

Corporate Policy and Strategy Committee

10am, Tuesday, 15 May 2018

Sustainable Energy Action Plan Annual Progress Report 2017/18

Item number	8.4
Report number	
Executive/routine	Routine
Wards	All
Council Commitments	C18

Executive Summary

The Sustainable Energy Action Plan (SEAP) was approved in February 2015 setting out the five-year strategic programme aiming to reduce carbon emissions by 42% by 2020 across the city. This report presents the third annual progress report.

The latest set of Government figures indicates that there is a further downward trend in Edinburgh's carbon emissions in 2015 of 4.5%. This represents an overall reduction of 30% since the baseline year of 2005.

A number of new policy documents have been introduced by the Scottish Government over the last year that will have implications for the SEAP going forward.

Much of the focus over the third year has been on consolidating projects and on project delivery.

Sustainable Energy Action Plan Annual Progress Report 2017/18

1. Recommendations

- 1.1 The Committee is asked to note the contents of the report.

2. Background

- 2.1 The Council's first SEAP was approved by Committee in [February 2015](#). The plan sets out the proposed actions and initiatives to reduce carbon emissions by 42% by 2020 across the city.
- 2.2 The delivery of the SEAP is through five work programmes with a range of projects under each which combine to form a single integrated energy plan for the city. These work programmes reflect the priorities of the SEAP and are:
- 2.1.1 energy efficiency;
 - 2.1.2 renewables;
 - 2.1.3 district heating;
 - 2.1.4 resource efficiency; and
 - 2.1.5 sustainable transport.
- 2.3 This report provides the third update on progress.

3. Main report

- 3.1 Energy and carbon statistics were published on 29 June 2017 by the Department of Business, Energy and Industrial Strategy (BEIS) covering the period 2005-2015 (the information has a two-year time lag). This provides as robust an assessment of carbon emissions as possible and is the information used by all UK local authorities. Appendix 1 provides more details.

- 3.2 The statistics show that Edinburgh’s carbon emissions dropped from 2,410 kt¹CO₂ in 2014 to 2,302 ktCO₂ in 2015. This is a decrease of 109 kt of carbon or 4.5% on the previous year. The overall reduction in Edinburgh’s emissions since 2005 means that Edinburgh has now hit a 30% reduction which is slightly more than the Scottish and UK averages of 27% over the same period. In Edinburgh the largest reduction over the last ten years has come from the industrial and commercial sectors (-39%), with domestic sector emissions falling by 31% and transport emissions reducing by 12%.
- 3.3 When comparing 2015 figures to 2014, the largest reduction in emissions was seen in the industrial and commercial sectors followed by the domestic sector. However, transport emissions have risen by 1.5% over the same period, which is the second consecutive year that these emissions have risen.
- 3.4 Each year BEIS also carry out a review of the baseline year due to the monitoring techniques always being updated and make any adjustments accordingly for each local authority. For Edinburgh there has been a small reduction to the original 2005 baseline of 3,295 ktCO₂ to 3,289 ktCO₂.
- 3.5 Edinburgh’s per capita emissions have also fallen. This is a measurement of carbon emissions divided by the population of an area. Over the period 2005-2015 Edinburgh’s figure has fallen by over a third from 7.3 to 4.6 tonnes of carbon per capita. Figure 1 below shows the Edinburgh per capita emissions against Gross Value Added (GVA) over the last ten years. There is a national UK trend for GVA per head increasing while carbon emissions are decreasing, suggesting that there is evidence of decoupling carbon emissions from economic growth. However, while Edinburgh is following this same pattern what is more significant is that since 2005, the city’s population has increased by nearly 10%. In climate change terms this is a very positive outcome for Edinburgh.

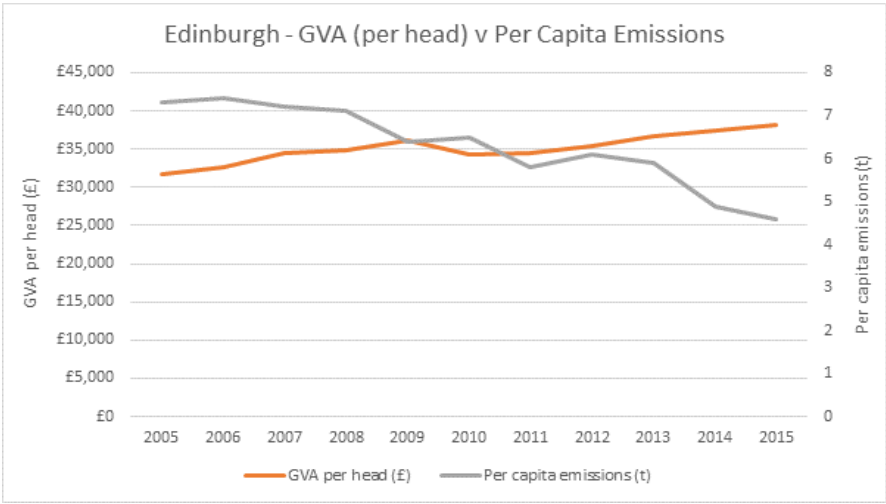


Figure 1 Edinburgh’s Per Capita Emissions v GVA per head.

¹ kilotonnes

Progress Towards the Target

- 3.6 The SEAP has the target of a 42% reduction in carbon emissions by 2020 delivered through a wide range of projects and initiatives. Table 1 below show the progress in identifying the carbon savings from projects. The latest projections for 2017/18 suggest that the SEAP programme can now account for just over 87% of the target.

	Savings accounted for (ktCO ₂)	% of the 2020 target
Original savings accounted for (2015-16)	898	65.1%
Revised carbon savings from projects (2016-17)	1188.4	85.9%
Revised carbon savings from projects (2017-18)	1205.4	87.2%

Table 1 Projected Carbon Savings from Projects

- 3.7 The table above shows that during 2017/18 only a small amount of carbon savings was identified from new projects. A key focus over the last year for the SEAP team has been to consolidate existing projects and focus on their implementation and delivery rather than switching limited resources onto new projects thus ensuring progress is being made towards the overall target.
- 3.8 Figure 2 below shows the progress towards the targets. While the gap is narrowing and the downward trajectory is encouraging, it is acknowledged that work will need to continue to ensure delivery of projects as well as identifying additional projects to close the gap.

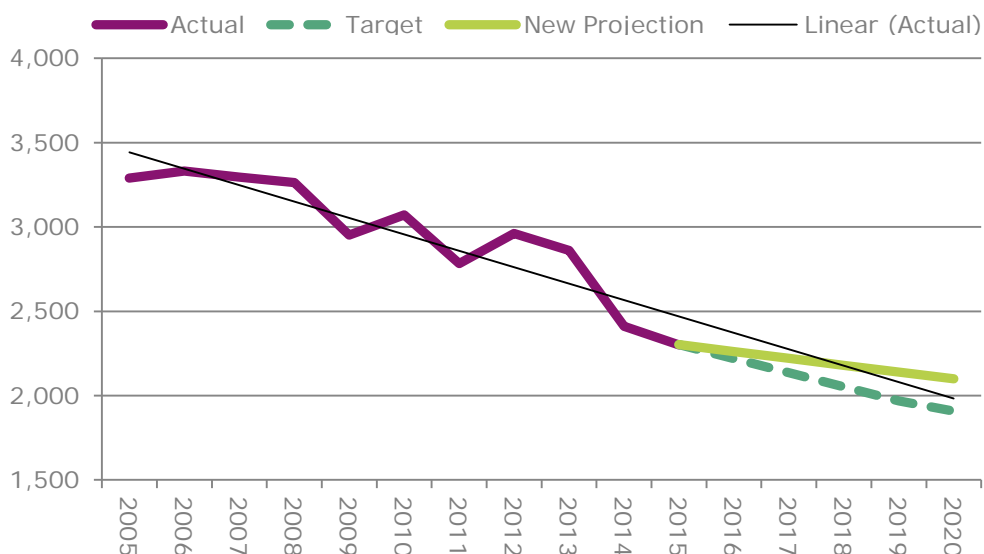


Figure 2 :Projections of Tonnes of Carbon Emissions for Edinburgh

New Policy and Legislative Requirements

- 3.9 In the last 12 months there has been considerable activity from Scottish Government in launching a number of key programmes and consultations on energy including:
- 3.9.1 launch of the Scottish Energy Strategy (December 2017);
<http://www.gov.scot/Publications/2017/12/5661>
 - 3.9.2 consultation on Local Heat and Energy Efficiency Strategies (LHEES) (February 2018);
 - 3.9.3 consultation on District Heating Regulations (February 2018);
 - 3.9.4 Launch of the third Climate Change Plan (February 2018);
<https://beta.gov.scot/publications/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/>; and
 - 3.9.5 Launch of the Scottish Energy Efficiency Programme (April 2018).
- 3.10 The Energy Strategy and Climate Plan highlights the significance of integrated energy systems and a whole energy approach to energy efficiency, heat and transport. The importance of energy and how it impacts on all aspects of the economy is stressed in these plans as is its importance to sustainable inclusive growth and the circular economy. The five themes of the SEAP are clearly visible across these key documents implying that the scope of the SEAP is still very relevant to these new energy policy frameworks.
- 3.11 The key areas of priority coming out of these plans is energy efficiency and heat. Meeting these targets will require installed renewable energy capacity in 2030 to be almost double current capacity and assumes renewable heat grows to 20% of non-electrical heat demand.
- 3.12 For energy efficiency, the Scottish Government has launched the Scottish Energy Efficiency Programme (SEEP) which considers domestic and non-domestic energy efficiency in an integrated way. The Government intends to provide £500m funding by 2020 for new approaches to delivering energy efficiency schemes for both building types.
- 3.13 A key issue currently being considered by Scottish Government is a mandatory duty on local authorities to produce a Local Heat and Energy Efficiency Strategy (LHEES). These will be long term (15-20 years) energy plans for local authority areas whereby “heating zones” might need to be identified setting out the opportunities for district heating or low carbon heat.
- 3.14 A further area of development is district heating where regulation is also currently being considered by the Scottish Government including new consent and licence procedures. Under consideration is local authorities being given a role in this and additional powers to grant consents. In addition, the public sector in general will be expected to actively encourage and connect to district heating schemes where feasible under the new proposals.

Progress on the SEAP Programme

- 3.15 Appendix 1 details the annual report and progress on the SEAP programme over its third year. This provides an update on the energy statistics, progress on the target, updates in relevant legislation and policy and a description of some of the project activity.
- 3.16 In Appendix 1 there is a further appendix that is a summary of all the projects currently across the five programmes. All projects have been given a “traffic light” status. This year, further information has been provided for each project to give more context, explanation and update on progress. Members expressed a desire to see the projects with SMART² criteria. This has been done where possible but for many projects is more difficult due to their complexity. For noting the SEAP is a five year plan so timescales are also variable in some cases.
- 3.17 The focus of the work over the last year has been on consolidating projects and getting larger projects to completion given the limited resources. Work has been undertaken by Council service areas and by partners across the city to reduce carbon emissions. Appendix 1 provides more details of this but some highlights of activities include:
- 3.17.1 Street lighting - In January 2018, a three year contract was awarded to Amey for the replacement of approximately 54,000 street lights with energy efficiency lanterns. The project will also see the installation of a Central Management System that will allow lighting levels to be adjusted;
 - 3.17.2 An outline feasibility study for solar canopies on four park and ride sites has been completed;
 - 3.17.3 Completion of eight of the nine buildings under the RE:FIT programme. This is the energy retrofit of nine of the largest energy consuming buildings in the Council. Combined Heat and Power systems have been installed in four schools;
 - 3.17.4 As part of the Scottish Government’s flagship energy efficiency programme the SEEP 1 pilot in Edinburgh was completed in March 2018 involving energy efficiency upgrades in 235 homes and in six schools and one community centre all in the Leith area;
 - 3.17.5 In 2017, the Council was successful in securing £1m in funding as part of Phase 2 of SEEP involving four individual energy demand reduction projects across the city, detailed below:
 - Saughton Park – Two Ground Source Heat Pump systems have been installed which will provide heat to the restored Winter Garden and new build developments;

² SMART: Specific, Measurable, Achievable, Relevant and Time Limited.

- Duncan Place Resource Centre – will see the installation of an air source heat pump system, LED lighting and an innovative advanced building energy management system;
 - City centre demand project – will see the installation of LED lighting and advanced building energy management systems in each of the museums along the Royal Mile, the Royal Mile Primary School, Edinburgh Bus Station and the Assembly Rooms;
 - In partnership with the Edinburgh World Heritage Trust targeting energy efficiency upgrades to the domestic and non-domestic premises within the Basil Spence (Canongate) development on the Royal Mile.
- 3.17.6 In 2017, the Council partnered with Midlothian Council to assess the potential for using waste heat from the new Millerhill Energy from Waste Plant aiming to develop a strategic approach to energy for the south east;
- 3.17.7 Securing funding to begin the development of a methodology for LHEES, using the Royal Mile and Edinburgh Old Town as a pilot area. A range of energy data for both domestic and non-domestic buildings will be evaluated along with a range of low carbon technologies;
- 3.17.8 The Electric Vehicle Action Plan was approved by Transport and Environment Committee in [December 2017](#) and an Electric Vehicle Business Case is currently under development to be reported to Transport and Environment Committee in June 2018;
- 3.17.9 Through Transport Scotland’s Switched on Fleet programme 2017-18, the Council has procured five Kia Soul (Battery Electric Vehicles) and is working with two other partner organisations to procure three further battery electric vehicles. This builds on the six battery electric vehicles that were procured in 2016-17;
- 3.17.10 Through Transport Scotland’s ChargePlace Scotland programme the Council successfully installed eight Electric Vehicles (EV) charging units (17 charging outlet points) across six sites in the city all of which are accessible to the public, building on the three EV charging units (eight charging outlet points) that were installed over 2016-17; and
- 3.17.11 The Council has been involved in work on the Circular Economy partnering with Zero Waste Scotland and the Edinburgh Chamber of Commerce on two separate funds exploring opportunities in Edinburgh.

Partnership Activity

- 3.18 Although the Council leads the SEAP it cannot deliver the 42% target on its own. The participation of a range of sectors across Edinburgh is crucial including community groups, business and the wider public sector.
- 3.19 A new Edinburgh Energy Forum was established during 2017 comprising the energy managers of the major public sector partners in the city including the Universities, Edinburgh College, Lothian Health, Police and Fire Services. Chaired

by the Council, The Forum provides a mechanism for exchanging information on energy and low carbon initiatives. Although in its early stages, the Forum can become a vehicle for collaborative projects to reduce carbon emissions across the city.

- 3.20 The Board of Energy for Edinburgh, the energy services company (ESCO) set up by the Council, is carrying out a strategic review of its priorities. This review will seek to identify gaps in the energy market and align EfE workplan with Council priorities.
- 3.21 The Edinburgh Sustainable Development Partnership continues to support the objectives of the SEAP and partners are engaged in a number of initiatives to address carbon reduction. One such initiative is the “Carbon Neutral Edinburgh” campaign supported by Friends of the Earth and Transition Edinburgh aiming for a fossil free city by 2050. This aim has also been suggested as a theme for the City Vision 2050. If this aim is developed further, the SEAP will be a key programme in the delivery of that objective.
- 3.22 Some examples of partnership activity over the last year include:
 - 3.22.1 The Edinburgh Creative Re-Use Hub: This low carbon project is led by the student community in Edinburgh and aims to increase awareness of sustainability and to create ways to make carbon savings. Based at the Shrub Co-op, the social hub provides inspiration for low carbon lifestyles and a resource efficient approach. In 2017 the project won the Climate Challenge Award for best waste project;
 - 3.22.2 Heriot-Watt University are addressing “end of session” waste by developing and promoting opportunities for charitable giving and reuse of unwanted items by students leaving their accommodation at the end of the year leading to reducing waste and allowing items including food, books, clothing and electrical goods to be reused or donated to a good cause;
 - 3.22.3 Creative Carbon Scotland’s purpose is to ‘connect arts and sustainability’. The group carry out a lot of work with Edinburgh’s festivals organisations. Their Green Arts Initiative is an interactive community of Scottish arts organisations working to reduce their environmental impact. The membership is continually growing and in November 2017, the third conference was held for members with sessions on experience sharing, Carbon Management planning and Carbon Reduction;
 - 3.22.4 The University of Edinburgh has approved a target to become a net carbon University by 2040. To meet this challenge the University has committed to reducing its carbon emissions per £million turnover by 50% from a 2007/08 baseline. A renewable energy and low carbon options review group has been established to review what further investments in renewable technologies such as solar and wind could be made;
 - 3.22.5 Lothian Buses are continuing to introduce cleaner vehicles across their fleet and 2017 was a milestone for the company with the launch of a fleet of six

brand new fully electric vehicles, with a further five electric vehicles to be added to the service in 2018. The vehicles will operate on a pure electric powertrain, including an all-electric heating and cooling system with 300 kWh of total battery energy allowing the buses to run with zero tailpipe emissions; and

- 3.22.6 Groups such as the Edinburgh Community Solar Co-operative completing the installation of solar PV across 25 buildings during 2017 are now considering further projects.

Focus for 2018

- 3.23 The new programmes and legislation being proposed by Scottish Government will have a number of implications but essentially the focus up to 2020 and beyond will be on:
 - 3.23.1 reducing energy demand and improving energy efficiency across all building types;
 - 3.23.2 switching to low carbon technologies for heat; and
 - 3.23.3 increasing the provision of low carbon transport solutions including electric vehicle charging and hydrogen.
- 3.24 The Scottish Government is also going to provide funding supporting the above three areas. In order to be prepared both for the programme and legislative impacts and to maximise funding opportunities, it is proposed that the key priorities of the SEAP programme going forward are:
 - 3.24.1 Developing a Council approach to SEEP including setting up a new working group with relevant service areas including property, housing, development and estates that will consider how to deliver energy efficiency across all properties and maximise benefits for consumers;
 - 3.24.2 Developing a new district heating policy for the Council to ensure opportunities are maximised and linkages with relevant service areas;
 - 3.24.3 The further development of electric vehicle infrastructure; and
 - 3.24.4 Ongoing collaboration with the Council ESCO in delivering projects.
- 3.25 Finally it is important that the aims of the SEAP and many of the themes are integrated into and across other key council services, programmes and policies. The City Vision has been referred to but there are also opportunities for linkages with other infrastructure plans for example the City Deal, Capital programme and major development plans such as Granton. The development of sustainable and integrated energy systems will provide a range of benefits back to communities.

4. Measures of success

- 4.1 The key measure of success for the SEAP is a reduction in carbon emissions across the city. Other measures however will include a reduction in the number of

households in fuel poverty, the amount of renewable energy generated across the city and the number of local energy projects initiated.

- 4.2 For the Council a measure of success will be the potential savings in energy consumption across the estate in terms of buildings and infrastructure. The SEAP will also be a key programme in meeting the Coalition pledge to reduce carbon emissions.

5. Financial impact

- 5.1 There are no adverse financial impacts for the Council associated with the activities outlined in this report. However a number of projects may result in both financial savings for the Council as well as a potential revenue stream although further work will be needed to determine these benefits.
- 5.2 The SEAP programme has no dedicated budget and consequently efforts are focussed on targeting external funds for project development. During 2017, the SEAP team was again successful with applications securing £1.3m of funding assisting the development of project feasibility work and business cases.
- 5.3 In 2018, there will be a number of other funding streams available for programmes including SEEP, low carbon infrastructure, electric vehicle infrastructure and district heating. The SEAP team would like to maximise the funding available and will discuss with finance colleagues and other service areas ways in which to maximise funding.

6. Risk, policy, compliance and governance impact

- 6.1 By implementing a SEAP, the Council is mitigating any risks of non-compliance with the Climate Change (Scotland) Act 2009. In addition, a number of the SEAP projects will assist the mandatory carbon emissions reporting under the Public Bodies Duties introduced by Scottish Government.
- 6.2 The SEAP also complements or directly links to a number of other key strategies including the City Housing Strategy; Local Development Plan and associated guidance documents; the Local Transport Strategy and Sustainable Edinburgh 2020. In addition, the SEAP feeds into key programmes such as the City Deal, City Vision and Scottish Cities Alliance low carbon programme.

7. Equalities impact

- 7.1 There is no adverse equalities impact associated with this report.
- 7.2 By delivering affordable energy and reducing fuel poverty, the SEAP will contribute positively to key equalities outcomes of reducing inequality, poverty and deprivation.

8. Sustainability impact

- 8.1 The SEAP will have a positive impact on sustainability through actions specifically designed to lower carbon emissions through energy efficiency, encouraging sustainable travel, resource efficiency and encouraging low and zero carbon energy generation. This will increase the city's resilience to climate change impacts.
- 8.2 The projects within the SEAP will benefit a sustainable Edinburgh by helping alleviate fuel poverty in communities and by improving both quality of life and the environment. It will assist in making local businesses more resilient, provide business opportunities for local suppliers, and provide local people with more disposable income, providing a boost to the local economy and a knock on effect in terms of employment opportunities.

9. Consultation and engagement

- 9.1 There is ongoing engagement on the SEAP with a wide range of organisations. The SEAP is a standing item on the Edinburgh Sustainable Development Partnership and updates are provided on a regular basis. The new Edinburgh Energy Forum that has been established also provides a mechanism for ongoing engagement and consultation.

10. Background reading/external references

None.

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11. Appendices

Appendix 1: Sustainable Energy Action Plan Annual Progress Report 2017-18

Sustainable Energy Action Plan

Annual Review 2017-18



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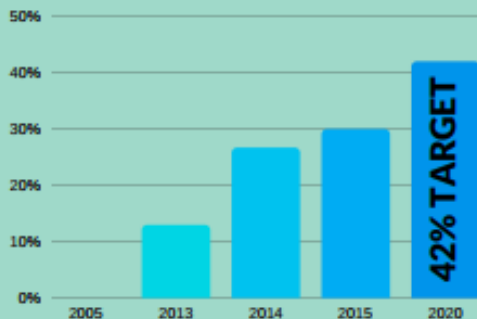
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Executive Summary

This is the third annual progress report of Edinburgh's Sustainable Energy Action Plan. From the latest BEIS¹ figures, the city's carbon emissions decreased by a further 4.5% from the previous year. The overall reduction in Edinburgh's emissions since 2005 is approximately **30%**.

¹ Department of Business, Energy and Industrial Strategy

CO2 EMISSION REDUCTION AGAINST THE BASELINE (2005)



EMISSIONS PER CAPITA (CO2)

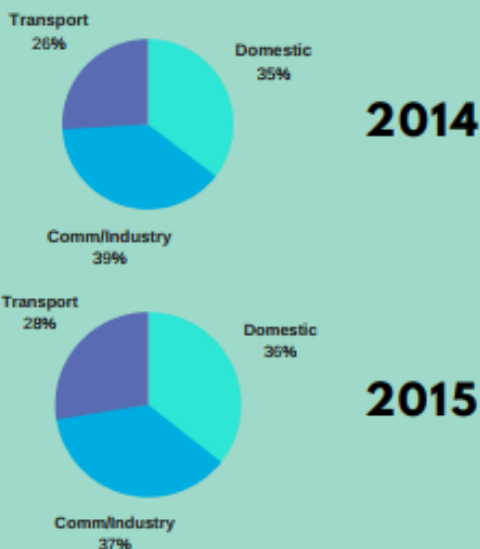


2014
4.9 (t)



2015
4.6 (t)

CO2 EMISSIONS % CHANGE PER SECTOR



Some of the Project Highlights 2017/18

- Completion of energy efficiency programmes for both domestic and non-domestic properties under SEEP.
- Further development of works on HEEPS: ABS and progress on the EESSH standards.
- Completion of eight of the nine properties under RE: FIT.
- Housing Associations taking forward energy and low carbon initiatives to benefit their tenants.
- Installation of ground source heat pumps in Saughton Park.
- Development and approval of an Electric Vehicle Action Plan.
- Range of projects undertaken by the city's Universities to reduce carbon emissions.
- Completion of the Carbon Literacy programme.
- Funding provided to a range of community projects for carbon reduction initiatives.
- Successful application for LHEES funding for a pilot in the Old Town/Royal Mile.
- District Heating contract awarded for Greendykes.
- Mentoring programme agreed with the Danish Board of District Heating
- Heat Opportunities Mapping Supplementary Guidance launched
- SEEP 2 funding secured with the Edinburgh World Heritage Trust for further energy efficiency works.
- Dunedin Canmore Housing Association installing wireless technology in over 200 homes to monitor energy efficiency.

Key Focus for 2018/19

Work will continue to focus on delivering priority programmes such as SEEP, district heating and electric vehicles delivering projects. The implications of key Scottish Government policies and programmes will be incorporated into the SEAP work programme. Opportunities to apply for funding will continue where resources allow and to support project activity. In 2018 a number of feasibility studies and business cases will be completed which should provide further opportunities for carbon reduction initiatives.

1. Introduction

This report presents the **third annual review** of the Council's Sustainable Energy Action Plan (SEAP) approved by the Council in February 2015.

The SEAP has been developed as the city-wide action programme to meet the target of reducing carbon emissions by 42% by 2020.

The vision is that by the end of the programme, Edinburgh will have made considerable progress in transforming its energy use by reducing

demand, encouraging local generation and using greater renewable energy. Contributing to that process will have been a number of stakeholders and partners engaged in a range of projects and initiatives to reduce carbon emissions. This will bring a range of benefits to consumers particularly those in fuel poverty.

Covering a 12-month period over 2017/18 this annual progress report provides an update on carbon reduction initiatives across the city.

During the last 12 months, the Scottish Government has introduced a number of policy documents and consultations that will have a direct bearing on the work of the SEAP programme. The key focus of much of these documents up to 2020 will be in reducing energy demand and switching to low carbon technologies including heat networks. The implications on the SEAP are considered in section 3.



There are still challenges in developing projects and taking initiatives forward. Funding remains

a key challenge. However, during 2017, a number of funding schemes were launched by the Scottish Government. The Council was successful in its application for SEEP2 funding securing just under £1m for energy efficiency projects for both domestic and non-domestic buildings. Grants for both electric vehicle charging points and for vehicles were also made available to local authorities and the wider public sector. The Council continues to try and maximise any funding for ongoing work.

The focus over the last year has been to deliver existing projects rather than initiate new ones. This has been to consolidate resources ensuring that projects start to move to completion. The current trajectory for carbon emissions in Edinburgh is still downward and the gap is closing on the target which is very positive. However it is acknowledged that within the overall SEAP programme there are still a number of projects that have to be delivered. Work will continue to identify new projects to close any remaining gaps.

Edinburgh's SEAP was approved by the Covenant of Mayors in November 2015.



As a signatory Edinburgh joins thousands of European towns and cities in a commitment to reducing carbon emissions.

2. New Legislation and Policy Frameworks

This section summarises key initiatives or policy frameworks introduced by the Council and Scottish Government which will have implications for the SEAP programme.

City Vision

This Council initiative is looking at the development of the city by 2050. Over the last year there has been feedback from the public and different sectors that strongly supports a carbon neutral Edinburgh by 2050.



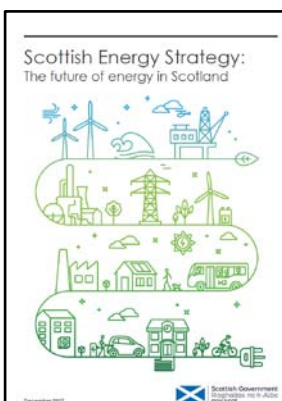
If this becomes a key theme of the City Vision going forward then the SEAP will become an important programme in the delivery of that objective and will need to be reviewed in terms of key actions to deliver a carbon neutral Edinburgh.

Scottish Energy Strategy

The Scottish Government launched its first Energy Strategy in December 2017 setting out its plans for the future of energy in Scotland. See

<http://www.gov.scot/Publications/2017/12/5661>.

The first of two key targets is for the equivalent of **50%** of Scotland's energy demand to come from **renewables** by 2030 which would mean requiring installed renewable energy capacity to be almost double current capacity.



The second key target is for an increase by **30%** in **energy productivity** by 2030 i.e. "squeezing" more out of every unit of energy consumed across the economy i.e. more economic activity for each unit of energy being used.

The strategy focuses on energy efficiency, renewables, low carbon heat and electric vehicles. A key initiative will be the Scottish Energy Efficiency Programme (**SEEP**) detailed below.

Scottish Energy Efficiency Programme

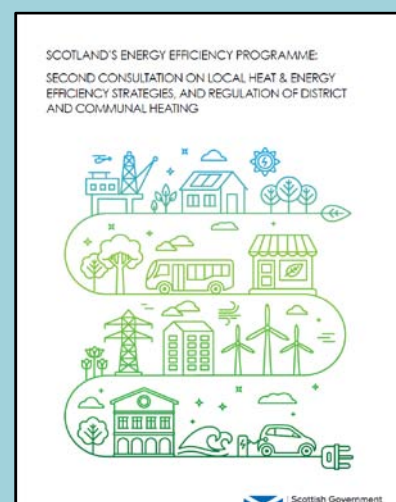
The Scottish Government has designated energy efficiency as a National Infrastructure

Local Heat and Energy Efficiency Strategies

In 2017, the Scottish Government launched a second consultation on proposals to create a statutory framework for local heat and energy efficiency strategies (**LHEES**) which will help to drive energy improvements across local authorities integrating both domestic and non-domestic properties. The focus is on energy efficiency and low carbon district heating.

The main elements are:

- Councils having a statutory duty to develop LHEES for a 15-20 year period;
- The LHEES to determine the zones for energy efficiency and heat options;
- Moving the duty to report on fuel poverty from the Local Housing Strategy to the LHEES;
- Aligning LHEES with the planning system and especially LDP's;
- Socio-economic assessments to become a statutory requirement in the development of LHEES;
- Data for LHEES will be improved with supplementary data on gas and electricity consumption.



Priority, the cornerstone of which will be Scotland's Energy Efficiency Programme (SEEP) which is to be a 15-20-year programme for domestic and non-domestic properties.

SEEP will help local authorities to pilot new and innovative approaches to energy efficiency with community groups and businesses, helping reduce costs and improving warmth in homes, schools and businesses.

A particular aspect of the SEEP Programme is the targeting of low income and fuel poor households to maximise the benefits to these communities and the link with economic development in terms of new jobs, skills, development and inclusive growth.

Programme for Government 2017-2018

The Programme for Government commits to investing more than half a billion pounds to SEEP by 2020. Two funding calls for pilot projects have already been launched with Edinburgh successful in applications to both schemes. In addition the Programme refers to the economic benefits of low carbon technologies and the opportunities from this sector aligning this with the programme for the circular economy.

The same Programme also commits to investing up to £60m to deliver innovative low carbon energy infrastructure solutions across Scotland such as electric battery storage, sustainable heating systems and low emission transport. For electric vehicles the Scottish Government has pledged to phase out all fossil fuelled engines by 2032.

Climate Change Plan: The Third Report

This document was launched in February 2018 and is the Scottish Government's Climate Change Plan Third Report on Proposals and Policies, for meeting greenhouse gas emission reduction targets 2018-2032. This Plan sets out how the Scottish Government will continue to drive down emissions over the period to 2032.

<http://www.gov.scot/Publications/2018/02/8867>

District Heating Regulations

In 2017, the Scottish Government also consulted on new district heating (DH) regulations.

This includes establishing designated zones via LHEES, creating concessions and provisions for existing users and suppliers of surplus heat to DH and introducing licences and consents.



There are clear implications for local authorities. Some of the key proposals are:

- Introducing a new consent scheme to be managed and enforced by local authorities;
- Developers needing consent to develop DH including the need to have a licence;
- Proposals for a national body that would issue licences and monitor projects;
- Separate consumer guidance to be produced;
- For existing buildings requiring the public sector to assess connection of its buildings to DH.
- Encouraging new buildings to connect to heat networks via the new consent process.
- Planning policies will continue to be supportive and encouraging of heat networks;
- Proposing a phased approach for the non-domestic sector with potentially usable surplus heat to connect and supply heat; and
- A recognition that local authorities will need support and resource in this area.

Warm Homes Bill

The Scottish Government will be launching a new Warm Home Bill in 2018 setting a new statutory fuel poverty target as part of a longer-term strategy to address this issue.

IMPLICATIONS FOR THE SEAP

The range of plans and consultations launched by the Scottish Government in 2017 sets out clear objectives for energy and low carbon. In

particular, the Scottish Government's third Climate Change Plan along with the new Energy Strategy, provides the strategic framework for the transition to a low carbon Scotland. The new Energy Strategy in particular has a clear focus on integrating energy systems and taking a whole system view to heat and transport, alongside electricity and energy efficiency.

From these strategies it is clear that the focus to mid-2020s will be on energy efficiency and switching away from gas to low carbon generation technologies including heat networks. This along with decarbonising transport will become the key priorities going forward. The implications of these are discussed below.

Energy Efficiency Implications

A key task for this SEAP programme will be the development of a strategic approach to SEEP. This will mean better integration between domestic and non-domestic energy retrofitting initiatives, where appropriate, and maximising collaborative opportunities. This will be a new approach for the Council.

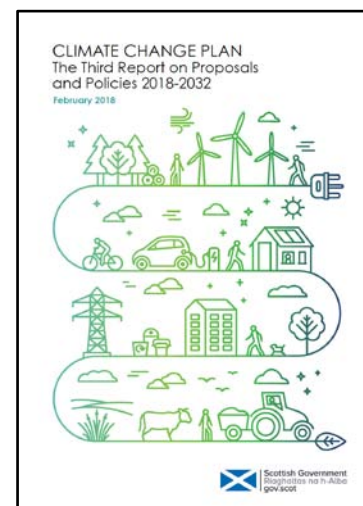
The introduction of possible mandatory duties on local authorities for the development of LHEES will have implications for Edinburgh. A LHEES will have strong connections with planning, housing, property, regeneration and development. A pilot study focusing on the Old Town/Royal Mile is underway which will explore the development of a LHEES and the alignment with these key service areas and other Council programmes. LHEES are likely to become key strategies for councils in the development of energy masterplans for their areas.

District Heating Implications

With the Scottish Government considering implementing district heating regulations there will be implications for future capacity and expertise in local authorities. Not only will clear strategies for district heating be needed, where appropriate, but local authorities will need to consider their resources and capacity to respond to this developing agenda.

Heat is clearly a priority in reducing carbon emissions as it forms the major use of energy in Scotland. However a focus for the SEAP needs to be on more renewable sources of heat and its sustainable use where this is environmentally and economically feasible. This will involve more consideration of technologies such as heat pumps but might also include waste heat.

As part of the SEAP DH programme there is a need for an overarching policy framework for the Council that sets out the aims and objectives for DH in Council projects and where it might be appropriate to consider district heating. This work is underway.



3. Progress towards the 2020 target

Energy and carbon statistics were published on 29 June 2017 by the Department of Business, Energy and Industrial Strategy (BEIS) covering the period 2005-2015 (the information has a two-year time lag). This provides as robust an assessment of carbon emissions as possible and is the information used by local authorities. Table 1 below details the figures for Edinburgh that demonstrates a decrease in carbon from 2,410.0 ktCO₂ in 2014 to 2,301.6 ktCO₂ in 2015. This is a **4.5%** reduction on the previous year.

The emission monitoring techniques are always updated and consequently the baselines are also adjusted each year. For Edinburgh there is a very small adjustment to the 2005 baseline from 3,295 ktCO₂ to 3,289kt CO₂.

Year	Industry & Commercial	Domestic	Transport	TOTAL CO ₂	Per Capita	% Change to Baseline
2005	1,384	1,186	718	3,289	7.3	Baseline Year
2006	1,438	1,182	711	3,332	7.4	1.3%
2007	1,413	1,167	715	3,296	7.2	-0.2%
2008	1,414	1,167	680	3,262	7.1	-0.8%
2009	1,245	1,039	667	2,952	6.4	-10.2%
2010	1,309	1,105	656	3,072	6.5	-6.6%
2011	1,171	972	639	2,783	5.8	-15.4%
2012	1,270	1,063	628	2,961	6.1	-10.0%
2013	1,214	1,024	620	2,860	5.9	-13.0%
2014	930	854	625	2,410	4.9	-26.7%
2015	846	820	634	2,301	4.6	-30.0%

Table 1: CO₂ emissions for the City of Edinburgh 2005-2015 (all figures in kt CO₂)

The overall reduction in Edinburgh's emissions since 2005 is approximately **30%** which is slightly more than the Scottish and UK averages of 27% over the same period. In Edinburgh the largest reduction over the last ten years has come from the industrial and commercial sectors (-39%), with domestic sector emissions falling by 31% and transport reducing by 12%.

When comparing 2015 figures to 2014, the largest reduction in emissions was seen in the industrial and commercial sectors (9%). The next reduction was seen in the domestic sector which reduced by 4%. However, transport emissions have risen by 1.5% over the period 2014 to 2015, which is the second consecutive year that these emissions have risen.

Per Capita Emissions

These are a measurement of greenhouse gas emissions per person in a country and considered to be a useful measure of climate change mitigation. In Edinburgh since 2005, as carbon emissions have fallen, so has per capita emissions. Over the period 2005-2015 this figure has fallen by over a third from 7.3 to 4.6 tonnes of carbon. What is interesting however is that since 2005, Edinburgh's population has increased by nearly 10% but so too has Gross Value Added (GVA) per head also increasing year on year. This could be evidence that Edinburgh is decoupling its emissions of energy use from economic growth. In climate change terms however this would be a very positive outcome for the city.

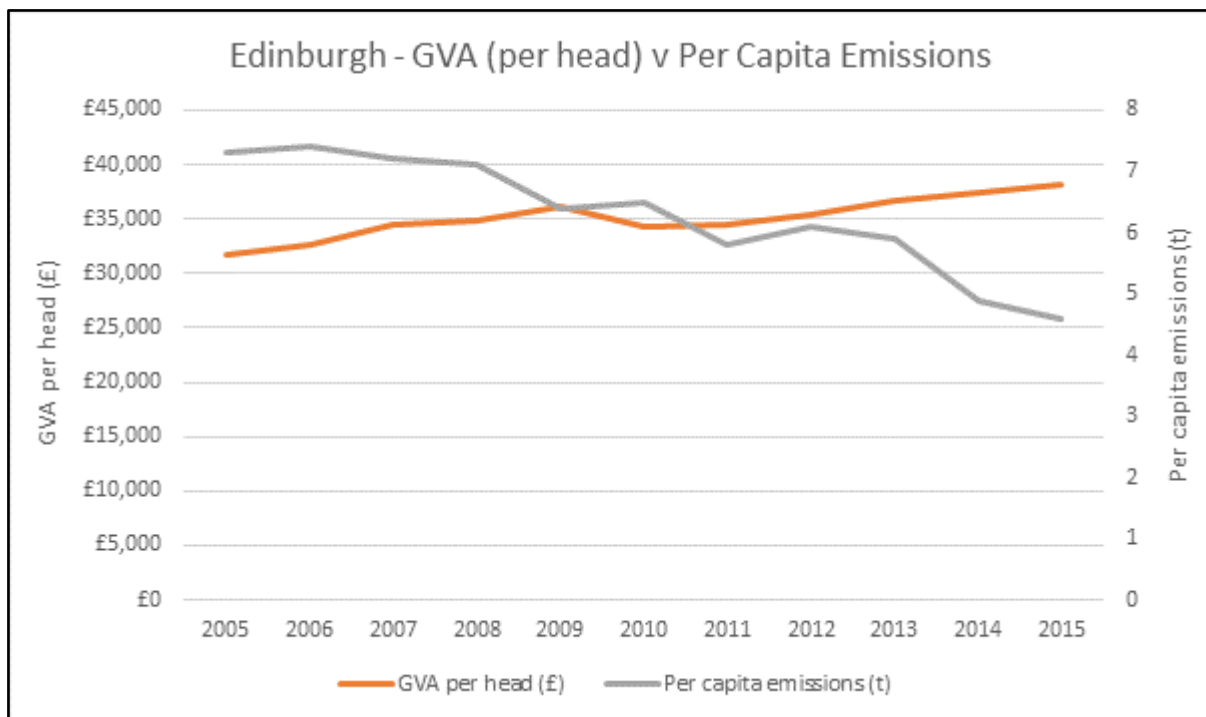


Figure 2 Per Capita Emissions v GVA Per Head

Project Savings

The SEAP has a target of a 42% reduction in carbon emissions by 2020. Due to the two year lag with producing the energy and carbon statistics from BEIS, it won't be until the data is released in 2022 that an assessment can be made of whether the SEAP target is met or not.

In the original modelling of the SEAP action plan (2015) there were 898.2 ktCO₂ savings identified from projects. This accounted for 65.1% of the carbon emissions savings required to achieve the target. Since then work has been ongoing to find further carbon savings through projects. Table 2 below details the savings from projects over the last three years that are contributing to the overall 42% reduction targets. In the last year (2017/18) a further 17 carbon tonnes have been identified from projects which now represents 87.2% of the target required. It is fully acknowledged that projects still need to be implemented and delivered to achieve these reductions.

	Savings accounted for (ktCO ₂)	% of the 2020 target
Original savings accounted for (2015-16)	898	65.1%
Revised carbon savings from projects (2016-17)	1188.4	85.9%
Revised carbon savings from projects (2017-18)	1205.4	87.2%

Table 2 Projected Carbon Savings from Projects

Target Projections

Figure 3 below shows the progress towards the 42% 2020 target taking into account all the original projects and the new projects identified over the last three years. This demonstrates a downward trajectory and a narrowing gap. This is very encouraging but it is acknowledged that there is a UK wide national trend for decreasing carbon emissions as a result of ongoing decarbonisation of the national electrical grid. Emissions in electricity generation emissions has fallen in Scotland by 48% between 1990 and 2015. For the Edinburgh SEAP, work will need to continue to make sure projects are implemented and to close any remaining gaps in the target.

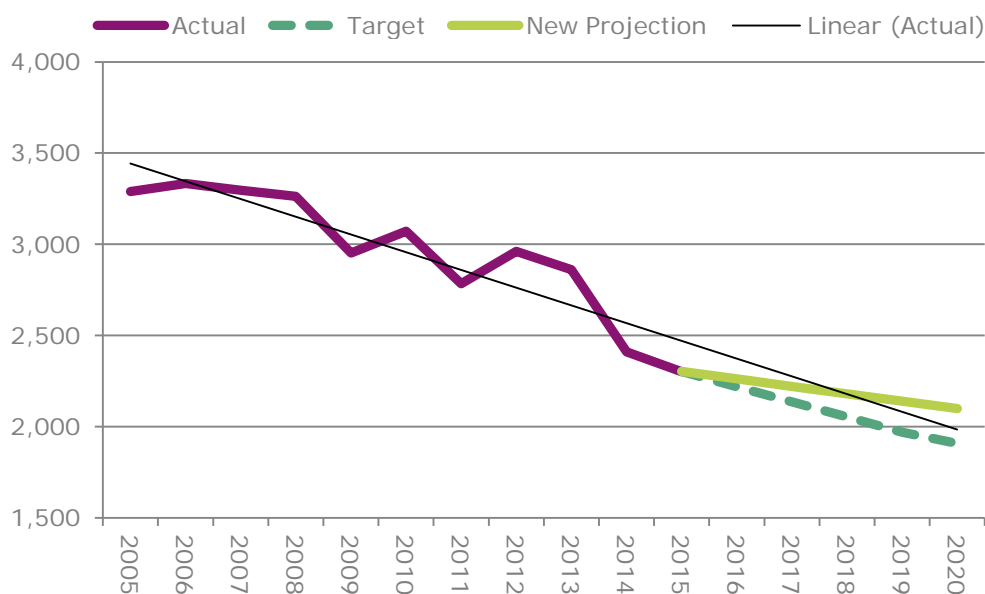
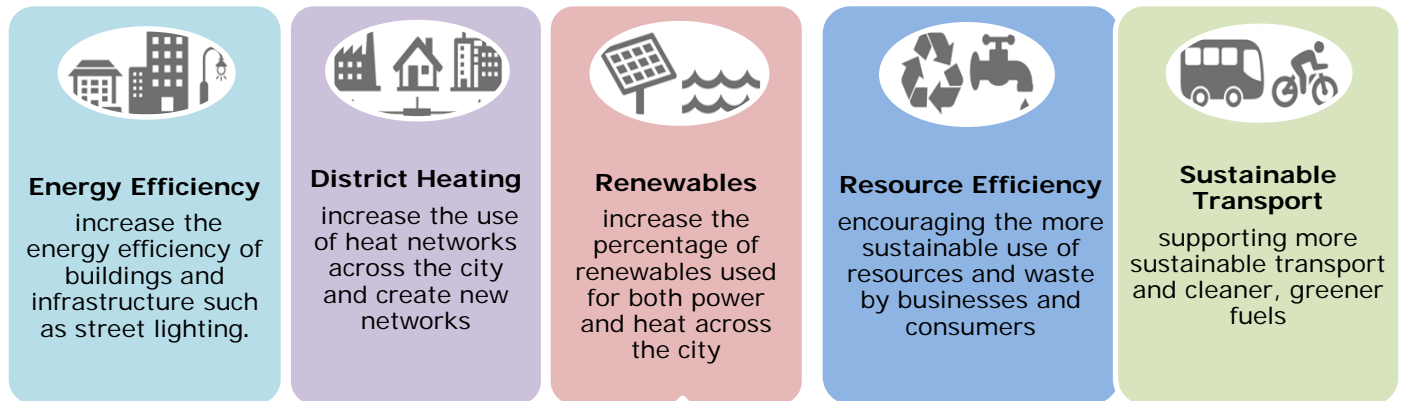


Figure 3: Target Projections versus New projections

4. Projects and Initiatives

The delivery of the SEAP is through five work programmes which combine to form a single integrated energy plan reflecting the key priorities of the SEAP to reduce the need for energy, use it more efficiently and generate energy in a sustainable way.

The five programmes are:



The Appendix 1 in this annual report provides a summary of all the projects included in the main Project Matrix. This includes the projects as detailed in the original SEAP and any new projects added over the last year. For this year 2017/18 there has been fewer new projects developed. This is due to focusing resources onto delivering existing projects rather than diverting limited resources onto new initiatives.

The annual review and the summary demonstrates that work in this agenda is not focussed solely on one area but across the breadth of the five SEAP themes. The SEAP remains a strategic and increasingly integrated programme for energy and carbon reduction. This reflects the Scottish Government's future priorities for integrated energy systems.

Projects have been identified as Council or non-Council to try and distinguish between partner projects and Council led projects. Efforts have been made to make the project objectives as SMART as possible but this has not been possible to do in all cases due to the complexity or type of project.

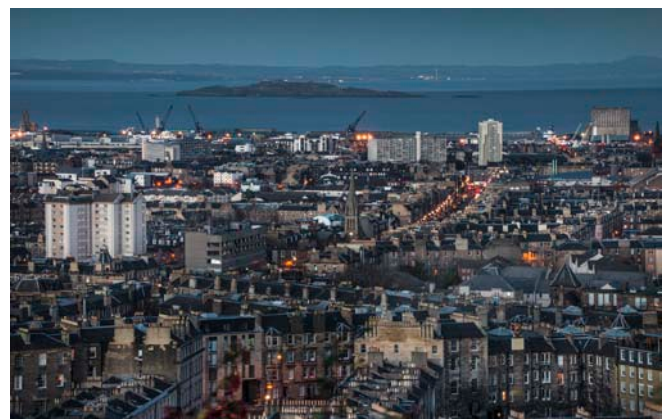
This year there has also been a review and amalgamation of projects where there is clear overlap. The carbon reductions have been collated and recorded however so no

information has been lost. A number of projects are also now being recorded as completed.

In terms of timescales, the SEAP is a five-year plan and currently many of the projects are anticipated to be completed within the five-year period. However the work on DH is more complex however projects are reviewed regularly and the main Project Matrix updated to reflect changing timescales or any other metrics.

Government Initiatives

It is clear that both UK and Scottish Government policies have a significant bearing on the carbon target being in some cases the major drivers for carbon reduction. As far as is possible these are tracked for impacts.





5. Energy Efficiency

This SEAP programme focuses on reducing energy consumption and increasing efficiency across both domestic and non-domestic buildings for existing properties and new builds.

Energy efficiency is now recognised by the Scottish Government as a national infrastructure priority given that the majority of emissions are from buildings, with heat one of the biggest elements of energy use. With the introduction of SEEP, the Scottish Government has indicated that both domestic and non-domestic energy programmes can be much more integrated and aligned as one “buildings” sector.

SEAP Activities

Over the last year, energy efficiency has continued to be a key priority not just for the Council but for other major partners across the city. The wider public sector continues to implement energy reduction programmes and efficiency measures in existing buildings including all the Universities and Edinburgh College. Housing Associations (HAs) across the city also continued to be active in improving the energy efficiency and thermal standards of their homes, installing heat recovery systems, energy efficiency products and condensing boilers. The HAs also continue to promote innovative smart energy solutions and designs.



Actions

Examples of Actions in 2017/18

- RE:FIT– Focussing on energy efficiency upgrades to nine of the largest Council buildings. Completions include seven schools: St Thomas HS, Sciennes Primary, Leith Academy, Trinity Academy, Balerno HS, Currie HS, Wester Hailes Education Centre and the City Chambers. A range of work included lighting upgrades, controls improvements and the installation of four new Combined Heat and Power Units at Balerno, Currie, Trinity and Wester Hailes.
- HEEPS:ABS work. This is an ongoing programme of work delivered by Housing which focuses on energy efficiency improvements to domestic homes. In 2017, 617 homes across the city received energy measures saving residents an average of £70-£152 off their annual fuel bills.
- Street lighting. In January 2018, a three-year contract was awarded to Amey for the replacement of approximately 54,000 street lights across the city with LEDs.
- In January, under the SEEP2 funding call, the Council received funding for the development of a LHEES pilot around the Old Town/Royal Mile. Jacobs has been appointed by the Council to develop this work further.
- Edinburgh Napier University is replacing and upgrading lighting to high efficiency LEDs in around 90 rooms at the Merchiston Campus and the five floor Learning Resource Centre at Sighthill reducing the electricity consumption required for lighting by nearly 70%.

Case Study

SEEP1 Domestic

Under SEEP1 the Council was successful in securing £1m funding for energy efficiency upgrades of both domestic and non-domestic properties. A total of 250 properties in Leith had the installation of cavity and internal wall insulation including flats, tenements and terraced houses. In total 241 “hard to treat” homes had cavity wall insulation installed saving them an average of £70 off their fuel bills each year while 9 properties had internal wall insulation carried out saving the residents an average of £120. The photograph below shows an example of new internal wall insulation plus redecoration.

The project only completed at the end of March 2018 and monitoring of the works is still being carried out but initial feedback (mid March) suggests that the homes already feel warmer and more comfortable by the residents.



Case Study

SEEP1 Non- Domestic

This focussed mainly on properties in Leith. For the non-domestic properties, a total of 8 primary schools, a community centre, and equipment store had work carried out to improve the energy efficiency of the properties. The South Neighbourhood office also had energy efficiency measures installed.

One specific project was Pilrig Park School which is a special educational needs school for secondary school children in Edinburgh. The works for the school involved upgrading the energy controls (BEMS) in the dining and gym halls.

This contributed towards the EPC rating for the school improving two levels from an E to a C. This is a very positive result for the school as pupil numbers are low compared with total floor area. The BEMS is showing significant savings in gas and electricity for the school.



Other primary schools that benefitted from the SEEP1 programme included, Lorne, Leith, Victoria, Prospect Bank and Hermitage Park. Works were also carried out on Leith Community Centre. In all cases the EPC ratings for the buildings improved.

Actions

Examples of Actions in 2017/18

- Each winter, the Housing service runs an energy awareness campaign that promotes the services of Home Energy Scotland and advice services such as CEC's 'Warm your Home' campaign and 'Affordable Warmth' project. Awareness is raised of grants, loans and incentives available to private landlords to improve their properties.
- In February 2017, Housing appointed Changeworks to provide an energy advice service for at least 2000 council tenants running over two years. Four advisers have now been recruited to work across the localities targeting fuel poor households.
- Housing are continuing to accelerate investment in Council homes to meet the Energy Efficiency Standard for Social Housing. Investment is currently being targeted to ensure all homes meet or go beyond the energy efficiency target by 2020.
- Dunedin Canmore housing developments in Edinburgh will see wireless smart metering technology installed into a total of 228 properties by Vital Energy. The work will run until June 2018. Featuring no wired infrastructure, data can be collected remotely using GPRS to prevent any need to enter a customer's home.
- The two-year Tower Power project recently finished and a final report is expected to be produced demonstrating the benefits of aggregating energy data.
- Housing Associations in Edinburgh continue to be active in addressing carbon emissions and energy efficiency. Initiatives include energy recovery systems, ensuring high standards of energy efficiency in homes and procuring of energy efficient appliances.

SEEP 2

In 2017, the Council was successful in securing £1m in funding as part of Phase 2 of SEEP. This work has started and will see the development of three individual energy demand reduction projects across the city, including:

- Duncan Place Resource Centre – will see the installation of an air source heat pump system, LED lighting and an innovative advanced building energy management system;
- City centre demand project – will see the installation of LED lighting and advanced building energy management systems in each of the museums along the Royal Mile, the Royal Mile Primary School, Edinburgh Bus Station and the Assembly Rooms;
- In partnership with the Edinburgh World Heritage Trust targeting energy efficiency upgrades to the domestic and non-domestic premises within the Basil Spence (Canongate) blocks on the Royal Mile (buildings seen below). This work will include targeting the small shops and retail premises below the housing units.



Also as part of SEEP2, private homes across Edinburgh will receive Scottish Government funded energy efficiency measures through HEEPS:ABS programme. Over 1,200 private homes will be targeted over two years to help residents save money.

6. Renewables



This SEAP programme focuses on increasing the percentage of renewables used for both power and heat across the city and working with partners to increase the amount of renewables.

The renewables sector in Scotland is almost three times bigger than it was at the end of 2008. Onshore wind is the biggest single technology accounting for over 76% of installed capacity. The latest statistics from the Scottish Government "Energy in Scotland" states that nearly 18% of Scotland's final energy consumption came from renewable sources in 2015. The target is for this to be 30% by 2020.

Renewables in Edinburgh

Edinburgh has a high proportion of listed, historic and architecturally significant buildings which can present challenges in installing renewables. Some technologies are also problematic in an urban setting e.g. wind turbines.

However there are still opportunities for renewables with a lot of the activity in Edinburgh over 2017 undertaken by community schemes such as the Edinburgh Community Solar Co-operative. Using 24 Council buildings the Co-operative has installed over 1.3MW of solar capacity making it one of the largest schemes in the UK. The scheme is now generating over 1 million kWh of energy every year.



Actions

Actions in 2017

- Edinburgh Napier University **Solar PV Campus** will result in the installation of approximately 345 kW peak of photovoltaic panels across the three main university buildings. Substantial arrays of 155 kW and 160 kW will be installed at the Craiglockhart Campus and Merchiston Campus respectively. A smaller array of 30 kW is planned for the Sighthill Campus, which will supplement the 36 kW array already in place.
- Two Ground Source Heat Pumps have been installed in Saughton Park providing renewable heat to the new Winter Garden and park buildings.
- Community projects continuing to generate renewable electricity include the Edinburgh Community Solar Co-operative with 24 buildings with solar PV and Harlaw Hydro generating electricity from the Water of Leith.
- The Council is partnering with ONGEN to assess the potential of solar PV on Council buildings. The project is underway currently assessing a number of potential buildings.
- Commissioned in June 2017, the Scottish Cities Alliance has been assessing the potential for innovative wind solutions in urban environments. The Edinburgh report is due at the end of April 2018.
- A feasibility study was undertaken to assess the potential for solar PV at two of the city's park and ride sites.



Case Study

Saughton Park - Ground Source Heat Pumps

Just 2 metres below the surface, the temperature of the ground is a fairly constant 11-12°C. This can be captured and used as a reliable, renewable heat source to provide heat for buildings. This is done by means of a buried network of fluid-filled pipes connected to a compressor and pump known as a Ground Source Heat Pump (GSHP).

Two GSHP systems have been installed at Saughton Park as part of the SEEP2 pilot programme and the wider park redevelopment works.

The Winter Garden will be provided with low carbon heat via a vertical 62kW heat pump system. The new building developments and old stable block at the site will be heated via a horizontal array beneath what will be the new football pitches at the park, via two 12.5kW systems.



The image above shows the installation of the vertical array in Saughton Park.



Case Study

Solar Car Ports

A recent initiative has been the development of an outline feasibility study assessing the potential of solar car ports using photovoltaic (PV) panels. Where rooftop systems are impractical due to size or structural constraints, solar carports can offer an attractive and cost-effective solution. Two park and ride were assessed and both show significant generation potential.



Illustration of Ingliston Park and Ride solar PV



Solar Panels on Woodlands School
(An Edinburgh Community Solar Co-operative Project)



7. District Heating

A key objective of this SEAP programme is to increase the use of heat networks across the city and create new networks utilising sustainable and renewable sources of heat.

Proposed Regulations

As discussed previously, the potential introduction of district heating regulations by the Scottish Government will have a direct impact on local authorities. While the timeline for this might still be a few years away, councils will need to consider how they respond to this and build up expertise and capacity to deliver heat networks. This is a complex area and an important point to note is that district heating may not be the appropriate solution in every case and certainly more difficult for retrofitting into existing buildings.

However during 2017, the focus for this programme was on developing further individual projects such as BioQuarter and India Quay. Further work on district heating has also been undertaken by the University of Edinburgh who have been developing their George Square scheme.

One particular development was the acceptance of Edinburgh onto the Danish Board of District Heating Mentoring Programme. This scheme allows Edinburgh to benefit over 12 months from the expertise of Danish heat network practitioners active in this area.



Actions

Actions in 2017

- Further development of the BioQuarter District Energy Project. Work was commissioned to develop a possible procurement route, identify the expertise needed and the timelines.
- There has been further work on a DH system at India Quay (Fountainbridge). Options considering low carbon sources of heating are currently being explored.
- A feasibility study for a heat network for the new Meadowbank stadium is being explored. This is looking at the potential for heat pumps.
- Edinburgh was selected for the Danish Board of District Heating mentoring programme.
- Planning Committee approved a consultation on proposed Supplementary Guidance on Heat Opportunities.
- Housing awarded a contract for District Heating for 70 homes at Greendykes.





8. Resource Efficiency

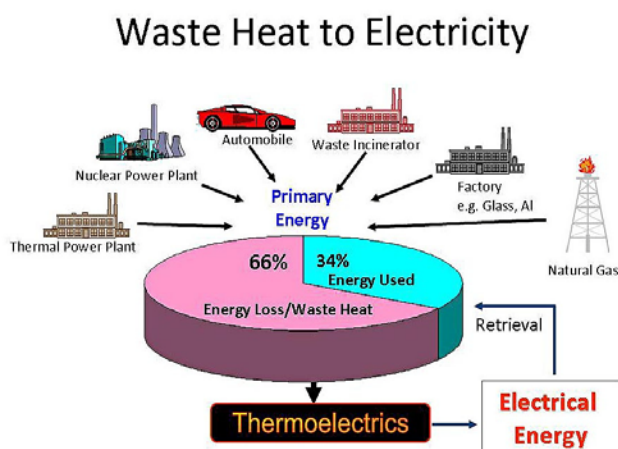
This programme is focused on encouraging the more sustainable use of resources and minimising waste by businesses and consumers where there is potential to reduce carbon emissions.

Circular Economy

The Resource Efficiency programme area is increasingly being shaped by the Circular Economy agenda which focuses on designing products and services to keep materials in use for as long as possible as well as reducing waste and carbon emissions. The circular economy drives sustainable opportunities for innovation and increased profitability by addressing the issue of resource scarcity. The Council has been active in this area in partnership with Zero Waste Scotland (ZWS) and now the Chamber of Commerce.

Waste heat and heat networks

Revealing and exploiting opportunities to make use of low cost, low carbon surplus heat from industrial processes and power generation that would otherwise be wasted was a key part of the Scottish Government's proposed regulatory approach set out in the recent consultation; Heat and Energy Efficiency Strategies and District Heating Regulation. During 2017, the Council explored a number of opportunities to make use of waste heat.



Actions

Actions in 2017

- The Council is currently working in partnership with ZWS to support the development of circular economy opportunities in Edinburgh as part of the Circular Economy Cities and Regions programme (See Case Study for more information).
- MEMPHIS project - The Council is currently collaborating with the Building Research Establishment (BRE) on mapping the potential of waste heat across the city. Edinburgh will be used as a pilot analysing low-grade and spatially distributed heat from small, medium industries, the service sector & sewage water systems.
- Transition Heriot-Watt (University) have developed a reuse project that looks at the redistribution of items not needed by students at the end of term. Opportunities for charitable giving and reuse of unwanted items including food, books, clothing and electrical goods to be reused or donated to a good cause.
- In 2017, the Council partnered with Midlothian Council (lead partner) to assess the opportunities for taking waste heat from the Energy from Waste facility at Millerhill due to open in 2019. Funding was secured to assess the potential to develop a low carbon heat network benefitting both councils. The work is due to be completed in April 2018.

Case Study

The SHRUB Swap and Reuse Hub

This low carbon project is led by the student community in Edinburgh through the Swap and Reuse Hub Co-operative and aims to increase awareness of sustainability issues and solutions and to create ways for the community to make carbon savings. Based at the Shrub Co-op, the social hub provides inspiration for low carbon lifestyles and a resource efficient approach.

Activities have included a SwapShop, regular upcycling workshops, a food sharing network, bike maintenance sessions and educational events with many volunteering opportunities, all aimed towards building a low carbon circular economy in heart of the city.

In 2017, the project won the Climate Challenge Award for best waste project.



Case Study

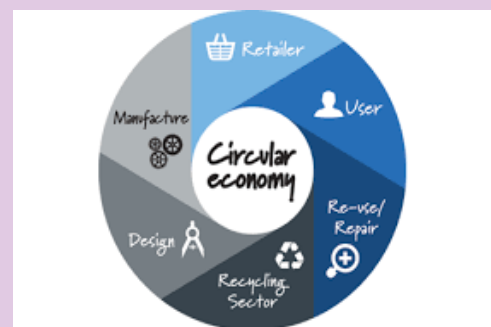
Circular Economy Initiative

The Council is currently working in partnership with Zero Waste Scotland to support the development of Circular Economy opportunities in Edinburgh over two stages.

The first stage will examine the flow of products and materials through Edinburgh providing an understanding of those sectors and opportunities which offer the greatest potential for a circular economy.

This exercise then provides a list of key circular opportunities bespoke to Edinburgh. As part of this process, input will be sought from key stakeholders in Edinburgh and consultation with the local business community will be carried out to ensure the opportunities identified align with local priorities. This first stage is due to be completed at the end of April 2018.

In the second stage, it is proposed to work with local 'business engagement partners' to raise awareness and mobilise the SME community to take action on the identified opportunities. This will involve signposting businesses to sources of support and funding. This stage will run until December 2018.





9. Sustainable Transport

A key approach to this objective is the decarbonisation of transport involving measures to drive down transport emissions across all modes, helping to develop a cleaner transport system.

Electrification of Transport

A key focus since the SEAP was launched has now become electrification of Edinburgh's transport and in particular cars and light vans. As such the SEAP has taken a lead developing a programme for Electric Vehicle (EV) charging infrastructure and the procurement of EVs across the community planning partners. 2017 also saw the launch of the Council's EV Action Plan which proposes an innovative zonal approach to EV charging infrastructure. It is worth noting that a key objective of the Council's transport strategy is to see modal shift to more sustainable forms of transport consequently, the aim is still to see fewer cars not just cleaner cars.

Scottish Government Target

The Scottish Government confirmed its intention to phase out the need for new petrol and diesel cars and vans by 2032 which will have implications an impact on Edinburgh in terms of developing a strategic and integrated charging network and also for the electrical grid which will have to cope with increased demand. The Council is currently innovative opportunities for EV's and was recently awarded funding from SBRI through the CAN DO challenge to explore smart EV charging solutions.

CAN DO 
Innovation Challenge Fund



Actions

Actions in 2017

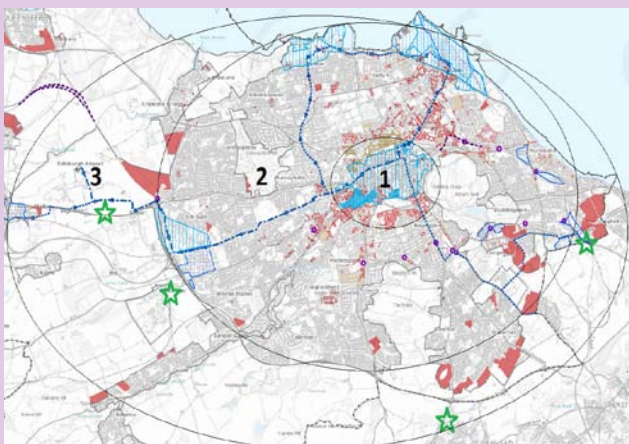
- Heriot Watt University is currently developing a Travel and Transport Strategy for the Edinburgh Campus which will further enhance opportunities for sustainable and active travel.
- The Small Business Research Institute (SBRI) awarded the City of Edinburgh Council £180,000 in funding to support research and development around smart electric vehicle charging solutions and capabilities as part of the CAN DO Challenge.
- Switched on Fleets – Since 2017 Community Planning Partners have been awarded £170,000 in funding for EVs. This has resulted in 5 organisations procuring a total of 16 electric vehicles, with the Council procuring 5 Kia Soul battery electric vehicles.
- Through the ChargePlace Scotland programme the Council successfully installed eight EV charging units (17 charging outlet points) across six sites in the city all of which are accessible to the public.
- Working with the University of Edinburgh Business School, a group of Carbon Masters students have carried out a study into the potential of using cargo bikes in the Old Town/Royal Mile.
- Cycling Scotland have provided funding for an Edinburgh Napier Campus Cycling Officer to support cyclists and active travellers with physical development and partnership working with bodies such as Lothian Buses and the Council.

Case Study

Electric Vehicle Action Plan

In December 2017, Edinburgh's first EV Action Plan was approved by Committee. This was designed to increase charging infrastructure across the city and to encourage the uptake of EVs. The Action Plan proposes an innovative zoned approach to the city and a Strategic Business Case is being developed to determine the best locations, types of chargers and investment required within the zones. This work will be concluded in late April.

The key aim of the Business Case will be to forecast future EV charging demand in Edinburgh across multiple vehicle categories required to meet the anticipated growth in EVs to 2020 and 2023 respectively. It will also identify the most appropriate locations for strategically located charging hubs across the city. Further to this the Business Case will provide a detailed financial assessment of the capital investment required to develop a potential network of charging hubs across the city.



Proposed Zones for EVs Across the City

Case Study

Lothian Buses

Lothian Buses recently invested in six fully electric vehicles with a further 5 expected in 2018. Lothian Buses now has 706 buses in operation which includes Edinburgh Bus Tours and East Coast Buses. The percentage of vehicles at Euro 5 and above now stands at 74% with 14% of the fleet either fully electric or hybrid electric. Lothian Buses also continues to invest in electric vehicles within its auxiliary fleet and introduced two Nissan ENV200 vans in 2017. Overall In 2017 Lothian Buses saved approximately 500 tonnes of CO₂.



Electric Vehicle Bays at the Forth Road Bridge

10. Partnership Working

A key objective of the SEAP is to work in partnership with a range of stakeholders.

Working with Partners

While the Council needs to lead the SEAP, it cannot deliver the target on its own. The participation of the public, private and community sectors across the city is crucial in developing new initiatives and galvanising action. Partners, communities and organisations have been active during 2017 engaged in a range of actions to reduce carbon emissions. A number of community groups have been successful in obtaining grant funding for carbon projects many of which are focussed on behaviour change and raising awareness.

The Council continues to liaise with organisations and bodies who are active in and supportive of this agenda. Examples include:

- **Our Power**- Established to provide fair and affordable energy especially for those in fuel poverty. The Council is a member and to date 3,800 households in Edinburgh have switched to their ethical and fairer energy tariffs.
- **University of Edinburgh Business School** – working with Carbon Finance Masters students on an E-cargo bike study for the Old Town.
- **Transport Scotland**- the Council has been actively collaborating with Transport Scotland on an EV Infrastructure programme.
- **Creative Carbon Scotland (CCS)** – As well as CCS chairing the Edinburgh Sustainable Development Partnership, they have been actively involved in the Carbon Literacy Programme.
- **Zero Waste Scotland** – there has been ongoing collaboration with ZWS on the potential for circular economy opportunities across the city. This work is set to continue.
- **Transition Edinburgh** – this is a community led organisation supporting the aim of a

Actions

Actions in 2017/18:

- Edinburgh Napier University has continued to make progress in 2017 with reductions in the consumption of electricity, gas and water at the University academic buildings now reduced by 47% compared to the 2006/07 baseline. This equates to a reduction of 3,730 tonnes in 2017 over 10 years.
- Granton Parish Church- Granton Goes Greener will improve energy efficiency at the church by installing double glazing, insulation and LED lighting. The project will also save unwanted household items and clothes from being sent to landfill and offering cycle training to encourage moves away from cars. A Climate Change Officer will work with the local community to raise awareness of climate change and carbon reduction initiatives.
- The University of Edinburgh has approved a target to become a net carbon university by 2040. To meet this challenge the University has committed to reducing its carbon emissions by 50% per £million turnover from a 2007/08 baseline. A renewable energy and low carbon options review group has been established to review further projects.
- Heriot Watt University has continued to focus on reducing energy emissions to help achieve the University's carbon reduction target. Projects have included building refurbishments focussing on energy efficiency including large scale double glazing projects, building upgrades and a variety of lighting upgrade projects which typically provide energy savings greater than 60%.

carbon neutral Edinburgh. The Council supports TE at events and workshops.

Case Study

Carbon Literacy Programme

The Workers Education Association (WEA) Scotland planned, prepared and evaluated two full day Carbon Literacy courses for 19 participants from across the Edinburgh Festivals. The courses were developed by Cooler Projects and supported by Creative Carbon Scotland. All participants achieved Cooler Projects Carbon Literacy certification. WEA ran a similar course for 7 of their own staff in 2017.

A half day Carbon Literacy Masterclass was held with NHS Lothian where 30 staff attended across NHS Lothian Facilities: Estates, Catering, Portering, and Domestic services along with six heads of service. All participants achieved Cooler Projects Carbon Literacy certification.

Excellent feedback was received from Cooler Projects with respect to the standard of the Criteria Checker and the training materials prepared by WEA. An Awards ceremony was held in the City Chambers on 12 Oct 2017 to celebrate those receiving their Carbon Literacy Programme certificates. The Deputy Lord Provost handed out 19 carbon literacy certificates with 26 certificates awarded overall (one recipient below).



Actions

Community Projects in 2017/18 that received Climate Challenge Funding

- **WHALE Arts** will continue the growth of community-led carbon reduction in Wester Hailes through the Westburn CAN project. The project will engage local people in food growing, waste reduction and increasing understanding of carbon emissions.
- **SCOREScotland's** Green Futures Project will help meet demand by diverse communities in West and South West Edinburgh for activities including cycle training, home food growing and opportunities for young people to learn about climate change in a fun way. Further project activities will help people to improve home energy efficiency.
- **MY Adventure's** Chain Reaction Project will increase access to cycling and active travel in areas of deprivation across Edinburgh. The project will engage with other community organisations to support a behavioural change leading to a healthier low carbon lifestyle through a sustainable investment in cycling.
- **Leith Community Crops in Pots** will design, develop and deliver a learning programme for Croft Carbon College. The college will be a centre of excellence for educating people on the basics of climate change and in motivating them to take personal action to combat climate change.
- **Edinburgh Community Food's** Families Hate Waste project will reduce local carbon emissions in Leith by helping the community to reduce food waste and consume more local food. Project activities will include a series of cooking, nutrition and waste reduction courses and work to explain the links between food, food waste and climate change.

10. Other Supporting Initiatives

In addition to the projects highlighted in the previous sections there are a number of other initiatives or supporting mechanisms that have been set up to support the reduction of carbon emissions across the city.

Energy for Edinburgh

The Council Energy Services Company has been set up to deliver strategic energy projects across the city and help to meet the Council's carbon targets. A key focus for the company to date has been on district heating and the gathering of information and views from developers, contractors and operators across the city or wider who are engaged in this agenda. Another area of interest is in electric vehicles and energy storage. Currently the ESCO is proposing to undertake a gap analysis of the energy market across the city, identify who the key players are and how any work will align with key Council priorities for fuel poverty and economic development.

Edinburgh Energy Forum

During 2017, the Edinburgh Energy Forum was established. Chaired by the Council, the membership is for Energy Managers of the major public-sector partners including the universities, Lothian Health, Edinburgh College, Police and Fire Services. Although in the early stages, the Forum is a means of exchanging information on the energy management of estates

Edinburgh Sustainable Development Partnership (ESDP)

The ESDP is linked to the Edinburgh Partnership being one of the strategic partnerships focussing on the sustainability of the city, engaging stakeholders and partners for collaboration on projects. The ESDP continues to support and endorse the work of the SEAP with individual partners engaged in a variety of carbon reduction initiatives.

11. Summary and Opportunities for 2018

This annual report provides an overview of activity over the last 12 months. There has been considerable work undertaken across the five SEAP programmes with limited resources. There is a mix of initiatives and projects not only being undertaken by the Council but also with other partners. A number of partners are very engaged with this agenda and collaborative working will continue. It is likely that there are other carbon initiatives being undertaken across the city not known to the SEAP team. During 2018 an audit will be undertaken to try and capture this information to develop as comprehensive a picture as possible. This potentially could also yield more projects.

Carbon emissions continue to decrease and Edinburgh has now reached the 30% mark which is very positive as is the decreasing per capita emissions despite increasing population growth.

Opportunities in 2018

There will be a number of opportunities arising from Scottish Government's programmes on SEEP, electric vehicles and low carbon. As well as continuing with delivering existing projects, a number of business cases, feasibility studies and policies are also expected to be completed in 2018. These include:

- The Electric Vehicle Business Case
- The LHEES study
- Draft Council Policy on District Heating
- Feasibility study on Solar PV on Council Buildings

The outcomes from these will potentially identify further opportunities for carbon reduction

Challenges in 2018

The twin challenges of resources and funding remain. Opportunities to apply to funding schemes will be pursued during 2018.

For further information contact **Janice Pauwels**, Sustainable Development Manager 0131 469 3804, janice.pauwels@edinburgh.gov.uk

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APPENDIX 2 SUMMARY OF SEAP ACTIONS

Project started/ongoing/completed/ No concerns		Project in development/might be resourcing or funding issues but commitment to take forward. Some concerns	Project has stalled due to resource/ funding/other constraints. In danger of not progressing	Indicates new project
Lead	Project	CO ₂ (kt) reduction	Comment	Status
SEAP Programme 1: Energy Efficiency				
CE Sustainable Development (SD)/Property	RE:FIT Project	8.865	Energy retrofit programme for the largest energy consuming properties in the Council. Eight properties now completed with measures installed in seven schools: St Thomas HS, Sciennes Primary, Leith and Trinity Academies, Balerno and Currie HS and Wester Hailes Education Centre and the City Chambers. Four CHP units have been installed in Trinity, Balerno, Currie and Wester Haile. The last building for works is the Usher Hall.	Completes in July 2018
CEC Property/SD	RE:FIT Phase 2	7	Second phase of energy retrofit programme for non- domestic buildings. As Phase 1 completes in July – consideration being given to taking forward other key properties for retrofit – dependent on the outcomes and review of Phase 1.	Need review of Phase 1 before Phase 2 begins.
CEC Roads Services	Street Lighting Retrofit	20.275	In January 2018, a three-year contract was awarded to Amey for the replacement of approximately 54,000 street lights across the city with Low Emissions Diodes (LED) making the whole estate more energy efficient.	Due for completion in 2020
Edinburgh Leisure	Carbon Management Programme	10.685	Ongoing programme from Edinburgh Leisure for energy efficiency across its estate including the installation of controls, pool air handling units, CHP and high efficiency controls. 2017 saw the first full year of operation of three 20kW CHPs at Swim Centres at Leith Victoria, Portobello and Warrender.	Ongoing Programme

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CEC - Property	CEC – Properties Energy Efficiency Upgrades	13.59	Large scale BMS upgrades. Now in year 3 of a four-year programme, with BEMS in over 50 operational properties now upgraded in line with the Council’s BEMS Specification.	Ongoing Programme to 2020
CEC - Property	CEC – Properties Energy Efficiency Upgrades	2.24	Oil to gas boiler conversion. Fox Covert Primary School and Sciennes Primary School have converted from oil to gas heating. A couple of smaller properties that are fuelled from oil remain but these will be phased out where possible as plant is replaced.	Ongoing programme
CEC - Property	CEC – Properties Energy Efficiency Upgrades	0.125	Heating conversion electric to ASHP. Nether Currie Primary School has now been converted from all electric heating to air source heat pumps.	Completed
CEC - Property	CEC – Properties Energy Efficiency Upgrades	0.6	Lighting conversions. The advantages in LEDs, both in terms of energy and maintenance, have resulting in them being the fitting of choice for lighting refit. A number of large scale LED projects have been completed under both RE:FIT and SEEP, as well as independently through both Capital and maintenance programmes.	Ongoing programme
CEC - Property	Knowledge Transfer Partnership	tbc	The three year Knowledge Transfer Partnership project with Napier University is due to finish in summer 2018. Work is currently underway to finalise outputs that will inform future energy strategy.	Due to complete in summer 2018
CEC/University of Edinburgh	ENHANCE project	tbc	The Council has been involved in a research project with the University of Edinburgh to help analyse and better understand its energy use. The project has been running since 2016 in the Assembly Rooms on George Street. Funded by Engineering and Physical Sciences Research Council (EPSRC), the project used a ‘living lab’ approach and modern data collection and visualisation techniques to engage with staff on site.	Ongoing due to complete in 2019.
Heriot Watt University	LED street lighting	0.6	Programme to replace the street lighting across the University’s campus estate at Riccarton.	Ongoing
CEC – Property/SD	SEEP Phase 2 - Duncan Place Retrofit	1.8	SEEP Phase 2 funding secured for energy efficiency upgrades to Duncan Place Resource Centre. This will include an air source heat pump system, LED lighting and an advanced building energy management system	NEW project – completes in March 2019

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CEC – Property/SD	SEEP Phase 2 – CEC non-domestic programme	0.525	SEEP Phase 2 funding secured for energy efficiency upgrades to all 4 museums on the Royal Mile, the Assembly Rooms, Royal Mile Primary School and Edinburgh Bus Station. The upgrade measures will include a mixture of advanced building energy management system upgrades and LED lighting replacement.	NEW. Completes in March 2019
CEC Property/SD	SEEP Phase 1 – CEC non-domestic programme	0.405	A combination of advanced building energy management systems and LED lighting upgrades were installed across 8 Primary Schools, 1 Community Centre, 1 neighbourhood Office, and 1 equipment store as part of the SEEP Phase 1 non-domestic programme.	Completed
Dunedin Canmore HA	Smart Metering	tbc	Dunedin Canmore housing developments in Edinburgh will see wireless smart metering technology installed into a total of 228 properties by Vital Energy. The work will run until June 2018. Featuring no wired infrastructure, data can be collected remotely using GPRS to prevent any need to enter a customer's home.	NEW
CEC – Housing	Stair lighting	2.4	Programme to replace all Council communal stair lighting areas with LEDs.	Completed
CEC - Housing	Capital Investment Programme - Council homes	4.6	Improve Council homes through the Council Capital Investment Programme. Council homes have received extensive investment over the past few years to ensure they are more energy efficient so that tenants can benefit from cheaper fuel bills.	Ongoing programme to 2020
CEC - Housing	Future investment in Council homes	7.6	Future investment in Council homes to meet the Energy Efficiency Standard for Social Housing by 2020, following on from SHQS achievements. Investment is currently being accelerated to ensure Council homes across Edinburgh meet the energy efficiency target by 2020. Measures include new energy efficient heating systems, boilers, windows and insulation.	Ongoing programme to 2020
CEC - Housing	Scottish Government Funded Energy Efficiency Measures	48.2 (37)	This involved a number of historic energy efficiency measures carried out via the Housing Improvement Scheme (HIS), the Universal Housing Investment Scheme (UHIS) and HEEPS:ABS funding(first year of HEEPS:ABS). Private homes have benefited from insulation measures funded by the Scottish Government, leveraging in additional ECO funding. Homes will benefit from a range of measures including external, internal and cavity wall insulation. (6700 homes)	Completed

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CEC - Housing	CEC HEEPS: ABS programmes 2014/15, 2015/16 and 2016/17	8 (0)	Home Energy Efficiency Programmes for Scotland (HEEPS) is the Scottish Government initiative to tackle fuel poverty and increase energy efficiency in homes. HEEPS is a cluster of programmes currently including: Area Based Schemes (ABS). (4000 homes)	Completed
CEC - Housing	HEEPS: ABS for private owners (2017 – 2020)	2.5	Projects will continue to target fuel poor homes to ensure that residents can benefit from lower energy bills. Projects will include a continuation of investment in Dumbiedykes, Westburn, South Queensferry. Hard to treat homes across Edinburgh will also be targeted for insulation.	Ongoing programme through to 2020
CEC – Sustainable Development / Housing / Changeworks	SEEP Phase 1 – Domestic programme	1.405	Funding was secured through phase 1 of SEEP for domestic energy efficiency upgrades across a number of hard to treat cavity properties in the Leith area. In total 241 domestic properties received upgrades and 9 additional properties had internal wall insulation works carried out.	Completed
EWHT/ Sustainable Development (CEC)	SEEP Phase 2 - Basil Spence Building (Canongate)	TBC	Funding was secured through phase 2 of SEEP for energy efficiency upgrades to domestic and non-domestic properties at the Basil Spence Building in Canongate. The lead partner on this project is the Edinburgh World Heritage Trust (EWHT).	NEW Ongoing programme to March 2019
CEC – Housing	Energy Advice Initiatives	0.1	Promoting energy advice and raising awareness of Home Energy Scotland, energy efficiency funding and energy advice services such as CEC's 'Warm Your Home' Campaign and 'Affordable Warmth' Project. Projects include the Healthy Homes project. Awareness will be raised of grants, loans and incentives available to private landlords to improve their properties.	Ongoing programme
SEAP Programme 2: District Heating				
CEC – Sustainable Development	Heat Opportunities tool	50.0	Using the Scottish Government's Heat Opportunities Tool, the potential for heat networks across the city suggests large savings in carbon emissions but is reliant on new project opportunities being developed. An example is the refurbishment of Meadowbank Stadium and assessing the potential for district heating.	Ongoing

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CEC – number of service areas	India Quay District Heating Scheme	3.22	A Business Case has been developed for a district heat network at India Quay for a gas CHP scheme. Work is ongoing to assess other alternative technologies such as heat from waste.	Still a commitment to take forward.
BioQuarter Partners	BioQuarter District Heating Scheme	5.78	Work progressed over the last year to identify the possible procurement route, resource and expertise needed to deliver the district heating network. Partners remain committed to taking the project further. Funding sources being evaluated.	Still a commitment to take forward.
SEAP Programme 3: Renewables				
Edinburgh Community Solar Co-op	Solar Energy from buildings	2.35	Project up and running. Solar PV installed across 24 buildings generating around 1.3MW of energy per annum. A community benefits scheme has also been created.	Completed
CEC – SD and Greenspace	Saughton Park Micro Hydro Scheme	0.234	A detailed design package has been produced for a micro hydro scheme at Saughton Weir which would serve to power the GSHP system currently being installed. An application for funding is currently being investigated.	Ongoing
Harlaw Hydro	Micro Hydro Scheme	0.516	The Harlaw Hydro Scheme has now been operational for 2 years Scheme now generating electricity currently 61 KW enough for the average consumption of 127 homes.	Completed
CEC – SD / Parks and Greenspace	SEEP Phase 2 - Saughton Park	tbc	Funding secured through phase 2 of SEEP for the installation of two separate Ground Source Heat Pump systems at Saughton Park as part of the wider redevelopment works taking place. On vertical (64kW) GSHP will provide heat to the Winter Garden and two horizontal 12.5kW GSHP systems will provide heat to the new build developments and existing buildings at the site.	Completed Pumps now installed
Various energy partners	Tower Power	tbc	The Council was a partner in the Scottish Government funded trial of Tower Power. Along with Community Energy Scotland, Our Power, Energy Local, and TMA, which aimed to aggregate the energy demand of blocks of housing and achieve savings for residents through local supply and collectively negotiating energy deals.	Completed Report due end of April 2018
CEC –	Park and Ride - Solar	2.0	An updated outline feasibility study exploring solar PV car port opportunities at	NEW

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Sustainable Development	Car Ports		Hermiston and Ingliston Park and Ride sites has been completed, which shows significant generation potential at both sites.	
CEC – Sustainable Development	Solar PV assessment	tbc	The Ongen tool will be used to assess a range of CEC properties and their potential for generating renewable energy. Solar PV will be the primary technology that will be assessed.	Due for completion in summer 2018.
SEAP Programme 4: Resource Efficiency				
Resource Efficient Scotland	Resource Efficient Scotland - Advice and Support Service	7.9	Since the 1st April 2013 The Resource Efficient Scotland Advice and Support Service have worked on a 1-2-1 basis with 228 organisations in Edinburgh to be more resource efficient. Figures are updated each year but cumulative identified savings for these businesses stand at over £1.96M and carbon savings of over 7900tCO ₂ e.	Ongoing programme
CEC Procurement	Sustainable Procurement Policy	0.23	Improve energy efficiency of local Council suppliers and their supply chain through implementation of the Council's Sustainable Procurement Policy and Sustainable Procurement Action Plan.	To be reviewed further as to the savings potential
CEC Procurement	WARP:IT reuse network	208 tonnes (indirect)	The WARP:IT scheme is set up for organisations and is an on line reuse network that allows staff to redistribute unwanted and underused items. The scheme also allows donations to charities. The Council is currently in “silver” place in the League with staff having donated £192,843 to charity. A total of 208 tonnes of carbon has been saved but these are indirect emissions (part of the supply chain) so not included in the total reductions	Ongoing
	SHARC – waste heat from sewage	0.556	This project was to evaluate a scheme piloting waste heat from sewage pipes for Council buildings. Currently there is no funding to support a pilot.	Stalled
	Fleet Biofuel opportunities	4.5	Trial a pilot using biofuel in the Council fleet to other partners with large scale fleet e.g. Lothian Buses. Currently there is no funding to support a pilot.	Stalled
Lothian Buses	Recycling	0.35	Recycling initiative that quantified the carbon savings from the Lothian Buses recycling operation.	Completed

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CEC SD/ ZWS and CofC	Circular Economy - Cities and Regions Programme	tbc	The Council is currently working with Zero Waste Scotland (ZWS) and the Edinburgh Chamber of Commerce (CofC) via ZWS Circular Economy Cities and Regions Programme. Phase 1 includes a report identifying circular opportunities in Edinburgh and Phase 2 will involve business engagement work with the business community regarding the identified opportunity sectors.	NEW Phase 1 completes end of April 2018, Phase 2 underway until Dec 2018
CEC/Midlothian	Food Waste Treatment Project	14.635	Work was undertaken to assess the carbon savings from the Food Waste Treatment plant at Millerhill.	Operational in 2017
	Residual Waste Treatment Project.	65.592	Work was undertaken to assess the carbon savings from the new Residual Waste Treatment	Operational in 2019
CEC Sustainable Development / BRE	MEMPHIS (waste heat) Project	tbc	The Council is currently collaborating with the Building Research Establishment (BRE) on mapping the potential of waste heat across the city. Edinburgh will be used as a pilot analysing low-grade and spatially distributed heat from small, medium industries, the service sector & sewage water systems.	NEW
SEAP Programme 5: Sustainable Transport				
CEC – SD/ University of Edinburgh	EV charging opportunities for Taxis	14.8	The upcoming EV business Case will identify the most appropriate locations for charging hubs that will benefit transport providers such as the taxi trade in Edinburgh. Funding for any scheme will be progressed via funding from OLEV or Transport Scotland. The Business Case is expected the end of April.	To be reviewed once EV Business Case completed
Lothian Buses	Lothian Buses fleet upgrades	1.0	Lothian Buses are continuing to improve the EURO standards of its fleet. 74% of Lothian Buses fleet is now EURO 5 or better.	Ongoing
Lothian Buses	Lothian Buses – Electric / Hybrid-electric fleet	3.088	Lothian Buses are continuing to invest in both fully electric and hybrid electric fleet vehicles. 14% of the fleet is now electric / hybrid-electric. 6 fully electric buses were added to the fleet in 2017 with a further 5 expected in 2018.	Ongoing
Enterprise Car Club	Increase Enterprise Car Club Electric Vehicles	0.019	Without additional publicly accessible EV charging infrastructure the City Car Club is not yet in a position to invest in any additional Electric vehicles.	To be reviewed

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	by 10 in 2014/15.			
Enterprise Car Club	Increase Enterprise Car Club Electric Vehicles to be 10% of the fleet by 2020.	0.036	Without additional publicly accessible EV charging infrastructure the City Car Club is not yet in a position to invest in any additional Electric vehicles.	To be reviewed
CEC – Registration Services	ECOSTARS fleet recognition scheme	12.063	The Council joined the ECO stars programme in August 2011, which is a voluntary, free to join fleet recognition scheme providing guidance on environmental best practice to operators of goods vehicles, buses and coaches operating in Edinburgh. In 2012 there were 14 operators in the scheme and a total 1,684 vehicles by 2017 this had increased to 154 operators in the scheme and a total of 7,061 vehicles.	Ongoing
CEC – Sustainable Development	Pilot of On - Street Electric Vehicle Charging Points.	0.0415	The upcoming EV business Case will identify the most appropriate locations for on-street charging hubs and funding for any scheme will be progressed via funding from OLEV or Transport Scotland.	To be reviewed once EV Business Case completed.
CEC	Delivery of the Local Transport Strategy	7.7	The Local Transport Strategy 2014-19 is now under review.	Ongoing
CEC – Sustainable Development	Charge Place Scotland Funding	0.82	The Council received funding via the ChargePlace Scotland programme 2017-18 and installed eight EV charging units (17 charging outlet points) across six sites in the city all of which are accessible to the public. The scheme will continue in 2018	Completed
CEC - Fleet	CEC Fleet upgrades	1.115	The Council continues to improve the EURO standard of its fleet which now stands at 74% EURO 5 or better.	Ongoing
CEC - Fleet	CEC Fleet diesel to electric upgrades	0.447	The Council continues to increase the number of electric vehicles within its fleet. There is a total of 25 electric vehicles in the Council fleet with a further 5 procured in 2017/18	Ongoing
CEC – Sustainable Development /	Switched on Fleets Funding	tbc	The Council received funding via the Switched on Fleets programme 2017-18 and procured 8 fully electric vehicles across the Community Planning Partnership. % of these vehicles will be added to the Council's fleet. The next round of funding will be	Completed

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Fleet			2018-19 will be released mid-2018.	
SEAP Other Projects				
	Carbon Sequestration	26.645	Edinburgh's Tree Cover project in an ongoing programme for tree planting. Trees can absorb carbon dioxide emission thus contributing to climate change mitigation.	Ongoing
	Edinburgh College	1.36	A number of public sector partners have developed their own carbon management plans to reduce carbon emissions across their own estates. These include initiatives to improve the energy efficiency of buildings, upgrade lighting schemes, improve controls and install a range of measures to reduce energy consumption. The plans also include the use of renewable technologies and heat.	Ongoing
	University of Edinburgh	33.06		
	Napier University	1.025		
	Heriot Watt University	2.59		
	Scottish Parliament	1.84		
Policy Measures				
	Carbon Reduction Commitment	11.0	This is UK wide scheme to increase energy efficiency in large organisations across the public and private sectors. Scheme currently being revised and phased out by 2020. UK Govt considering replacement	
	Climate Change Agreements etc	11.0	UK Govt Legislation measure TO Local impact on businesses of the implementation of energy-intensive business packages including	
	Grid decarbonisation	289.0	The National Grid in the UK is decarbonising rapidly permitting the electrification of heat. BEIS published its Energy and Emissions Projection in January 2018 showing the projected Grid Carbon Factor falling dramatically from 212 grams in 2017 to just 66 grams in 2035.	
	Mandatory Car Emissions	53.0	EU Directive Local impact of new mandatory car emissions targets. By 2015, maximum average emissions from new cars will be 95g of CO2 per kilometre.	
	Bio-Fuels Targets	45.0	EU Directive Local impact of new EU bio fuels target - the Renewable Energy and Fuel Quality Directives will increase the amount of bio-fuel in the transport sector.	

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	Behaviour Change across all sectors	97.95	There are a range of ongoing Government behavioural change initiatives associated with energy policies and programmes including several domestic energy initiatives.
	Electric Vehicles Programme.	5.0	Scottish Government programme for the expansion of low-carbon vehicles and infrastructure. SG has committed to phasing out fossil fuel engines by 2032. The impact for Edinburgh will be further assessed once the EV Business Case is completed and the reduction might be greater.
	Buildings Retrofit (SME's)	84.5	UK Govt policy. To encourage the retrofit of small to medium sized commercial buildings (e.g. shops, restaurants, offices, hotels) with energy efficiency measures. Ongoing programme.
	Buildings Retrofit (Public and Community)	95.0	UK Govt Policy. Ongoing programme to encourage the energy efficiency retrofit of public and community buildings with measures such as better insulation and heating systems that will reduce heat and electricity demand.
	Building Standards	9.0	Scottish Building Standards have been reviewed. Stricter requirements are now in place to achieve low and zero carbon standards. This is driving change in technologies.
	Intelligent Transport Systems Technology	0.7	Ongoing - Application of Intelligent Transport Systems technology to make the most efficient use of Edinburgh' roads.
	Encourage other public-sector organisations to adopt and implement their own sustainable procurement policies.	0.175	
	Smart Meter roll out	5	Install smart meters for gas and electricity in every home to encourage better domestic energy management.
	Renewable Heat Incentive (RHI) Domestic	22.0	UK Govt Policy Measure to encourage local installation of renewable heat equipment in homes such as solar thermal technologies and heat pumps through promotion of the RHI scheme.

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	Renewable Heat Incentive (RHI) Commercial	70.0	UK Govt Policy Measure to encourage local installation of renewable heat equipment in commercial buildings such as solar thermal technologies and heat pumps through the RHI scheme.
	Total (ktCO2)	1205.351	