (EWH)	CEC, EWH	Staff time	Stakeholder buy-in Evaluation of influence
	To advocate for securing sufficient allocation for the inclusion of conservation and maintenance of the WHS in the spending bid for the proposed Transient Visitor Levy. We will do this by: - Providing balanced, expert advice and signposting good practice from other WH cities or urban conservation sites which utilise a TVL, especially in how this can feed back to benefit residents (EWH) - Ensure CEC processes actively promote the need for TVL funding to be fed back into the historic environment	CEC	Staff time	Stakeholder buy-in Evaluation of influence
	To advocate for the consideration of the WHS in the operational management of the city and influence decision-making (e.g. the impact street cleanliness and road maintenance has on the perception of the quality and integrity of the WHS).	EWH	Staff time	Stakeholder buy-in Evaluation of influence

Research pipeline				
Objective	Action	Lead delivery partner(s)	Resources	Monitoring
	The research pipeline (Section 4.5 in the Management Plan) will play a key role in refining the management partners' understanding of the risks and impacts on the Site and the various aspects of the OUV and its vulnerabilities. Monitoring the state of conservation of the Site will also be critical in providing evidence to support the various themes of the Management Plan; refining this monitoring process will help increase the adaptative capacity of the management partners and their ability to preserve the Site and its OUV. We will do this by establishing a Research Development Working Group to - Better engage with Edinburgh's educational institutions to manage the development of the research pipeline - Target priorities in areas of research	ALL	Funding will have to be found for individual research projects in collaboration with the universities.	Feedback loop. Collate evaluation from individual projects to ensure criteria from research guidelines is met.

Addendum by the Administration

Planning Committee
31 Janurary 2024
Item 8.1 - Short Term Lets

Recommendations:

It is recommended that Planning Committee:

1.1.1	Notes the information provided in this report;
1.1.2	Notes that officers inform Councillors of appeal outcomes and asks that links to the cases are added to the regular reporting in the business bulletin;
1.1.3	Asks for an update on how Planning and Licensing officers are working together on STLs in the next business bulletin, recognising that this is an operational matter but considers that Committee needs to understand the process in order to exercise appropriate scrutiny;
1.1.4	Notes that a letter was received from ASSC which was circulated to members and asks that officers provide a briefing on the matters raised and a report detailing this to the next Planning Committee;
1.1.5	Requests that matters arising out of the Short Term Lets working group are detailed in the Business Bulletin and notes that any matters requiring Committee decisions will be brought to the relevant Committee;
~~1.1.2~~ - 1.1.6	Approves the amended Guidance for Business (January 2024) which takes account of the Court decision;
~~1.1.3~~ - 1.1.7	Refers this report to the Regulatory Committee for consideration; and
~~1.1.4~~ - 1.1.8	Agrees that training should be provided for Committee members on Short Term Lets (STLs) and training on appeal outcomes referenced in 1.1.2.

Moved by: Cllr James Dalgleish
Seconded by: Cllr Lezley Marion Cameron

Amendment by the Green Group

Planning Committee
31 Janury 2024
Item 8.1 - Short-term Lets

Delete recommendations and insert:

“Committee:

1) Notes the report and thanks officers for their work in responding to the judicial review judgement of December 2023;

Guidance for Business

2) Approves the amended Guidance for Business (January 2024) (appendix 1) which takes account of the court decision;

Communication with licensing colleagues

3) Agrees that good communication between planning and licensing colleagues is essential for effective regulation of STLs, and therefore asks planning officers to ensure that licensing colleagues are notified:
   a) on the submission of an application for planning consent (both full planning consent and certificate of lawful use applications) for an STL;
   b) when an application for planning consent for an STL has been determined, and
   c) what the outcome of that determination is;

Referral to Regulatory Committee

4) Refers this report to Regulatory Committee for consideration, and recommends that the Executive Director of Place provide a covering report for Regulatory Committee addressing the interplay between planning and licensing of STLs insofar as it falls within the remit of Regulatory Committee, and that this covering report may include, but not be limited to, the following issues:

a) good communications between planning and licensing colleagues in respect of STL applications and decisions;

b) ensuring that licensing colleagues are notified on the submission and determination of STL planning consent applications (both full planning and certificate of lawful use applications);

c) whether the council would consider using discretionary powers of preliminary refusal for a breach of planning control under paragraph 2a of schedule 1 of the Civic Government (Scotland) Act 1982 as amended by the Civic Government (Scotland) Act 1982(Licensing of Short-term Lets) Order 2022 and, if so, what the implications of using those powers would be; and a suggested timetable for the use of those powers."

Training for committee members

5) Agrees that training should be provided for committee members on short-term lets (STLs)."

Moved by: Cllr Chas Booth
Seconded by: Cllr Alex Staniforth

Amendment by the Green Group

Planning Committee
31 Janury 2024
Item 8.2 - Edinburgh Local Heat and Energy Efficiency Strategy and Delivery Plan

Committee:

1) Notes the report referred from Policy and Sustainability Committee, and the terms of referral;

2) Notes the importance of planning and building standards to delivery of the LHEES, with five of the key actions identified in appendix 2 being the responsibility of planning, further notes point G in the high-level principles that 'Additional levers will be required to catalyse change';

3) Asks officers to consider whether a planning colleague could be temporarily seconded to the LHEES office, either on a part-time or full-time basis, in order to increase the capacity of the office as it becomes established, and to report back to committee via the business bulletin on whether this has been achieved;

4) Notes the existing work being undertaken following the motion of Cllr Osler on 'Conservation and Adaptation' in November 2022, notes the decision of this committee of November 2023 asking for a further report to return to committee within three cycles with a roadmap for action, and agrees that this work should align closely with, and if possible be incorporated into, the work of the LHEES;

5) Notes that of the 5 actions in the current LHEES assigned to planning, only one (action 40, update the Edinburgh Design Guidance) has an agreed timetable;

6) Requests a report within three cycles setting out:
   a) the expected timetable for the remaining four actions assigned to planning which do not currently have a timetable: actions 60, 61, 69 and 70;

b) whether the heat opportunities mapping guidance, last published in December 2018, is considered to be superseded by the LHEES, or whether it needs to be updated in light of the LHEES;

c) whether planning might have a role in contributing to the delivery of action 41 on co-ordinating excavation works for heat networks with other infrastructure works, for example through informatives attached to planning consent, and that information in response to this request should also be reported back to Policy and Sustainability through their business bulletin, as per paragraph 12 of the agreed motion;

d) whether the LHEES office could be included on the list of internal council consultees for larger developments, especially those in the identified 'heat network zones';

e) whether, on adoption of City Plan 2030, further amendment or creation of supplementary guidance is required to more closely align policy Inf 16 'sustainable energy and heat networks' with LHEES, especially in respect of 'heat network zones'.

Moved by: Cllr Chas Booth
Seconded by: Cllr Alex Staniforth

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