Finance and Resources Committee

10.00am, Thursday, 12 May 2016

Scotland's Energy Efficiency Programme

Item number	7.7
Report number	
Wards	

Executive summary

Scotland's Energy Efficiency Programme has been launched by the Scottish Government as part of its commitment to energy efficiency as a national infrastructure priority and as a means of meeting targets on fuel poverty and climate change. The first phase of the programme will provide funding for a number of Pathfinder Projects which aim to integrate both domestic and non domestic energy efficiency projects.

Local Authorities have been encouraged to submit applications to become a Pathfinder Project. Due to the deadlines for submission, Committee approvals for all Councils in Scotland are being sought retrospectively. Edinburgh has applied for £1.8m in funding.

Links	
Coalition pledges	<u>P8 P53 P50</u>
Council priorities	CP4 CP10 CP12 CP8
	$\underline{014}, \underline{0110}, \underline{0112}, \underline{010}$
Single Outcome Agreement	<u>SO4</u>

Scotland's Energy Efficiency Programme

Recommendations

1.1 The Committee is asked to approve Edinburgh's application to Scotland's Energy Efficiency Programme.

Background

- 2.1 Energy efficiency is a national infrastructure priority for the Scottish Government. The creation of Scotland's Energy Efficiency Programme (SEEP) will be at the centre of activities led by the Scottish Government to improve the energy efficiency of all buildings in Scotland over the next 15–20 years. The key aim is to integrate both domestic and non-domestic energy efficiency projects. SEEP will be central in helping local authorities to pilot new and innovative approaches to energy efficiency.
- 2.2 As the first step in preparing for the launch of SEEP in 2018, the Scottish Government is inviting local authorities and their partners to submit proposals for pilot "Pathfinder" projects. This call was announced at the end of January with a deadline of 18 March 2016. The applications require Committee approval before being considered for funding. Due to the very tight timescales for completing the application and the long lead in time for Committees, most Councils are having to seek approval retrospectively.
- 2.3 Following consultation amongst Property and Housing officers, a number of projects have been selected. This report presents the Edinburgh SEEP application to the Pathfinder Fund.

Main report

3.1 The focus of the Council application is on Leith with all properties, domestic and non-domestic selected in this area. All projects will be funded through existing Scottish Government programmes. The Council has partnered with Changeworks for the domestic element of the project. The application is seen in Appendix 1.

Non-Domestic Energy Efficiency Pilot Proposal

3.2 For this element, the Council is the lead partner and has proposed three initiatives namely:

- the energy retrofit of Duncan Place Resource Centre, which includes the replacement of all lights with LED lights, roof insulation and the installation of air source heat pumps;
- the installation of advanced building energy management systems (BEMS) in six primary schools and one community education centre; and
- a feasibility study to explore options for the Council ESCo to deliver energy efficiency for both domestic and non-domestic properties.
- 3.3 Two of the non-domestic projects have strong elements of innovation including applying best practice in the renewable heating of a listed 'hard to treat' building, installation of LED lighting and sensor controls and best practice in detailed metering and monitoring. There is potential for project benefits to be distributed on a wider scale across the Council estate. The aim will be to integrate these projects with the domestic pilots detailed below in developing strategic area approaches to energy efficiency.

Domestic Energy Efficiency Pilot Proposal

- 3.4 The domestic energy efficiency element of the application is being led by Changeworks and proposes a comprehensive initiative covering a large number of residential properties.
- 3.5 The project has selected two areas (Leith Redevelopment Area and Piershill Square), both of which contain data zones with 60% or higher of properties with Council Tax Band (CTB) A-C, and higher than average fuel poverty figures.
- 3.6 For the Leith redevelopment area this consists of 32 data zones, 60% of which is in the CTB A-C. In 16 of these data zones, there is around 30% of fuel poverty and 7 of the zones are in the lowest 25% of Scottish Index of Multiple Deprivation (SIMD) ranking. Two improvement approaches have been taken for the different property types in this area.
 - hard-to-treat cavities: this will be carried out in properties suitable for extraction and refill; and
 - whole-house approach: this will be carried out in pre-1919 tenement flats in partnership with Port of Leith Housing Association and will include internal wall insulation, double glazing and replacement doors, as appropriate.
- 3.7 For the Piershill Square area, this also has high levels of deprivation, with 83% of properties having CTB A-C and 41% in fuel poverty. The area is also in the lowest 25% ranking of the SIMD. It contains properties of 'Macrae Stone' construction type that were built between 1919 and 1945. These properties have unfilled cavities and fall under the hard-to-treat category. Therefore these properties will be upgraded and any additional low cost measures (such as loft insulation and draught proofing) installed.

3.8 Overall the domestic energy efficiency pilot proposal will target a total of 738 properties, (397 homes assisted in the private sector and 341 homes assisted in the Social Landlord Sector).

Capital Costs

3.9 Edinburgh has applied for over £1.8m of funding from SEEP. The non-domestic element is seeking funding of £635k while the domestic projects are looking for funding of £1.25m. The details of the funding can be seen in Appendix 1.

Next Steps

3.10 The application, if approved by the Council, will be considered by the Scottish Government and a decision on whether the Council is successful will be announced in June. Funding will then be made available in two tranches - in July 2016 and January 2017. All capital works will need to be completed by December 2017.

Measures of success

- 4.1 The key measures of success, dependent on the successful implementation of the projects, will include:
 - reduction of the number of households in fuel poverty;
 - a reduction in energy consumption in both domestic and non domestic buildings; and
 - reduction in carbon emissions thus complying with Council targets.

Financial impact

5.1 Edinburgh has applied for total funding of over £1.8m with nearly £1.3m for domestic energy efficiency projects and £635k for non domestic. The non domestic projects require a contribution in kind, for example staff time. This has been detailed in Appendix 1 and is manageable within existing budgets.

Risk, policy, compliance and governance impact

6.1 The implementation of energy efficiency projects for both domestic and non domestic properties will contribute to the Council's political pledges on carbon reduction. The projects will also contribute to the Council's SEAP, thus helping to mitigate any risks of non compliance with the Climate Change (Scotland) Act 2009. In addition, mandatory reporting of carbon will become a requirement for local authorities from October 2016. Any successful projects will be an important element of that report.

Equalities impact

7.1 By delivering affordable energy and reducing fuel poverty, any successful energy projects will contribute positively to key equalities outcomes of reducing inequality, poverty and deprivation.

Sustainability impact

8.1 The proposals in this report will have a positive impact on sustainability through actions specifically designed to alleviate fuel poverty and lower carbon emissions.

Consultation and engagement

9.1 Full engagement and consultation has been carried out with both Property and Housing service areas. In addition, Changeworks provided information and development of the housing projects. For a number of the projects, separate consultation has taken place with the energy users such as the housing tenants, management and community groups.

Background reading / external references

N/A

Paul Lawrence

Executive Director Place

Janice Pauwels, Sustainable Development Manager

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Links

Coalition pledges	 P8 - Make sure the city's people are well-housed, including encouraging developers to build residential communities, starting with brownfield sites. P50 - Meet greenhouse gas targets including the national target of 42% by 2020
	P53 - Encourage the development of Community Energy Cooperatives
Council priorities	CP4 – Safe and empowered communities
	CP8 – A vibrant, sustainable local economy
	CP10 – A range of quality housing options
	CP12 – A built environment to match our ambition

Single Outcome Agreement	SO4 Edinburgh's communities and safer and have improved physical and social fabric
Appendices	Appendix 1 : Scottish Energy Efficiency Programme: Edinburgh Application

Appendix 1

Scotland's Energy Efficiency Programme: Pathfinder Fund Pilot Projects Application Form

The application form for SEEP pilot projects is split into five elements:

Part A is an overview of the project.

Part B is the Low Carbon Infrastructure Transition Programme (LCITP) element. This should encompass non domestic energy efficiency and renewable heating elements.

Part C is the Home Energy Efficiency Programmes for Scotland Area Based Schemes (HEEPS:ABS) element. This covers domestic properties.

Part D is the certification by the local authority lead officer.

Part E contains instructions for submission of completed application forms

All enquires re the application forms, Q&A and Call to Action should be addressed to: <u>SEEP@gov.scot</u>

All tables below can be expanded.

Part A : Project Overview

1.	Local Authority Name: The City of Edinburgh Council
	Lead Partner Details
	Lead Partner
	The City of Edinburgh Council
	4 East Market Street
	Edinburgh
	EH8 8BG
	Contact: Janice Pauwels, Sustainable Development Manager, Tel: 0131 469 3804, janice.pauwels@edinburgh.gov.uk

2. **Provide a description of your pilot project(s)**

Although the Council has a number of energy efficiency initiatives underway in both domestic and non domestic buildings, there are still a number of key challenges in delivering efficiency savings namely the issues concerning hard to treat and "whole building retrofits" in residential and commercial buildings and the application of newer technologies such as air source heat pumps This application for funding to become a SEEP Pathfinder is to address issues in an integrated way within a specific geographical area bringing housing and non housing partners together. This SEEP project will evaluate the potential benefits and delivery models for ESCo's in delivering energy efficiency projects particularly for domestic properties and focus on the north east area of Edinburgh (Leith). Finally the benefits of applying higher standards of control systems i.e BS EN 15232 would be evaluated for a number of buildings.

Location

Figure 1 below shows the locations of the non-domestic elements (shown as star symbols) including the Council-owned Duncan Place Resource Centre, Leith Primary School, Leith Community Education Centre, Pilrig Park Primary School, Lorne Primary School, Prospect Bank Primary School, Hermitage Park Primary School and Victoria Primary School as well as black outlines indicating the domestic areas involved.



North East Edinburgh development area with CTB A-C (%) underlaid

Figure 1: Locations of LCITP (non-domestic – shown as star markers) and HEEPS: ABS (domestic – shown as black outlines) installations with percentage of private tenure properties with Council tax band A-C underlaid.

Non-Domestic

The locations of the non domestic buildings within the selected area include a number of schools and community centres and are seen on the above map. These will include energy efficiency improvements (including insulation) at Duncan Place Resource Centre and Building Energy Management System upgrades at the other seven non-domestic sites.

Domestic

The HEEPS element of the North East Edinburgh regeneration programme initially involved identifying areas of high percentage Council tax band (CTB) A-C properties. This resulted in the selection of two areas, both of which contain data zones with 60% or higher of properties with CTB A-C

The two energy efficiency improvement approaches will be carried out in the Leith regeneration area:

- <u>Hard-to-treat cavities.</u> This will be carried out in properties suitable for extraction and refill.
- <u>Whole-house approach</u>. This will be carried out in pre-1919 tenement flats in partnership with Port of Leith Housing Association (PoLHA) and will include internal wall insulation, double glazing and replacement doors, as appropriate.

The Piershill square area contains Macrae stone properties that are suitable for cavity insulation and are classed as hard-to-treat.

Consents

Planning consents and building warrants will be applied for once funding has been secured.

Capital Costs

The capital costs for the elements of the project are as follows:

Non-domestic:

- Duncan Place Resource Centre £365K
- Duncan Place DEVEX for design works and project management £70K
- Building Energy Management (BEMs)System Upgrade and Demand Management Project - £170K
- ESCo feasibility £30k

Domestic:

- IWI of 60 properties £360k
- Cavity extraction and refill of 678 properties £658k
- Double glazing of 60 properties £210k
- Replacement doors £18k

NB These domestic capital costs do not represent the HEEPS: ABS contribution or funding from other streams, but rather the capital cost of the whole project.

Partners

CEC will work alongside their partners Changeworks to deliver the domestic element of the works. Changeworks will provide the project management, commercial management, procurement, marketing and quality assurance for the project. As an experienced managing agent, Changeworks has worked with the City of Edinburgh Council for a number of years delivering energy efficiency projects through HIS, UHIS and now HEEPS: ABS. Under the leadership of an experienced programme manager, they will provide project administrators, a procurement

	specialist and a quality assurance team to ensure the successful delivery of the project.
	We have also engaged Port of Leith Housing Association (PoLHA) for the pre-1919 domestic energy efficiency upgrades, which will draw on their knowledge and expertise of Leith housing stock (see letter of support – section 7 – other documents)
	Timescales
	Non domestic
	ESCo Feasibility: Start Date: July 2016. End Date: October 2016
	Duncan Place: Start Date: August 2016. End Date: November 2017
	BEMsand Demand Management: Start Date: August 2016. End Date: October 2017
	Domestic
	HTT Cavities: Start Date June 2016. End Date: Sep 2017
	IWI: Start Date: Jul 2016. End Date: Nov 2017.
3.	Fit with National and Local Energy Strategies.
	The City of Edinburgh Council approved its first Sustainable Energy Action Plan (SEAP) in February 2015 (approved by the European Covenant of Mayors in November 2015). This ambitious five year plan has the same carbon reduction target as the Scottish Government of a 42% reduction by 2020. The delivery of the SEAP is through a number of work programmes including energy efficiency, renewables and district heating. The approach for the SEAP is through the development of pilot projects that can be scaled up or replicated across the city. Energy efficiency is a particular priority for the Council (complementing the Scottish Government's recognition of this as a national infrastructure priority). This is especially as energy use in existing residential and commercial buildings contributes significantly to carbon emissions across the city. More importantly, energy efficiency is an issue for fuel poverty. For Edinburgh, it is a particular challenge since 28% of households are identified as living in fuel poverty in the private sector, compared with 26% in the public sector and 18% in the private rented sector. (Source: Scottish House Condition Survey 2011-13).
	Both the SEAP and the Council's City Housing Strategy have clear objectives relating to energy efficiency and low carbon, complementing many of the Government's own energy and low carbon programmes and strategies for both domestic and non domestic buildings.
	 Key SEAP projects include: the Council signing up to the RE:FIT scheme to retrofit nine of the largest Council buildings (first in Scotland to do so); approving an energy services company- "Energy for Edinburgh" to deliver major energy projects in the city; and a range of feasibility work for district heating schemes and sustainable heat.
	Under the SEAP energy efficiency theme, one key area is the need to ensure robust monitoring of projects in terms of smart controls and the need to adopt an intelligent approach to demand reduction and controlling demand at peak times. This is likely to become a key element of future energy management and efficiency for buildings. Another key project going forward will be the development of the Council ESCo and its role in delivering energy projects particularly energy efficiency projects.

Within the review of the City Housing Strategy, (the new Strategy will be launched in 2017) investing to make homes more affordable to heat and tackling fuel poverty was one of the key priorities cited for 2015/16 and future years. Alongside this, improving energy efficiency was also one of the key priorities cited. The Council is committed to meeting the Energy Efficiency Standard for Social Housing (EESSH) for its own homes by 2020.

As well as the investments above, for domestic properties, there will be a challenge of managing communal repairs and energy efficiency improvements in mixed tenure blocks. The Council's key priorities for 2016-17 will include focussing investment in Council homes to ensure continued compliance with SHQS and improving communications and advice in relation to energy efficiency and fuel poverty with greater focus on face-to-face advice and home visits.

This SEEP bid will therefore meet many of the existing objectives in the Scottish Government's national energy and low carbon strategies as well as the Council's own targets. The Capital Coalition has made a political pledge to reduce carbon emissions by 42% by 2020 and therefore the work that Edinburgh is engaged in has full political support.

4. **Fit with SEEP Pilot Themes.**

Integration

The SEEP Pilot themes have been a priority for the Council for some time and are clearly articulated in relevant Council strategies such as the SEAP and the City Housing Strategy. Investing in energy efficiency has been identified as a key priority in both. A common approach has been for Housing and Property services to progress projects in domestic and non domestic buildings separately from each other. However recently, these two services have been working more collaboratively together on city projects, for example with respect to district heating where mixed tenures are an advantage. The theme of "integration" for the SEEP therefore both complements and could help to further develop this emerging approach within the Council.

This bid (if successful) allows service areas to pool expertise, share data proactively and potentially save on procurement. In addition, this bid will also bring together domestic energy agencies, communities and third sector organisations who possibly don't become involved with non domestic energy issues such as those related to schools buildings. In working jointly those agencies who have a city wide remit can apply a similar integrated geographical approach and thus the chances of replicating projects are higher as issues are understood better.

The intention for this bid if successful would be to set up a joint project team with officers from Housing and Property together with relevant partners and create an integrated governance structure to monitor overall progress for the duration of the project.

Innovation

There are a number of new innovating elements to this bid.

Non Domestic

For the Duncan Place Projects, this exceeds current best practice across Local Authority buildings and will innovatively apply current best practice approaches in the renewable heating of a listed 'hard to treat' building. The pilot will also include the installation of LED lighting with advanced photoelectric dimming and passive infrared sensor (PIR) control. The advanced controls will allow for monitoring of the LED performance and energy reductions. The building controls system will be designed to monitor each room on an individual basis as well as a site wide view.

The Council ESCO is a new arms length company being set up to deliver key energy projects for the SEAP. This is the first "strategic" ESCo in Scotland which has the remit to look at a wide range of energy projects not just district heating. Funding for a feasibility study is being looked for

to evaluate how an ESCo might deliver energy efficiency measures to both domestic and non domestic buildings, identifying what the issues might be.

The BEMs pilot is particularly innovative. While most modern BEM systems are a valuable tool in energy management they do not by themselves guarantee efficiency savings. Careful attention needs to be paid to how energy is controlled within the building. This project will therefore pilot installations following the assessment method presented in BS EN 15232 (*Energy performance of buildings. Impact of Building Automation, Controls and Building Management*) and where practical adopts the best possible energy reduction. BS EN 15232 has not been applied to previous Council BEMS projects (and not in many other councils either) and therefore this would present a good opportunity to provide vital knowledge and experience that could have a profound impact on the wider estate. This project exceeds current best practice across Local Authority buildings and will innovatively apply current best practice approaches in the control strategies and associated monitoring of building services and other ancillary plant. Looking in detail at overall demand reduction and the opportunity to modulate and offset electrical demand will lead to innovative control solutions and strategies that will have relevance across Council buildings and the wider public sector in Scotland.

Domestic

The SEEP Pilots contained within this bid are also an ideal opportunity to inform the development of the programme and maximise the effectiveness and impact that a broader approach will provide. City of Edinburgh Council will take a leading role in the delivery but there are a number of areas where a shared approach would be beneficial.

Stock Analysis of housing and non-domestic properties

To inform the future development of the programme desk top analysis will be carried out, combining a range of data sources including Home Analytics, the EPC register, Local Authority data and small scale Census data. An approach will be developed to integrate non-domestic data and links to the heat maps developed. Individual analysis will be carried out for each local authority but a common methodology will be used.

The analysis will allow geographical prioritisation and mapping, and provide a broader overview of the housing types and non-domestic properties requiring retrofit.

Development of local supply chain

The current delivery of the area-based schemes is limited a relatively small number of contractors often dependent on labour from outwith the local area. The delivery of the wider programme will require a greater number of trades companies able to work in the able-to-pay and non-domestic market with particular specialisms.

Development work is required to work with the Construction Industry Training Board, colleges and local firms to ensure that the workforce is suitably trained and qualified to carry out the work and a competitive range of firms are able and willing to bid for work.

The current framework has been in place for a number of years. The number of active bidders has reduced to a handful and there is a risk that the level of grant available is driving the prices up. With the expansion of the programme there is also a need to expand the range and type of contractors.

Development and delivery of pilot schemes

The practical delivery of a range of energy efficiency schemes is the main element of the pilot. Individual projects will be focused on generic property types / ownership / socio-economic demographic which are replicated across South East Scotland at different levels within each local authority. Rather than each local authority seeking to carry out projects covering all types, different pilots have been selected within each local authority to provide exemplars and learning for the other local authorities.

Innovative development and use of technology

With such a large programme it will be important to identify new technological solutions to facilitate and carry out retrofit. Areas to be considered are:

- use of thermal imaging
- off-site construction
- use of new materials and methods for retrofit

Opportunities will be sought to integrate these in to the projects or to draw up further projects.

Able to Pay Market

It would be the intention, in line with Edinburgh's SEAP, to engage with households out with CTB A-C to gauge the appetite for people who are not necessarily in fuel poverty and have the ability to pay for energy efficiency measures.

This will include invitation to local events, engaging local community groups and information leaflets.

MONITORING

Non Domestic

The Duncan Place project will monitor savings across the building against pre-intervention baselines. For LED lighting, heat pumps and roof insulation upgrades this will be carried out through monitoring AMR data, LED lighting centralised control system and heat pumps sub metering. It will also be possible to support savings through recorded trend logs and sensor data. Cost data will be routed back to (metered) reduction in demand and current tariffs

The BEMs pilot will monitor saving across all sites against pre-intervention baselines. For BEMS upgrades this will be carried out through metered gas data and gas AMR data where available. Electricity savings will be monitored through AMR data and any available sub-meter data. It will also be possible to support savings through recorded trend logs and sensor data. Cost data will be routed back to (metered) reduction in demand and current tariffs.

ONGOING EVALUATION

A new Governance structure will be set up that will review the overall project with representatives from the relevant sub project areas. This will meet 6 weekly.

Domestic Evaluation and dissemination

A full report will be produced for this Pathfinder project to allow dissemination and replication across Scotland. In the first instance this would provide a subjective narrative of successes and pitfalls in delivering the project (with each element in isolation). It will also provide a quantitative assessment of the following elements:

- 1. <u>Number of measures installed</u>. This information will be readily available from contractors and will have been reported to the Scottish Government throughout the project. This will therefore also give an indication of the scale of energy efficiency improvements in this project.
- 2. <u>Carbon emissions reduction</u>. As part of ECO applications, contractors must estimate the carbon savings as a result of installed measures. Therefore this information will be reported for each of the measures as part of the SEEP project.
- 3. <u>Cost savings</u>. To estimate cost savings to householders, the number of measures per house type will be cross-referenced with standard assumptions provided by the Energy Saving Trust.

	Finally, the level of local community engagement will be reported with regards to procurement of local contractors, thus stimulating the local economy, and through tenant surveys, as has recently become standard practice through HEEPS: ABS programmes.		
	Non Domestic		
	For the Duncan Place and BEMs projects, internal steering groups will be set up to govern the project including key energy, engineering and FM representatives. Reporting against the project plan will be produced quarterly. Once installations are live, energy saving data will also be produced on a monthly basis.		
5.	Provide a funding summary for each element of the pilot.		
	Non-domestic		
	LCITP funding - £635K		
	Domestic		
	 HEEPS: ABS funding - £650k ECO funding - £423k Owner occupier contribution - £108k Social landlord contribution - £163k 		

Part B: LCITP : Encompassing non domestic energy efficiency and renewable heating elements.

6. Applications for funding from the LCITP should complete the attached application form.

The attached application should be fully completed for assessment (and signed by 2 authorised signatories). A guidance note for completion is also attached. As there may be multiple applications for different projects it is anticipated that there will be one application per discrete application in the non domestic and heating side.

Application Form





Part D: Certification

9 The SEEP application form should be certified by the senior responsible officer in the local authority promoting the pilot as being true, accurate and being formally approved for submission by the local authority.
 This will include the name, job title, address ,e-mail address and 'phone number of the senior person and the date of committee approval for the submission. Where the application has not been approved by council committee you should indicate the date the committee will consider its approval. No applications will be approved without local authority committee approval. The application form should be submitted from the named officers e-mail address below. Complete the below:
 On behalf of the council, I named below confirm that I have the authority to submit this application and that committee approved this application on the following date
 JANICE PAUWELS

Sustainable Development Manager

The City of Edinburgh Council

4 East Market Street

Janice.pauwels@edinburgh.gov.uk

0131 469 3804

Finance and Resources Committee 12 May 2016

Part E: Completed Application Forms

10 Completed application forms should be e-mailed to the <u>SEEP@gov.scot</u> mailbox by 5pm Friday the 18th of March 2016. Where the LCITP application does not have two electronic signatures, a signed copy must also be sent by mail to Johann MacDougall, Scottish Government Heat and Energy Efficiency Unit, 4th floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU with the appropriate authorised signatures to be received no later than Tuesday the 22nd of March 2016.