

Local Heat And Energy Efficiency Strategies And Delivery Plans

Guidance

October 2022

Foreword

Scotland has ambitious plans to transform its buildings. The Scottish Government's Heat in Buildings Strategy makes clear the need to ensure that, by 2045, our homes and buildings no longer contribute to climate change, while also tackling fuel poverty. This means that our schools, hospitals, libraries, homes and businesses will need to improve their energy efficiency and install zero emissions heating. This will be immensely challenging, requiring action from all of us, right across society and the economy.

Delivering this transformation will require concerted effort across national and local government, as well as the wider public and private sectors. Locally-led planning will be key to ensuring that the decarbonisation of heat in buildings is delivered in a way that is relevant to local contexts and tailored to the specific needs of communities. It will also need a strategic approach to allow delivery on a large scale.

Local Heat and Energy Efficiency Strategies will be the principal mechanism for this locally-led heat planning. They will support local planning, coordination and delivery of the heat transition across communities in Scotland.

The development of Local Heat and Energy Efficiency Strategies (LHEES) has required close cooperation between the Scottish Government and local authorities. We would like to express our gratitude to all those who took part in the pilot programme, which involved all 32 Scottish local authorities and was an exemplar of partnership working between national and local government.

Local Government has an absolutely critical role to play in the transformation of Scotland's building stock to deliver net zero. This Guidance, developed in response to the LHEES Order, is the culmination of the pilot programme and its outputs. It will ensure consistent, comprehensive coverage of Local Heat and Energy Efficiency Strategies across Scotland, and enable local planning, coordination and delivery of the decarbonisation of Scotland's homes and buildings.

We would like to thank local authorities for their work so far and still to come as they develop their LHEES, and which will help achieve our ambition to decarbonise Scotland's buildings.



A handwritten signature in black ink, appearing to read 'G Macgregor'.

Councillor Gail Macgregor,
COSLA Spokesperson for Environment
and Economy



A handwritten signature in black ink, appearing to read 'Patrick Harvie'.

Patrick Harvie MSP
Minister for Zero Carbon Buildings,
Active Travel and Tenants' Rights

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1. Local Heat and Energy Efficiency Strategies and Delivery Plans

The role of Local Heat and Energy Efficiency Strategies and Delivery Plans

1.1. Local Heat and Energy Efficiency Strategies (LHEES) are at the heart of a place based, locally-led and tailored approach to the heat transition. These local Strategies will underpin an area-based approach to heat and energy efficiency planning and delivery. LHEES Strategies will set out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area.

1.2. LHEES should be primarily driven by Scotland's statutory targets for greenhouse gas emissions reduction and fuel poverty:

- Net zero emissions by 2045 and 75% reduction by 2030¹.
- In 2040, as far as reasonably possible, no household in Scotland is in fuel poverty².

1.3. The LHEES Strategies should:

- set out how each segment of the building stock needs to change to meet national and local objectives, including achieving zero greenhouse gas emissions in the building sector, and the removal of poor energy efficiency as a driver of fuel poverty;
- identify strategic heat decarbonisation zones, and set out the principal opportunities and measures for reducing buildings emissions within each zone; and
- prioritise areas for delivery, against national and local priorities.

¹ [Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update, Scottish Government, 16 December 2020](#)

² [Tackling fuel poverty in Scotland: a strategic approach, Scottish Government, 23 December 2021](#)

1.4. Accompanying the Strategies will be Delivery Plans, which will be developed in partnership with key stakeholders, and provide a strong basis for action for local communities, government, investors, developers and wider stakeholders, pinpointing areas for targeted intervention and early, low-regrets measures.

LHEES function and scope

1.5. LHEES should set out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area, framed around the following LHEES Considerations set out in Table 1 below. More detail on the LHEES Considerations can be found in Annex A – LHEES Considerations.

1.6. Local authorities should ensure that these Considerations are set out against their own local priorities and drivers for completing an LHEES, as well as the relevance for them. For example, it is acknowledged that not all local authorities have on- or off-gas properties. Additionally, depending on the focus for delivery, the LHEES Considerations should not be taken into account in isolation, and it may be worthwhile to combine analysis to consider more than one Consideration at a time.

Table 1: Summary of the LHEES Considerations

	No.	LHEES Considerations	Description
Heat decarbonisation	1	Off-gas grid buildings	Transitioning from heating oil and LPG in off-gas areas
	2	On-gas grid buildings	On-gas grid heat decarbonisation
	3	Heat networks	Decarbonisation with heat networks
	4	Poor building energy efficiency	Poor building energy efficiency

Energy efficiency and other outcomes	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

1.7. Spatial zoning should be considered as part of LHEES. To support and differentiate between zones that support the Strategy and the Delivery Plan, two types of spatial zones are proposed; Strategic Zones (presented in the LHEES Strategy) and Delivery Areas (presented in the LHEES Delivery Plan, and in the LHEES Strategy, if strategically important for the local authority).

- 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 pre-defined geographical areas like intermediate zone or data zone (see Appendix B – Glossary for definitions) or they could cover a local authority’s existing place-based activity or city-wide strategic development areas. 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.
- 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, 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). In practice and depending on the nature of Delivery Plan actions, a Delivery Area may

comprise of streets or blocks, be a subset area of existing place-based or city-wide activity, or be centred around specific technology interventions.

- 1.8.** The zones represent an important starting point for a range of policies and actions that are within the competence of the Scottish Government, local authorities and wider partners. They will be used to guide the design of policy levers, such as advice, funding programmes and regulation, which will give further direction and clarity to delivery routes and timescales. These may include any regulatory requirements to improve the energy performance of existing buildings or reduce emissions associated with their heat supply. Note however, the identification of Strategic Zones and Delivery Areas through the LHEES Strategies and Delivery Plans will be indicative and can be updated when required.
- 1.9.** The scope of LHEES is focused on energy efficiency and heat decarbonisation. It does not extend to wider local energy system planning directly. However, the production of an LHEES will not preclude local authorities undertaking wider local energy planning. LHEES should be an important building block for wider local energy planning and where deemed applicable, this should be taken into account during its development.
- 1.10.** The UK Government will take decisions on the role of hydrogen in the Great Britain gas network from 2026. This does not prevent local authorities from considering the strategic role hydrogen may play, as part of their LHEES.
- 1.11.** LHEES should:

 - Be evidence based;
 - Cover the full building stock within the local authority, including the domestic and non-domestic sectors, so far as reasonably possible;
 - Be developed in collaboration with stakeholders;

- Be a corporate document, agreed and supported by all relevant local authority departments;
- Be linked to any previous LHEES³ to show progress achieved against outcomes and to carry forward outstanding actions, as appropriate;
- Demonstrate how it supports equality and addresses inequality;
- Be developed using extensive and inclusive engagement and consultation;
- Be forward looking;
- Be delivery focussed, working towards local, regional and national targets;
- Be clear, concise and easy to read;
- Be open and transparent regarding the data used, and its associated limitations in terms of scope, accuracy and coverage;
- Be continuously reviewed with progress monitored through the Delivery Plan.
- Be consistent with the abbreviations and terms set out in Annex B - Glossary.

Heat in Buildings Strategy

1.12. The Heat in Buildings Strategy⁴ outlines the steps the Scottish Government will take to reduce greenhouse gas emissions from Scotland's homes, workplaces and community buildings and to ensure that poor energy performance is removed as a driver of fuel poverty. The focus of the Strategy is on energy demand for space and water heating in homes, workplaces and community buildings.

1.13. In addition to Scotland's statutory targets for greenhouse gas emissions reduction and fuel poverty (as referenced above in paragraph 1.2), LHEES

³ [Local Heat and Energy Efficiency Strategy \(LHEES\) pilot programme: synthesis evaluation, Scottish Government, 14 January 2022](#)

⁴ [The Heat in Buildings Strategy, Scottish Government, 7 October 2021](#)

should reflect the following objectives to the pathway for net zero, as set out in the Heat in Buildings Strategy:

- By 2045 our homes and buildings no longer contributing to climate change, as part of the wider just transition to net zero.
- By 2033 all homes have the equivalent of EPC C where technically and legally feasible and cost effective.⁵
- By 2025 all private rented sector homes to reach a minimum standard equivalent to EPC C, where technically feasible and cost-effective⁵, at change of tenancy, with a backstop of 2028 for all remaining existing properties.
- By 2030 the large majority of buildings achieve a good standard of energy efficiency.
- By 2030 emissions from buildings have to be 68% lower than 2020 levels, which requires zero emissions heating in:
 - The vast majority of 170,000 off-gas Fossil fuel heated homes
 - At least 1 million on-gas homes
 - The equivalent of 50,000 non-domestic buildings

Guidance overview

1.14. The aim of this guidance is to set out the production and content requirements for a local authority to prepare a Local Heat and Energy Efficiency Strategy and Delivery Plan.

1.15. 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.

⁵ There may be occasions when the measures needed to improve a buildings energy performance to the standard required are not possible. This include, but are not limited to, the method of construction, the cost of measures required, the measures having an unacceptable negative impact on the fabric or structure, or the need for 3rd party permissions (where this is not forthcoming). In such cases, we would expect these properties to achieve the highest standard possible, installing those measures recommended by the EPC assessment as being technically feasible and cost-effective for that building.

- 1.16.** The requirements that the Scottish Government would expect to see addressed in Local Heat and Energy Efficiency Strategies and Delivery Plans are highlighted throughout this guidance.
- 1.17.** LHEES is likely to evolve as the Scottish Government introduces future standards and regulation, as well as new delivery and funding programmes. This guidance is framed around what can be delivered now given the existing and known policy landscape, and sets out requirements for the first iteration of LHEES published by the end of 2023.
- 1.18.** Completion of LHEES Strategies and Delivery Plans by each local authority will support the Scottish Government to understand further the national landscape for the delivery of heat decarbonisation and where there are potential gaps to support the needs and aspirations of local authorities. It should also help to ensure that local authorities are supporting actors delivering changes to buildings and local infrastructure at a suitable rate to help achieve national targets as set out in the Heat in Buildings Strategy, and that there is a level of standardisation and consistency between local authority LHEES Strategies and Delivery Plans.
- 1.19.** The Scottish Government have also provided an LHEES Methodology to local authorities. This is a more detailed, step by step approach, including models, tools and templates, and represents best practice in how to produce an LHEES. The execution of this methodology alone is not expected to ensure the delivery of a full LHEES. However, it does provide a strong foundation for the local authority with respect to the coordination and technical roles required of LHEES, which local authorities can modify and advance to suit their own preferences and local context. Local authorities are not required to use the methodology and are welcome to take alternative approaches to meet the requirements set out in this guidance. Please contact LHEES@gov.scot for the latest version of the LHEES Methodology.

2. Requirements

The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022⁶

2.1. The LHEES Order places a duty on local authorities to prepare, publish and update a Local Heat and Energy Efficiency Strategy and Delivery Plan.

2.2. The Order requires local authorities to:

- publish its first Local Heat and Energy Efficiency Strategy and its first Local Heat and Energy Efficiency Delivery Plan on or before 31 December 2023.
- keep its Local Heat and Energy Efficiency Strategy and its Local Heat and Energy Efficiency Delivery Plan under review.
- publish an updated Local Heat and Energy Efficiency Strategy and Delivery Plan at intervals of no more than 5 years after the date of publication of the previous Strategy and Delivery Plan.
- have regard to the guidance when preparing its Local Heat and Energy Efficiency Strategy and Delivery Plan

2.3. The Order defines a Local Heat and Energy Efficiency Strategy 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.

2.4. The Order defines a Local Heat and Energy Efficiency Delivery Plan as a document setting out how a local authority proposes to support implementation of its Local Heat and Energy Efficiency Strategy.

⁶ [The Local Heat and Energy Efficiency Strategies \(Scotland\) Order 2022](#)

The Heat Networks (Scotland) Act 2021

- 2.5.** Section 47 of the Heat Networks (Scotland) Act⁷ places a duty on local authorities to carry out a review to consider whether one or more areas in its area is likely to be particularly suitable for the construction and operation of a heat network.
- 2.6.** In carrying out a review under Section 47(1), a local authority must have regard to the matters mentioned in Section 48(1).
- 2.7.** The LHEES Methodology sets out an approach to support local authorities to discharge this duty.
- 2.8.** Section 47(4) – the decision to proceed to consider whether to designate the area as a heat network zone in accordance with Section 48 and; Section 47(6) – the publishing of a statement in relation to each area considered as part of the review, are being considered separately by Scottish Government.
- 2.9.** The designation of a heat network zone (as described in Section 48 of the Heat Networks (Scotland) Act) is being considered separately by the Scottish Government.

National strategies, priorities, plans and targets

- 2.10.** Other national strategies, priorities, plans and targets that should be considered when developing and implementing an LHEES include, but are not limited to:
- The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019⁸
 - Update to the Climate Change Plan 2018–2032⁹

⁷ [Heat Networks \(Scotland\) Act 2021](#)

⁸ [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)

⁹ [Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update, Scottish Government, 16 December 2020](#)

- The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019¹⁰
- Programme for Government¹¹
- The Heat in Buildings Strategy 2021
- Energy Efficiency Standard for Social Housing (EESH 1&2)¹²
- The Scottish Energy Strategy 2017¹³ (update due in 2022)
- The National Planning Framework¹⁴ (NPF4 due in 2022)
- Hydrogen Policy Statement 2020¹⁵
- Housing to 2040¹⁶ (2021)
- Tenements (Scotland) Act 2004¹⁷
- Historic Environment Policy for Scotland 2019¹⁸
- The Planning (Listed Building Consent and Conservation Area Consent Procedure) (Scotland) Regulations 2015¹⁹
- Heat Networks Delivery Plan²⁰
- Local Energy Policy Statement²¹

Local strategies, priorities, plans and targets

2.11. Local strategies, priorities, plans and targets that should be considered when developing and implementing an LHEES could include, but are not limited to:

- Local Housing Strategies
- Local Development Plans
- Local Outcome Improvement Plans or Community Plans
- Corporate Plans or City Plans
- Climate Change Strategies
- Fuel Poverty Strategies

¹⁰ [Fuel Poverty \(Targets, Definition and Strategy\) \(Scotland\) Act 2019](#)

¹¹ [A Fairer, Greener Scotland: Programme for Government 2021-22, Scottish Government, 7 September 2021](#)

¹² [Energy efficiency in social housing - Home energy and fuel poverty, Scottish Government](#)

¹³ [The future of energy in Scotland: Scottish energy strategy, Scottish Government, 20 December 2017](#)

¹⁴ [National Planning Framework, Scottish Government](#)

¹⁵ [Scottish Government Hydrogen Policy Statement, Scottish Government, 21 December 2020](#)

¹⁶ [Housing to 2040, Scottish Government, 15 March 2021](#)

¹⁷ [Tenements \(Scotland\) Act 2004](#)

¹⁸ [Historic Environment Policy for Scotland, Historic Environment Scotland, 5 April 2019](#)

¹⁹ [The Planning \(Listed Building Consent and Conservation Area Consent Procedure\) \(Scotland\) Regulations 2015](#)

²⁰ [Heat networks delivery plan, Scottish Government, 31 March 2022](#)

²¹ [Local Energy Policy Statement, Scottish Government, 6 January 2021](#)

- Economic Strategies
- Local Energy Plans, or Energy Planning Strategies or District Heating Strategies
- Community Energy Plans or Strategies
- Strategic Housing Investment Plan
- Joint Health and Social Care Partnership
- Open Space Strategy
- Council Asset Plan or strategy
- Local Plans or Place Plans
- Any designated Heat Networks Zones

2.12. Regional, community, sector, organisation and business plans should also be considered where appropriate.

2.13. LHEES should have specific interaction with local authorities' Local Housing Strategies (LHS). Section 11 of the LHS guidance 2019²² makes reference to LHEES. This LHEES Guidance will not change the reporting duties on fuel poverty, energy efficiency and climate change set out in the LHS guidance. Instead, the analysis required to produce LHEES, along with the resulting Strategies and Delivery Plans will provide key evidence to support reporting in the LHS. At the same time, the outcomes and actions set out in the LHS should feed into and shape LHEES.

2.14. Our Draft National Planning Framework 4 (NPF4) included policy proposals around Local Development Plans having to consider LHEES and heat network when allocating land. We laid our draft Fourth National Planning Framework (NPF4) in the Scottish Parliament on 10 November 2021. Alongside Parliamentary scrutiny of the draft, we ran a public consultation, supported by an extensive engagement programme, with comments invited by 31 March

²² [Local Housing Strategy: guidance 2019, Scottish Government, 15 September 2019](#)

2022. We are now carefully considering the broad range of views shared with us before laying a finalised NPF4 in the Scottish Parliament in autumn 2022.

2.15. Local Development Plan sites should be considered when undertaking zoning as part of LHEES, in particular feeding into potential heat network zones.

2.16. Local authorities should consider funding and resource available to support their LHEES Delivery Plan from both public and private sources.

Impact assessments

2.17. Local authorities should consider what impact assessments may be required to be carried out to support the development of LHEES. Impact assessments to be considered include:

- Business and Regulatory Impact Assessment (BRIA)
- Child Rights and Wellbeing Impact Assessment (CRWIA)
- Data Protection Impact Assessment (DPIA)
- Equalities Impact Assessment (EqIA)
- Fairer Scotland Duty (FSD)
- Island Communities Impact Assessment (ICIA)
- Strategic Environmental Assessment (SEA)

2.18. The Scottish Government expects listed public authorities in Scotland to assess the impact of their policies or practices against the requirements of the Equality Act 2010, and to publish the results of those assessments.

2.19. It should be noted that the Scottish Government carried out a Business and Regulatory Impact Assessment on the LHEES Order²³.

²³ [LHEES Order BRIA, Scottish Government, 11 March 2022](#)

2.20. Impact assessments²⁴ were carried out on the Scottish Government's Heat in Buildings Strategy and may be relevant to any impact assessments carried out by local authorities in the development of LHEES.

Publication requirements

2.21. The Local Heat and Energy Efficiency Strategies (Scotland) Order 2022 requires that a local authority must publish its first Local Heat and Energy Efficiency Strategy and Delivery Plan on or before 31 December 2023.

2.22. Strategies and Delivery Plans may be published as one or separate documents and should be published on the local authority's website following formal adoption by the Council.

2.23. Public consultation should be undertaken on draft Strategies and Delivery Plans before they are adopted and published. This consultation should follow the local authorities own processes and practices. See the Stakeholder Engagement guidance in Section 3 for more details on consultation.

2.24. Local authorities are not required to formally submit Strategies and Delivery Plans to Scottish Ministers for approval, however the Scottish Government would welcome the opportunity to review a summary of draft Strategies and Delivery Plans and provide feedback.

2.25. Strategies and Delivery Plans should be published in accordance with accessibility standards, including the Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018.

²⁴ [Heat in Buildings Strategy BRIA, Scottish Government, 11 November 2021](#)
[Heat in Buildings Strategy CRWIA, Scottish Government, 11 November 2021](#)
[Heat in Buildings Strategy EqIA, Scottish Government, 19 November 2021](#)
[Heat in Buildings Strategy FSD, Scottish Government, 11 November 2021](#)
[Heat in Buildings Strategy ICIA, Scottish Government, 11 November 2021](#)
[Heat in Buildings Strategy SEA, Scottish Government, 26 February 2021](#)

- 2.26.** A significant amount of data and analysis will sit behind the Strategies and Delivery Plans. Local authorities should liaise with the Scottish Government to share appropriate data to enable a national picture of heat decarbonisation pathways to be created, and for relevant and appropriate data to be shared, for example with technical consultants, through national portals such as the Scotland Heat Map and/or the Improvement Service.
- 2.27.** When sharing, publishing or otherwise releasing information, either in electronic or hard copy, regardless of the format of the information, it is important to ensure compliance with both the terms of the Scotland Heat Map Framework Agreement²⁵, Home Analytics and Non-domestic Analytics and, with respect to Ordnance Survey data, the Public Sector Geospatial Agreement (PSGA). In particular, attention should be paid to framework document 2.2 Metadata, Limitations and Data Management, which outlines restrictions on the use of data included in the Heat Map.
- 2.28.** The Scotland Heat Map includes data from Ordnance Survey (OS) premium products. As PSGA members, each Scottish Local Authority is permitted to use this data. It is important to remember, however, that compliance with OS licence terms is the responsibility of each individual local authority. The Scottish Government cannot advise on the sharing or publication of OS data. More information on the PSGA licence, including details of what is and is not permitted, is available from the Ordnance Survey website²⁶.
- 2.29.** The information shared by the Scottish Government with Local Authorities in support of LHEES is not permitted to be used for financial gain or profit.
- 2.30.** The Scottish Government as with other public sector bodies remains subject to Freedom of Information legislation.

²⁵ [Scotland Heat Map Framework Agreement](#)

²⁶ [Public sector licensing guide - Ordnance Survey](#)

3. Guidance to develop a Strategy and Delivery Plan

- 3.1. A structured approach should be used when preparing an LHEES and should broadly follow the stages set out in Figure 1.
- 3.2. During the development of a Strategy and Delivery plan, stakeholder engagement should be a continuous process. This engagement should be considered in the context of wider local authority engagement and aligned where possible. Text boxes have been included for each stage below to provide an indication for such activity.

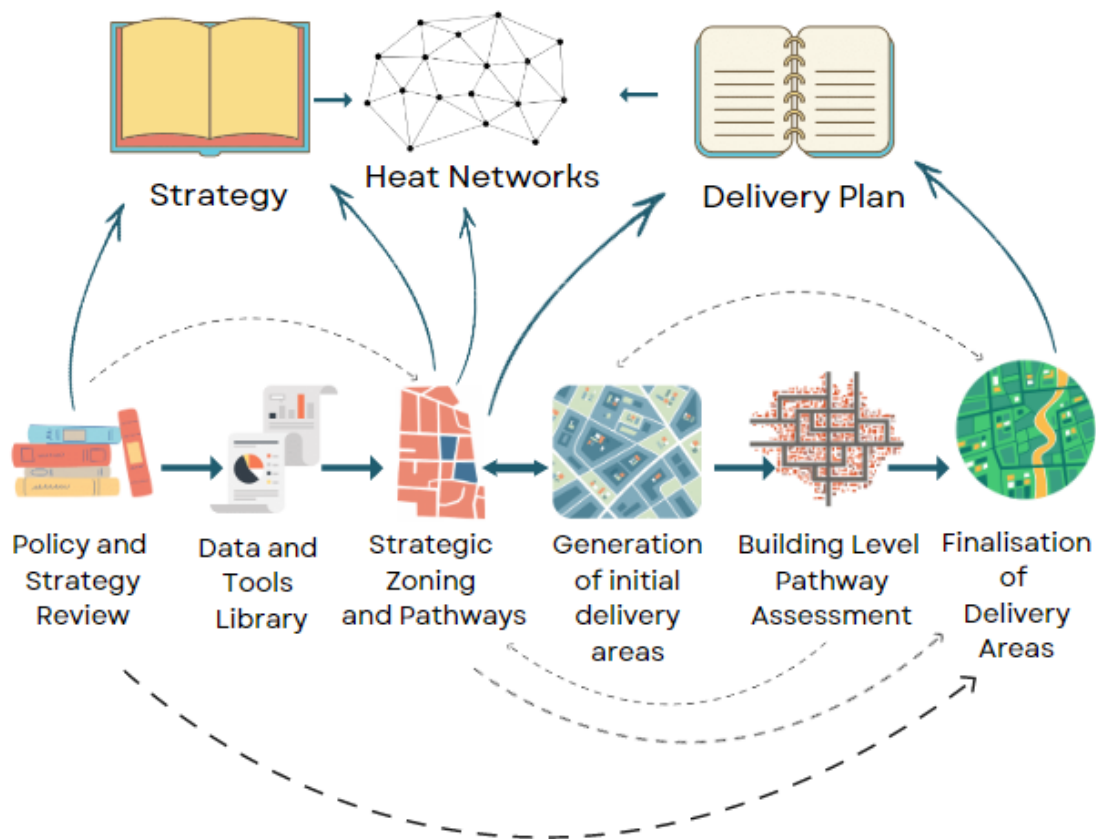


Figure 1: LHEES Process Diagram

3.3. Policy and strategy review

The local authority should complete a review to set out the national and local policies, targets and strategies that are linked to, impact, or could be impacted by LHEES. The review should provide an opportunity for the local

authority to consider how the national policy landscape can be linked to local drivers, where LHEES is concerned, as well as setting out what the local authority should prioritise strategically across its area – these could be specific LHEES Considerations and/or wider policy ambitions.

Moreover, the local authority should capture and map from the outset key internal and external stakeholders that could support their LHEES, as well as what their own priorities are around fuel poverty, heat decarbonisation (including specifically heat network development) and energy efficiency. Stakeholder engagement should be regarded as a continuous process and should occur at each main stage of LHEES. Funding resources and support available to the local authority should also be identified and the heat in buildings regulation that LHEES should support set out. These in turn should all support any later analysis and Delivery Plan actions.

Where applicable, for example with Distribution Network Operators (DNOs) and for the development of heat networks from strategy to projects, specific engagement plans and activity should be developed that set out the main coordination and engagement considerations. These should be used during the preparation and delivery of an LHEES.

A structured approach should be taken to carrying out the policy and strategy review, with a record generated and maintained to capture the below information. This record should then be referred to throughout the development of an LHEES.

- National and regional strategies and targets;
- Local strategies and targets;
- Indicators, which are used for the core LHEES analysis and evidence base (see Annex B - Glossary for a definition of Indicators and Weightings to support understanding here);

- Internal and external stakeholders essential to delivery of the national / local strategies and targets – and their priorities;
- Funding resources available to local authorities;
- Regulation in relation to heat in buildings.

Output: a record of the policy and strategy review and stakeholder mapping activities should be produced, as well as a concise non-technical summary to support engagement with wider internal and external stakeholders.

Stakeholder Engagement

- Internal stakeholders that are to be responsible for the development and implementation of the LHEES Strategy and Delivery Plan should be identified to support internal governance and cross council coordination.
- Internal stakeholders responsible for developing local plans, strategies and policy that relate to LHEES should be identified and mapped, with a view to reflecting these priorities in the framing of LHEES. Likewise, a similar exercise should be undertaken for any relevant external stakeholders.
- For each LHEES Consideration relevant internal and external stakeholders should be identified and mapped, with a view to engaging and collaborating with them during the preparation and delivery of an LHEES.
- The mapping exercise should consider: the level of influence and impact that the local authority has on the stakeholder and; the level of influence and impact the stakeholder has on fulfilling the ambitions of LHEES.
- Key internal stakeholders should include: housing, planning, energy services, economic development, estates and community planning etc, as well as those that may be required to champion specific activity e.g. heat network development. Key external stakeholders should include: DNOs, Gas Distribution Networks (GDNs), NHS, Energy Saving Trust and Home Energy Scotland, registered social landlords, business groups, local communities and local community energy groups, existing heat network providers, producers of waste heat (e.g. industrial or energy production facilities) any delivery partners etc.

- Public sector organisations should be an early key focus to allow exploration of opportunities for coordinated action on decarbonisation of heat, including the identification of public buildings that could act as anchor loads in any heat network.

3.4. Data and tools library

A data library should be used to identify the most appropriate data and information needed to support analysis in subsequent stages of the LHEES process.

The library should capture data requirements required to complete the analysis for LHEES. These could be arranged for the LHEES Considerations collectively and could be sorted according to whether it is a core dataset, or alternative or supplementary data. Core data is regarded as essential data required to complete the LHEES analysis. Alternative or supplementary data could be data that could be used either instead of the core datasets or allows inclusion of additional information to inform specific, local priorities and targets.

The data library should be maintained and updated for all LHEES activity, acting as a record of data sets used and capturing associated detail on ownership, data sharing, key contacts etc. for future reference.

Output: a data and tools library.

Stakeholder Engagement

- Stakeholders responsible for core datasets, and if necessary, any other types of datasets should be identified and engaged with a view to supporting the data library, as well as the sharing of relevant data to prepare the LHEES.
- Any relevant stakeholder engagement plans should be referred to, for example with DNOs and other utility companies, which may allow integration of data sets if required.

- Data sharing agreements should be established if working with any consultants to prepare the LHEES.
- If core datasets such as Home Analytics, Non-domestic Analytics and the Scotland Heat Map are used, local authorities should engage with Energy Saving trust and the Scottish Government Heat Map team to ensure that these are up to date with respect to the local authority's building stock.

3.5. Strategic zoning and pathways

A baseline should be established that sets out the current building characteristics and energy efficiency and heat decarbonisation performance of the building stock at a local authority wide level.

The local authority should also complete further analysis to set out Strategic Zones and pathways for each LHEES Consideration, as far as reasonably possible. These could, for example, be split out by pre-defined geographical areas like intermediate zone or data zone or other (existing) strategic areas and would depend on the preferences and circumstances of the local authority. These spatial zones should identify potential solution(s) at a strategic level for inclusion in the LHEES Strategy. The analysis should set out the strategic starting point to support follow on generation of, and prioritisation of Delivery Areas, as well as further engagement and actions for the Delivery Plan. Furthermore, it may set out strategic areas of focus for wide scale delivery or where specific technologies may be required (without the need for further consideration of Delivery Areas etc.).

For the heat networks LHEES Consideration specifically, the local authority should complete analysis to identify zones where heat networks present a potential decarbonisation option. In relation to the requirements set out in the Heat Networks (Scotland) Act Section 47, a local authority should carry out a review to consider whether one or more areas in its area is likely to be particularly suitable for the construction and operation of a heat network. As part of this, the local authority should consider and present evidence relating

to the matters set out within Section 48(1) of the Heat Networks (Scotland) Act. This evidence can be used in the presentation of potential zones for heat networks in the Strategy and to develop actions in the Delivery Plan.

Output: a baseline should be created that sets out, as far as reasonably and practically possible, the performance of all buildings in the local authority area with regards to their building characteristics including energy efficiency and heat supply, and establishes Strategic Zones with respect to the LHEES Considerations. The local authority should complete and document analysis on heat network zoning, following the review under Section 47(1). This will help comply with the requirements set out for this sub-section of the Heat Networks (Scotland) Act.

Stakeholder Engagement

- For each LHEES Consideration, relevant internal and external stakeholders should be consulted and engaged, using the Strategic Zones and pathways outputs.
- Feedback from this process should be taken into account and reflected in any refinement to the Strategic Zones and pathways.
- Any specific engagement plans from the policy and strategy review should be referred to.
- For heat networks specifically, stakeholders should be identified and engaged to sense-check zoning outputs with local knowledge. This would highlight any data issues or irregularities that show up in potential zones e.g. significant heat sources or demands that are missing or are over-representations. Additionally, engagement should support the categorisation and prioritisation of heat networks that may be considered strategically important for the local authority, and which are likely to be taken forward for inclusion in the Strategy and Delivery Plan.

3.6. Generation of initial delivery areas

The local authority should build from the Strategic Zones and pathways analysis to generate initial Delivery Areas for each of the LHEES Considerations. This analysis should be at a higher granularity than Strategic Zones and should enable the local authority to understand specific locations of potential Delivery Areas within a Strategic Zone or across the whole local authority.

In practice, this could be clusters of buildings that have similar levels of poor building energy efficiency, have similar pathways or technology interventions to decarbonise the heating system, have similar heritage status or could be a smaller subset of buildings considered as part of existing place-based or city-wide activity.

The level of granularity and the approach taken to establish initial Delivery Areas is a decision for the local authority and will need to reflect their own preferences and working practices. Nevertheless, the local authority should consider the detail included as part of the policy and strategy review and any engagement undertaken so far to support identification of initial delivery areas and focus (covered below in bullet point form), with a view to later finalising the Delivery Areas to support actions to be set out in the Delivery Plan.

- Specific priorities, local drivers and/or geographic areas that the local authority has set out as strategically important in relation to heat in buildings;
- Wider policy and programmes of work that LHEES is to support regionally and locally;
- Relevant internal and external stakeholders that should be engaged or re-engaged; for example, for the purposes of getting buy-in and developing joint-actions;
- Relevant funding and delivery programmes that could be utilised to support LHEES Delivery actions;

- Relevant regulation that could support the prioritisation of delivery;
- Consideration of constraints, resources and new/ future developments that could impact any decision to finalise a Delivery Area – this includes any level of disrepair to the building stock.

This analysis should serve 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. These Delivery Areas should then support actions in the Delivery Plan that are within the competence of the Scottish Government, local authorities and wider partners.

Output: analysis that establishes the initial Delivery Areas for each LHEES Consideration and/or focus for Delivery Plan actions.

Stakeholder Engagement

- For each LHEES Consideration, relevant internal and external stakeholders (including local communities local community energy groups) should be consulted and engaged, to allow them to provide feedback and provide any additional local contextual information or data that could support the generation of initial Delivery Areas.
- Feedback from this process should be taken into account and reflected in any refinement to the initial Delivery Area analysis.
- Any specific engagement plans from the policy and strategy review should be referred to.

3.7. Building-level pathway assessment

An assessment should be undertaken at the building-level to establish in more detail the type of intervention(s) required to decarbonise the building from a heating and energy efficiency perspective. This assessment should focus in particular on buildings that fall within initial delivery areas to help support decisions for finalising delivery areas and actions for the Delivery Plans. This

assessment should also show regard for the costs and carbon savings associated with the interventions. An example tool that could be used for this assessment for the domestic building stock is the Energy Saving Trust's PEAT tool – available to all local authorities.

Aggregation may be required either at the strategic planning level or at a delivery level, depending on whether it is to inform the Strategy or actions in a Delivery Plan. Consideration should be shown with respect to the building owner/operator, as a means to support engagement, planning and investment (as part of any Delivery Plan actions).

Whilst there is no formal requirement to undertake socio-economic or techno-economic analysis in the development of LHEES Strategies, local authorities should consider any wider analysis that may be required to support their LHEES, or importantly, to include the analysis as an action in the Delivery Plan e.g. the completion of feasibility studies to support heat network development.

Output: for any initial Strategic Zones or Delivery Areas, a building-level pathway assessment of the domestic building stock, summarising at a building-level or aggregated level an indication of the potential measures, costs and CO₂ abatement involved with improving energy efficiency and low carbon heat performance. As far as reasonably relevant and possible, a similar exercise for the non-domestic building stock.

Stakeholder Engagement

- Key stakeholders should be engaged on a) the initial delivery areas and/or buildings that are to be assessed and b) the outputs of any building-level pathway assessment undertaken.
- This could be internal stakeholders responsible for investment and delivery or external stakeholders that will be required to invest in their own building stock e.g. building owners and the wider community.

- Any specific engagement plans from the policy and strategy review should be referred to.

3.8. Finalisation of Delivery Areas

The finalisation of Delivery Areas will be an important starting point for identifying a range of projects 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).

The local authority should consider the Strategic Zones, initial Delivery Areas and any building-level assessment alongside the detail included as part of the policy and strategy review and any engagement undertaken so far.

Specifically, the local authority should review the checks set out when generating the initial Delivery Areas, with a view to now finalising these to support actions to be set out in the Delivery Plan. Importantly, this cross-checking should be regarded as a two-way process, with the finalisation of Delivery Areas and cross-checks from the policy and strategy review informing each other. The number of Delivery Areas will be informed by this process, as well as the type of actions taken forward in the actual Delivery Plan.

Furthermore, it is recognised that not all buildings within a Delivery Area may be suitable for the particular heat decarbonisation solution proposed.

In terms of heat networks, following the 'Strategic zoning and pathways' stage, zones that are to be presented in the Strategy should be agreed and finalised. Again, checks against the points set out when generating the initial Delivery Areas should also be considered here, as well as how the local authority intends to progress from the LHEES to the development of a pipeline of work. This finalisation may be in relation to areas designated as heat network zones (in accordance with the Heat Networks (Scotland) Act); areas where the local authority consider the area likely to be particularly suitable for the construction

and operation of a heat network and; other areas that may be considered as being of strategic importance for the local authority (e.g. wider area development and other local authority priorities).

The specifics for the finalisation of Delivery Areas and resultant actions in the Delivery Plan will be unique to each local authority. Furthermore, it is expected that any generation of Delivery Areas and subsequent finalisation will be an iterative process that is updated on an ongoing basis and reflected alongside actions in the Delivery Plan.

Output: the finalisation of Delivery Areas to support and accompany actions set out in the Delivery Plan.

Stakeholder Engagement

- Relevant internal and external stakeholders should be consulted and engaged, to allow them to provide feedback on a) the analysis and outputs of the work to date and b) the outcomes of the cross-checking against parts of the policy and strategy review record.
- Engagement should seek to finalise the Delivery Areas to support actions to be set out in the Delivery Plan, including the finalisation of any heat network zones.
- Any specific engagement plans from the policy and strategy review should be referred to.

4. Producing Strategy and Delivery Plan Documents

Local Heat and Energy Efficiency Strategies

- 4.1. The first LHEES Strategy should present an understanding, at local authority level and across the LHEES Considerations, of the scale of the challenge for heat decarbonisation and energy efficiency improvement, alongside a strategic assessment of potential pathways, identifying areas where focus might be placed in terms of further engagement and delivery.
- 4.2. The approach taken and form of a local authorities' Strategy and Delivery Plan will be shaped by local context and priorities.
- 4.3. The target audience for the Strategy is local authorities, potential stakeholders (DNOs, GNOs, utilities etc.), potential developers (e.g. for heat networks), the general public, community groups, the Scottish Government and delivery partners.
- 4.4. A public consultation should be undertaken on draft Strategies and Delivery Plans before they are adopted and published. This consultation should follow the local authorities own processes and practices. Communities should be engaged during the development of the Delivery Plan to ensure local knowledge and views are considered as actions are developed.
- 4.5. Strategies should contain the following sections:
- 4.6. **Overview of LHEES** – an introduction to LHEES, its function and structure. Text can be taken from Section 1 of the LHEES Guidance and adapted to the local context.
- 4.7. **Engagement and consultation** – requirements for stakeholder engagement are included in Section 3. Stakeholder engagement and consultation activity

across the development of a local authority's LHEES should be summarised within the Strategy. This should include:

- LHEES delivery and governance structures, overview of any stakeholder mapping exercise, specific engagement plans and a summary of any other initial engagement and coordination activity;
- A summary of engagement on the outputs associated with the generation of Strategic Zones;
- A summary of engagement regarding the identification of potential zones for heat networks;
- A summary of engagement regarding the strategic long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area.
- As well as stakeholder engagement, the local authority should carry out a consultation on the draft Strategy. A summary of this consultation and how the local authority acted on the consultation responses should be included.

4.8. Local authority progress – a short literature review on the LHEES Considerations, including the Heat in Buildings Strategy, Heat Networks (Scotland) Act 2021, and Fuel Poverty (Scotland) Act 2019, as well as local authority targets and commitments.

- To support the understanding of the reader, as a minimum this review should cover heat decarbonisation; energy efficiency; fuel poverty (with a focus on energy efficiency as a driver); heat networks; technologies and measures e.g. heat pumps, biomass, hydrogen, insulation types; and

a summary of useful resources and support for energy efficiency and heating upgrades for private building owners.

- Local authorities and their wider partners will already be delivering against heat decarbonisation, energy efficiency improvements and fuel poverty alleviation. This Section should also showcase this ongoing activity.
- An important aspect of this Section is to set out where the Strategy could inform and build on this existing local activity, for example capital works programmes, progress towards EESSH and targeting for HEEPS:ABS.

4.9. Policy and strategy context - a summary of the national, regional and local heat and energy efficiency policy landscape, including a review of Scottish and UK policy and local policy and drivers relevant to LHEES.

- The LHEES Considerations should be used to identify relevant policy, e.g. policy related to heat decarbonisation, energy efficiency, heat networks and fuel poverty.
- This section should set out the relationships between national and local policy and strategy. It should also outline if there are any variations to targets at the local level, for example, if there are more stringent targets or aspirations in place, and where LHEES will sit as part of the local authority's policy and strategy portfolio.
- This is also an opportunity for local authorities to set out their own priorities for LHEES and whether any areas in the authority are of strategic importance. It should indicate how it could support decarbonisation in a wider context i.e. local energy systems, transport and any wider net-zero or climate change plans.

4.10. Considerations, Targets and Indicators – summary of the priorities, targets and indicators used to inform analysis of the LHEES Considerations. These are important as they should be used as the basis to benchmark and measure progress against in the LHEES Delivery Plan and any subsequent monitoring and evaluation activity. Given that these indicators and any associated criteria and weightings are subjective, the local authority should provide justification and rationale for these.

4.11. Baseline of local authority building performance - a thematic overview of how the local authority's building stock is performing (building characteristics, energy efficiency performance, fuel type, tenure, historic buildings etc). This could be in a tabulated format or using pie charts and graphs to create a summary of building stock performance.

- This should include an overview of the challenges and opportunities which the local authority faces in terms of heat decarbonisation (e.g. geographical, building archetype and tenure/use); comparison of local outputs with national averages where possible, to allow for more in-depth contextualisation; and any ongoing work across the local authority, which is likely to complement and support any challenges and opportunities identified.
- An examination of any core data indicators across the Strategic Zones should be included, structured for example around building characteristics (pre-1919 or construction type), energy efficiency (wall insulation, loft insulation or glazing); heating type and fuel; and tenure characteristics (social housing, owner occupied, listed buildings, mixed-tenure).
- This Section should allow for recommendations to be made that can be applied across a Strategic Zone; identification of interventions that could

support a multitude of priorities and targets; and an indication of the Strategic Zones that may be a focus of more granular spatial Delivery Areas (as set out in the LHEES Delivery Plan) and near-term programmes and projects.

4.12. Generation of Strategic Zones and pathways, including Potential Zones for heat networks – in this Section the local authority should present the Strategic Zones for the LHEES Considerations. These can be visualised as maps using GIS or tabulated.

- This section should set out at a strategic level what needs to be done to change buildings and relevant local infrastructure over the next 15-20 years to fulfil the Scottish Government's objectives and local priorities relating to heat and energy efficiency in buildings. At the highest level, findings can be presented as a summary table across all LHEES Considerations.
- *Building-level heat decarbonisation:* the heat decarbonisation pathways should indicate the potential opportunities for building-level low carbon heat at the strategic level. This should include setting out the scale of opportunities and potential challenges for heat decarbonisation for the local authority; visualisation of the Strategic Zones and geographic layout of the opportunities for building-level heat decarbonisation; recommendations and conclusions to be made that can be applied across the Strategic Zones for heat decarbonisation; and an indication of the Strategic Zones that may be a focus of more granular spatial Delivery Areas and near-term Delivery Plan actions, as well as Strategic Zone wide heat decarbonisation interventions.
- *Heat network zoning:* an overview map and/or table should be created detailing the whole local authority area, highlighting the potential heat

network zones within. The purpose of this is to be able to quickly examine the distribution of potential heat network zones, inform future stakeholder engagement and categorisation. High level maps of any areas of the local authority deemed as strategically important should also be presented here. This would set out, at a higher granularity, the potential for heat networks in this strategic area. If appropriate, the local authority should also present summary maps and tables for areas designated as heat network zones (in accordance with the Heat Networks (Scotland) Act); areas where the local authority consider the area likely to be particularly suitable for the construction and operation of a heat network and; other areas that may be considered as being of strategic importance for the local authority (e.g. wider area development and other local authority priorities). The Strategy should set out the scale of opportunities and potential challenges for heat networks; recommendations and conclusions in terms of heat network potential; and a consideration of next steps to progress from a strategy to a pipeline of potential heat network projects.

- *Energy efficiency and other outcomes:* The LHEES Considerations that focus on poor building energy efficiency, as well as mixed-tenure, mixed-use and historic buildings should start to indicate at the strategic level the potential opportunities for building-level energy efficiency retrofit and the number of buildings that may require additional focus through support and regulation in the future.

The Strategy should set out the:

- scale of opportunities and potential challenges for energy efficiency retrofit (including particular consideration of mixed-use, mixed-tenure and historic buildings) for the local authority;
- visualisation of the Strategic Zones to determine the geographic layout of opportunities for energy efficiency retrofit;

- recommendations and conclusions to be made that can be applied across the Strategic Zones for these LHEES Considerations;
 - an indication of the scale of the challenge for energy efficiency retrofit, in particular support for households where energy efficiency may be a driver of fuel poverty;
 - the number of buildings that may require additional focus through support and regulation in the future;
 - and an indication of the Strategic Zones that may be a focus of more granular spatial Delivery Areas and near-term Delivery Plan actions.
- Whilst the main focus of this section is the presentation of Strategic Zones, the local authority may decide to present maps and information in relation to any key Delivery Areas. These may be areas or clusters of buildings that reside within a Strategic Zone, or across several that are of strategic interest for the local authority and therefore important to convey to the reader the heat decarbonisation pathway and/or energy efficiency opportunities in this area.

4.13. Summary of LHEES Strategy findings and next steps - this section should conclude the main findings set out in the Strategy, summarising clearly and concisely the outputs and next steps.

- This should set out the long-term focus of LHEES at the strategic level and areas that will require further focus as Delivery Areas and supporting actions in the LHEES Delivery Plan. It should consider the local authority building stock baseline, the Strategic Zones and the potential for heat decarbonisation with respect to the identified national and local targets and ongoing progress across existing programmes.
- The summary should include short descriptions of progress and activity and/or a series of higher-level summary tables of the local authority level

heat decarbonisation potential, focussing on each LHEES Consideration, or where applicable, presented and aligned to Scottish Government regulation and standards.

- This summary should allow the local authority and other delivery stakeholders to start to consider prioritisation of delivery programmes and projects for future heat decarbonisation, as well as supporting the focus of more granular spatial areas for delivery level consideration. This activity is then to be taken forward in more detail in the Delivery Plan.
- The summary should consider now, how the content of the Strategy can be developed further to allow the local authority and wider partners to progress towards the realisation of projects in the Delivery Plan and beyond.

Local Heat and Energy Efficiency Delivery Plans

4.14. A Delivery Plan should set out how a local authority proposes to support implementation of its LHEES Strategy.

4.15. The first LHEES Delivery Plan should incorporate actions with a near-term (5-year) focus, to be published by the end of 2023.

4.16. The first Delivery Plan should be framed around what can be delivered now given the existing and known policy landscape, yet appreciate that its scope will evolve and broaden as the Scottish Government introduces future standards and regulation, as well as new delivery and funding programmes. It is expected that actions in the Delivery Plan should therefore be reviewed and updated on an ongoing basis.

4.17. Monitoring and evaluation should also be considered as part of the Delivery Plan process. Local authorities should develop a monitoring and evaluation

plan (MEP), building on existing MEPs, such as those used for Local Housing Strategies. These MEPs should also set out how the local authority are working towards national and local targets and any key performance indicators. They should also set out, as far as reasonably possible, a portfolio of projects that are to be taken forward, and track progress of ongoing projects related to LHEES.

4.18. In practice, actions in the Delivery Plan should draw upon the Delivery Areas and opportunities generated as part of the LHEES process. The local authority should finalise these Delivery Areas and opportunities by considering the LHEES Strategy, initial Delivery Areas and any building-level assessment. It should also consider them alongside the detail included as part of the policy and strategy review, specifically:

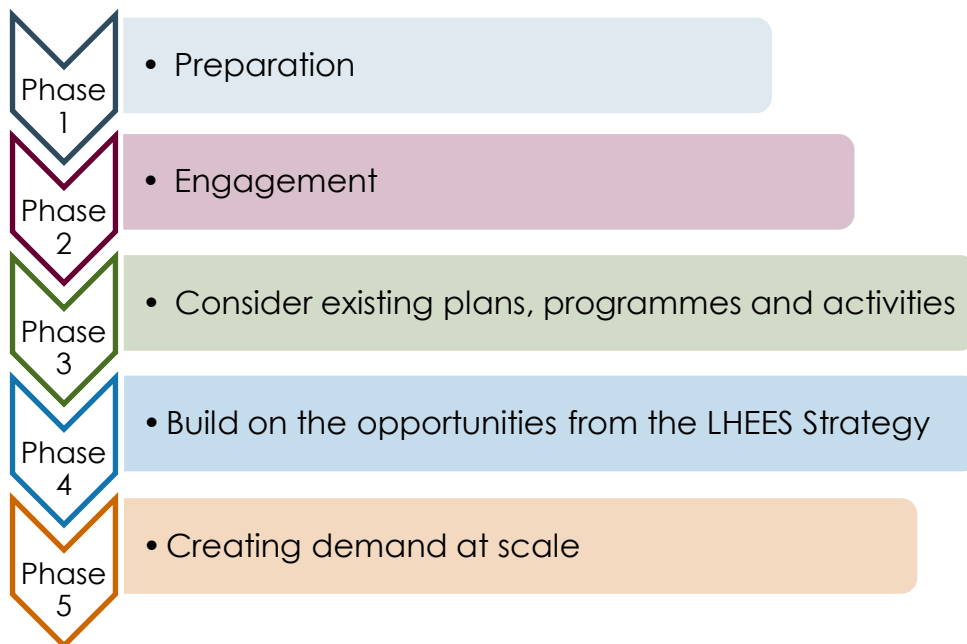
- Specific priorities, local drivers and/or geographic areas that the local authority has set out as strategically important in relation to heat in buildings;
- Wider policy that LHEES is to support regionally and locally;
- Relevant internal and external stakeholders that should be engaged or reengaged; for example, for the purposes of getting buy-in and developing joint-actions;
- Relevant funding and delivery programmes that could be utilised to support LHEES Delivery actions;
- Relevant regulation that could support the prioritisation of delivery;

- Consideration of constraints, resources and new/ future developments that could impact any decision to finalise a Delivery Area – this includes any level of disrepair to the building stock.

4.19. In practice, the Delivery Plan should consider near-term actions, opportunities and priority Delivery Areas to:

- Start the process of aligning the LHEES with existing plans, programmes and activity;
- Draw on existing funding programmes and schemes for fuel poverty, energy efficiency and heat decarbonisation and consider how these could be better integrated and targeted strategically;
- Alongside the designation of heat network zones under the Heat Networks (Scotland) Act 2021, start to develop a portfolio of projects and pipeline of activity such as for heat networks identified in the Strategy – these could be district level networks or smaller communal networks;
- Engage with, and promote more effective working with stakeholders around implementing prioritised Delivery Areas;
- Develop more targeted awareness and engagement campaigns in prioritised Strategic Zones and Delivery Areas (for both the public and key stakeholders) – in particular around fuel poverty alleviation;
- Identify gaps, where existing actions in the Delivery Plan are insufficient to meet the overall requirements set out in the LHEES Strategy;
- Focus on documenting and preparing an ongoing, longer-term pathway for buildings across the local authority, based on the LHEES Strategy – including consideration of the wider supply chain, delivery structures and business needs;

4.20. Local authorities should follow a structured approach to prepare Delivery Plans that consider the five phases set out below:



4.21. Phase 1 – Preparation: it is important to complete the necessary groundwork to enable the preparation of a strong Delivery Plan and wider programme of activity. The Strategy and Delivery Areas should be shared across the local authority, making sure those that need to know are involved in the development of the LHEES Delivery Plan.

- After the Strategy is complete, appropriate governance structures should be established for the purposes of delivery, monitoring and evaluation and; appropriate capacity and skills identified.
- Key stakeholders associated with delivery (internal and external) should be identified and mapped early on in the process and it is likely these may be the same stakeholders that were engaged and consulted during strategy development. Stakeholder influence and impact should also be taken into account during this exercise to support prioritisation.

- Specific engagement plans that focus on sharing the Strategy, partnering and collaboration and ultimately, delivery should be developed or refreshed for key stakeholders.
- Local authorities should start to prepare bespoke packs and presentation slides that are pitched at the different stakeholder groups, or for specific purposes (e.g. community engagement or engagement with senior Officers). This process should be iterative in relation to the Strategy content and the Delivery Plan Phases to follow.
- Examination of the Strategy may identify gaps and the need to collect more detailed data, or identify existing data sets that can be shared, or stakeholders that need to be engaged.
- Local authorities should reflect on national and local priorities and consider them against wider local needs that may have emerged. Once the Strategic Zones are set out in the Strategy, further prioritisation of outcomes will be required to determine potential programmes of work and phasing in the Delivery Plan.
- Senior LHEES 'champions' should be identified to support embedding LHEES delivery within the local authority's governance structures and processes. Other champions should also be identified that lead on other actions arising in the Delivery Plan, for example, heat network development.
- Delivery Plan actions should follow each local authority's existing governance processes for developing, testing and signing-off business cases for strategic action and investment.

4.22. Phase 2 – Engagement: LHEES will be delivered through partnering and collaborating with stakeholders and so actions should be set out in relation to this matter specifically.

- Building on Phase 1 – Preparation, an overarching approach for engagement should be set out.
- Local authorities should begin by engaging with any stakeholder groups that were established from the start of the LHEES Strategy development, with any new stakeholders identified as part of the Phase 1 – Preparation and where there are specific engagement plans in place.
- To understand the opportunities and constraints across Strategic Zones and Delivery Areas, engagement and collaboration with DNOs 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.
- In this Phase, the local authority should work towards developing actions that can be finalised as part of the next three Phases to follow.

4.23. Phase 3 - Consider existing plans, programmes and activity: where existing programmes of work or awarded funds are available across the local authority, actions should help enable local authorities to progress immediately with their Delivery Plan and LHEES work.

- Crossovers between the Strategic Zones and Delivery Areas identified as part of LHEES and other existing plans and strategies should be considered for opportunities for mutual benefit between them. This will involve gaining wider value from combining Delivery Plan actions with

other fuel poverty and social care, economic, regeneration, heat decarbonisation, skills and employment plans and policies, benefitting from common resources and funding mechanisms in near-term projects.

- In parallel with identifying the fuel poverty and heat decarbonisation interventions required, local authorities should consider supporting the wider actions and activities required to create a long-term pipeline of projects and the support they need to do this. The Strategy and initial Delivery Areas should provide an idea of the implications, scale of the projects, work required and the need for accelerating national and local supply chains, skills and training, standards setting, outcomes monitoring and public engagement.
- Consideration of this Phase should help local authorities work through how to bring various programmes, investment decisions and funding opportunities together under its Delivery Plan and to split interventions into near-term and longer-term actions – creating a portfolio of projects across different LHEES Considerations.
- This Phase links directly into the Phase that follows: Building on opportunities identified in the LHEES Strategy.

4.24. Phase 4 - Build on the opportunities from the LHEES Strategy: building on actions and commitments from Phase 3 above, and the LHEES Strategy (including the policy and strategy review), should help to set out how LHEES is to be used to create the foundation of actions and activity in the Delivery Plan.

- The policy and strategy review sets out wider local context and activity, as well as relevant funding, delivery programmes and regulation. Phase 3 actions (from above) set out how LHEES can support existing programmes of work across the local authority and develop a portfolio of projects.

Delivery Areas provide more granular area identification to indicate where clusters of buildings are located within Strategic Zones, as well as providing a vehicle to set out focus areas for wider actions and engagement.

- Actions in the Delivery Plan should build on the LHEES Strategy and the above, to support programme delivery, funding applications, stakeholder engagement, and behavioural change.
- In practice, this may be using the LHEES Strategy and Delivery Areas to evidence and support opportunities and actions that: build on existing programmes of retrofit activity; set out potential low-regret heat decarbonisation projects; produce a portfolio of heat network projects (for example, both district and communal networks and recognising the different stages of development (concept, business case development, feasibility etc) and commercial structures); set out potential pilot or demonstration projects; initiate long-term engagement programmes etc.
- These actions may utilise existing funding and support channels (e.g. HEPS:ABS, the Green Growth Accelerator and those related to heat networks). Local authorities may also find the LHEES evidence base helpful in targeting new business opportunities that would require actions to develop business cases, feasibility etc. and new work streams of activity (e.g. local authorities may use LHEES to target areas as part of local ECO flex schemes).

4.25. Phase 5 - Creating demand at scale: enabling action and interventions at a sufficient scale will help support both market growth and innovation, which can improve economies of scale and the cost-efficiency of heat decarbonisation interventions.

- LHEES Delivery Plans should begin with existing programmes of work, funding and support mechanisms and use the Strategy and Delivery Areas to ensure that these are strategically targeted and prioritised based on the improved evidence base, for example HEEPS:ABS, EESSH, pilot projects and capital spend.
- Local authorities should also seek to align policy and spend with business development cycles for the long-term policy consistency needed to create an investment climate. This should involve working across wider stakeholder partners and local authority boundaries where required and include consideration of supply chain and delivery structures.

Annex A – LHEES Considerations

As set out in Section 1, each of the following LHEES Considerations (summarised in Table 2) should be examined to set out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area.

Table 2: Summary of the LHEES Considerations

	No.	LHEES Considerations	Description
Heat decarbonisation	1	Off-gas grid buildings	Transitioning from heating oil and 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

Off-gas grid buildings. In order to meet our interim climate targets and ensure long-term delivery of our net zero objectives, by 2030 the vast majority of the 170,000 off-

gas homes that currently use high emissions oil, LPG, and solid fuels must convert to zero emissions heating. LHEES should identify low regrets off-gas heat decarbonisation pathways and opportunities at a strategic level and at a delivery level.

On-gas grid heat decarbonisation. To meet Scotland's statutory targets for emissions reduction, we must reduce significantly – and eventually phase out entirely – our use of natural gas. By 2030 at least 1 million homes will need to switch to zero emissions heat, away from high carbon heating such as gas. LHEES should identify potential on-gas heat decarbonisation pathways and opportunities at a strategic and delivery level.

Heat networks. LHEES should highlight zones within a local authority where heat networks present a potential decarbonisation option. Local authorities should consider heat demand density, the proximity of large heat demands that could form the basis of a network, and any opportunities or constraints relating to development potential e.g. proximity of identified zones to existing heat networks. Zoning that takes place within LHEES will serve as an initial analysis that will inform the designation of heat network zones. See Section 2 for more information on how LHEES interacts with local authorities' duties under the Heat Networks (Scotland) Act 2021.

Poor building energy efficiency. LHEES should identify possible locations at a strategic and delivery level where poor building energy efficiency exists across the local authority. This could be low levels of wall insulation, loft insulation or glazing – or a combination of these measures.

Poor building energy efficiency as a driver of fuel poverty. Poor building energy efficiency is a recognised factor that can contribute to fuel poverty. LHEES should identify possible locations at a strategic and delivery level where poor building energy efficiency acts as a driver for fuel poverty. Within areas of high fuel poverty,

this could be where low levels of wall insulation, loft insulation or glazing exist, potentially in combination. This should help to ensure that area-based energy efficiency and heat decarbonisation projects will be effective in reducing fuel poverty, as well as highlighting where extreme fuel poverty is prevalent and further measures and support may be needed.

Mixed-tenure, mixed-use and historic buildings. For mixed-tenure and mixed-use (including the non-domestic sector), building level intervention is likely to be the most effective way to reduce emissions caused by heating. For historic buildings (including those in listed buildings and conservation areas), these are categories that may require tailored approaches to the installation of zero emissions heat and energy efficiency solutions, or where specific advice and support might be available. Identifying such areas will enable the public sector to coordinate or regulate to achieve this outcome. LHEES should identify at a strategic and delivery level where there are buildings of mixed-tenure or mixed-use and also where there are historic buildings (covering listed buildings and conservation areas).

Annex B - Glossary

Abbreviations

Abbreviation	Description
EESSH	Energy Efficiency Standard for Social Housing
EPC	Energy Performance Certificate
EST	Energy Saving Trust
GIS	Geographic Information System
HEEPS:ABS	Home Energy Efficiency Programmes for Scotland: Area Based Schemes
LA	Local Authority
LHEES	Local Heat and Energy Efficiency Strategy
LPG	Liquefied Petroleum Gas
PEAT	Portfolio Energy Analysis Tool
SAP	Standard Assessment Procedure

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.

Data Zone	Data zones are groups of 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).
Indicator	<p>For a given Consideration, the purpose of an Indicator is:</p> <ol style="list-style-type: none"> 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. <p>For some Considerations, one Indicator may be sufficient, but for others a range may be appropriate.</p>
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 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 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 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.

Potential heat network zones

The analysis carried out for strategic zoning and pathways for the heat networks Consideration is to identify potential zones rather than the otherwise used naming convention of Delivery Areas. The potential zones identified are to be included in the LHEES Strategy and should inform actions around further

investigation / progression within the LHEES Delivery Plan. The heat networks Consideration analysis and activity carried out within LHEES is also anticipated to support activity related to formal zone designation as required by the Heat Networks (Scotland) Act 2021.

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 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.



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