The Highland Council

Agenda Item	**5**
Report No	**CCC/06/24**

Committee: **Climate Change**

Date: **23 May 2024**

Report Title: **The Local Heat and Energy Efficiency Strategy (LHEES) Delivery Plan Progress Report**

Report By: **Assistant Chief Executive - People**

1. Purpose/Executive Summary

1.1 The report provides an update on the development of the detailed Delivery Plan for the Local Heat and Energy Efficiency Strategy.

2. Recommendations

2.1 Members are asked to:

i. **Note** progress to date.
ii. **Note** a workshop to be scheduled in summer 2024 to provide Members with the opportunity to input to the development of the LHEES Delivery Plan.
iii. **Note** that the detailed Delivery Plan will be brought to the Climate Change Committee for consideration in November 2024.

3. Implications

3.1 **Resource -** The development of the detailed Delivery Plan requires input from the Climate Change and Energy, Housing and Planning colleagues. Further resource implications will be required as the Delivery Plan develops.

3.2 **Legal -** There are no identified legal implications arising from this report.

3.3 **Community (Equality, Poverty, Rural and Island) -** The development and implementation of the Delivery Plan will help influence a regional approach in reducing energy demand and tackling fuel poverty.

3.4 **Climate Change / Carbon Clever -** The LHEES will establish a framework for heat decarbonisation in both public and private buildings, reduce energy demand, tackle fuel poverty, and contribute to Net Zero targets.

3.5 **Risk -** There are no direct implications arising from this report.

3.6 **Health and Safety (risks arising from changes to plant, equipment, process, or people) -** There are no Health and Safety implications arising from this report.

3.7 **Gaelic -** There are no Gaelic implications arising from this report.

4. Background

4.1 The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 places a legal duty on all 32 Scottish local authorities to prepare a local heat and energy efficiency strategy and delivery plan by the end of December 2023. (LINK)

4.2 The Council published the first iteration of the Strategy and high-level Delivery Plan in December 2023. (LINK)

4.3 The development and implementation of LHEES will establish a framework for heat decarbonisation in both public and private buildings, reduce energy demand, tackle fuel poverty, and contribute to net zero targets. It will do this by identifying area-based solutions and, for instance, indicative zones for developing heat networks whilst supporting local infrastructure planning and attracting investment at scale to 2045.

5. Progress to Date

5.1 **Appendix 1** includes the draft version of the Delivery Plan to highlight progress and the scope of engagement required to fully develop the Plan.

5.2 The draft Delivery Plan sets out immediate to medium-term actions associated with the implementation of the Highland LHEES. These actions and projects reflect what is likely to be achievable given the current policy landscape, resource availability and existing programmes.

5.3 A long-term vision is also included in the Delivery Plan to allow the Council to build a pipeline of future projects based on progress achieved within the first iteration of the LHEES.

6. Next Steps

6.1 The LHEES coordinator and key internal and external stakeholders have continued development of the Delivery Plan to identify any joint delivery opportunities.

6.2 The Delivery Plan is a living document and is expected to be updated in line with policy and target development. The detailed Plan will be presented to this Committee in November 2024.

Designation: Assistant Chief Executive - People

Date: 13 May 2024

Author: Ruta Burbaite, Climate Change Coordinator (LHEES)

Background Papers:

Appendix 1 – Draft LHEES Delivery Plan.

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LHEES Delivery Plan

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1. Introduction

1.1 Purpose of this report

The Local Heat and Energy Efficiency Strategy (LHEES) is at the heart of a place-based, locally-led and tailored approach to heat transition and energy efficiency. Accompanying the Council's LHEES Strategy is the Delivery Plan, which enables the Highland Council and our stakeholders to work towards delivery of the changes identified in the Strategy.

The actions and projects captured in this Delivery Plan are a draft version. This is intended as a short to medium-term delivery of actions and projects, based on the Strategy outputs, local priorities, LHEES considerations and stakeholder engagement as well as setting out the long-term vision for the Highland area. This helps understand what actions and projects can currently be delivered, given the changing policy landscape as well as understanding future policies and programmes will be developed.

A continuity of engagement with both internal and external stakeholders is critical to support the delivery of LHEES and aid the integration of LHEES within the local governance structures and processes.

The Delivery Plan is a living document, and it is expected to be updated in line with policy and target developments.

Photo by Ewen Weatherspoon

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2. Creating the Delivery Plan

The Council navigated through the stages presented in **Figure 1** to produce the draft version of the Delivery Plan. The steps are summarised in more detail in sub-sections 2.1 to 2.5.

Figure 1 – LHEES Delivery Plan development stages

2.1 Preparation

As established in the Local Heat and Energy Efficiency Strategies (Scotland) Order 2022, LHEES has a two-part structure;

1. Strategy which underpins an area-based approach to heat and energy efficiency planning and delivery, setting out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area.

2. Delivery Plan which sets out how a local authority proposes to support implementation of the Strategy.

The Strategy and high-level Delivery Plan were taken to the Climate Change Committee and Full Council for approval in December 2023. The detailed Delivery Plan is currently in development.

The draft Delivery Plan is built on the Strategy outputs including, but not limited to, policy review, the analysis of building stock baseline, and generation of strategic zones. National and local priorities and drivers play a significant part in supporting the development of the LHEES along with the delivery plan. Effective communication with stakeholders is crucial for gaining insights into plans and opportunities related to energy efficiency and heat decarbonisation. This involves identifying and sharing existing datasets with relevant stakeholders to facilitate collaboration and informed decision making. Additionally, it enables the Council and stakeholders to identify potential data gaps, assess risks, and implement mitigation measures to ensure smooth progress and

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successful outcomes.

The Council has been working with Changeworks to develop a Stakeholder Engagement Plan (SEP) to highlight areas of focus and detail activities for specific stakeholders to track engagement. Further information and SEP template can be found in **Appendix 1**. The SEP template will be an ever evolving document during LHEES delivery.

2.2 Engagement

Continued engagement and collaboration are critical in the successful delivery of the LHEES. It is planned around potential decarbonisation, energy efficiency opportunities and heat network developments within the Council area.

Key stakeholders and partners have been identified and mapped out to support delivery of the LHEES as part of the Strategy development and ongoing engagement activities. An Influence/Interest Matrix developed by Changeworks has been used to further map stakeholders within the Council's locality to support LHEES delivery. This gives a good understanding of level of engagement required for each stakeholder. The Influence/Interest Matrix and recommended level of engagement can be found in **Appendix 2**.

Heat networks are one of the local priorities in decarbonising heat in the Highlands. LHEES has identified several potential Heat Network Zones (HNZ) which are seen as strategically important. It is crucial to acknowledge that these zones are indicative and strategic only. During the preparation of the Delivery Plan, ongoing engagement with stakeholders play a critical role in progressing certain actions identified under the 'Heat Networks' Portfolio further. It is crucial to note, that new stakeholders will be included in the Plan as any potential project(s) develops.

2.3 Consider existing Plans, Programmes and Activities

The Highland Council utilises existing programmes of work and funding to support the delivery of the Council's LHEES and Net Zero programmes, one of the Council's priorities is to target short to medium-term actions first, which can be delivered within the first iteration of the LHEES. The Council is committed to building a pipeline of projects and programmes that fall beyond the first LHEES to continue our journey to Net Zero. In

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addition to this, crossover opportunities with the neighbouring Councils, housing associations and other stakeholders will be considered in this delivery plan as it develops.

It is important to note that existing and emerging local plans and strategies such as the Highland Council Delivery Plan (2024-2027), Net Zero Strategy and Action Plan, new Local Development Plan (currently in development), Community Wealth Building Strategy, a Strategy to Enable a Future Workforce will be considered for any mutual opportunities to support economic growth, skills, and employment plans in the Highlands.

National plans and strategies such as the Heat in Buildings Strategy, Heat Networks (Scotland) Act and Fuel Poverty (Targets, Definition and Strategy) (Scotland) Bill will play a crucial role in defining Scotland's and Highlands's vision in terms of heat decarbonisation and energy efficiency.

Further detail on national and local plans, strategies, policies, and legislation can be found in the Strategy Section 4 'Policy, Strategy, and Legislation Context'.

2.4 Build on the Opportunities from the LHEES Strategy

The draft Delivery Plan is built on the LHEES and wider local activity to give a clear direction and create the foundation for the Delivery Plan including its actions, plans, programmes and relevant funding identified within it. The list of actions and projects is not exhaustive as more opportunities will be identified during delivery and further engagement.

2.5 Creating Demand at Scale

Affordable energy and economic growth are central to the Highlands, with energy efficiency and heat decarbonisation bringing a wide range of benefits to households, businesses, and the whole energy system.

The Strategy provides a summary of the domestic and non-domestic stock baselining to understand the opportunities, challenges associated with buildings, their characteristics, and the implications for the LHEES and its delivery. It provides an insight into an extent of potential works required to be completed to achieve energy efficiency measures, decarbonisation and wider Net Zero objectives.

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The draft Delivery Plan provides a list with actions and interventions to scale to support delivery of just transition. It will help support market growth, innovation, and fuel poverty reduction in the Highlands. In addition to this, it will investigate potential future projects to build a pipeline moving forward.

3. The Delivery Plan

3.1 Portfolios

The Highland Council has published a draft Delivery Plan for 2024-2027[1] which sets out a roadmap on how to plan, manage and deliver work whilst aligning with the Budget Strategy for 2024-2027 and the revised Highland Outcome Improvement Plan (HOIP). It provides an approach to implementing the Council's strategic priorities and achievement of financial sustainability through delivery of medium-term financial planning approach over the next 3 years and beyond.

The Delivery Plan for 2024-2027 provides a clear direction for effective resource management across the Council through the creation of 6 Portfolios which are designed to drive forward the changes required to deliver the Council's budget. The LHEES Delivery Plan builds on existing plans, programmes and activities identified within the Portfolios to promote a more integrated and targeted approach for fuel poverty, energy efficiency and heat decarbonisation. A summary of Portfolios can be found in **Appendix 3**.

3.2 Links to Programme

The Highland Council Delivery Plan 2024-2027 supports the delivery of the strategic priority outcomes set out in the Council Programme "Our Future Highland". It aligns with the Performance Framework, HOIP and the performance measures set out in the Corporate Plan 2022-2027, now re-titled the Council's Performance Plan. A summary of these programmes can be found in **Appendix 4**.

The LHEES Delivery Plan is linked to the Council's journey in delivering the Net Zero commitments and enabling place-based and people-centred planning for future energy capacity by maximising current and future opportunities.

[1] Note: The report presented to the Committee can be found here, Item 10.

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3.3 Timescales

The Council's delivery timescales for projects are defined in **Figure 2**. This includes short to medium-term actions, priorities and opportunities that are likely to be achieved within the first iteration of the Strategy and Delivery Plan. A long-term vision establishes the direction for future projects and their development based on evidence of local needs, priorities and progress achieved within the first iteration of the LHEES.

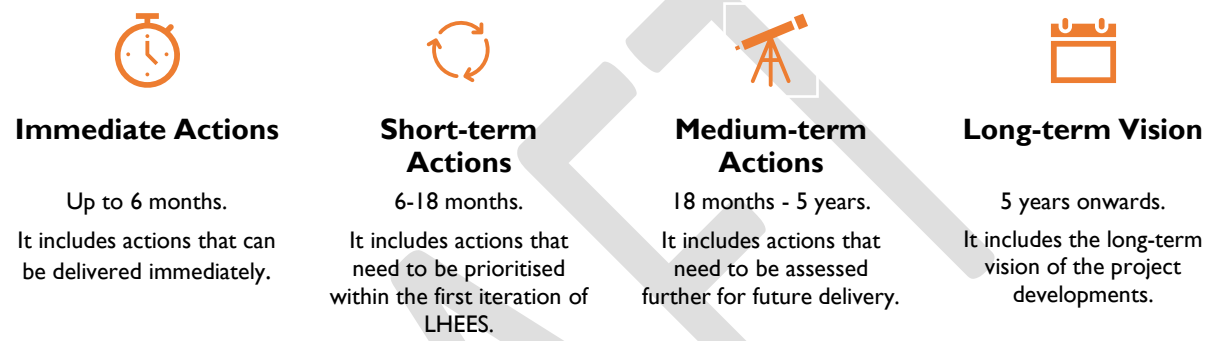

Figure 2 – Delivery Timescales

3.4 Delivery Plan Actions and Portfolios

The summary of actions can be found in **Appendix 5**. These actions are linked to the Portfolios listed below through the work the Council is delivering with internal and external stakeholders to achieve Net Zero commitments.

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Workstream

Net Zero Delivery

Project

Heat Networks

Responsible Officer: LHEES Manager

Net Zero, Energy Investment & Innovation

Senior Responsible Officer: Chief Officer

Portfolio Sponsor: Assistant Chief Executive

Activity

Develop opportunities for new and expansion of existing heat networks to provide social, economic, and environmental benefits to the region through reducing carbon emissions, creating new jobs and tackling fuel poverty by providing heat at an affordable cost.

Measures of Success

- Develop two commercially viable Network one on gas grid network and one-off gas grid.
- Engagement with commercial investors.
- Inward investment secured c£800m over 2025 to 2035 (developer investment).

Project Elements

- Identify potential heat network zones.
- Undertake feasibility studies and business case (OBC) to understand funding requirements, connections and source potential.
- Engage with commercial investors.

Milestones

06/24: Public consultation on the LHEES Strategy.
07/24: LHEES Delivery Plan submitted to SG.
09/24: Feasibility studies completed.
12/24: Business case presented for approval.
09/24: Engage investors, explore delivery models.
03/25: Contracts & procurement.
03/26: Design & construction.

Programme Theme: 4 A Sustainable Highland Environment and Global Centre for Renewable Energy

Links to Performance Plan targets:

4.9 (ii)

Links to Programme:

- **Economy** – Renewable energy investments to reduce Council energy costs.

Key Risks

1. Technical issues arise with grid constraints and electricity network capacity.
2. Project failure due to unavailability of investment capital.

Investment: £0.05m (approved)

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Workstream

Energy Estate

Project

Energy Efficient Council

Responsible Officer: Energy Manager

Net Zero, Energy Investment & Innovation

Senior Responsible Officer: Chief Officer

Portfolio Sponsor: Assistant Chief Executive

Activity

Reduce energy costs in the Council's non-domestic estate to deliver ongoing revenue savings. Create database of costed projects to be utilised within the ongoing asset rationalisation considerations, grant funding & capital maintenance programme.

Measures of Success

- **Year 1** – 35% properties surveyed, **Year 2** – 65%.
- **Year 1** – £0.2m of opportunities implemented.
- **Year 2** – £0.45m, **Year 3** – £0.45m.
- Reduced energy costs for service users and CO_2 emissions.
- Value of grant funding secured.

Project Elements

- Undertake technical inspections of 300 buildings over a 2 year period. Focus on schools, leisure and larger, more energy, intensive properties.
- Creation of associated costed project database.
- Implementation of approved projects.

Milestones

04/24: Programme Plan agreed – project start.
08/24: 1st tranche of properties commenced.
03/25: 1st tranche of properties completed.
04/25: 2nd tranche of projects commenced.
10/25: 2nd tranche of projects completed.

Programme Theme: 4 A Sustainable Highland Environment and Global Centre for Renewable Energy

Links to Performance Plan targets:

4.7 (vi)-(vii)	4.8 (i)	4.9 (ii)-(iii)

Links to Programme:

- **Place** – Achieve Net Zero targets.
- **Economy** – Investment in renewable energy opportunities to generate new income streams.
- **Economy** – New energy investments to reduce energy costs.

Key Risks

1. Lack of sustainable, skilled workforce.
2. Failure to Secure Funding.
3. Cross service buy-in.

Ref: CS:26

Initial Investment: £0.5m (approved)

Savings Target: £0.6m

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Workstream

Energy Estate

Project

Energy Efficient Homes

Responsible Officer: Domestic Heating Programme Manager

Net Zero, Energy Investment & Innovation

Senior Responsible Officer: Chief Officer

Portfolio Sponsor: Assistant Chief Executive

Activity

Using grant funding to support whole house retrofit projects, reducing fuel poverty. Bringing properties back to occupied status to maximise rental income. Aligning HRA and private properties to create economies of scale and deliver regeneration projects. Inclusion of community benefit packages which offer training within communities to deliver ongoing maintenance.

Measures of Success

- Number of properties improved.
- Notional savings on Utility Bills.
- 50% - 80% of external funding leveraged.
- Meeting standards, such as EESSH2.
- Reduction in fuel poverty, CT & Rent arrears and CO_2 emissions.
- Area-based planning to deliver place-based projects.
- Housing properties issued to increase annually: 80 year 1, 120 year 2, 200 year 3.
- External leverage of funds for HRA investment <£2.4m.

Project Elements

- Improve quality of Housing stock, alleviate fuel poverty.
- Determine eligible properties.
- Align social & private retrofit projects.
- Maximise and manage external funding streams.
- Engage with contractors, local communities, utilities and training providers.

Milestones

04/24: Programme Plan developed.
04/25: Alignment of social & private domestic projects.
06/25: Roll out of social & private domestic projects.
06/25: Local training courses developed.
12/25: 20% increase in private delivery.

Programme Theme: 3 Accessible and Sustainable Highland Homes

Links to Performance Plan targets: 3.2 (i)-(ii)

Links to Programme:
- **People** – Warm and energy efficient homes.

Key Risks

1. Availability of contractors – skills shortage.
2. Tenant opt out.

4. LHEES Delivery

4.1 Summary of LHEES Strategy Findings

As stated in the Strategy, there are 127,066 domestic properties on the Energy Saving Trust's (EST) Home Analytics Database and 16,904 non-domestic buildings on the ETS's Non-Domestic Analytics (NDA) Database.[2] Generation of strategic zones and pathways, including potential zones for heat networks identified in the Strategy presents strategic zones with potential heat decarbonisation and energy efficiency interventions across the Highland Council area. Through the development of the LHEES, local priorities, drivers and LHEES Considerations were taken into account. Further information can be found in **Appendix 6**.

Although the Council does not have designated Heat Network Zones yet, the analysis carried out for Strategic Zoning and Pathways for the Heat Network Consideration helped the Council identify potential zones to inform actions around further investigation within the Delivery Plan. Data is limited for non-domestic buildings, however to appraise the suitability of non-domestic buildings connection to a heat network and assess formal zone designation as required by the Heat Networks (Scotland) Act 2021 a Building Assessment Reports (BARs) must be undertaken.

4.2 Delivery Mechanism

[2] Note: The Energy Saving Trust's Domestic and Non-Domestic Analytic Database have many data limitations. The Council is currently cleansing the existing data as one of the LHEES delivery actions to provide a more accurate representation of domestic and non-domestic stock within the Highlands.

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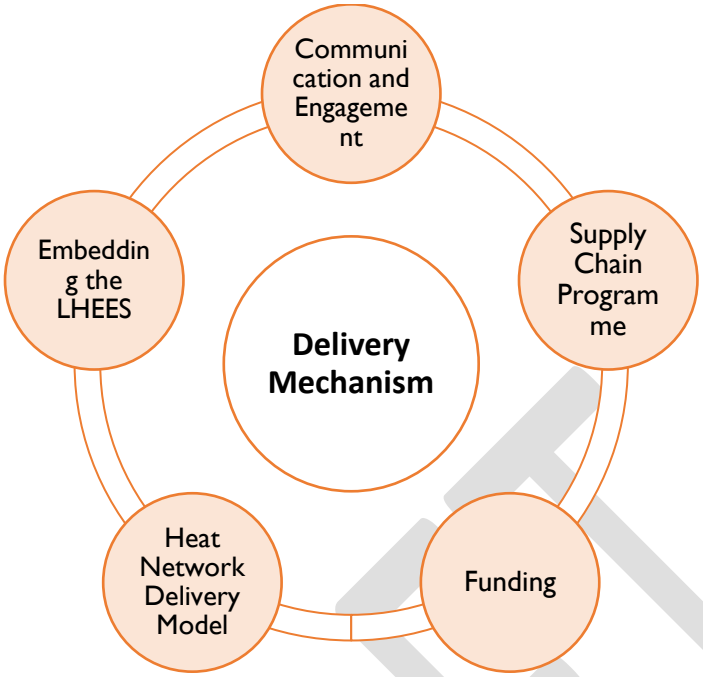

Figure 3 – Delivery Mechanism

- **Funding**

One of the major key drivers for the domestic sector decarbonisation and energy efficiency interventions is fuel poverty. Fuel poverty is one of the factors that influence initial delivery areas that are to be prioritised within this delivery plan. Currently 33% of households are living in fuel poverty and 22% in extreme fuel poverty within the Highlands, which is up to 10% higher than the national average.[3]

Project planning at domestic building level heat decarbonisation and energy efficiency initial delivery areas is based on current available funding and programmes from Scottish Government such as the Energy Efficient Scotland Area Based Scheme (EES:ABS), Warmer Homes Scotland (WHS) and Energy Company Obligation (ECO).

The Highland Council has secured additional external funding from Scottish and Southern Energy (SSE) to support those in extreme fuel poverty. Funding for social housing providers to support heat decarbonisation and energy efficiency works is also utilised. Many social housing providers in the Highlands are currently assessing their stock to evaluate conditions

[3] Fuel poverty figures are based on 2022 figures from the Scottish Government. Current fuel poverty figures are likely to be higher.

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and start financial planning. The Council strongly encourages non-domestic building owners and community organisations to utilise financial and technical support through Business Energy Scotland and Local Energy Scotland.

- **Heat Network Delivery Model**

Heat networks play a vital role in the transition to Net Zero by 2045 and heat networks can present a cost-effective way to supply heat and hot water to buildings. The potential heat network delivery areas are focused on the LHEES Strategy findings and current appetite for the development and expansion of heat networks by increased interest from developers and other stakeholders.

Following the feasibility study, Outlined Business case (OBC) and contractual arrangements, commercial delivery models, financial and project governance aspects need to be considered.

Figure 4 – Delivery Network Project Journey[4]

Scottish Futures Trust (SFT) reviewed the heat network delivery models currently in use in the United Kingdom (UK) and identified potential new heat network delivery models. The report[5] prepared by SFT for the Scottish Government presents potential delivery models (**Figure 5**) alongside the information on enabling structures and mechanism that could

[4] Note: Stage heading taken from HNSU website.
[5] Note: The Heat Networks Delivery Models report can be viewed - Supporting documents - Heat Networks Delivery Models - gov.scot (www.gov.scot).

support deployment of heat networks. Role and description of the existing and new models can be found the "Heat Networks Delivery Models" report.

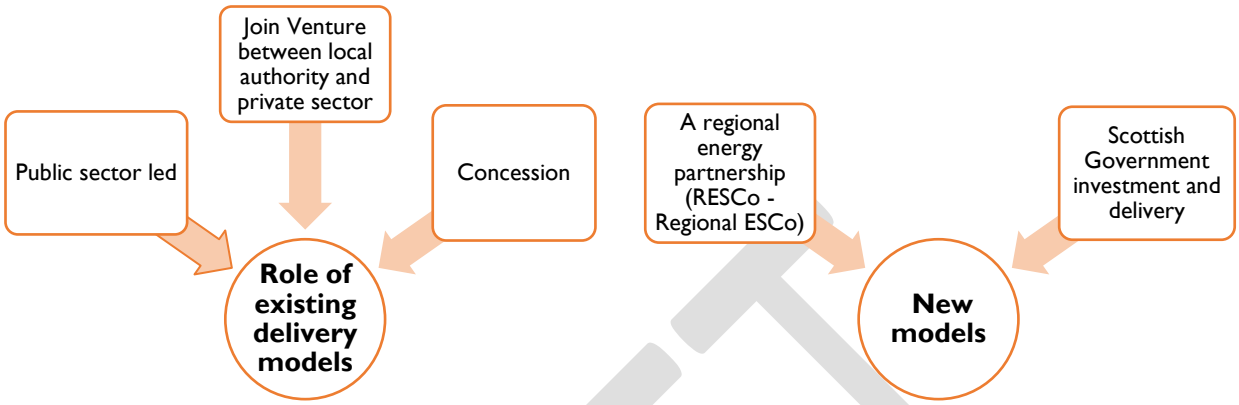

Figure 5 – Delivery Models Recommendations

The Council is already in contact with Zero Waste Scotland and SFT to explore potential delivery models and commercial structures. This allows the Council to understand the commercial case by considering aspects such as the different roles in the delivery, associated risks and opportunities.

The suitability and applicability of the preferred commercial structure can be determined by the desired level of control, risk and return on investment. The amount of control the Council or stakeholders have over the scheme is seen as important in achieving a heat network project objective.

- **Supply Chain Programme**

Supply chain plays one of the most important roles in building a sustainable and energy efficient future for the Highlands. However, there is a gap in supply chain skills, capacity and qualifications (such as PAS2030 and Trustmark) to meet the energy efficiency and wider LHEES commitments.

The Highland Council has partnered with Energy Saving Trust Supply Chain team, Changeworks and Home Energy Scotland based in Inverness, Energy Skills Partnership (ESP) Scotland, University of Highlands and Islands (UHI), Highlands and Islands Enterprise (HIE) and Construction Industry Training Board (CITB) to look at energy efficiency qualifications,

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including quality assurance, and develop potential courses with the UHI to upskill existing workforce and bring new skills to support energy efficiency works.

Quality assurance and customer protection related to energy efficiency works is vital. The Scottish Government has developed a Strategic Outline Case (SOC) for a National Delivery Mechanism for its Energy Efficient Scotland (EES) programme which covers aspects of the programme to improve energy efficient and promote low carbon heating in Scotland.

The Council understands the importance of delivering high-quality services through programmes such as EES:ABS and it expects contractors to embrace it during delivery of any energy efficiency and heat decarbonisation related works.

- **Communication and Engagement**

Communication and engagement are key to successful delivery of LHEES and related programmes. In addition to Section 2.2 where external engagement is noted, the Council understands that internal communication is also important to support LHEES.

- **Embedding the LHEES**

The scope of LHEES is broad and cuts across other services and local activities. It is important to embed LHEES and area-based approaches within the local governance structures and processes as well as various energy related projects undertaken by communities and businesses. Collaboration, awareness, and knowledge exchange are central to achieving the transition to Net Zero.

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5. Potential Delivery Areas

The Highland Council uses data outputs from the LHEES and ongoing activity in the region to inform areas for retrofit and heat decarbonisation. **Tabel 1** presents areas of projects that have been identified to date.

Project No.	Project Name	Project Location	Ward Area	Ward Number	Project Status	Tenure	Funding	Links to LHEES Considerations
1.	Swedish timber - whole house retrofit	Lochaber	Western Ross, Strathpeffer and Lochalsh	5	Feasibility / Pre-tender	Domestic (all tenure) properties	ECO, EES:ABS and Housing Revenue Account (HRA)	Off-gas grid buildings Poor building energy efficiency Poor building energy efficiency as a driver for fuel poverty Mixed-tenure, mixed-use and historic buildings
2.	Wick District Heating Network Expansion	Wick, Caithness	Wick and East Caithness	3	Ongoing	Domestic (all tenure) properties	Capital Programme	Off-gas grid buildings Heat networks Poor building energy efficiency

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								Poor building energy efficiency as a driver for fuel poverty Mixed-tenure, mixed-use and historic buildings
3.	Inverness Heat Network	Inverness city[6]	Inverness West Inverness Central Inverness Ness-side Inverness Millburn Inverness South	13 14 15 16 19	Feasibility	Non-domestic private and public buildings. Domestic (all tenures) will be considered as the project develops.	Feasibility – the Heat Network Support Unit Strategic Grant and Council's contributions of 10%. Delivery Models still to be determined	On-gas grid buildings Heat networks Poor building energy efficiency Poor building energy efficiency as a driver for fuel poverty Mixed-tenure, mixed-use and historic buildings

Table 1 – Summary of projects

[6] Note: For the heat network feasibility study all areas in Inverness are currently being considered.

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5.1 Building Level Heat Decarbonisation and Energy Efficiency Delivery Areas

Swedish Timber – whole house retrofit

Internal Project lead: The Highland Council Climate Change and Energy Team.

Project summary: An area within Lochaber has been identified as one of the pilot areas for the whole house retrofit to help improve energy efficiency and reduce fuel poverty across multiple domestic tenures.

Area: Lochaber.

Measures included: External Wall Insulation (EWI), Roofline extension or roof replacements, Solar Photovoltaic, Battery Storage, Air Source Heat Pump (ASHP), Loft insulation (if required), Ventilation upgrades, Retrofit assessment and co-ordination.

Benefits expected: Improved energy efficiency and Energy Performance Certificate (EPC) rating, low carbon heat technologies installed, lower fuel costs, reduced level of fuel poverty, utilisation of external funding and compliance with national energy efficiency standards.

Timescales: Short-term action.

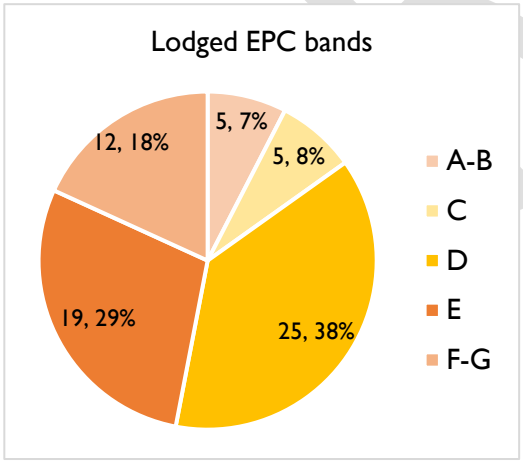

Figure 6 – Lodged EPC Bands

5.2 Heat Network Delivery Areas

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Wick District Heating Network Expansion

Internal Project lead: The Highland Council Housing and Property Team.

Project summary: The Highland Council has partnered with Ignis Wick Ltd to deliver sustainable heating to around 200 homes in Wick (Phase 1 and Phase 2)[7], Pulteneytown area. The initial phases of expansion are effectively complete now.

Area: Wick South 02 and Wick South 03.

Measures included: Connections to existing district heating network.

Benefits expected: The connections to the district heating scheme will raise the energy efficiency rating of domestic properties, reduce fuel poverty, improve health and wellbeing of the tenants, provide fuel bill savings, support compliance with future social housing standards and support the Heat Networks (Scotland) Act to accelerate the deployment of heat networks in Scotland.

Timescales: Immediate term action.

Inverness Heat Network

Internal Project lead: The Highland Council Climate Change and Energy Team.

Project summary: The Highland Council applied to the Heat Network Support Unit (HNSU) for Strategic Heat Network Support to conduct a feasibility study for the whole city of Inverness. The aim of the project is to determine feasibility, explore delivery models and identify interested parties to get a full understanding of what an Inverness-wide heat network would entail.

Area: The whole city of Inverness is being considered at the feasibility stage.

Benefits expected: reduced fuel poverty rates, fuel bill savings, low regret decarbonisation for the on-gas grid domestic and non-domestic buildings and support the Heat Networks (Scotland) Act to accelerate the deployment of heat networks in Scotland.

Measures included: The development of city-wide heat network.

Timescales: Medium-term action.

[7] Ignis Wick Ltd is considering potential future expansion of the network (Phase 3) depending on feasibility, infrastructure and connections to non-domestic buildings.

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Background information:

During the development of the Strategy, several potential Heat Network Zones were identified. **Figure 7** presents high heat demand clusters identified within Inverness. Existing infrastructure and constraints within indicative zones have been analysed, with strategic consideration given to how these zones could be further developed, considering heat source opportunities and proximity to existing networks. Further information on each cluster can be found in the Strategy Section 6.

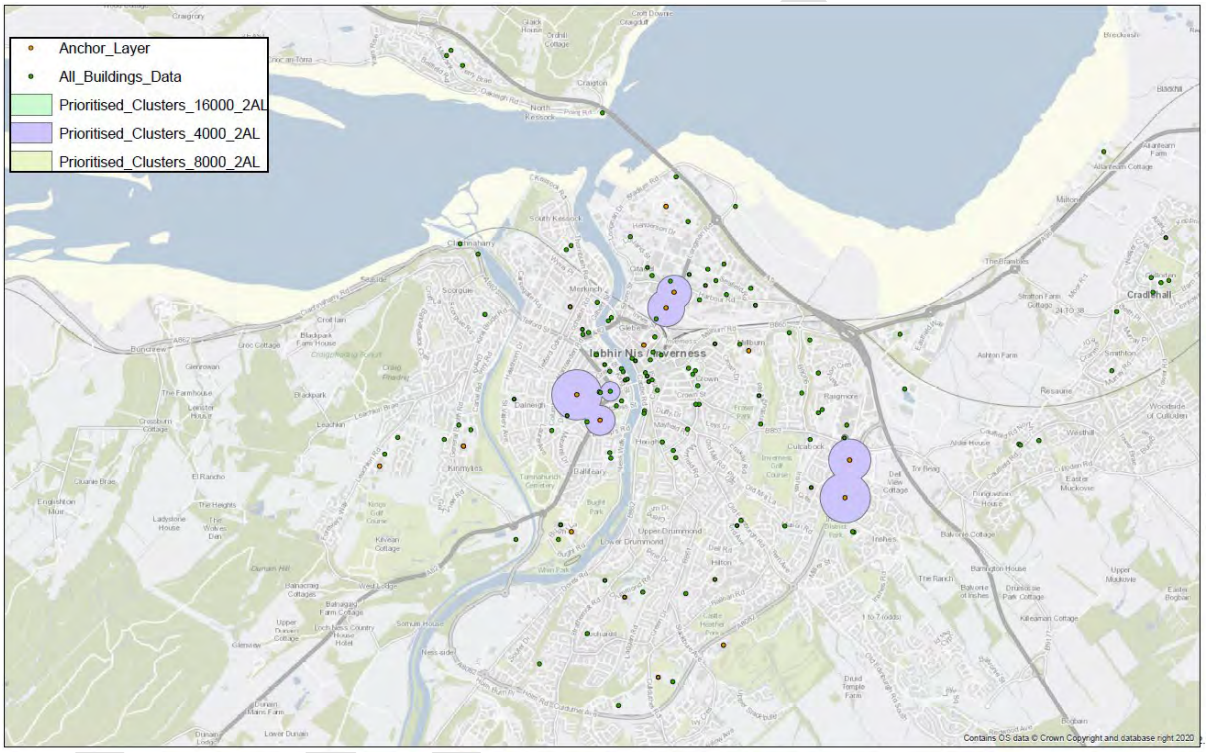

Figure 7 – LHEES Strategy Outputs for Inverness

The Highland Council LHEES completed two feasibility studies in Inverness in partnership with Zero Waste Scotland and Burro Happold in 2023. The West Bank of Inverness and Inverness Castle area feasibility studies were funded by the HNSU. The main aim of the studies was to inform the Council of the opportunity for a heat network in Inverness. **Figure 8** presents the potential heat network route.

Figure 8 - Inverness West Bank and Inverness Castle Heat Network Feasibility Studies area

Upon completion of feasibility studies, the energy centre at the Castle area has started being built and due to be completed in summer 2025. Air-source-heat pumps will provide energy to Inverness Castle and the Town House.

The geothermal work has been undertaken in partnership with the University of Aberdeen at Bught Park in Inverness. The focus of this study is delineating the depth to bedrock, and trying to identify sediment packages above this, which may be a suitable target for a ground source heat pump and heat network system. The study was completed in April 2024.

The Highland Council completed another feasibility study for the Longman Waste Transfer Station in August 2023. The feasibility study was undertaken by SLP Consulting and Nevin Associates on behalf of the Council concerning long-term waste management options, including the option of developing an energy-from-waste facility in Inverness.

The study is currently seeking pre-application planning advice for a potential energy from waste facility at the Longman site. This will assist in the decision making process and assess if there are reasonable grounds to recommend progressing, or halting, the assessment of an Inverness located energy from waste facility towards preparing for a planning application.

6. Impact Assessment

The Council has considered several impact assessments to support the development of the Strategy and Delivery Plan, and these are summarised in **Appendix 7**.

Since the Council published the Strategy and Delivery Plan in December 2023, an Integrated Impact Assessment (IIA) has been developed to replace existing individual impact assessments.

As stated in the Strategy, any potential site-specific impacts at strategic zones and delivery areas will be assessed at the subsequent detailed planning and implementation stage, where required, before any proposals are finalised.

The strategic designation and review of heat network zones will be subject to appropriate levels of assessment, against the requirements of the Environmental Assessment (Scotland) Act 2005 and as required under separate duties in the Heat Network (Scotland) Act 2021.

7. Governance

Progress against the Delivery Plan will be reported to the Climate Change Committee and also the Housing and Property Committee on a regular basis so that members are given the opportunity to review and scrutinise.

The Portfolios will be sponsored by an Assistant Chief Executive and led by a Chief Officer of the Council. They will be governed by a Strategic Portfolio Board.

The LHEES delivery plan is a 5-year plan which will be periodically updated.

8. Monitoring and Evaluation

The Monitoring and Evaluation Plan (MEP) covers progress related to Delivery Plan actions, and any other ongoing projects related to the LHEES.

Each project within the Delivery Plan will use the same reporting methods to provide sufficient detail going forward. Progress will be monitored through a single reporting platform which will be delivered by the Council's Performance and Risk Management System (PRMS). This will allow the Council's LHEES to monitor individual projects and workstreams within the Delivery Plan.

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Glossary

Clàr-mìneachaidh

Abbreviations	
AG	Address Gazetteer
ASHP	Air Source Heat Pump
BAR	Building Assessment Report
CAB	Citizens Advice Bureau
CARES	Community and Renewable Energy Scheme
CAG	Corporate Address Gazetteer
CITB	Construction Industry Training Board
CPAG	Caithness Poverty Action Group
DNO	District Network Operator
ECO	Energy Company Obligation
EE	Energy Efficiency
EES:ABS	Energy Efficient Scotland: Area Based Scheme
EESSH	Energy Efficiency Standard for Social Housing
EPC	Energy Performance Certificate
ESP	Energy Skills Partnership
EST	Energy Saving Trust
EWI	External Wall Insulation
Flex	Flexible Eligibility
GBIS	Great British Insulation Scheme
GHGs	Greenhouse gases
GHiGS	Green Heat in Green Spaces
GIS	Geographic Information System
GSHP	Ground Source Heat Pump
HA	Housing Association
HHP Granites	High Heat Production Granites
HIE	Highlands and Islands Enterprise
HNSU	Heat Network Support Unit
HNZ	Heat Network Zone
HRA	Housing Revenue Account

HwLDP	Highland-wide Local Development Plan
IZ	Intermediate Zone
kWh/m/yr	Kilowatt-hours per meter per year
kWh/yr/m^2	Kilowatt-hours in square meters per year
LA	Local Authority
LCH	Low Carbon Heat
LDP	Local Development Plan
LEAP	Local Energy Action Plan
LED	Light Emitting Diode
LEIP	Learning Estate Improvement Plan
LHD	Linear Heat Density
LHEES	Local Heat and Energy Efficiency Strategy
LPG	Liquefied Petroleum Gas
MEP	Monitoring and Evaluation Plan
MW/h/yr	Megawatt-hours per year
m^2	The square meter
NAEI	National Atmospheric Emissions Inventory
NDA	Non-Domestic Analysis
NHS	National Health Service
NPF	National Planning Framework
OBC	Outline Business Case
OS	Ordnance Survey
OSG	One Scotland Gazetteer
PEAT	Portfolio Energy Analysis Tool
PPA	Power Purchase Agreement
RSL	Registered Social Landlord
SAP	Standard Assessment Procedure
SEA	Strategic Environmental Assessment
SEEP	Scotland's Energy Efficiency Programme
SEG	Smart Export Guarantee
SEON	Scottish Energy Officer's Network
SEP	Stakeholder Engagement Plan
SEPA	Scottish Environment Protection Agency

SFT	Scottish Futures Trust
SHM	Scotland's Heat Map
SOC	Strategic Outline Case
Solar PV	Solar Photovoltaic
SSE	Scottish and Southern Electricity
STEM	Science, Technology, Engineering, and Mathematics
TWh	Terawatt-hour
UHI	University of the Highlands and Islands
UK	United Kingdom
UPRN	Unique Property Reference Number
WHD	Warm Home Discount
WHS	Warmer Homes Scotland
ZWS	Zero Waste Scotland

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Terms

Terms	Description
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.
Building-level Pathway	As part of LHEES Stage 5, a building-level pathway is the outcome of the assessment undertaken using PEAT. It provides the likely energy efficiency retrofit technologies, as well as the low carbon heating system (where applicable) to support building level decarbonisation.
Criteria	Criteria are the settings applied to the Indicators for each Consideration in order to support Baselining, Strategic Zoning and the identification of delivery areas. An example of Criteria is a simple "no" applied to the Indicator of "wall insulation (Y/N)" to identify properties with uninsulated walls. Another example is the definition of an "anchor load" within the Heat Network zoning analysis, which applies a minimum threshold to the "heat demand" Indicator. The LHEES methodology provides a set of default Criteria that local authorities may wish to use, with flexibility to update and augment these to support local needs or for more focused analysis linked to specific actions and project identification within the Delivery Plan.
Data - Alternative	Alternative data, can overwrite the Core data to improve accuracy (national to local level of detail, e.g. local housing data to overwrite fields in Home Analytics).
Data - Core	Core data is the data that is essential to complete the minimum requirements of the LHEES analysis. Core data will come from national datasets e.g. Home Analytics or the Scotland Heat Map.
Data - Supplementary	Supplementary data allows inclusion of additional Indicators to inform specific, local priorities & targets; also, Supplementary data can be used in GIS investigation to complement the Core analysis carried out in any assessment. An example of Supplementary data would be the inclusion of a constraints appraisal as part of a district heating analysis.
Data Zone	Data zones are groups output areas which have populations of around 500 to 1,000 residents.
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 LHEES Delivery Plan).
Detailed practitioner approach	These Steps form part of the detailed practitioner approach in LHEES Stage 4, Generation of Initial Areas to set out particularly suitable heat network zones and to support project identification.
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 LHEES - set out in the LHEES Delivery Plan. For some Considerations, one Indicator may be sufficient, but for others a range may be appropriate.

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.
LHEES Considerations	The LHEES Considerations are a list of technologies, building typologies and policy priorities used to identify and target interventions. They include: - Heat networks - Off-gas grid buildings - On-gas grid buildings - Poor building energy efficiency - Poor building energy efficiency as a driver for fuel poverty - Mixed-tenure, mixed-use and historic buildings.
LHEES Delivery Plan	An LHEES Delivery Plan is a document setting out how a local authority proposes to support implementation of its local heat and energy efficiency strategy.
LHEES Guidance	The LHEES Guidance sets out the production and content requirements for a local authority to prepare a Local Heat and Energy Efficiency Strategy and Delivery Plan. Its purpose is to ensure that a Local Heat and Energy Efficiency Strategy and Delivery Plan contain outcomes and actions that are backed up by robust data and analysis, supported by stakeholder engagement, and that are linked to national and local priorities, plans and targets.
LHEES methodology	The LHEES methodology is a more detailed, step by step approach, which includes models, tools and templates, and represents best practice in how to produce an LHEES in accordance with the requirements set out in the LHEES Order and Guidance.
LHEES Stages	There are 8 LHEES Stages proposed in this methodology. The purpose of the LHEES methodology is to enable the local authority to complete LHEES Stages 1 to 6. The completion of these Stages will provide the local authority with the data analysis and evidence base to enable them to complete their LHEES Strategy and Delivery Plan documentation. There are two LHEES reporting templates included alongside this methodology– LHEES Strategy example template and LHEES Delivery Plan example template. The completion of these two templates will satisfy the completion of LHEES Stages 7 and 8. The 8 LHEES Stages proposed in this methodology are: 1. Policy and strategy review 2. Data and tools library 3. Strategic zoning and pathways 4. Generation of initial delivery areas 5. Building-level pathway assessment 6. Finalisation of delivery areas 7. LHEES Strategy 8. LHEES Delivery Plan.
LHEES Strategy	An LHEES Strategy 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.
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.
Phase (Delivery Plan)	A suggested period of work to complete the initial LHEES Delivery Plan.
Raster	A matrix of squares, or grid, used as a method of data analysis in GIS. Each cell in the grid contains a value representing information on the cell's contents.
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.
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 LHEES. This timeline would help to prioritise the types of projects undertaken within the LHEES over its duration.
Weighting	For some Consideration, 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. The LHEES methodology sets out a core set of default Weightings for instances where multiple Indicators are suggested as a default setting. There is flexibility to update and augment these to support local needs or for more focused analysis linked to specific actions and project identification within the delivery plan.

Appendices

Appendix 1 – Stakeholder Engagement Plan

The LHEES Methodology (section 3.1.2) specifies that the Engagement Plan should cover the following aspects:

- Purpose of engagement
- Frequency of engagement
- Type of information required
- Stakeholder's priorities, interest and expectations for LHEES
- Level of involvement with LHEES delivery

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Engagement Plan by Stakeholder: For key stakeholders where engagement needs to be planned more closely

Stakeholder Details	Stakeholder	Zero Waste Scotland		
	Assigned LA officer	XYZ - LHEES Stakeholder Coordinator		
	Engagement tier (1/2/3/4)	1		
	Summary of stakeholder's priorities, interest and expectations for LHEES	Support of strategy and delivery		
	Frequency of engagement	Monthly		
Engagement Plan	Meeting date	10th March		
	LHEES stage (1-8)	Stage 1		
	Type of engagement (e.g. meeting, workshop, one-to-one)	Initial engagement workshop		
	Purpose of engagement	Establishing support for the LHEES delivery		
	Outcomes	Provision of Stakeholder Engagement Toolkit Provision of additional guidance		
	Actions	Engage with ZWS to receive LHEES guidance		
	Additional notes/comments	N/A		

Figure 9 - Engagement plan by stakeholder example

Each engagement group has been categorised based on similarities in their interest relating to LHEES.

Local Councils stakeholders include:

- Aberdeenshire Council
- Aberdeen City Council
- Moray Council
- Argyll and Bute Council
- Perth and Kinross Council

The joint procurement strategy agreed between Highland, Aberdeenshire and Aberdeen City Councils is intended to clearly outline the procurement and commercial priorities from 2023 to 2026 for the partners to the Commercial and Procurement Shared Service, taking account of the local ambitions and priorities for each partner. This provides a strong opportunity for collaboration and alignment of approach across the three partner local authorities.

Argyl and Bute and Perth and Kinross have been highlighted as additional local authorities with scope for potential collaboration on strategies / LHEES Delivery Plan objectives. These local authorities do not have the same joint procurement strategy, however due to geographical adjacencies, there is a potential opportunity for shared workforce and potentially unlocking the economies of scale associated.

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Currently, most of the engagement is completed via the LHEES Governance & Oversight Group run by Hub North Scotland Limited. Perth and Kinross Council is the only Council which is not included in the Group hence additional engagement will need to take place.

Registered Social Landlords (RSLs) stakeholders include:

- Cairn Housing Association
- Albyn Housing Association
- Skye & Lochalsh Housing Association
- Lochaber Housing Association
- Caledonia Housing Association

The Council is currently in contact with Housing Associations to understand their plans and strategies for improving energy efficiency and decarbonising heat for their own stock, funding availability and areas to be targeted. This allows the Council to determine the scope and develop opportunities for alignment in the future.

. Partnership Organisations stakeholders include:

- Focus North
- Highland Adapts
- Hub North Scotland Limited

Partnership can provide support on collaborative projects between the public sector, local government, industry and academia. Utilising their contacts and bringing relevant stakeholders together to discuss LHEES proposals will be key in the transition from strategy documents to delivering projects around the Highlands.

Utility Companies stakeholders include:

- SSEN
- Scottish Gas
- Scottish Water

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To understand the opportunities and constraints across strategic zones and delivery areas, engagement and collaboration with District Network Operator (DNO) and local utility companies (including existing district heating networks) is essential. Input and data from utility companies should build a picture of opportunities, constraints, challenges and any need for further discussion and input from the utility companies.

Heat Network stakeholders include:

- Highlife Highland
- NHS Highland
- SSEN
- HMP Highland
- Housing Associations
- Commercial offtakers such as Bairds Malt, Black Isle Brewery and Lifescan.

The Council will focus on developing plans around the Inverness area with the commissioning of a city-wide feasibility study in the hope that it can be replicated to other areas with high heat network / district heating potential.

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Appendix 2 – The Influence/Interest Matrix

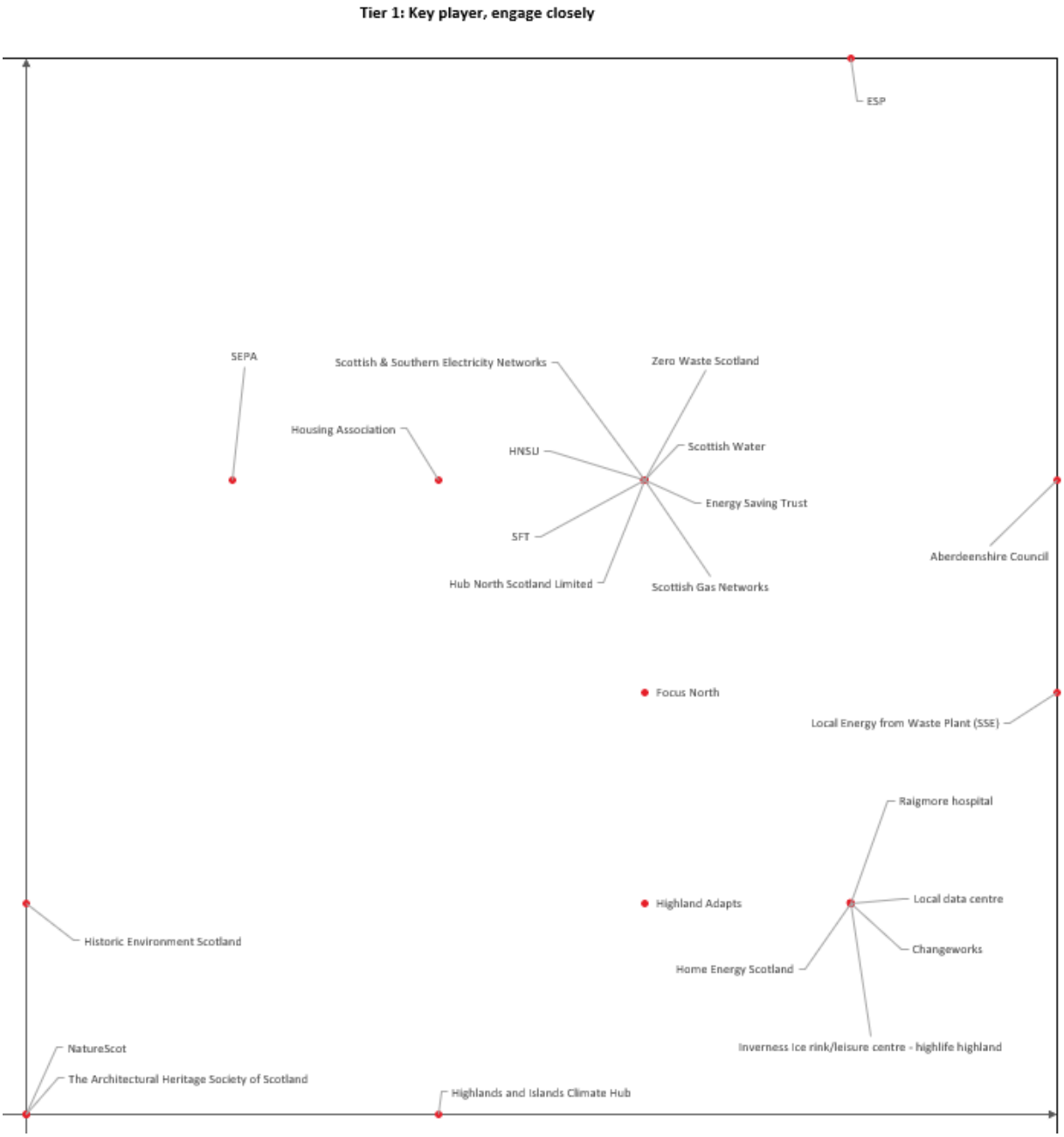

Figure 10 - The Influence/Interest Matrix

Figure 10 indicates there are 24 tier 1 stakeholders highlighted for further engagement as part of this process.

The following engagement level is a recommended starting point for each tier, based on Zero Waste Scotland and Arup guidance:

TIER 1 – Part of Project Steering Group (PSG). Ongoing engagement throughout the project at defined workshops e.g. identifying priorities and for delivery. Specific engagement plans developed as required.

TIER 2 – Participate in workshops and engage with the project at key milestones (if required). Potentially one-to-one contact during data collection stage and one-to-one interviews to be held with these stakeholders to gain further insight and understanding of priorities and delivery contributions.

TIER 3 and 4 – Potentially participate in workshops and engage with the project at key milestones (ad hoc basis e.g. delivery planning). Receive a direct invite to public consultation.

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Appendix 3 – Summary of Portfolios

The Portfolios include Person Centred Solutions, Workforce for the Future, Reconfiguring our Asset Base, Corporate Solutions, Income Generation and Net Zero, Energy Investment & Innovation. The later Portfolio supports the Council's Net Zero commitments enabling a place-based planning.

- **Net Zero, Energy Investment & Innovation**

Activity: Delivering the Council's Net Zero ambitions and enabling place-based planning for future energy capacity – maximising current and future opportunities.

Workstreams: supported by 12 projects which focus on delivering the Council's net zero ambitions; delivering income streams through investing in energy generation activities; and developing a pipeline for future developments to ensure the Council is able to fully capitalise on the unique opportunities available in the Highlands.

Net Zero, Energy Investment & Innovation
Neoni Lom, Tasgadh Lùtha & Ùr-ghnàthachadh

Workstreams	Programmes and Projects		
Net Zero Delivery	Net Zero Programme	Heat Networks	
Energy Estate	Energy Efficient Council	Solar PV Council Estate	
	Energy Billing Management	Energy Efficient Homes	
Investment & Innovation	Battery Storage	Utility scale Solar PV	Solar PV Commercial Estate
	EV Infrastructure	Longman Green Energy Hub: JV	Investment Pipeline

Glossary:

CT –	Council Tax	HRA –	Housing Revenue Account
DNO –	Distribution Network Operator	JV –	Joint Venture
EESSH2 –	Energy Efficiency Standard for Social Housing 2	LHEES –	Local Heat and Energy Efficiency Strategy
EOI –	Expression of Interest	MW –	MegaWatt
EV –	Electric Vehicle	OBC –	Outline Business Case
FBC –	Full Business Case	PIN –	Prior Information Notice
HAR2 –	Hydrogen Allocation Round 2	PV –	Photovoltaic
HOIP –	Highland Outcome Improvement Plan	ROI –	Return on Investment
		SG –	Scottish Government
		TS –	Transport Scotland

Workstreams

- **Net Zero Delivery**
- Energy Estate
- Investment & Innovation

Net Zero, Energy Investment & Innovation

Delivering on our Net Zero Strategy.

Programme: Net Zero Programme
Deliver Highland Council's programme to achieve net zero emissions.

Project: Heat Networks
Develop opportunities for new and expansion of existing heat networks to provide social, economic, and environmental benefits.

Dingwall Housing by Ewen Weatherstoon

Workstreams

Energy Estate

Investment & Innovation

Net Zero Delivery

Net Zero, Energy Investment & Innovation

Developing our energy efficient estate.

Project: Energy Efficient Council
Reduce energy costs in the Council's non-domestic estate to deliver ongoing revenue savings.

Project: Solar PV Council Estate
Optimise and expand solar PV across the Council's non-domestic, non-commercial, estate to supply green energy.

Project: Energy Billing Management
Enhance service provision associated with utility invoice processing and payment.

Project: Energy Efficient Homes
Using grant funding to support whole house retrofit projects, reducing fuel poverty.

Photo by Ewen Weatherspoon 98

Workstreams

Investment & Innovation

Net Zero Delivery

Energy Estate

Net Zero, Energy Investment & Innovation

Building programmes to generate and distribute energy as part of our overall strategy.

Project: Battery Storage
Collaborate with industry specialists to develop an investible model aligned to the Region's renewable energy potential.

Project: Utility scale Solar PV
Develop a commercial solar farm at Longman.

Project: Solar PV Commercial Estate
Develop a Commercial Power Purchase Agreement (PPA) to generate income from the development of a solar portfolio.

Project: EV Infrastructure
Expansion of EV Infrastructure to provide a reliable network for both public and fleet use.

Project: Longman Green Energy Hub: JV
Develop a Green Energy hub at the Longman site.

Programme: Investment Pipeline
The identification, evaluation and development of projects to provide an ongoing pipeline of investment opportunities.

Photo by The Highland Council 99

Appendix 4 – Links to Programme

Our Future Highland - sets out the programme of Highland Council for the five-year period up to 2027. It makes commitments to secure social and economic transformation on behalf of Highland communities.

Planning Performance Framework – outlines the Highland Council continued commitment to delivering high quality development across the Highlands. It is submitted to the Scottish Government every year to highlight the progress made on key improvements, commitment to engagement, collaborative working and the Council's impact on the Highland economy.

Highland Outcome Improvement Plan (HOIP) - outlines aspirations for Highland through the Community Planning Partnership and the actions which will be undertaken to deliver them. The main aim is to tackle the issues that lead to inequalities.

Performance Plan (Corporate Plan 2022-2027) – provides the framework for the delivery and monitoring of the Council's Programme "Our Future Highland".

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Appendix 5 – Summary of Actions

Table 3 – Summary of Actions

Skills and Jobs

- Support identification of the skills and jobs required for energy efficiency, retrofit and heat decarbonisation works.
- Support supply chain development.
- Develop the Highland Energy Efficiency Framework.

Heat Networks

- Conduct feasibility studies and beyond to explore heat network delivery model options.
- Ensure that the new Local Development Plan is developed in conjunction with the LHEES heat network outputs.
- Support public sector organisations to discharge their duty to complete Building Assessment Reports (BARs).
- Engage with planners and other relevant stakeholders to discuss heat network potential and share best practices for future networks expansion.
- Engage with stakeholders to gather data and building information to investigate suitability for heat network connections and source potential.
- Request fuel data to support prioritisation of low carbon technologies and heat network analysis for delivery areas.

Building level

- Understand capacity for retrofit at scale and costings o repair works.
- Identify building level delivery actions that will assist in a just transition.
- Work with Historic Environment Scotland and Historic Environment Highland Team to develop a targeted approach to historic building interventions.
- Understand capacity for retrofit at scale.

Awareness and Engagement

- Ongoing engagement and collaboration with housing associations and private sector landlords to increase uptake of energy efficiency works.
- Engagement with the Federation of Small Businesses and the Chamber of Commerce around decarbonisation of heat within the business community.
- Engagement with relevant stakeholders to identify areas of collaboration across mixed tenure properties would provide an opportunity to decarbonise heat.
- Engage with housing associations and private sector stakeholders to increase uptake of heat decarbonisation works.
- Raise awareness and knowledge of heat decarbonisation and energy efficiency.

Funding

- Maximise existing funding opportunities at national and local level on available options for different types of housing stock.

Data Management

- Create PowerBI dashboard for all Highland domestic properties.

Energy Infrastructure

- Identify opportunities for project development across the Council area.
- Explore solar potential.
- Engage with Scottish and Southern Electricity Networks (SSEN) to determine available grid capacity throughout the lifetime of the Strategy, whilst taking a holistic approach to the wider energy system.
- Engagement with a Distribution Network Operator (DNO) to understand impact of individual heat pump installations on local grid.

Section 6 - Summary of LHEES Strategy Findings

LHEES Priority	Description	Main Geographical Areas to Prioritise	Data Zone Codes
1. Heat networks	Decarbonisation with heat networks	Seven clusters were identified, of which the ones in Dingwall and Inverness show the most potential in terms of anchor loads and potential extensions to existing heat networks and local development sites.	No specific Data Zones
2. Off-gas grid buildings (cat 1 - heat pump ready)	Transitioning mainly from heating oil and LPG in off-gas areas	Off gas-grid heat-pump ready properties are in the following areas: Lochaber East and North, Badenoch and Strathspey	S01010527, S01010538, S01010568, S01010599.
		Central, Inverness East Rural and Inverness Lochardil and Holm Mains, Nairn Rural, Tain, Black Isle South and Loch Ness.	S01010549, S01010753, S01010725, S01010666.
3. Poor building energy efficiency	Poor building energy efficiency	Areas lacking in cavity wall insulation include Inverness Scorguie, Inverness Drakies, Inverness Lochardil and Holm Mains.	S01010648, S01010617, S01010602, S01010618.
		Areas without solid wall insulation are Inverness Crown and Haugh, Inverness Muirtown, Nairn East and Sutherland East.	S01010628, S01010640, S01010554, S01010769.
4. Poor building energy efficiency as a driver for fuel poverty	Poor building energy efficiency as a driver for fuel poverty	Areas with high levels of estimated fuel poverty and low levels of energy efficiency (particularly wall insulation) are: Inverness Scorguie, Nairn East, Inverness Kinmylies and South West, Tain and Inverness Crown and Haugh.	S01010647, S01010554, S01010653, S01010752, S01010628, S01010646
5. Mixed-tenure, mixed-use and historic buildings	Covering mixed-tenure and mixed-use buildings, listed buildings and buildings in conservation areas.	The areas with the highest levels of mixed-use and/or mixed tenure are in Inverness Merkinch, Inverness Central, Raigmore and Longman, Inverness Muirtown.	S01010641, S01010620, S01010639, S01010619.
		The areas with most properties in conservation areas or listed buildings are Inverness Central, Raigmore and Longman; Inverness Crown and Haugh, Nairn East.	S01010620, S01010628, S01010627, S01010554.
6. On-gas grid buildings (Category 1 – heat-pump ready)	On-gas grid heat decarbonisation.	Areas for on-gas grid are: Inverness Inshes, Inverness Slackbuie, Inverness Westhill, Inverness Kinmylies and South West, Inverness Lochardil and Holm Mains.	S01010593, S01010596, S01010582, S01010650, S01010591, S01010599, S01010598, S01010584.

Table 4 - Summary of Indicative Zones per LHEES Priority

	No.	LHEES Considerations	Description
Heat decarbonisation	1	Off-gas grid buildings	Transitioning from fossil fuel heating such as oil and Liquefied Petroleum Gas (LPG) in off-gas areas
	2	On-gas grid buildings	On-gas grid heat decarbonisation
	3	Heat networks	Decarbonisation with heat networks
Energy efficiency and other outcomes	4	Poor building energy efficiency	Poor building energy efficiency
	5	Poor building energy efficiency as a driver for fuel poverty	Poor building energy efficiency as a driver for fuel poverty
	6	Mixed-tenure, mixed-use and historic buildings	Mixed-tenure, mixed-use buildings, listed buildings, and buildings in conservation areas

Table 5 - Summary of LHEES Considerations

Figure 11 - Local Priorities and Drivers

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Appendix 7 – Impact Assessment

- Climate Change Impact Assessment
- Child Rights and Wellbeing Impact Assessment
- Island Communities Impact Assessment
- Equality Impact Assessment
- Rural Impact Assessment
- Poverty Impact Assessment
- Data Protection Impact Assessment
- Strategic Environmental Assessment (SEA)

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