



Edinburgh Adapts

Climate Change Adaptation Action Plan 2016-2020

Progress Report 2016-17





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Chair's Foreword

Ruth Monfries
Chair of the Edinburgh Adapts Steering Group



As our climate changes, awareness of the need to adapt is growing. The 2017 European Climate Change Adaptation Conference, held in Glasgow, provided an opportunity to highlight the steps being taken in Scotland to an international audience. Edinburgh Adapts was represented and individual members of the Edinburgh Adapts Steering Group and wider partnership also presented their work.

We are seeing the impacts of climate change now. Severe weather events such as the record-breaking rainfall Edinburgh received in June - causing flooding and disruption to our transport system - are likely to become more common in future. Some of our infrastructure is being adapted, for example the new Queensferry Crossing benefits from windshields that should reduce the disruption experienced in stormy conditions.

For Edinburgh Adapts, our first year has been busy and productive. Enthusiasm and commitment from member organisations across the city has seen a total of 86 actions progressed or started, across our natural and built environment, society and economy. Successful partnership working has enabled the sharing of knowledge, experience and skills. New sources of funding have been accessed for projects.

Adaptation is challenging and there is much work to do. However, we have made important first steps towards realising our vision of a climate ready Edinburgh.

A handwritten signature in black ink that reads "Ruth Monfries". The signature is written in a cursive style.

Ruth Monfries, Royal Botanic Garden Edinburgh

Introduction

Edinburgh Adapts, the city's first [climate change adaptation action plan](#) and [Vision for a Climate Ready Edinburgh](#), were launched in December 2016. The Action Plan aims to provide a whole city approach to ensuring the city remains resilient to the impacts of our changing climate. This is the first report on progress of the plan since its launch.

Edinburgh Adapts was developed to meet our obligations under the [Climate Change \(Scotland\) Act 2009](#). The Act put in place requirements to prepare Scotland for climate change and to adapt to its impacts.

The climate in the East of Scotland is set to get warmer and wetter, increasing the risk of storms, flooding and the potential for extended periods of drought. As global average temperatures increase, we will also experience rises in sea level around the East of Scotland coast.

The final impacts of climate change on Edinburgh will vary depending on the success of global mitigation efforts, but even a relatively modest increase in temperature is likely to bring significant changes. From the data, the following changes to Edinburgh's climate are predicted:

- Warmer, drier summers
- Milder, wetter winters
- Greater frequency and intensity of extreme rainfall

- Greater frequency of severe weather events
- Sea level rise

A partnership approach was taken to developing the action plan, with the Edinburgh Sustainable Development Partnership, Adaptation Scotland and other key stakeholders across the city.

The Edinburgh Adapts Action Plan provides a platform for bringing together adaptation activity across the city, helping to maintain the momentum and delivering on the commitments made in the [Resilient Edinburgh Climate Change Adaptation Framework](#).

The Action Plan runs from 2016-2020 and contains over 100 committed adaptation actions contributed by over 50 partner organisations. The Vision looks even further, setting out the project partners' adaptation aims for two key landmark dates, 2025 and 2050.

As well as ensuring overall governance for adaptation in the city, the plan aims to protect and enhance Edinburgh's wildlife and green spaces, providing nature-based solutions to climate-related problems. Planning and development play a key role in ensuring the city adapts, including the use of green infrastructure to offset predicted changes in weather and rainfall and naturalising flood prevention measures when feasible. Actions involving working with communities and raising awareness of the impacts of climate change on local areas are also integral to the plan.

Achievements 2016-17

This progress report highlights the key activities and outcomes from the last twelve months, delivered by the Edinburgh Adapts partnership.

In December 2016, Edinburgh's first Climate Change Adaptation Action Plan (2016-2020) was launched at Holyrood Park Education Centre by the Cabinet Secretary for Environment, Climate Change and Land Reform, the Regius Keeper of the Royal Botanic Garden Edinburgh, and the Chair of the Edinburgh Sustainable Development Partnership.

Edinburgh Adapts is one of the case studies featured in the Scottish Government's third annual report on progress on [Climate Ready Scotland: Scottish Climate Change Adaptation programme](#), showing Scotland's progress towards adapting to climate change.

The majority of actions in the Plan are progressing well or have been completed. A number have just started or are due to begin in 2018 or later. However, a small number have not been progressed due to resourcing issues or because they are funding dependent and funding has not yet been secured or has been withdrawn. A few will need to be revisited.

The following pages highlight some of the achievements made in 2016-17 to take forward the Action Plan and then go on to provide a full of progress on all the actions being delivered through the Edinburgh Adapts Action Plan.



Governance

The Edinburgh Adapts Steering Group was established in March 2016 to govern and oversee delivery of the Plan. The Group includes representatives from the Royal Botanic Garden Edinburgh, Historic Environment Scotland, Edinburgh World Heritage, Edinburgh, Heriot Watt and Napier Universities, Edinburgh College, the Scottish Wildlife Trust, Edinburgh Living Landscapes, the Edinburgh Biodiversity Partnership, Adaptation Scotland and the City of Edinburgh Council.

A wider network of organisations is also taking the Edinburgh Adapts Action Plan forward. This has helped to raise awareness of adaptation and embed the action plan across the city.

Edinburgh Adapts has participated in a number of events to raise awareness and promote the need to adapt including through participation in the [European Climate Change Adaptation Conference](#) which was held in Glasgow in June 2017, the annual [Forth Estuary Forum Conference](#) in November 2016 and the United Nations House Scotland Climate Change Conference in March 2016. A communications strategy is being developed to further the process of awareness raising and communicating adaptation.

A number of high profile news reports on the impacts of severe weather and climate change on Edinburgh's World Heritage Site and the work Edinburgh World Heritage and Historic Environment Scotland are doing to combat this has also helped to raise the



profile of climate change and the need to implement adaptation measures in the city.

At organisation level, the aim is to ensure that adaptation is embedded, and that risk assessment processes and resilience planning incorporate current and emerging climate related risks.

Overleaf is the full list of Governance actions being delivered through the Edinburgh Adapts Action Plan.

Governance

Ref	Summary of Action	Partners	Progress 2016/17	Status
G1	Establish a Steering Group to ensure successful implementation of Edinburgh Adapts	Edinburgh Adapts Steering Group	Steering Group established March 2016. Meets quarterly.	Green
G2	Develop an evidence base on projected changes in climate in Edinburgh and the impacts on the city.	The City of Edinburgh Council, SEPA, Royal Botanic Garden Edinburgh, Scottish Wildlife Trust, SNH, Met Office, other relevant sources	Yet to begin. The Edinburgh demonstrator project (below) would have begun the process of building the evidence base.	Orange
G3	Edinburgh demonstrator project on climate services under Horizon 2020 EU funding bid	University of Edinburgh, Adaptation Scotland, The City of Edinburgh Council, Forest Research, UK and EU partners	Stalled. Bid was unsuccessful. Consortium looking at alternative sources of funding to carry out the project.	Red
G4	Develop Edinburgh Adapts communications strategy	Edinburgh Adapts Steering Group, Edinburgh Sustainable Development Partnership, other city stakeholders	Started. Online webpages developed. Edinburgh Adapts sub group to begin developing strategy.	Orange
G5	Facilitate potential partnerships and/or funding sources to take adaptation projects forward across the city	Edinburgh Adapts Steering Group and/or funding subgroup	Number of partnerships have been formed through Edinburgh Adapts and funding accessed. This process is ongoing.	Green
G6	As part of risk assessment process, incorporate current and emerging climate change-related risks into resilience planning	Council Resilience Group, Edinburgh Community Resilience Group, CAT1 Responder Partners	The Council's resilience risk register includes those risks related to climate change. The Council participates in the preparation and monitoring of a Community Risk Register for the Lothian and Borders area.	Green
G7	Review Council Risk Register and embed climate-related risks	The City of Edinburgh Council Internal Audit	Not started. Look at establishing internal Council Working Group to take this forward.	Red
G8	Work with EU partners to raise awareness, promote best practice and build up evidence on climate change impacts and adaptation through EU Mayors Project	The City of Edinburgh Council Strategy & Insight Division	Awareness raising and promotion of best practice carried out through Edinburgh Adapts participation in European Climate Change Adaptation Conference (June 2017).	Green
G9	Community Planning preparation of Local Outcome Improvement Plan 2016-2020	Edinburgh Partnership, The City of Edinburgh Council Strategy & Insight Division	Ongoing through Edinburgh Adapts being a sub group of the Edinburgh Sustainable Development Partnership.	Green

Natural Environment and Greenspace

Investing in the natural environment helps to manage and reduce the risks from extreme weather, providing nature-based solutions to climate-related problems. It emphasises the importance of green infrastructure in supporting the city to adapt to the impacts of climate change including flood risk and the need to support nature to adapt.

Edinburgh Adapts is working closely with other initiatives such as the Edinburgh Biodiversity Partnership and Open Space 2021 to deliver a range of actions that not only deal with the impacts of climate change, but also help to protect and enhance the city's biodiversity and green and blue spaces.



As part of the Edinburgh Biodiversity Action Plan 2016-2018, partners have been asked to include actions to adapt to climate change within site management, conservation and species action plans as appropriate. This not only raises awareness of climate change but also involves risk assessment, adaptation measures and carbon capture.

Green infrastructure is being promoted through planning guidance including Local Development Plan policies, updated Edinburgh Design Guidance and Open Space 2021, and through the Edinburgh Living Landscapes programmes.

Adaptation has been integrated into Open Space 2021, Edinburgh's revised Open Space Strategy. The strategy takes a co-ordinated approach to protecting and developing the city's network of open spaces, ensuring access to good quality greenspace for all and delivering multiple benefits that contribute to placemaking including enhancing biodiversity and resilience to climate change.

Edinburgh Living Landscapes (ELL), a partnership between the City of Edinburgh Council, Scottish Wildlife Trust, Royal Botanic Garden Edinburgh, Edinburgh and Lothian Greenspace Trust and Green Surge, advocates an ecosystem approach to the management of the Council's open space estate in order to realise benefits to both biodiversity and public amenity. It aims to create resilient green networks to deliver a healthy, accessible and attractive environment.

In 2017 Edinburgh Living Landscapes maintained 72 annual and perennial meadows across the city and naturalised grasslands account for about 10% of our amenity grass.



The Royal Botanic Garden Edinburgh carried out a study into the impact of weather events on the Garden to learn how we can cope better with projected climate change

Natural Environment and Greenspace

Edinburgh Living Landscapes' Green Infrastructure Schools Project aims to improve outdoor learning and introduce additional green infrastructure to schools with access to high quality 'naturalised' school grounds or nearby local greenspace and those who have limited or no access to greenspace. In 2017 Trinity Primary became the latest school to get involved, bringing the total amount of schools to seven.



Edinburgh College Outdoor Action Plan is in development. A Sustainability Steering Group has been established which meets every three months. The College is also looking at establishing another working group to help shape the Growing and Biodiversity Strategy taking into account Edinburgh Adapts, the Edinburgh Biodiversity Action Plan and the needs of their curriculums. The Strategy is

expected for Spring 2018.



Overleaf is the full list of Natural Environment and Greenspace actions being delivered through the Edinburgh Adapts Action Plan.

Natural Environment and Greenspace

Ref	Summary of Action	Partners	Progress 2016/17	Status
GS1	Assess the effects of climate change and their impact on the natural environment and produce guidance to inform adaptation policy and management.	The City of Edinburgh Council, Edinburgh Biodiversity Partnership, Scottish Wildlife Trust	Not started – resources required.	
GS2	Review conservation strategies, plans and projects to ensure that climate change risks have been identified, assessed and addressed.	The City of Edinburgh Council, Edinburgh Biodiversity Partnership	Not started – resources required	
GS3	Promote green infrastructure to help nature to adapt to climate change.	The City of Edinburgh Council, Edinburgh Living Landscapes	Ongoing through planning guidance including Local Development Plan policies, updated Edinburgh Design Guidance, Open Space 2021 and Edinburgh Living Landscapes programmes.	
GS4	Improve climate change resilience through Edinburgh Living Landscapes (ELL) programme	Edinburgh Living Landscapes (ELL)	Ongoing. In 2017 ELL maintained 72 annual/perennial meadows across the 4 localities and naturalised grasslands account for approximately 10% of our amenity grass. The emphasis in 2017 was to not increase ELL naturalised grasslands but to ensure that these areas were better maintained/further developed. This has been achieved by bulb planting in naturalised grass areas and incorporating ELL into our Landscape Quality Standards.	
GS5	Innovative methods in urban greenspace planning. Analyse the connectivity of urban green spaces.	Edinburgh Living Landscapes (ELL), Green Surge (Forest Research)	Green Surge mapping and findings nearing completion by year end 2017. This will enable further scrutiny and analysis by the wider ELL partners and stakeholders, resulting in eventual incorporation of appropriate elements into the ELL programme going forward.	
GS6	i-Tree Edinburgh	The City of Edinburgh Council Environment, Forest Research	Ongoing. Promotion of ecosystem benefits of trees to encourage buy-in and support at senior level of planting/preservation of trees.	
GS7	Trees in the City – Trees and Woodland Action Plan	The City of Edinburgh Council	Budget constraints. Creation of tree nursery and altering of plant specs should help maintain limited tree planting. Input into consultation on Edinburgh Street Design Guidance.	

Natural Environment and Greenspace

Ref	Summary of Action	Partners	Progress 2016/17	Status
GS8	Habitat connectivity and integrated habitat networks	Lothians & Fife Green Network Partnership, Edinburgh & Lothians Greenspace Trust (ELGT), Scottish Natural Heritage	Two applications for woodland funding submitted by ELGT	
GS9	Water of Leith Habitat Creation	The City of Edinburgh Council, Lothians & Fife Green Network Partnership, Water of Leith Conservation Trust, Scottish National Heritage Edinburgh & Lothians Greenspace Trust, Forestry Commission Scotland, RSPB, RAFTS	Early Stages.	
GS10	Provide integrated approach to adapting Edinburgh's open spaces to the impacts of climate change through the Open Space Strategy	The City of Edinburgh Council	Ongoing. Edinburgh Adapts participated in the consultation to develop the Open Space Strategy and climate change has been embedded into the final version.	
GS11	Develop methods for modelling/mapping 'urban ecosystem services'. Edinburgh is one of the case study cities	Innovate-UK project (Spades), Forest Research, The City of Edinburgh Council	Ongoing. Number of ecosystem service maps for Edinburgh developed via the SPADES project. Presentation of results at GREEN SURGE conference in Malmo in September.	
GS12	Greenspace site connectivity	Edinburgh Living Landscapes, Royal Botanic Garden Edinburgh	Early stages. Discussion begun on methodology and species selection.	
GS13	Monitor ecosystem health	Scottish Wildlife Trust, City of Edinburgh Council, Scottish Natural Heritage, Forestry Commission Scotland, SEPA, RSPB, University of Edinburgh, TWIC, ELL, RBGE	Not started. Due to launch in 2018	
GS14	Monitor changes in climate change indicator species' distribution and population and take action	RSPB, The City of Edinburgh Council, Historic Environment Edinburgh, Butterfly Conservation Scotland	In progress. 149 butterfly transects were carried out in Holyrood Park. Butterfly transects also carried out in 5 Natural Heritage parks and by Butterfly Conservation Scotland members.	
GS15	Raise awareness of biodiversity implications of climate change	Edinburgh Biodiversity Partnership	Examples needed but partners such as The Wildlife Information Centre and Butterfly Conservation Scotland support this work.	
GS16	Scottish Plant Health Strategy	Agriculture and Rural Development Division – Scottish Government	Still to be progressed.	

Natural Environment and Greenspace

Ref	Summary of Action	Partners	Progress 2016/17	Status
GS17	Citywide INNS (invasive non-native species) project	The City of Edinburgh, Edinburgh Biodiversity Partnership, Scottish Natural Heritage, RFFTS, SEPA, Edinburgh Living Landscapes	Ongoing. The Council continues to manage INNS where they occur on its land. The Biodiversity Partnership will continue to work with partners such as the Water of Leith Conservation Trust to manage INNS along the Water of Leith and seek to work at a catchment scale level through the RBMP area partnerships. Work with volunteers and Friends groups to carry out practical work on eradication of INNS. No funding yet secured for city wide programme.	
GS18	Green Infrastructure Schools Project	The City of Edinburgh, Edinburgh Living Landscapes	Ongoing. In 2017 Trinity Primary School became the latest school to get involved, bringing the total amount of schools involved to seven.	
GS19	Greening of Edinburgh's cycle network	Edinburgh & Lothians Greenspace Trust, The City of Edinburgh Council, Edinburgh Living Landscapes	Ongoing. Greening projects carried out by Edinburgh & Lothians Greenspace Trust.	
GS20	Adaptation of Holyrood Park	Historic Environment Scotland in partnership with schools, community outreach, RBGE	Ongoing. Work in financial year 2016-17 included education programme focusing the conservation of the natural and historic environment, for children and students. Guided walks and activities, including Toad Week (where volunteers help migrating toads to cross roads safely). Volunteer Ranger and Junior Ranger Programmes. Wildlife surveys. Ongoing management of Park.	
GS21	Edinburgh College Outdoor Action Plan	Edinburgh College in partnership with RBGE and others	In progress. Sustainability Steering Group established and meets quarterly. The College is looking at establishing a Working Group which will help to shape the Growing and Biodiversity Strategy taking into account Edinburgh Adapts, the Edinburgh Biodiversity Action Plan and the needs of their curriculums. The Strategy is expected for Spring 2018.	

Built Environment and Infrastructure

Land use planning plays a central role in preparing Edinburgh for a changing climate. Effective local planning is essential to minimise future vulnerability and improve resilience to the impacts of climate change.



We are working with planning colleagues to embed climate change adaptation into the planning system, including through Edinburgh's [Local Development Plan](#), Open Space strategy, Edinburgh Design Guidance, Edinburgh Urban Design Panel and the Edinburgh Development Forum.

Historic Environment Scotland and Edinburgh World Heritage are working with local partners to manage the impact of climate change on Edinburgh's historic environment. They are investigating how climate change is affecting their buildings and estate, and working with architects on finding possible solutions to this, including through maintenance and retrofitting, where appropriate.



Work on coastal adaptation is progressing. In April an introductory [workshop](#) was held jointly by Edinburgh Adapts and the Universities of Glasgow and Edinburgh, looking at the risks posed to Edinburgh's coastline by climate change, the barriers to and opportunities of adapting, and potential responses to this challenge. The workshop highlighted awareness raising activity such as the Edinburgh Shoreline Project. A community engagement project which aims to create a set of visions

for [Edinburgh's shoreline by 2050](#) will feed into a collaborative exhibition at the Royal Botanic Garden Edinburgh hosted by Edinburgh Living Landscapes and planned for July 2018.

The University of Edinburgh is currently working on its first adaptation strategy which it hopes to have completed by the autumn. The strategy will take a whole institution approach to adaptation, and incorporate a number of Edinburgh Adapts actions within it. One of the aims of the strategy is to develop a bespoke sustainable design standard for Edinburgh in relation to adaptation and embed adaptation in the development of sustainable design principles.

Work has begun on a joint initiative between Heriot Watt University and the Royal Botanic Garden Edinburgh (RBGE) to establish a demonstration raingarden at RBGE to increase public awareness and understanding of the benefits that raingardens can provide in urban spaces in terms of stormwater control, biodiversity, garden aesthetics, and microclimate improvement.

There has been a high level of public interest in the project with visitors sharing stories about issues with flooding and waterlogging in their gardens. Plants for the rain garden have been obtained and are being grown at the RBGE nursery, in preparation from planting in Spring 2018.

Overleaf is the full list of Built Environment & Infrastructure actions being delivered through the Edinburgh Adapts Action Plan.

Built Environment and Infrastructure

Ref	Summary of Action	Partners	Progress 2016/17	Status
BE1	Assess the likely impacts of climate change and their effect on the built environment and use it to inform adaptation policy.	The City of Edinburgh Council, Edinburgh World Heritage Trust, Scottish Natural Heritage, Royal Botanic Garden Edinburgh (RBGE)	Ongoing. Updated Edinburgh Design Guidance for new developments promotes green and blue infrastructure. Historic Environment Scotland and Edinburgh World Heritage have undertaken assessments of their estates in relation to climate change impacts and the University of Edinburgh is in the process of doing so. Exemplar rain garden demonstration site in creation at RBGE and a Central Scotland Green Network raingarden project is in the early stage of development.	
BE2, BE4 & BE10	Embed climate resilience and naturalised greening measures within Edinburgh's planning processes and guidance	The City of Edinburgh Council, Lothian & Fife Green Networks Partnership, SEPA, Edinburgh & Lothians Greenspace Trust, Scottish Wildlife Trust, Scottish Natural Heritage, Historic Environment Scotland, Edinburgh Living Landscapes	Ongoing. Climate change measures are being embedded into planning processes and guidance. The Local Development Plan has specific measures dealing with climate change adaptation. Edinburgh Design Guidance raises awareness of climate change at the outset and in the detailed chapters through promoting green infrastructure and sustainable building design.	
BE3	Ensure new developments in areas with medium to high likelihood of flooding are avoided as per Scottish Planning Policy.	The City of Edinburgh Council	Ongoing. The permanent implementation of a certification process in relation to the flooding impact of new development, supported by an external flood consultation, was approved in March 2017.	
BE5	Strategic Infrastructure Fund and City Deal	The City of Edinburgh Council, SESPlan and member councils, Scottish Natural Heritage	Not started. Mechanisms being looked at take this forward.	
BE6	Edinburgh Urban Design Panel sustainability awareness raising	Edinburgh Urban Design Panel	From August 2016 to September 2017 the Panel considered 20 major planning applications/items of planning guidance. Sustainability standard item on agenda. Edinburgh Adapts presentation raised awareness of sustainability issues and this has resulted in sustainability being further embedded in presentations and Panel discussions. Panel review in December 2016 considered whether there was a need to appoint a sustainability specialist to the Panel and decided that the skills set of current Panel made this unnecessary.	

Built Environment and Infrastructure

Ref	Summary of Action	Partners	Progress 2016/17	Status
BE7	Promote green infrastructure in the built environment to help nature to adapt to climate change	City of Edinburgh Council, Edinburgh Sustainable Development Partnership, Edinburgh Living Landscapes, Scottish Natural Heritage	Green infrastructure in the built environment is included in the Edinburgh Design Guidance and has been promoted at internal Council training events in Planning and Transport.	
BE8	Ecosystem Approach to planning	The City of Edinburgh Council, Edinburgh Sustainable Development Partnership, Edinburgh Living Landscapes	Progressing. Edinburgh Design Guidance and Local Development Plan policies support delivery of these aims. Production of policy statement on the ecosystem approach and planning in Edinburgh to be progressed.	
BE9	Showcase high quality developments	Scottish Wildlife Trust, Edinburgh Living Landscapes, The City of Edinburgh Council	Not started. To commence 2018 funding dependent.	
BE11	Brownfield site habitats	The City of Edinburgh Council, Buglife	Ongoing. Living roof requirements are included in the Edinburgh Design Guidance. Further studies have been undertaken by the Royal Botanic Garden Edinburgh and Buglife for important sites in North Edinburgh.	
BE12	Temporary greening of vacant sites	Edinburgh and Lothians Greenspace Trust, City of Edinburgh Council, Edinburgh Living Landscapes, RBGE, SNH	Started. Good management practice for derelict sites is being developed.	
BE13	Depaving/permeable surfaces promotion	Heriot Watt University, Royal Botanic Garden Edinburgh (RBGE), Edinburgh Living Landscapes	Ongoing. Fact-finding London visit in May 2017 to learn from successful depaving initiatives by Groundwork London, Lambeth Council and the London Wildlife Trust. Work has begun to establish a demonstration raingarden at RBGE. It is hoped this will increase public awareness of the benefits of raingardens in urban spaces, such as stormwater control, biodiversity, garden aesthetics and microclimate improvement.	
BE14 BE15 BE16	Edinburgh raingardens project	Scottish Green Infrastructure Forum, The City of Edinburgh Council	Early stages. Mapping of raingardens in Edinburgh to be progressed. Funding for Raingarden Officer to be sourced.	

Built Environment and Infrastructure

Ref	Summary of Action	Partners	Progress 2016/17	Status
BE17	Green Infrastructure - Edinburgh case study	Heriot Watt University, EU Consortium partners	Halted. EU funding bid to take this forward was unsuccessful.	
BE18 BE19	Coastal adaptation	University of Glasgow, Scottish Natural Heritage	Ongoing. First workshop on coastal adaptation held. Edinburgh Shoreline Project progressing well.	
BE20	Edinburgh's Local Transport Strategy (LTS) Review	The City of Edinburgh Council	Not progressed.	
BE21	Embed adaptation into the Road Asset Management Plan.	The City of Edinburgh Council	Not progressed.	
BE22	Weather Resilience and Climate Change Adaptation Plan for Network Rail Scotland Route	Network Rail	Ongoing. Actions have been or are being implemented to increase resilience to weather and extreme events.	
BE23	SEStran Regional Transport Strategy	South East Scotland Transport Partnership (SEStran)	Ongoing. Action needs to be revisited.	
BE24	The University of Edinburgh Climate Change Adaptation Strategy	The University of Edinburgh, Edinburgh Living Landscapes, Edinburgh Adapts Steering Group	Progressing. Completion of draft strategy by August/September 2017. Whole institution approach taken to developing the Strategy. Incorporates Edinburgh Adapts actions. Aims include developing a bespoke sustainable design standard for Edinburgh in relation to adaptation and embedding adaptation in the development of sustainable design principles.	
BE25	Edinburgh College Climate Change and Sustainability Action Plan	Edinburgh College	In early stages of development	
HS1	Edinburgh World Heritage Management Plan 2017-2021	City of Edinburgh Council, Edinburgh World Heritage, Historic Environment Scotland, SNH	Consultation on Old and New Towns of Edinburgh World Heritage Site Draft Management Plan closed June 2017. Adaptation and energy efficiency raised as part of consultation. Action to follow up in next reporting year.	
HS2	Historic buildings - awareness raising through training in traditional repair skills for owners/occupiers and trades people	Edinburgh World Heritage, Historic Environment Scotland	Around 12 DIY skills workshops delivered in 2016/17 covering maintenance and energy efficiency. Art of Historic Building Maintenance large maintenance event held, during national maintenance week with collaboration from SPAB. This secured significant publicity.	

Built Environment and Infrastructure

Ref	Summary of Action	Partners	Progress 2016/17	Status
HS3	Maintaining historic buildings to ensure they are adapted to current and future climate impacts	Edinburgh World Heritage (EWH), Historic Environment Scotland (HES)	EWH manages the Conservation Funding Programme. Through this property owners benefit from funding towards maintenance improvements. A member of staff works two days a week on developing the maintenance scheme. Ongoing repair and maintenance of HES estate properties within Edinburgh. Report to ministers. Rock trap to manage rockfalls at Edinburgh Castle (Johnston Terrace) completed 2016. Project was a collaboration between HES and the Council.	Green
HS4	Historic Buildings - easy-read adaptation guidance for owners of historic residential and commercial buildings	Edinburgh World Heritage, Historic Environment Scotland	Not progressed due to departure of EWH staff resource.	Red
HS5	Edinburgh specific historic building maintenance guide	Edinburgh World Heritage, Historic Environment Scotland, VisitScotland	Not progressed due to departure of EWH staff resource.	Red
HS6	Historic Environment Scotland's Climate Change Action Plan 2012-17	Historic Environment Scotland	Pilot risk assessment of HES's own estate to inform decision-making for prioritising ongoing conservation and maintenance programme complete. Case study published Oct 2016. Report on track to be published during Climate Week 2017.	Green

Flood Prevention

Flooding has a huge impact on all sectors of society. Climate change is likely to exacerbate river and coastal flooding and greater frequency and intensity of extreme rainfall will increase surface water flooding.

The City of Edinburgh Council works in partnership with neighbouring local authorities, the Scottish Environment Protection Agency (SEPA) and Scottish Water and has prepared a [Local Flood Risk Management Plan](#) for the Forth Estuary catchment which will outline strategies and identify areas vulnerable to flooding from all sources and potential mitigation measures and actions. The plan was published in June 2016.

Edinburgh has two flood prevention schemes in place on the Braid Burn and the Water of Leith. Both these schemes are designed for a 1 in 200 year event and include an allowance for climate change. Undeveloped areas of land fulfil an important flood function and should be allowed to flood in order to protect built-up areas from floodwater. These are shown on the Edinburgh Local Development Plan Proposals Map as areas of importance for flood management.

A study has been undertaken to ascertain the impact of siltation on the Water of Leith Basin. A study on the Niddrie Burn to ascertain the effects of potential flooding is ongoing.



Inch Park – moving away from hard flood prevention measures to more naturalised solutions

Building on previous flood risk studies, the Flood Prevention Team will complete a Surface Water Management Plan (SWMP) in due course to assess current and future flooding risks for the city. Progress on this depends on resources becoming available.

To complement the SWMP the Council is working in partnership with Scottish Water, East and Midlothian Councils to undertake an Integrated Catchment Study. Consultants have been commissioned and it is anticipated that the optioneering stage will be complete in autumn 2017 and the next phase to refine the findings and explore potential solutions will follow.

Overleaf is the full list of Flood Prevention actions being delivered through the Edinburgh Adapts Action Plan.

Flood Prevention

Ref	Summary of Action	Partners	Progress 2016/17	Status
FL1	Water of Leith (Phase 2) Flood Protection Works	The City of Edinburgh Council	Scheme currently under construction, scheduled to be completed by November 2017.	
FL2	Water of Leith Flood Protection Works Future Phases	The City of Edinburgh Council	Not going ahead. Reduced works were approved by Committee but no funding was identified to carry out these works.	
FL3	Forth Estuary Flood Risk Management Strategy	Scottish Environment Protection Agency (SEPA), The City of Edinburgh Council, local authorities, Scottish Water, Scottish Natural Heritage	Strategy published December 2015. Interim progress report will be published in 2018/19 and updated by 2021.	
FL4	Forth Estuary Local Flood Risk Management Plan 2016-2025	Scottish Environment Protection Agency, Scottish Water, The City of Edinburgh Council and 12 neighbouring Local Authorities, Scottish Natural Heritage	The Plan was published in June 2016 and will be updated in 2022.	
FL5	Edinburgh and the Lothians Integrated Catchment Study (ICS) (linked with below)	Scottish Water	The Council and Scottish Water have met on several occasions to progress this and the Council is to receive a pre optioneering catchment plan. Progress is ongoing.	
FL6	Surface Water Management Plan (SWMP) (linked with the above)	The City of Edinburgh Council, Scottish Water	Progress report to Committee delayed. Progress dependant on resources becoming available.	
FL7	Water of Leith Siltation Study	The City of Edinburgh Council, Forth Ports and consultant	Study completed February 2017. It was found the Water of Leith basins are at equilibrium and therefore of low flood risk.	
FL8	Niddrie Burn Flood Prevention Study	The City of Edinburgh Council, Scottish Environment Protection Agency and consultant	Project is ongoing. Work has been accelerated with the construction of a gauging station near the Royal Infirmary subject to consents being obtained in 2016/17. A flood study will be undertaken in 2021/22.	
FL9	Gogar Burn Flood Prevention Study	The City of Edinburgh Council, Scottish Environment Protection Agency and consultant	Project is ongoing. Installation of a gauging station is no longer required. Rain gauges are to be installed at various locations to calibrate current information available.	
FL10	Water of Leith Flood Protection Scheme – continue to maintain existing flood protection scheme	The City of Edinburgh Council	Ongoing. Records are maintained by Flood Prevention Team.	

Flood Prevention

Ref	Summary of Action	Partners	Progress 2016/17	Status
FL11	Maintain the Water of Leith (Phase 2) Flood Protection Scheme in Murrayburn and Roseburn when completed in 2018	The City of Edinburgh Council	Under construction. On project completion, the Flood Prevention Team will inherit and undertake yearly inspections, including maintenance where required.	
FL12	Braid Burn Flood Protection Scheme	The City of Edinburgh Council, Scottish Water, Network Rail, SEPA, Scottish Natural Heritage, and private landowners	Ongoing maintenance. Records maintained by the Flood Prevention Team.	
FL13	Greendykes and Nether Craigour	The City of Edinburgh Council	Under construction.	
FL14	Coastal flood defences	The City of Edinburgh Council, Scottish Water, Network Rail, Marine Scotland, SEPA, Scottish Natural Heritage and private landowners	Ongoing. Records maintained by the Flood Prevention Team	
FL15	Reservoir maintenance	The City of Edinburgh Council	Ongoing. Records maintained by the Flood Prevention Team	
FL16	Assessment and Inspection, Clearance and Repair	The City of Edinburgh Council, asset/land managers	Ongoing. Watercourses are inspected and maintained and records maintained by the Flood Prevention Team	
FL17	Emergency Response	The City of Edinburgh Council, Emergency and Health Services, SEPA, Met Office, Scottish Water, Voluntary Organisations and other agencies	Ongoing. As and when required.	
FL18	Strategic Mapping and Modelling - sewer catchments	Scottish Water	Ongoing.	
FL19	Awareness raising	Scottish Environment Protection Agency, Scottish Flood Forum, community flood action groups and local authorities	Ongoing. The City of Edinburgh Council will engage at a project level when required.	
FL20	Site Protection Plans	Edinburgh Airport, other organisations	Need to undertake research into scope and range of site protection plans citywide.	
FL21	Natural Flood Management	The City of Edinburgh Council, SEPA, Scottish Natural Heritage	Not started.	
FL22	Reach agreement on SUDS between Scottish Water and CEC	The City of Edinburgh Council, Scottish Water	Discussions between CEC and Scottish Water are ongoing.	

Society and Economy

Communities across the city are vulnerable to a whole range of impacts from climate change, including flooding, damage to property and temperature fluctuations. The Action Plan aims to raise awareness of the impacts of climate change on individuals, communities and the economy, and ways to increase resilience to them through partnership, neighbourhood and locality working.

The Edinburgh Community Resilience Project aimed to help neighbourhood areas enhance their capacity to respond to and recover from resilience incidents. Whilst this pilot project has now been completed, the community resilience groups established as part of the pilot continue to operate and build resilience. The '[Are we ready](#)' toolkit developed by the Scottish Communities Climate Action Network and Adaptation Scotland aims to support community groups to start conversations about becoming more climate resilient.

The Royal Botanic Garden Edinburgh undertook a number of activities, talks and events in 2016/17 to raise awareness of climate change adaptation. For example, as part of a NERC funded public engagement pilot specially designed tiles with texture and 3D structure were installed at Cramond on concrete pillars to encourage colonisation by seaweeds, lichens and marine organisms to demonstrate the principle of multi functional coastal defence structures. Schools were engaged in this pilot with two primary schools and Craigroyston High School learning about climate change, sea level rise and coastal biodiversity.

Climate change poses threats to the future prosperity of Edinburgh. Appropriate adaptation is required to maintain a city that remains attractive to investors and businesses. Informing and encouraging local business is of crucial importance to achieving this goal. Taking early action now will ensure businesses are best prepared for the impacts of climate change and able to take full advantage of the business opportunities offered by a changing local and global climate.



The [Green Arts Initiative](#) (GAI) is an interactive community of Scottish arts organisations working to reduce their environmental impact. They share knowledge and keep informed about climate change issues and are beginning to incorporate adaptation into their programmes of work. The GAI conference this year will have a part focus on adaptation plans of cultural SMEs.

VisitScotland is working with Adaptation Scotland on an advice guide for small businesses in relation to adaptation.

Overleaf is the full list of Society and Economy actions being delivered through the Edinburgh Adapts Action Plan.

Society and Economy

Ref	Summary of Action	Partners	Progress 2016/17	Status
SE1	Edinburgh Community Resilience Project (Pilot)	Corporate Resilience Unit, Category 1 Responders, other relevant agencies, Neighbourhood Partnerships, community-based groups	Completed in June 2017. The community resilience groups that were established as part of this project continue to operate and build resilience.	
SE2	Partnership & locality working	The City of Edinburgh Council, Edinburgh Partnership, Neighbourhood Partnerships, Locality Leadership Teams, Community Planning partners	Ongoing. A number of events were held in the four localities to capture environmental priorities for the Locality Improvement Plans. Further methods of engagement needs to be taken forward.	
SE3	Public Sector Sustainable Food Procurement	Edinburgh Food for Life Partnership (EFFLP)	Ongoing. Through EFFLP all City of Edinburgh Council schools, four care homes and a day care centre hold at least the bronze Catering Mark Award and the University of Edinburgh was the first university in Scotland to be awarded it. Two Council-run schools and one care home hold the silver Catering Mark. Edinburgh partners now serve more than 3.5 million award winning meals each year.	
SE4	Food Hubs - development proposals	Edible Edinburgh, Glasgow Food Policy Partnership, City of Edinburgh Council, Glasgow City Council, Nourish Scotland, Edinburgh/Glasgow food groups	Not started. Needs to be progressed in 2018.	
SE5	Measure Edinburgh's progress as a 'Sustainable Food City'	Edinburgh Centre for Carbon Innovation, Edinburgh's universities	Not started.	
SE6	Local Sustainable Food Growing Strategy	Edinburgh Local Food Network, Federation of City Farms and Community Gardens, Community Land Advisory Service, City of Edinburgh Council, Edinburgh & Lothian Greenspace Trust, SWT, Development Trust Association Scotland	Not started. Will be progressed in 2017/18.	
SE7	MSc Participation in Policy & Planning Food project	University of Edinburgh MSc Participation in Policy and Planning course, Edible Edinburgh	Completed. MSc student project undertaken with final report being presented at special Scottish Parliament event.	

Society and Economy

Ref	Summary of Action	Partners	Progress 2016/17	Status
SE8	Adaptation advice, support, awareness raising and research	Edinburgh Centre for Carbon Innovation (ECCI), ClimateXChange (CXC), Sniffer	ECCI/CXC/Sniffer continue to work on providing practical adaptation advice for businesses and organisations based on the best available evidence. They are reaching out for example through the Adaptation Scotland Programme and Scotland's 2020 Climate Group and have worked with businesses such as Bright Green Business and the Mid and East Lothian Chamber of Commerce to promote new business guidance and increase awareness of adaptation. A main focus for research is how to make use of national level indicators in local decision making.	
SE9	The Green Arts Initiative (GAI)	Creative Carbon Scotland, Festivals Edinburgh, Green Arts Initiative members	Ongoing. The Green Arts Initiative has continued to develop and grow, with over 180 members across Scotland. Knowledge sharing activity between members keeps them informed about climate change issues. 2016 report published in March. 2017 reporting form will ask explicitly about member adaptation actions. They are also taking on adaptation more fully this year in their programme of work, and the 2017 Green Arts conference will have a part focus on adaptation plans of cultural SMEs.	
SE10	PAS Training Programme - Engagement & Awareness	Adaptation Scotland, Planning Aid Scotland (PAS), partners	Working with Adaptation Scotland to develop new lesson plans (for primary and secondary) to introduce adaptation through placemaking. Planning new training events for planners in early 2018, in partnership with Adaptation Scotland.	
SE11	PAS planning advice helpline	Planning Aid Scotland (PAS) Advice Service	Ongoing support through the advice service.	
SE12 & SE13	Community Raingardens and community mentoring – Grow Wild Scotland	Grow Wild Scotland	Ongoing. Successful year for mentor programme. Activity undertaken through Grow Wild seed kit resource to get people started on planning and growing wildflower areas. Mentor away day held to equip people with the confidence to visit projects and advise on technical aspects. This year 4 community innovation projects ran and will continue until 2018. Initiatives creating new spaces for wildflowers/improving biodiversity in urban areas.	
SE14	Living Wall	Lymbus	Not progressed. No funding was secured for this.	

Society and Economy

Ref	Summary of Action	Partners	Progress 2016/17	Status
SE15	VisitScotland Quality Assurance Scheme [Scotland wide]	VisitScotland	In 2016/17 advice on sustainability was provided as relevant to 3135 tourism and hospitality businesses as part of VisitScotland Quality Assurance scheme. Overall awareness of 'adaptation' and related actions appears to be low. A Better Business Guide is available to businesses on visitscotland.org and a future update is planned. VisitScotland are working with Adaptation Scotland on an advice guide for small businesses.	
SE16	VisitScotland Taste Our Best [Scotland wide]	VisitScotland	By year end 2016/17 almost 1200 businesses had achieved the Taste Our Best accreditation, which highlights businesses that provide and promote Scottish sourced food and drink. These are Scotland wide, not just focused on Edinburgh.	
SE17	Adaptation showcase and information hub	RSPB, Schools, community groups, Edinburgh Living Landscapes, Community Councils, Friends of Parks Groups, tenant/ housing groups.	To be progressed.	
SE18	Royal Botanic Garden Edinburgh (RBGE) awareness raising	Royal Botanic Garden Edinburgh	Progressing. A range of public engagement and practical events held in 2017 including a garden tour and talk about the impacts of climate change, initial testing of site at RBGE for a raingarden with public engagement activities, engagement with two primary and one secondary school learning about climate change, sea level rise and coastal biodiversity as part of NERC funded public engagement pilot, awareness raising activities around Edinburgh's shoreline and a keynote presentation by RBGE on the Edinburgh Shoreline at the International Association for Landscape Ecology Coastal Symposium.	
SE19	'Are we ready' toolkit and workshops	Scottish Communities Climate Action Network (SCCAN), Adaptation Scotland	An 'Are we Ready?' package has been developed and is available on their website. This resource is designed to facilitate and start conversations about resilience and climate change adaptation amongst community groups in Scotland	
SE20	Community Adaptation Network	Edinburgh Adapts Steering Group, Adaptation Scotland, Community Adaptation Network	Early stages. Adaptation Scotland held a number of Community Adaptation Network events.	

Society and Economy

Ref	Summary of Action	Partners	Progress 2016/17	Status
SE21	2050 Climate Group	2050 Climate Group	First 2050 Climate Group Young Leaders Development Programme, which aims to Engage, Educate and Empower Scotland's Future Leaders to take action on climate change completed in November 2016. Over 100 Young Leaders took part and more than half were from Edinburgh. At the programme end the participants were more aware of the challenges posed by climate change and had an increased understanding of their role in creating a sustainable Scotland. The second Young Leaders Development Programme kicked off in April 2017, with 150 Young Leaders selected from over 300 applications, showing the rising interest among the 2050 Climate Group's target demographic of 18-35 year olds in this programme.	