



Aberdeen City Council

Local Heat Energy Efficiency Strategy

LHEES

Journey

Local Heat & Energy Efficiency Strategies – previous consultation proposals

The Scottish Government is considering placing a statutory duty upon local authorities to develop a LHEES, and to use their powers to implement that strategy, to support the delivery of the objectives of SEEP.

LHEES should develop an area-based approach over a 20 year period taking into account national targets and ambitions in respect of heat and energy efficiency. These strategies should :

1. identify potential opportunities
2. set long-term targets
3. undertake an area-based socio-economic assessment
4. set out costed, phased delivery programmes for each period
5. include phased zoning for DH networks and energy efficiency
6. quantify and consider impacts of delivery plans



Benefits of LHEES

- Clear and enhanced local authority role in **shaping the local energy system** – over the long term
- LHEES will **drive SEEP across all local authorities**, and will act as the foundation for 20 years of delivery programmes to meet our fuel poverty, energy efficiency and heat decarbonisation ambitions – **sending clear investment signals** to develop a strong and sustainable supply chain for Scottish business.
- **Focus on socio-economic benefit** of potential solutions at the strategy level in LHEES, in addition to the project specific financial case
- Highlights long term direction of travel, as well as the near term opportunities
- LHEES as an investment prospectus – signal opportunities for **prioritising investment** in zones:
 - area-based energy efficiency programmes
 - district heating programmes
 - heat decarbonisation programmes
 - securing funding from SG for SEEP delivery programmes
- Pilots to consider what capacity is required and to test the scope and content of LHEES



Consultation Analysis – LHEES...

Comments from those who agreed that local authorities should have a role to produce LHEES:

- Such a role is required in order to:
 - Promote decarbonisation of heating
 - Reduce energy use or energy waste;
 - To meet targets relating to climate change, affordable warmth, reducing fuel poverty or energy security.

- Leadership from local authorities will be vital in taking the strategy forward

Suggestions and concerns over how LHEES could be implemented:

- Concern over **funding, support and resources** for implementation
- Concerns that local authorities may not have the **capacity, skills or relevant expertise** needed to produce and/or implement the LHEES.



Consultation Analysis – LHEES...

- Need for a **clear national framework**, guidelines and support.
- Cohesive, **consistent approach** was seen as necessary both to attract investment and to provide reassurance to consumers.
- Need for **flexibility** in order to allow for local solutions relevant to local characteristics
- Need for LHEES to fit within **existing local plans** and involve other relevant public bodies
- Suggestion that local authorities should produce their own strategy but then be allowed, or required, to **work with others** to produce or deliver strategies appropriate for a wider area.



Consultation Analysis – DH Regulation

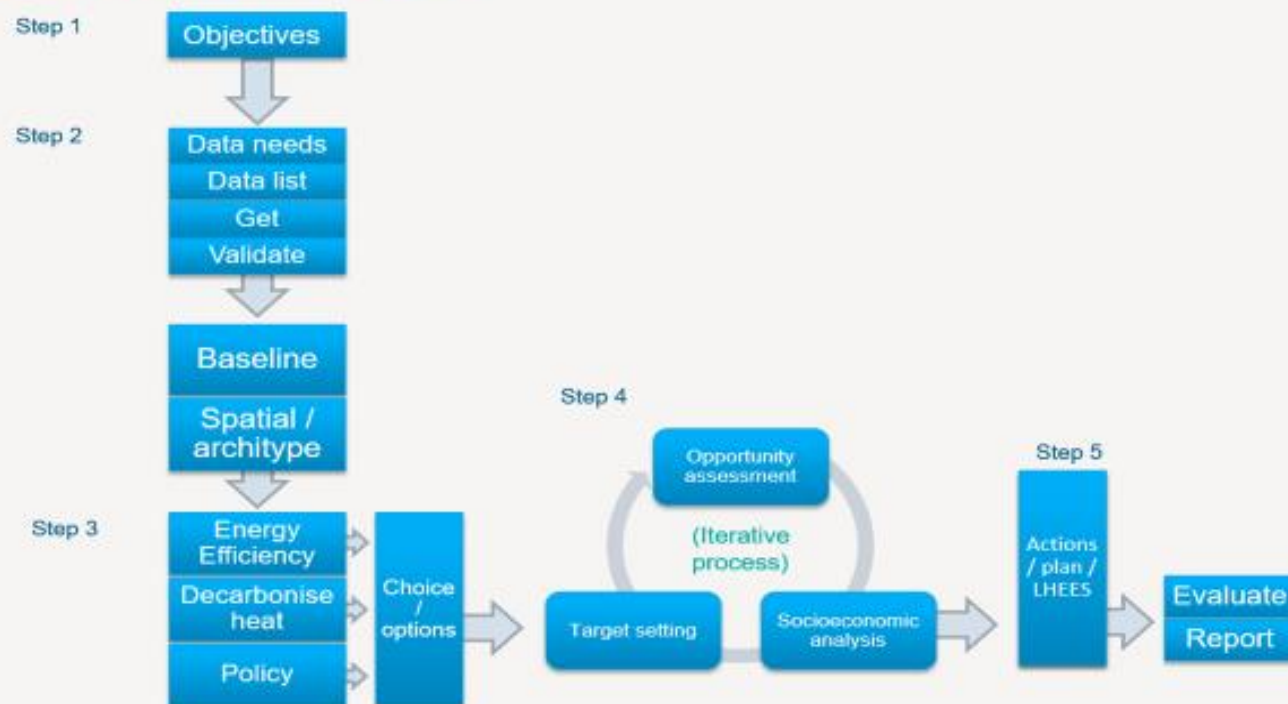
- The broad **principles for regulation** outlined in the consultation were generally accepted
- The main themes from the question on key principles or approaches to inform how the regulatory approach manages risk included **fuel poverty as well as affordability.**
- **Consumer protection** was another key principle identified by respondents and this included ensuring security of supply.
- The regulation of **technical standards**, perhaps in a way similar to that seen for other utilities, was also seen as important





Aberdeen City Council – LHEES Summary

The LHEES Process



Linking Council policy priorities to a Local Heat and Energy Efficiency Strategy

National targets:
Energy Efficient Scotland vision is by 2040 our homes and buildings are warmer, greener and more efficient.

EMISSIONS FROM
ALL BUILDINGS
IN SCOTLAND WILL
NEED TO NEAR ZERO
BY



OUR CLIMATE CHANGE PLAN SETS OUT A
TRAJECTORY TO 2032 WHICH REQUIRES:

35% OF DOMESTIC AND
70% OF NON-DOMESTIC
BUILDINGS

HEAT TO BE SUPPLIED BY
LOW CARBON TECHNOLOGIES



Could the Council adopt these targets?

What proportion of the targets could the Council adopt on behalf of the authorities' geographical area?



National targets: Scotland



REDUCTION IN DOMESTIC BUILDINGS' HEAT DEMAND BY

15%

THROUGH IMPROVEMENTS TO THE BUILDING FABRIC BY 2032



REDUCTION IN NON-DOMESTIC BUILDINGS' HEAT DEMAND BY

20%

THROUGH IMPROVEMENTS TO THE BUILDING FABRIC BY 2032

THIS IS SUPPORTED BY OUR LONG STANDING TARGET THAT WILL SEE 11% OF NON-ELECTRICAL HEAT DEMAND TO BE FROM RENEWABLE SOURCES BY 2020.

23% 
EMISSION REDUCTIONS IN THE DOMESTIC SECTOR BY 2032 ON 2015 LEVELS



59% 
EMISSIONS REDUCTION IN THE NON-DOMESTIC SECTOR BY 2032 ON 2015 LEVELS



REMOVING POOR ENERGY EFFICIENCY AS A DRIVER OF FUEL POVERTY

Heat and energy efficiency – what does it mean locally?

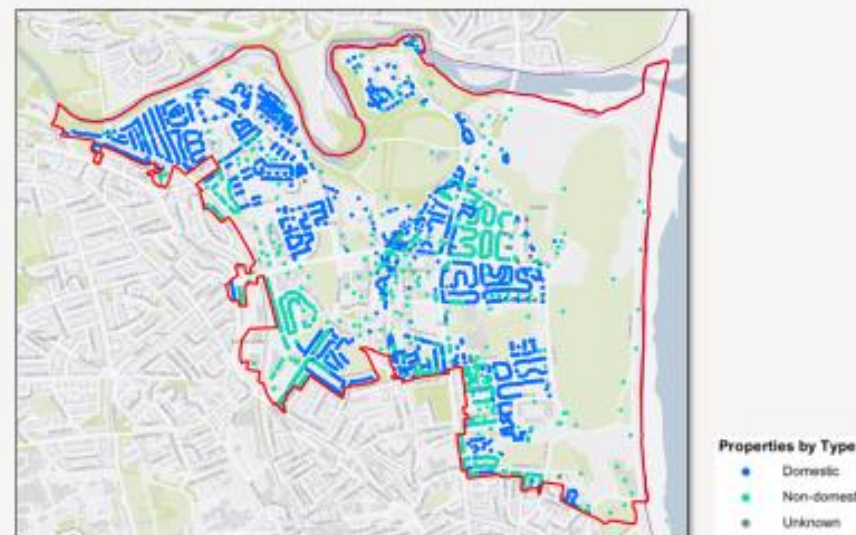
- › **Heat, light, communication, processes**
e.g. refrigeration, manufacturing, cooking
- › (and transport)
 - › Businesses – reduce costs and deliver services
 - › Offices
 - › Nursing homes
 - › Schools
 - › Homes
- › **Tackling fuel poverty**
 - › Increasing disposable income
 - › Reduced ill-health from cold, damp homes
 - › Warm, comfortable, usable homes



- › **Reducing inequalities**
 - › Enable educational attainment for children – homework environment
 - › Opportunities to develop skills for future employment
 - › Reduce business costs
 - › Community energy generation
 - › Area regeneration
 - › Create future self-funding community investment projects e.g. ground source heat in parks to supply local energy demand with income to fund future community projects.

Baseline Data Reporting

Baseline Data Reporting The Results – Domestic/Non-domestic Split



Energy Efficiency and Heat Decarbonisation Options Appraisal

Energy Efficiency & Heat Decarbonisation

Key Results – Domestic Energy Efficiency

Measure	Total potential Costs	Potential running cost savings (£/yr)		Total potential CO ₂ savings (kg/yr)	
		Total	Per measure	Total	Per measure
Virgin loft insulation	£93,720	£39,220	£115 - £200	170,450	500 - 885
Top-up loft insulation	£243,905	£10,990	£10 - £20	53,730	50 - 80
Cavity Wall Insulation	£219,740	£53,555	£65 - £175	236,535	300 - 775
External wall insulation	£714,000	£10,365	£115 - £155	45,810	510 - 670
Internal wall insulation	£11,221,000	£653,070	£155 - £290	1,362,730	510 - 1,290



Energy Efficiency & Heat Decarbonisation Method – Multi-Criteria Geospatial Analysis

Spatial layers stacked to show areas where most policy drivers

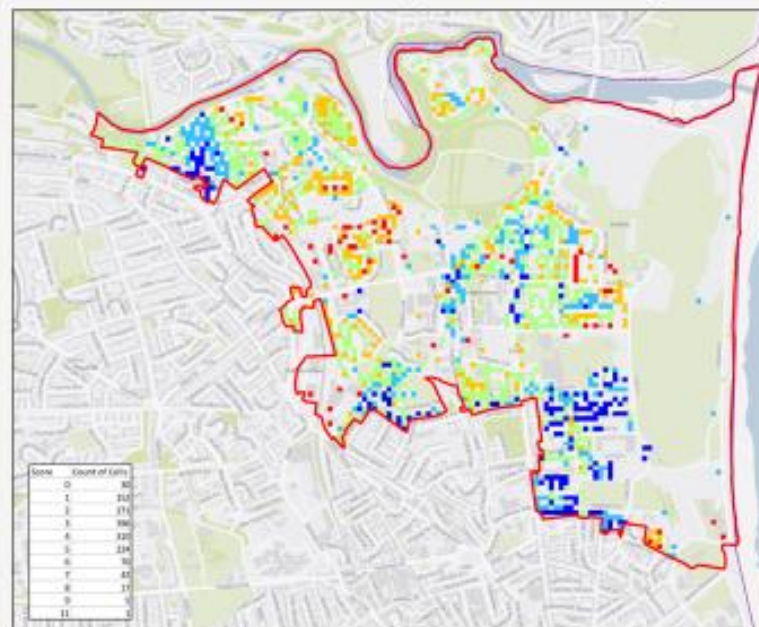
Layers consist of:

- Fuel Poverty
- SIMD
- Social Housing
- Listed Buildings
- Large Heat Demands
- Main Fuel Type

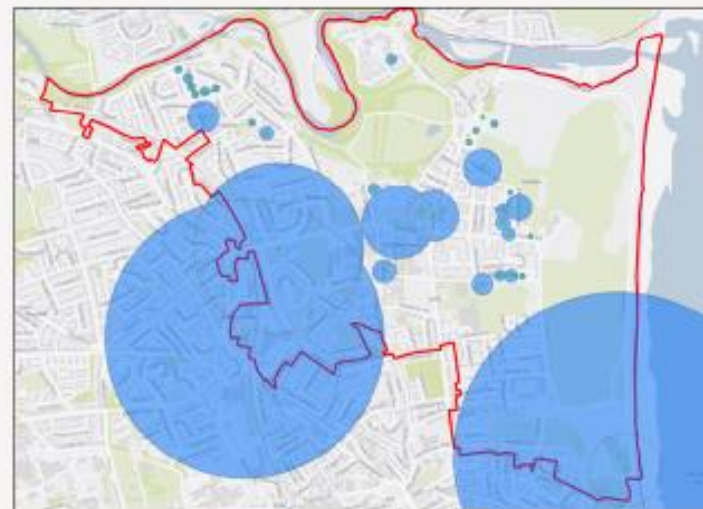
The red end of the scale shows areas where policy and opportunity stack up, highlighting potential areas to focus on.



Energy Efficiency & Heat Decarbonisation Key Results – Multi-Criteria Geospatial Analysis



Energy Efficiency & Heat Decarbonisation Method – District Heating



1. Anchor Loads Identified

- Social Housing
- Heat Demand Confidence Score of 5
- Heat Demand > 100 MWh/year

2. Linear Heat Density

- Economic measure of heat sales vs capital expenditure
- Density of 4 MWh/m chosen
- Radius drawn from anchor loads
- Where radii overlap, there is potential for a network



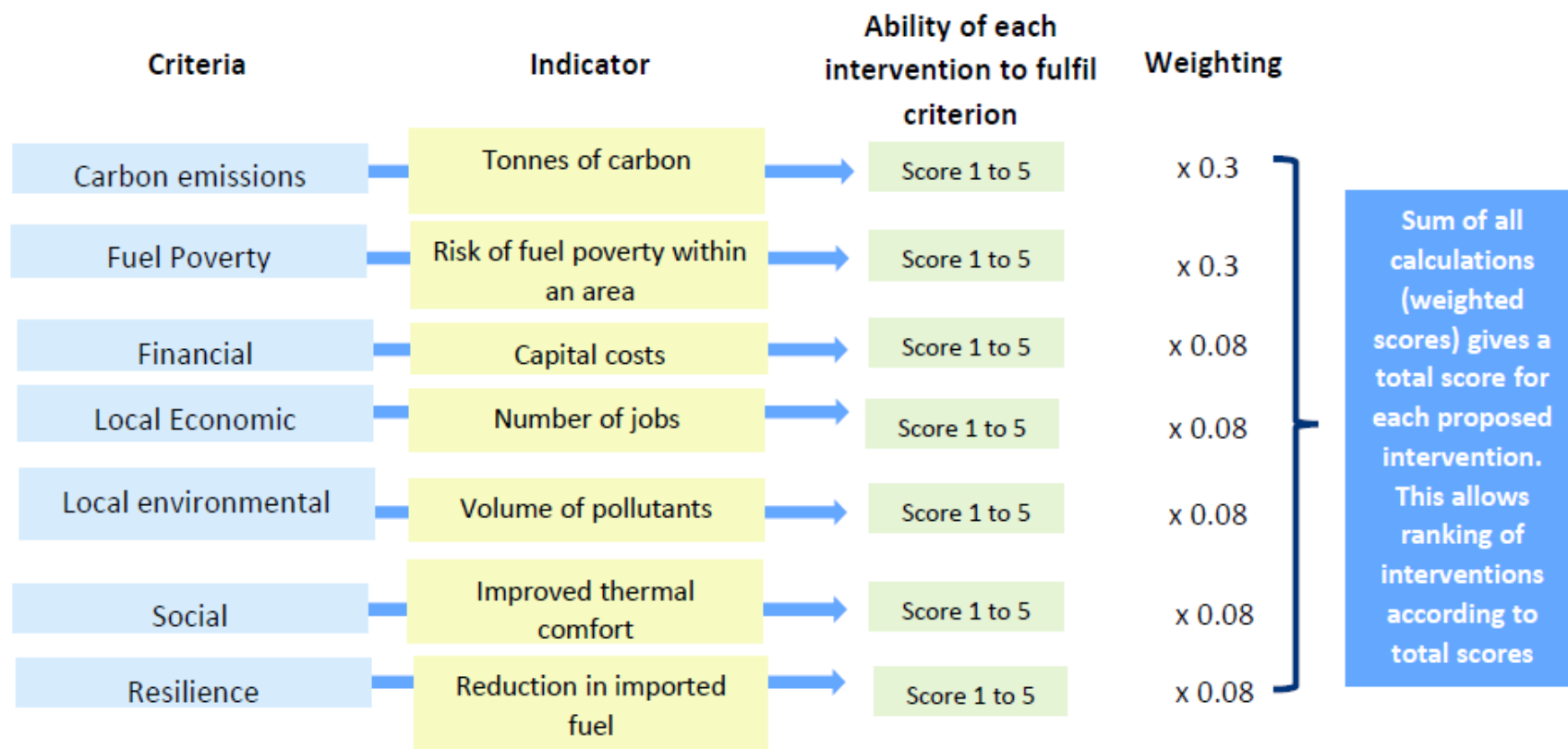
Key challenges

1. Baseline Data and Options Appraisal
 - Unavailable due to GDPR or accessibility
 - Not good quality, lack verification
2. Resources
 - Lack of time and staff to compile data
3. Conflicting priorities
 - Council has already set priorities and budgets in specific areas
 - Reconciling projects in order of priority and statutory compliance
4. Support and commitment
 - Lack of commitment from Senior Management
 - Lack of immediate funds to develop and deliver strategy



Strategy level socio- economic assessment methodology

Criteria	Weighting
Carbon emissions	.3
Fuel poverty	.3
Financial	.08
Local economic	.08
Local environmental	.08
Social	.08
Resilience	.08
Total	1



1	Criteria	Indicator	Score	Weighting	
	Carbon emissions	GHG emissions (tonnes CO ₂ e)	x	30% =	-
2	Fuel poverty	risk of fuel poverty within an area	x	10% =	-
		change in unit cost of heat (£ per kW)	x	10% =	-
		change in average EPC rating	x	10% =	-
3	Financial	capital costs	x	3% =	-
		operation & maintenance costs	x	3% =	-
		fuel cost savings	x	3% =	-
4	Local economic impacts	number of jobs supported	x	3% =	-
		skills supported and developed	x	3% =	-
		regeneration level	x	3% =	-

	Criteria	Indicators	Score	Weighting	
5	Local environmental impacts	volume of pollutants	x	2% =	-
		change in noise level	x	2% =	-
		quality of built environment	x	2% =	-
		proportion of green field sites/woodland/wild habitat	x	2% =	-
6	Social	improved thermal comfort	x	2% =	-
		time available to work	x	2% =	-
		proportion of recreational community space	x	2% =	-
		acceptance of proposed intervention	x	2% =	-
7	Resilience	reduction in imported fuel	x	3% =	-
		meets current legislation	x	3% =	-
		reduction in demand	x	3% =	-

Next steps

Framework for LHEES from 1st August 2019

- The Scottish Government have established a multi-supplier framework agreement to provide local authorities with a range of advice, support and analysis for LHEES.
- This framework agreement is available for use by all Scottish Local Authorities solely for the commissioning of LHEES development, including LHEES pilot projects.

Framework Details:

- The framework has an estimated value of £1,500,000 over three years. Framework Contractors will not be guaranteed any business, and each Local Authority reserves the right to appoint advisers from out with the framework.
- The framework will commence on 1 August 2019 and will run for a period of 24 months, with the potential for a 12 month extension.
- Individual contracts called-off from the framework agreement during the term of the framework agreement may outlive the framework agreement. Framework Public Bodies must undertake a mini competition for each call-off, inviting all Suppliers on the framework to tender for the required work, ensuring that the Suppliers are aware that the requirement is a call-off under the framework.



For further detail, including pricing information,
please contact:
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Where we are now

- Completed LHEES report as an “live” document and participated in feedback interview to Scottish Govt.
- Analysis on these pilots feedback is ongoing, with results published soon.
- Aberdeen City Council as Phase 1 pilots have been contacted by Phase 2 LA and shared experience.

Interim report on LHEES pilots 2018 available on:

<https://heatandthecity.org.uk/resource/local-heat-and-energy-efficiency-strategy-lhees-pilots-evaluation-interim-report/>



Thank you

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