WEST DUNBARTONSHIRE COUNCIL

Report by Chief Officer Regulatory & Regeneration

Infrastructure Regeneration and Economic Development Committee: 21 February 2024

Subject: Local Heat and Energy Efficiency Strategy (LHEES) 2024-2029

1. Purpose

1.1 The purpose of this report is to obtain approval for a draft Local Heat and Energy Efficiency Strategy (LHEES) 2024-2029.

2. Recommendations

2.1 The Committee is invited to:

(i) Approve the draft Local Heat and Energy Efficiency Strategy 2024-2029 and delegate authority to the Chief Officer Regulatory & Regeneration to deliver against this plan;

(ii) Authorise commencement of public consultation of draft LHEES, following approval; and

(iii) Authorise development of Local Heat and Energy Efficiency Delivery Plan (LHEEDP) in line with the draft LHEES.

3. Background

3.1 Scottish Government has set ambitious targets that aim to ensure our homes and buildings produce net zero carbon emissions and no longer contribute to climate change or fuel poverty by 2045. To meet these targets almost all homes, public buildings and businesses will need to increase their energy efficiency and install zero emissions heating. A statutory order was passed by the Scottish Government that requires all local authorities to develop Local Heat and Energy Efficiency Strategies (LHEES) and Delivery Plans. Locally-led planning, coordination and delivery of heat transitions across public and private sectors will ensure the specific needs of communities are met and LHEES will be the principal mechanism to develop this approach.

3.2 The LHEES for West Dunbartonshire will underpin an area-based, local authority wide approach to heat and energy efficiency planning and delivery. An LHEES sets out the strategic framework for decarbonising heat and improving energy efficiency within buildings in West Dunbartonshire. This Strategy is the first for West Dunbartonshire, and will be required to then be updated at intervals of no more than five years. The strategic plan has been

developed by following Scottish Government's LHEES methodology and is therefore framed around the following considerations:

- Heat Networks;
- Off Gas Buildings;
- On Gas Buildings;
- Poor Building Energy Efficiency / Poor Building Energy Efficiency as a Driver for Fuel Poverty; and
- Mixed Tenure, Mixed Use and Historic Buildings.

3.3 Delivering on their LHEESs is the principal way in which local authorities will contribute to achieving the ambitious targets set out in Scotland's Heat in Buildings Strategy. The Heat in Buildings Strategy (2021) sets the Scottish Government's vision for the future of heat in buildings, with targets for 2030 including:

- Emissions from homes and non-domestic buildings to fall by 68% (versus 2020);
- At least 22% of heat in buildings is to be directly supplied from renewable sources;
- Where technically and legally feasible, and cost-effective, a large majority of buildings should achieve a good level of energy efficiency; and
- Over 50,000 non-domestic buildings are converted to zero emissions heat.

3.4 LHEES Strategies should also consider how they contribute to meeting statutory targets for greenhouse gas emissions reduction and fuel poverty, including:

- Net zero emissions by 2045 and 75% reduction by 2030; and
- In 2040, as far as reasonably possible, no household in Scotland is in fuel poverty.

3.5 West Dunbartonshire Council's LHEES is further driven by local emissions and fuel poverty ambitions set out in Climate Change Strategy and Climate Change Action Plan. The Council aims to:

- Achieve 'net-zero' by 2045, with interim carbon reduction targets of 61% by 2030-31 and 87% by 2040-41;
- Continue to take action to reduce energy consumption and improve energy and water efficiency in our buildings and across our operations;
- Continue to reduce energy demand and decarbonise heat supply in the Clydebank area and Queens Quay heat network; and
- Further reduce energy consumption and improve energy efficiency in our social housing and fuel poor households, ensuring fuel poverty and the decarbonisation of housing are key to achieving a net zero carbon future.

4. Main Issues

4.1 The aim of the LHEES document is to:

- Set out how the building stock needs to change to meet national and local objectives, including achieving net zero carbon emissions in the building sector, and the removing poor energy efficiency as a driver of fuel poverty;
- Identify strategic heat decarbonisation zones, and set out the principal measures for reducing buildings emissions within each zone; and
- Prioritise areas for delivery, against national and local priorities.

4.2 West Dunbartonshire's current building stock was modelled in terms of its characteristics, energy efficiency and level of heat decarbonisation, split by domestic and non-domestic properties to provide a baseline analysis. Domestic building stock equates to a total of 93.6% of all the buildings within the local authority, with a total count of 46,252, and a heat demand of 517.4 GWh per year (80% of the local authority's total). Of the c.46,000 homes in West Dunbartonshire:

- Almost half (44%) of domestic properties are small blocks of flats/converted flats and blocks of flats; 23%, and 21% respectively, presenting greater opportunities for more holistic energy efficiency and heat decarbonisation interventions;
- Four in ten (40%) of all wall types remain uninsulated, including 15% cavity wall construction, and 8% of lofts have less than 99mm of insulation, showing potential for low regrets energy efficiency improvements (low regrets are relatively low cost interventions, with relatively large benefits based on projected future climate changes); and
- The vast majority of domestic properties (91%) use gas as their main heating fuel, this is significantly higher than the national average (80%), and present a greater heat decarbonisation challenge.

4.3 Within West Dunbartonshire the non-domestic building stock equates to a total of 6.4% of all the buildings, with a total count of 3,147, and a heat demand of 144.5 GWh per year (20% of the local authority total).
The c.3k non-domestic building stock within West Dunbartonshire have been summarised by various characteristics, providing counts and heating demand for each characteristic category:

- The majority of non-domestic buildings, 68%, are comprised of retail, office and light manufacturing and account for 51% of heat demand across the local authority area; and
- Over one third of buildings were built before 1919, which will like make it more challenging to significantly increase energy efficiency.

4.4 Data on the building stock of West Dunbartonshire has been analysed to inform the selection of LHEES Strategic Zones, which are large areas of focus for wide-scale delivery of heat decarbonisation solutions. Strategic Zones are useful to understand the baseline performance, the scale of potential and initial areas of focus, which can be used to inform the identification of Delivery Areas and follow-on engagement.

Heat Network Strategic Zones

4.5 The LHEES has developed a series of Heat Network Zones, within which a focus will be given to developing heat networks. In order to identify Heat Network Zones, "heat-dense" areas have been identified – that is, areas in which a heat network would be able to deliver a lot of heat with a small length of pipework. As an initial indication of heat network viability, a linear heat density threshold of 4 MWh/year/m has been used. Anchor loads are buildings in heat networks with high heat demand and that would be simple to connect to – for example public sector buildings like leisure centres and schools. Heat Network Zones with a higher number of anchor loads – buildings with high heat demand and simple connection potential, such as leisure centres and schools - have been prioritised. Through stakeholder engagement, fuel poverty has been identified as an ongoing focus for West Dunbartonshire. Therefore, indicators of fuel poverty and extreme fuel poverty have been used to identify Heat Network Zones within which there is a greater number of properties in fuel poverty. Five Heat Network Zones ranked highest for overall viability were selected for inclusion in the Strategy. A total of seven Heat Network Strategic Zones were identified using this analysis and further stakeholder consultation:

- Clydebank, including existing Queens Quay Heat Network;
- Golden Jubilee Hospital;
- Dalmuir;
- Littleholm;
- Kilbowie;
- Dumbarton; and
- Alexandria.

<u>Clydebank Combined Heat Network Strategic Zone</u>

4.6 The three most southerly networks of the five top ranking zones (Clydebank, Littleholm and Kilbowie) were combined into a larger Combined Heat Network Zone. This provides a larger area in the vicinity of the existing Queens Quay heat network in which new heat networks, or extensions of existing, may be delivered.

4.7 In addition to the three Zones identified through the LHEES analysis and ranking exercise, the stakeholder consultation recommended the addition of two other Heat Network Zones within the Combined Heat Network Zone; the Golden Jubilee Hospital, and Dalmuir Flats. Radnor Park Kilbowie is also highlighted within the Combined Heat Network Zone as an additional potential area of expansion.

4.8 Expansion options for the existing Queens Quay heat network were assessed in an Outline Business Case (OBC) in 2022, which indicated initial economic viability of a potential for expansion of the network from Clydebank to the Golden Jubilee Hospital (currently being actively pursued) and Dalmuir Flats. Another future expansion to Radnor Park, Kilbowie was also identified in this study, although not an initial priority. Further expansion potential of the network may be possible at Exxon and Carless site and will be reviewed as the sites progress.

4.9 A heat network in this Combined Heat Network Zone could be supplied by the existing Queens Quay Energy Centre, which currently houses two Water Source Heat Pumps with a heating capacity of 2.65 MW each, and two backup boilers (7 MW each), supplying flow temperatures of approximately 75°C, and return temperatures of 45°C. A cross-boundary extension of heat networks eastwards into Glasgow is a further possibility following engagement with Glasgow City Council. The case is strengthened by the presence of West Dunbartonshire's large area of interest for heat networks north of Clydebank, on the local authority boundary.

Dumbarton Heat Network Strategic Zone

4.10 Analysis identifies Dumbarton as an area of strategic interest for Heat Network Zone development due to a high heat demand of 23.1GWh/year, with 10.2GWh/year from five anchor loads within the zone (St James Retail Park; Morrisons Superstore; Dumbarton Football Stadium; Unit 23 Skatepark; Castle Street (Local Development Plan (LDP) Site). Two Local Development Plan sites are located within the zone with a total of 305 residential units. Potential heat sources within the zone include: River Clyde and Leven with possibility for Water Source Heat Pumps, and potential heat resources at Energie Fitness; and Dumbarton Primary Substation. There are constraints at this site, namely A814 Glasgow Road isolating St James Retail Park from other four anchor loads and limiting any expansion North. This site would require initial preliminary feasibility studies to determine financial viability and identify low carbon heat opportunities in the area.

Alexandria Heat Network Strategic Zone

4.11 Due to a high proportion of publicly owned anchor loads, Alexandria has also been identified as an area of strategic interest for Heat Network Zone development. Four identified anchor loads (Vale of Leven District Hospital; The Vale Centre GP Practice; Vale Of Leven Swimming Pool; Lomond Galleries Shopping Centre) have a combined heat demand of 5.1 GWh/year; 8.8GWh/year total heat demand for the strategic zone. A Biomass Boiler is present within the Vale of Leven District Hospital with greenspace South in Christie Park potential for Ground Source Heat Pump boreholes. The zone is also within an area of "Hot Sedimentary Aquifers", which are potential good sources of geothermal energy. Balloch Primary Substation is also a potential heat resource. There are no major infrastructure constraints for heat network

deployment within the identified zone. As with Dumbarton Heat Network Strategic Zone, this site would require preliminary feasibility studies to determine financial viability and certainty of low carbon heat opportunities.

Heat Network Strategic Zones Summary

4.12 The LHEES has identified a total of 7 Heat Network Strategic Zones, with a combined heat demand of 162.6 GWh/year. Delivering these heat networks could therefore deliver 19% of the total heat demand for West Dunbartonshire, exceeding the 8% target for heat networks set nationally in the Heat Networks (Scotland) Act.

Off Gas and On Gas Grid Strategic Zones

4.13 The LHEES Off Gas Grid and On Gas Grid Considerations focus on how to decarbonise homes by installing heat pumps. Heat pumps operate most efficiently in buildings that are well insulated and therefore can operate heating systems at lower temperatures. For this reason, analysis of the impact of the Off Gas Grid and On Gas Grid Considerations include energy efficiency interventions that may need to be carried out to properties to be able to install heat pumps. The analysis separates buildings into four different categories depending on their "heat pump readiness" based on several different characteristics of the building fabric:

- Heritage – listed buildings and those in conservation areas can be more difficult to install heat pumps due to affordability of energy efficiency retrofit and visual amenity of the Heat Pump unit;
- Building fabric - properties with insulated walls, loft insulation and double glazing already installed are more readily suitable for heat pump retrofit; and
- Current heating fuel – properties already heated with low carbon systems are excluded from the analysis. Properties heated by solid fuels, LPG and oil indicate more immediate potential for heat pump retrofit.

4.14 Each Off Gas and On Gas Data Zone undergoes a second weighted ranking process encompassing additional indicators relating to Fuel Poverty and the Scottish Index of Multiple Deprivation (SIMD) which impact West Dunbartonshire's roll-out of retrofitting within the local authority. This analysis indicates five top ranking Off Gas Strategic Zones where heat pump installation could be considered:

- Singer and Clydebank South;
- Drumry;
- Leven;
- Drumry; and
- Clydebank East.

A further five On Gas Strategic Zones are also indicated as potentially suitable areas to focus heat pump installation:

- Lomond;
- Alexandria;
- Dumbarton;
- Bonhill; and
- Dalreoch.

Poor Building Energy Efficiency and Poor Building Energy Efficiency as a Driver of Fuel Poverty Strategic Zones

4.15 These LHEES considerations aim to tackle poor building energy efficiency in West Dunbartonshire by identifying Strategic Zones to focus rolling out retrofit programmes that bring homes up to a higher standard. For properties in fuel poverty, additional consideration is given to how poor energy efficiency may be impacting the ability of occupants to afford heating their homes. Some simple indicators of poor building energy efficiency and fuel poverty have been used to identify properties with poor energy efficiency and poor energy efficiency as a driver of fuel poverty in West Dunbartonshire:

- Uninsulated walls;
- Loft insulation <100mm;
- Fuel poverty: estimated fuel bill is >10% of income after housing costs;
- Extreme fuel poverty estimated fuel bill is >20% of income after housing costs; and
- SIMD is also used to identify areas with other causes of deprivation.

4.16 Poor building energy efficiency is a recognised factor that can contribute to fuel poverty, thus the removal of poor energy efficiency measures will impact and contribute to Scotland's statutory target of no households being in fuel poverty as far as reasonably possible by 2040. The top ranking Poor Building Energy Efficiency Strategic Zones where energy efficiency retrofit programmes should be focused are:

- Singer and Clydebank South;
- Drumry;
- Alexandria;
- Clydebank; and
- Balloch;

Mixed tenure, mixed use and buildings in Conservation Areas Strategic Zones

4.17 This LHEES consideration aims to highlight areas in which heat decarbonisation may be difficult to deliver, due to ownership and tenure of the properties, or the potential heritage impacts of installing heat pumps and retrofitting buildings to higher levels of energy efficiency. This analysis covers four main focus areas:

- Mixed tenure buildings;

- Mixed use buildings;
- Listed buildings; and
- Conservation areas.

4.18 To enable the identification of the top five Data Zones for integration and further interrogation within an LHEES Delivery Plan, all 121 Data Zones within West Dunbartonshire have been ranked based upon aggregated counts of properties within each indicators, with a weighting per indicator rank also applied to generate an overall ranking. The Strategic Zones for Mixed Tenure, Mixed Use and Conservation Areas are:

- Dumbarton;
- Dalreoch;
- Kilpatrick;
- Dumbarton; and
- Dumbarton.

Local Heat and Energy Efficiency Delivery Plan

4.19 Local Heat and Energy Efficiency Delivery Plan (LHEEDP) for West Dunbartonshire will be developed over the coming months. This Delivery Plan will cover the first five-year period of heat decarbonisation and energy efficiency interventions, based on the priorities set out in the Strategy. This will focus on projects at a more granular scale and Delivery Areas, which includes smaller clusters of buildings and individual streets. Stakeholder engagement is a key theme through LHEES, and as part of the Delivery Plan a Monitoring and Evaluation Plan will be developed. This will set out how the Council will approach engagement with stakeholder groups and may also include more targeted awareness and engagement campaigns in the prioritised Strategic Zones and Delivery Areas. The Council will ensure Delivery Areas and actions set out in the LHEEDP will align with existing heat decarbonisation and energy efficiency programmes and plans in the local authority, and can draw on existing funding programmes and schemes. LHEEDP will be subject to a further report to Committee prior to publication.

Challenges

4.20 The delivery of heat network zones and energy efficiency retrofit across the entire local authority area is a vast undertaking and there are many challenges that West Dunbartonshire Council and our businesses and communities will have to address:

- Funding gap – financing large scale infrastructure and energy efficiency interventions is expected to have colossal costs. Funding from Scottish Government and other public funding sources needs to be maximised, private sector funding needs to be leveraged in, and support is required for local

businesses and communities to ensure they access available funding streams;

- Viability – heat networks require electricity for operation, irrespective of the renewable heat source, and many potential developments will only be viable if electricity can be supplied directly from a renewable source;
- Retrofit – progress is being made in the retrofit of energy efficiency measures, however a more holistic 'whole home' approach is needed to maximise available funding and ensure a no regrets delivery;
- Skills gap – both within the Council and across the market there is a significant gap in skills and knowledge. We need to consider training for staff internally to ensure concerns about renewable technologies and procedures for retrofit heat and energy efficiency measures are addressed. There is a significant lack of skilled workforce within the green jobs sector and this requires our influence to boost education and training in green industries within the local authority area;
- Behaviour change – heat decarbonisation and energy efficiency retrofit can change the way that homes and buildings operate to ensure efficiency. Public acceptance of new technologies and behaviour change towards heating controls and operating systems will need a clear focus; and
- Just Transition – when making evidence based decisions on the delivery of LHEES, there needs to be an assurance that we do not adversely affect our communities and businesses; the cost to achieve net zero should not burden those least able to pay.

5. People Implications

5.1 There are no additional people implications related to this Strategy.

6. Financial and Procurement Implications

6.1 Scottish Government funding of £75,000 per year has been allocated to the development of LHEES and has enabled the appointment of an LHEES Officer and Consultancy for data analysis. There is scope to use this funding for further engagement and feasibility studies to inform the development of the Local Heat and Energy Efficiency Delivery Plan. More detailed costings will be provided for specific projects in the LHEEDP, alongside plans to access Scottish Government, private sector and external funding mechanisms.

6.2 There are no procurement issues in relation to the Strategy within this paper; however each potential project identified during the development of the Delivery Plan will require an appropriate procurement process.

7. Risk Analysis

7.1 The consultation process with partners and key stakeholders ensured that the content of the strategy is appropriate, and through development of the Delivery Plan risk will be assessed and managed.

8. Environmental Sustainability

8.1 The Environmental Assessment (Scotland) Act 2005 sets a statutory requirement for Scottish public bodies to carry out a Strategic Environmental Assessment (SEA) of the expected environmental impacts of strategies expected to have a significant environmental impact. At this stage, the Strategy is in Draft and following consultation, a screening assessment will be completed to determine the need for an SEA.

9 Equalities Impact Assessment (EIA)

9.1 The Strategy has been impact assessed and is relevant to the general equality duty. The Strategy will assist with reducing inequality and has potential to produce positive impacts. A range of actions in support of this are noted in the EIA which is available as Appendix 2 to this report.

10. Consultation

10.1 An internal stakeholder consultation process across Council services was undertaken to obtain feedback the baselining data and proposed Strategic Zones. Finalised Delivery Areas were interrogated at an external stakeholder consultation with key contributors including: RSLs; NHS; Police Scotland; Scottish Water; and low carbon heating specialists. The draft Strategy was also presented to Chief Officers for initial comment.

10.2 Following the approval of the draft Strategy, a full public consultation will commence over a six week period. The Consultation plan will be developed to ensure meaningful and targeted engagement with groups and organisations of interest through surveys and social media. Comments from the consultation will be included in revisions to the final Strategy.

11. Strategic Assessment

11.1 The Local Heat and Energy Efficiency Strategy 2024-2029 provides a clear strategic area-based, local authority wide approach to heat and energy efficiency planning and delivery. The Strategy will help determine how and where we focus our resources and to achieve our ambitious net zero and fuel poverty aims. It responds to various local, regional and national policies and strategies. These include:

- West Dunbartonshire - Council Strategic Plan;
- West Dunbartonshire - Climate Change Strategy;
- Scottish Government - Heat in Buildings Strategy (2021);
- Scottish Government – Tackling Fuel Poverty in Scotland: A Strategic Approach (2021); and
- Scottish Government – Heat Networks (Scotland) Act 2021.

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Appendices:
Appendix 1 - Glossary
Appendix 2 - EIA- Local Heat and Energy Efficiency Strategy (LHEES) 2024-2029
Appendix 3 - Local Heat and Energy Efficiency Strategy (LHEES) 2024-2029 Draft

Wards Affected: All Wards