



SCOTLAND ADAPTS:

A CAPABILITY FRAMEWORK FOR A CLIMATE READY PUBLIC SECTOR

Acknowledgements

Adaptation Scotland has benefitted greatly from the time, skills and experience that many individuals and organisations have given to help develop *Scotland Adapts: A Capability Framework for a Climate Ready Public Sector*. Particular thanks must go to our Expert Working Group for their help in developing the capabilities, tasks, case studies and graphics and to colleagues who have helped us to test the Adaptation Capability Framework. Thank you John Binning, David Bright, Kathryn Dapre, Mairi Davies, Graham Edmond, Kit England, Jane Findlay, Caitlin Hamlett, David Harkin, Angela Heaney, Miranda Jacques Turner, Ann Johnston, Alison Leslie, Jennifer Lothian, Craig Love, Fiona MacLeod, Stewart Miller, Larissa Naylor and Nicola Sandford.

The concept and content for the Adaptation Capability Framework draws on inspiration from Adaptation Scotland's work with many organisations and was also informed by an extensive review of research and tools. A reference list is provided on the Adaptation Scotland website: www.adaptationscotland.org.uk/how-adapt/your-sector/public-sector

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Contents

Ministerial foreword	2
Adaptation Scotland foreword	3
Purpose	4
Introduction	5
Climate Change in Scotland	6
What does climate change mean for Scotland?	8
Adaptation: our response to climate change	11
The role of the public sector	12
Adaptation Capability Framework	14
Capability: Organisational culture & resources	16
Capability: Understanding the challenge	20
Capability: Planning & implementation	24
Capability: Working together	28
Using the Adaptation Capability Framework	32
Monitoring and Evaluation	33
Finding Support	35

Ministerial foreword

In 2016 Lord Krebs, the then Chairman of the Adaptation Sub-Committee of the Committee on Climate Change, said in relation to the first independent assessment of Scotland's adaptation programme: "The impacts of climate change are becoming ever clearer, both in the UK and around the world. We must take action now to prepare for the further, inevitable changes we can expect..."

Since then we have all seen and experienced further evidence of Scotland's changing climate. In 2018 alone, we experienced the Beast from the East, followed a few months later by soaring summer temperatures that caused chaos on roads and public transport, and saw our farmers and wildlife struggling with water shortages. These extremes are expected to intensify over the coming decades.

Scotland is a world leader on climate action. Our legislative framework supports action on both mitigation and adaptation, but even with our ambitious carbon emission reduction targets we will still have to respond to climate change and its impacts. We need to accelerate action on adaptation; approach challenges differently; and make decisions that take account of what is best for Scotland in the long-term.

Adapting to climate change will help make Scotland a better place to live now and for future generations. Being more climate ready will protect jobs, enhance the economy and safeguard our unique natural environment and cultural heritage. Public sector organisations have a key role to play in creating a more climate ready Scotland, and they have already shown strong leadership in helping to prepare *Scotland Adapts: A Capability Framework for a Climate Ready Scotland*.

This pioneering new framework is an invaluable tool that can be used by public sector organisations at any stage of their adaptation journey. It provides tasks and resources that support a holistic, outcomes-focused approach which complements the action that the Scottish Government is taking to develop the second Scottish Climate Change Adaptation Programme. It will help Scotland's public sector organisations transition from a risk-focused approach to climate change adaptation towards a positive, forward looking, outcomes-based approach.

Public sector action on adaptation guided by the Framework will help ensure that Scotland remains a vibrant, thriving and sustainable place to live for generations to come.



Roseanna Cunningham MSP

Cabinet Secretary for Environment, Climate Change and Land Reform

Adaptation Scotland foreword

The public sector has a central role to play in enabling Scotland to adapt to the impacts of climate change. 'Scotland Adapts: A Capability Framework for a Climate Ready Public Sector' is packed full of practical tasks, guidance, tools and case studies that will help organisations adapt effectively.

Adaptation Scotland is grateful to the many networks, organisations and individuals who have worked with us to develop the Framework, sharing their time and expertise to produce a resource that is grounded in reality and focused on building a climate ready future.

Adapting to climate change is not a standalone challenge – the actions that we take to adapt should deliver many benefits for society including addressing inequalities, supporting sustainable economic growth and nurturing a healthy natural environment. The Framework challenges organisations to consider how adaptation can be properly integrated and support progress against wider societal outcomes.

We recognise that there is huge variety in the range and stage of adaptation work taking place across Scotland. The Framework and accompanying resources provides support for all – those just starting out and those who are at the cutting edge of adaptation action in Scotland and globally.

Adapting to climate change is an iterative process. The tools, resources and training that support implementation of the Framework will be updated regularly as we continue to work alongside public sector organisations to support and learn from their adaptation work. By working together we will address the challenge of adapting to climate change and play a leading role in delivering Scotland's ambition of a climate ready future.



Anna Beswick

Adaptation Scotland Programme Manager

Purpose

This handbook is an introduction to climate change adaptation for Scotland's public sector. It provides an overview of the Adaptation Capability Framework, which identifies four capabilities.

Resources and support

This handbook is part of a set of Adaptation Scotland resources and support created for Scotland's public sector.

Visit the Adaptation Scotland website to access all of our resources: www.adaptationscotland.org.uk/how-adapt/your-sector/public-sector



The Handbook

– introduction to climate change adaptation for Scotland's public sector.



Interactive Adaptation Capability Framework

– access detailed task information, resources and case studies.



Online training modules

– develop adaptation skills and expertise.



Starter pack

– for organisations and individuals who are new to adaptation.



Benchmarking tool

– assess progress and plan adaptation work.

Introduction

Scotland's climate is already changing. There is a long-term trend of warming temperatures, shifting rainfall patterns and rising sea level. We have experienced this as highly variable weather – hot, cold, wet and dry – that has proved hugely challenging in recent years.

The consequences of climate change have been felt across our society and environment: from damage to infrastructure, to disruption of vital services, and a shift in growing seasons. With the rate of change set to intensify over the coming decades, we need to plan adaptation now.

Together we have an opportunity to address challenges by managing climate risk effectively, and aligning adaptation with the delivery of stronger outcomes across the public sector. A pro-active adaptation approach can support long-term delivery of priorities like reducing health inequalities, tackling poverty and developing a sustainable economy.

The public sector is subject to legal drivers, including the world-leading Climate Change (Scotland) Act 2009 and the Public Bodies Climate Change Duties, which require annual reporting of progress on climate action. The public sector needs to consider how it can help deliver Scotland's objectives and adaptation outcomes in the Scottish Climate Change Adaptation Programme.

At the heart of Scotland's approach to adaptation is collaboration and partnership working. This is reflected in many of our shared successes to date: from regional partnerships, to knowledge networks and local initiatives. Together we have been able to make progress on adaptation, and our recognised emphasis on partnership working puts us at the forefront of global efforts to adapt.

This collaborative approach has been put into practice to develop the Adaptation Capability Framework, which is the basis of Adaptation Scotland's new guidance for the public sector. It draws upon the collective knowledge and experience of practitioners from local authorities, health boards, infrastructure providers, agencies, and university estates.

The Framework has been developed on the principle that successful adaptation is not simply a case of improving understanding through analysing climate data and risk models. Effective leadership, governance arrangements, inclusive planning approaches and working beyond organisation and sectoral silos, are of equal importance for successful adaptation.

The resulting framework is a pioneering capability-maturity approach that aims to support organisations adapt to climate change. It identifies four capabilities that need to be developed, and recommends tasks that support progress for organisations starting out to those leading the way.

The Framework supports a flexible approach, one that can be tailored to each organisation's unique circumstances. You need to be able to take opportunities, work within constraints, and adjust to changing conditions on your adaptation journey.

Scotland's changing climate

We are already seeing evidence of Scotland's climate changing. Over the last few decades there has been a warming trend, shifting rainfall patterns and rising sea level. We have also been impacted by severe weather events, from storms to heatwaves.

- ▶ Scotland's 10 warmest years on record have all been since 1997. The average temperature in the last decade (2009-2018) was 0.67°C warmer than the 1961-1990 average. The warmest year on record was 2014.
- ▶ In the past few decades there has been an increase in rainfall over Scotland. The annual average rainfall in the last decade (2009-2018) was 15% wetter than the 1961-1990 average, with winters 25% wetter. The wettest year on record was 2011.
- ▶ Mean sea level around the UK has risen by approximately 1.4 mm/year from the start of the 20th century, when corrected for land movement.

Calculations based on Met Office temperature and rainfall NCIC data¹ and State of the UK Climate 2017² sea level rise data.

1 <https://www.metoffice.gov.uk/climate/uk/about/state-of-climate>

2 <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2018/state-of-the-climate-2017>

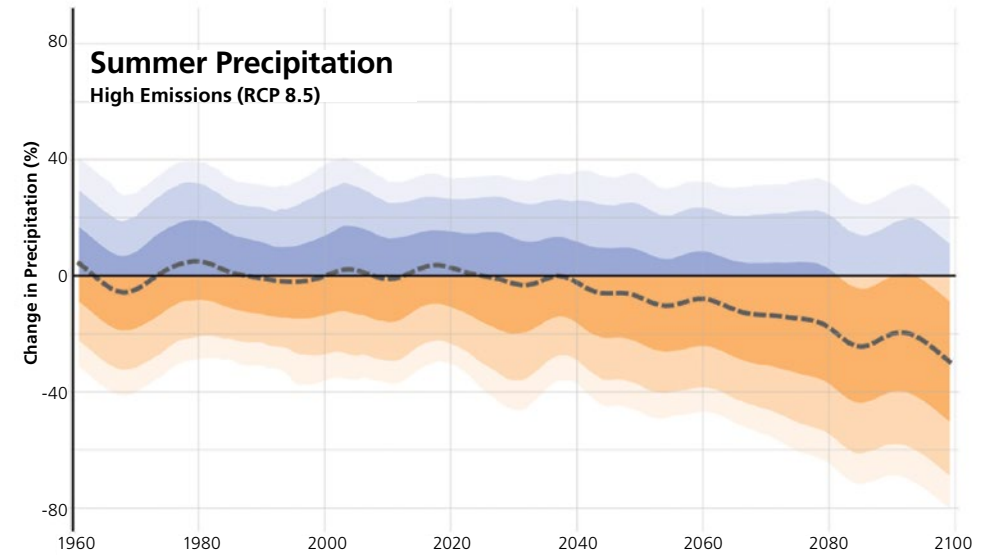
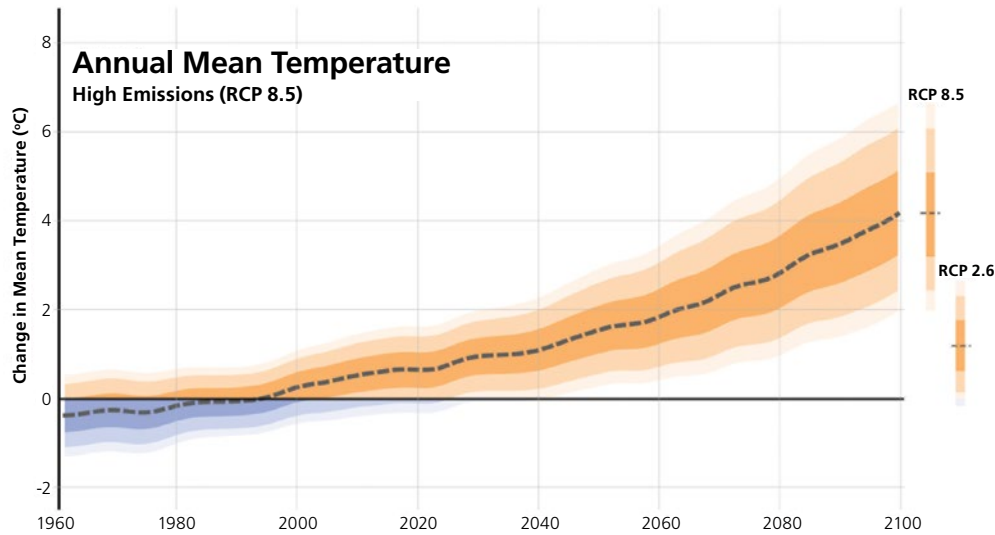
Climate projections indicate that the climate trends observed over the last century will continue and intensify over the coming decades. We can expect future changes in climate to be far greater than anything we have seen in the past.

We can expect the following changes:³

- ▶ Average temperatures will increase in all seasons (**H**), with the greatest increase in summer (**M**)
- ▶ What is considered a heatwave or extremely hot summer today will occur more frequently in future (**M**).
- ▶ Rainfall is projected to become more seasonal, with an increase in average winter and autumn rainfall (**M**). Average summer rainfall may decrease (**L**).
- ▶ Heavy rainfall events may occur more frequently in winter, spring and autumn (**M**). An increase in summer heavy rainfall events is uncertain (**L**).
- ▶ Snow is projected to be less frequent in many locations with rising temperatures (**H**), although by how much is complicated by increased winter precipitation (**L**).
- ▶ The growing season will continue to lengthen due to increasing temperatures in spring and autumn (**H**).
- ▶ Winter storms with extreme rainfall may become more frequent (**L**), although there is large uncertainty in models.
- ▶ Sea level will rise (**H**).

Our efforts to reduce greenhouse gas emissions will, along with the international community, limit the extent of future climate change. But they cannot prevent significant changes from occurring.

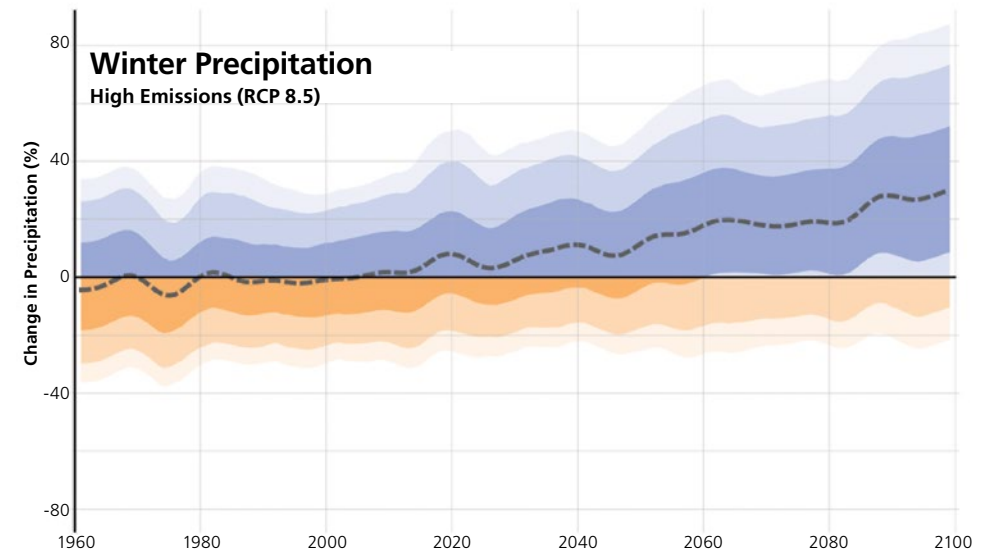
3 Assessment of 'Overall Confidence' in scientific evidence for individual statements: High (H), Medium (M) and Low (L). Report: Future changes in precipitation and temperature, ClimateXChange 2017. Note that these were assessed prior to release of UKCP18.



UKCP18 climate projections for Scotland showing change in mean temperature and precipitation from 1961 – 2100.

These are probabilistic projections: the dashed line is 50% central estimate; inner shading 25-75%; middle shading 10-90%; outer shading 5-95%. All values are compared to a 1981-2000 baseline average.

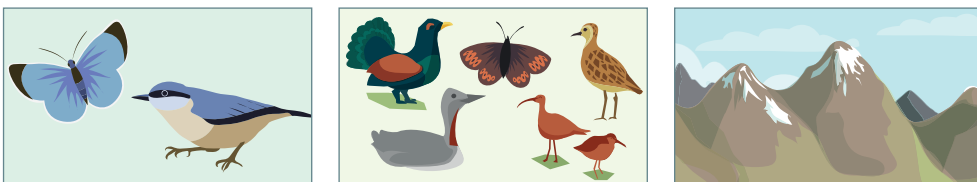
UKCP18 by Met Office Hadley Centre: <http://ukclimateprojections.metoffice.gov.uk>



What does climate change mean for Scotland?

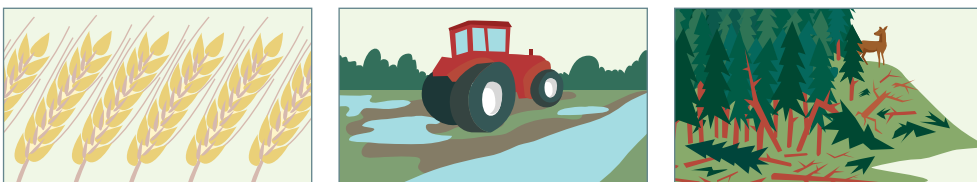
Climate change will have profound impacts for all areas of life in Scotland. The public sector has a responsibility to understand potential impacts and respond. There is a growing evidence base on climate impacts that is available to inform us – including UK Climate Change Risk Assessments. Based on available evidence, 15 Key Consequences for Scotland were highlighted in the Scottish Climate Change Adaptation Programme (2014). The public sector is diverse in its functions – some may be more directly relevant to your organisation’s remit – although most will impact on your organisation in some way.

THE HEALTH OF OUR NATURAL ENVIRONMENT



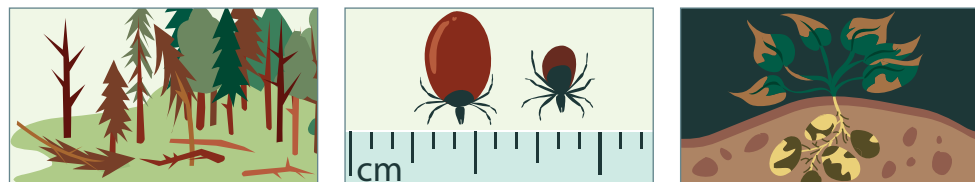
Climate change may affect the delicate balance of Scotland’s ecosystems and transform Scotland’s habitats and biodiversity, adding to existing pressures. Some distinctive Scottish species may struggle and could be lost, invasive non-native species may thrive, while a degraded environment may not be able to sustain productive land or water supply.

THE PRODUCTIVITY OF OUR AGRICULTURE & FORESTS



A warming climate has the potential to improve growing conditions in Scotland and increase the productivity of our agriculture and forestry. However, climate change will also pose a number of threats, from more variable and extreme weather to the spread of pests and diseases, which may limit this potential.

THE OCCURRENCE OF PESTS AND DISEASE



As our climate changes, it will create conditions that may allow existing pests and disease to spread and new threats to become established in Scotland. This may impact on the health of our people, animals, plants and ecosystems if risks are not properly managed.

THE QUALITY OF OUR SOILS



We rely on soils to sustain biodiversity, support agriculture and forestry, regulate the water cycle and store carbon. Soils also preserve archaeological deposits and artifacts. Soils and vegetation may be altered by changes to rainfall patterns and increased temperatures – as well as by the way we use the land.

THE SECURITY OF OUR FOOD SUPPLY



Climate change may have an impact on global food production. Although Scotland may be able to grow more food, this will not offset the impact global disruption has on us. Increased volatility in the global commodity market due to exposure to extreme climatic events has an impact on supply and cost of food.

THE AVAILABILITY AND QUALITY OF WATER



As our climate warms and rainfall patterns change, there may be increased competition for water between households, agriculture, industry and the needs of the natural environment. Summer droughts may become more frequent and more severe, causing problems for water quality and supply.

THE INCREASED RISK OF FLOODING



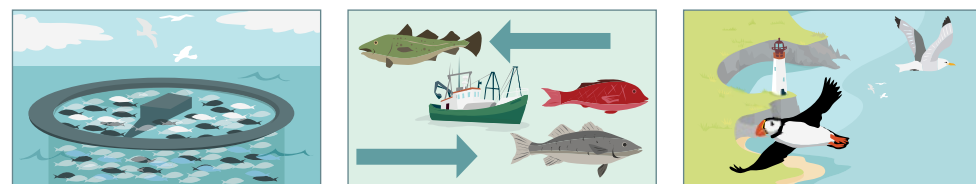
Flooding can already have a devastating effect on those affected. With climate change likely to alter rainfall patterns and bring more heavy downpours, we expect flood risk to increase in the future. This could impact on properties and infrastructure – with serious consequences for our people, heritage, businesses and communities.

THE CHANGE AT OUR COAST



Sea level rise is already having widespread impact on parts of Scotland's coast. With this set to accelerate over the coming decades, we can expect to see more coastal flooding, erosion and coastline retreat – with consequences for our coastal communities and supporting infrastructure.

THE HEALTH OF OUR MARINE ENVIRONMENT



Our marine ecosystems – from plankton through to fish, mammals and seabirds – are already being affected by climate change alongside other pressures, particularly fishing. Rising temperatures are likely to change species and their distributions. The changes will present both threats and opportunities to our commercial fisheries and aquaculture.

THE RESILIENCE OF OUR BUSINESSES



Climate change and associated extreme weather may disrupt transport, energy and communication networks in Scotland and around the world. This could impact on markets, affect supply chains and raise insurance costs.

THE HEALTH AND WELLBEING OF OUR PEOPLE



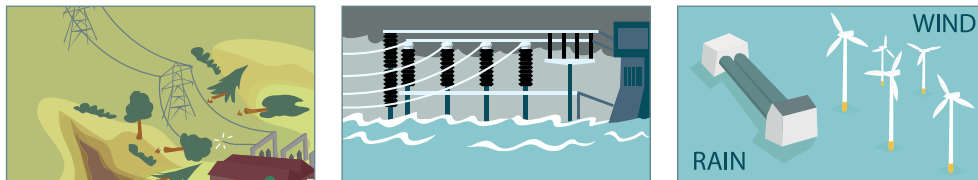
A warming climate may provide more opportunity to be outdoors and enjoy a healthy and active lifestyle, while reducing mortality in winter. However, it could affect patterns of disease and other health issues. Climate change and associated extreme weather may disrupt the lives of individuals and communities, limiting access to vital services and impacting on people’s physical and mental health.

OUR CULTURAL HERITAGE AND IDENTITY



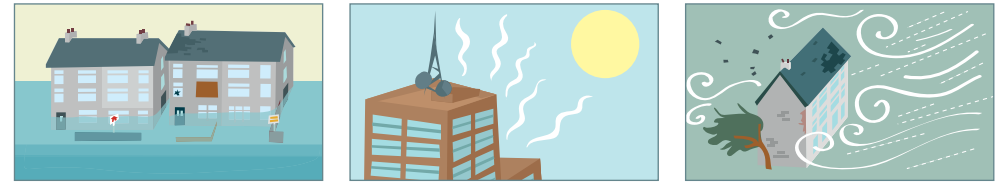
The changing climate is already altering our unique Scottish landscape and threatening our historic environment through coastal erosion, flooding and wetter, warmer conditions. The increased pace of climate change presents challenges to all those involved in the care, protection and promotion of the historic environment.

THE SECURITY AND EFFICIENCY OF OUR ENERGY SUPPLY



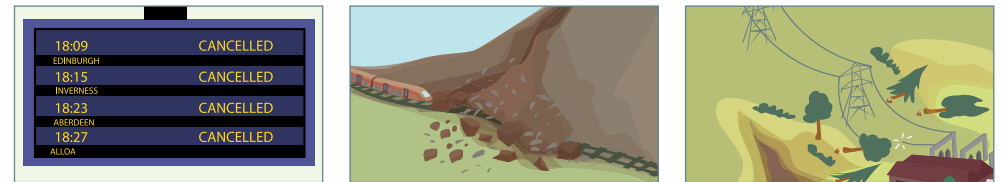
Climate change may influence Scotland’s capacity to generate weather-dependent renewable energy. For example, varying water availability will affect hydro electric generation. Climate change can also impact power distribution, with impacts ranging from damage caused by extreme weather events, to reduced transmission efficiency occurring as a result of temperature fluctuations. Impacts on global energy markets may also affect energy supplies in Scotland and consequently our overall energy security.

THE PERFORMANCE OF OUR BUILDINGS



Climate change will have an impact on the design, construction, management and use of our buildings and surroundings. Whether retrofitting existing or building new, it is likely that there will be issues with water management (in flood and drought), weather resistance and overheating.

INFRASTRUCTURE – NETWORK CONNECTIVITY AND INTERDEPENDENCIES



Our energy, transport, water, and ICT networks support services are vital to our health and wellbeing, and economic prosperity. The effect of climate change on these infrastructure systems will be varied. They are likely to be impacted by an increase in disruptive events such as flooding, landslides, drought and heatwaves. Our infrastructure is closely inter-linked and failure in any area can lead to wider disruption across these networks.

Adaptation: our response to climate change

Our response to the challenges of a changing climate is 'adaptation'. While the challenges we face from the impacts of climate change are significant, good adaptation can deliver both short-term benefits and progress towards long-term outcomes.

Adaptation takes place at all scales. From small incremental measures, like adjusting working practices for severe weather, to large-scale investments, like a new flood protection scheme or housing development.

Adaptation planning can be based on detailed analysis, planning and decision-making processes. This informs a robust, long-term effort to achieve adaptation outcomes. However, adaptation also needs to be flexible and creative. Be prepared to take opportunities when they arise. You will also need to adjust your plans as you learn and make progress – or if circumstances change.

By progressing with adaptation you can achieve a range of benefits, including:

- ▶ **Positive vision for the future** – adaptation needs to work towards delivering a long-term vision and outcomes. This is most effective when it aligns with wider societal outcomes – including health, inequality, housing, economic development – and can ensure that long-term progress is not limited by emerging climate risks.
- ▶ **Improve efficiency** – embedding adaptation does require you to commit resources in the short-term. But in the longer term it will help support efficient use of staff and resources – and you can avoid potentially costly recovery and retrofit programmes.
- ▶ **Use knowledge effectively** – there is an abundance of research, tools and advice on how to adapt to climate change – even when faced with uncertainty, complexity and changing conditions. However, to avoid being overwhelmed you

need to define a realistic scope and purpose for your adaptation work. Make space to learn and develop over time.

- ▶ **Create a 'Learning Organisation'** – learning from experience is critical to adaptation, which will take place in a dynamic and at times unpredictable environment. You need to build institutional knowledge and influence a range of plans, policies and procedures. This can be challenging, but it can also open up opportunities to implement change.
- ▶ **Partnership and collaboration** – the delivery of many adaptation actions will need to involve partners. By working together we can do more to achieve shared adaptation outcomes. Look across your organisation and to others for opportunities to identify shared risks and implement adaptation solutions.
- ▶ **A flexible approach** – there is no standardised, one-size-fits-all approach to adaptation. You need to take an adaptation journey that is right for your organisation. You should seek to maintain flexibility and develop an iterative approach for decision making which includes identifying pathways that can help you adapt in the future as conditions change. ⁴

The Intergovernmental Panel on Climate Change (2018)⁴ defines adaptation as “*In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.*”

4 <https://www.ipcc.ch/sr15/chapter/glossary>

The role of the public sector

Adaptation helps deliver outcomes

Adaptation to climate change delivers on a broader set of societal outcomes. It is integral to progress on the UN Sustainable Development Goals and the aligned Scottish National Outcomes that are part of our National Performance Framework.⁵

The Second Scottish Climate Change Adaptation Programme 2019-2024 is set within these frameworks – and delivers against seven adaptation outcomes (as seen in Figure 1). The public sector should consider how it can effectively contribute to delivery of these outcomes.

Adaptation also needs to be aligned with a public sector organisation’s strategic outcomes and priorities; and with those it contributes to – like Local Outcome Improvement Plans. By doing this, adaptation becomes integral to the functions of an organisation and its ability to achieve outcomes. It can also be more efficient, with cost savings made possible when adaptation is delivered as part of business-as-usual rather than an additional activity.



Figure 1 Second Scottish Climate Change Adaptation Programme 2019-2024

5 <https://nationalperformance.gov.scot/>

Public sector influence

The public sector is playing a crucial role in delivering action to enable Scotland to adapt to the impacts of climate change. Case studies included in this handbook demonstrate leading examples of progress and highlight the vital role that the public sector has in influencing adaptation action across society.

- ▶ **Building resilience** – it is essential that buildings, infrastructure and services delivered by the public sector are built and managed to adapt to the impacts of climate change. These assets are crucial to society, and ensuring that they adapt will create a strong foundation for adaptation across all sectors and places.
- ▶ **Strategic planning** – the public sector has a responsibility to take a long-term view – with the needs of current and future generations in mind. It should consider potential climate impacts in strategic decision-making, including spatial planning, investment and regeneration.
- ▶ **Community engagement** – involving communities in the design and delivery of adaptation better targets local circumstances. Enable people to adjust your plans and take the opportunity to influence others.
- ▶ **Procurement** – the public sector has significant purchasing power and the ability to influence products, services, supply chains and investment decisions. It can require high standards of resilience and adaptation in contracts and procurement. This would safeguard business continuity, future proof investments and support market development of goods and services that enable adaptation.

Legislative and policy drivers

Adaptation is a legal imperative for the public sector and is supported by legislative and policy drivers. The Climate Change (Scotland) Act 2009 requires the Scottish Government to implement a statutory Scottish Climate Change Adaptation Programme. The Public Bodies Climate Change Duties contained within the Act require public sector organisations to act in the way best calculated to implement the statutory programme and report progress annually.

Other legislative drivers include the Flood Risk Management (Scotland) Act 2009 which contains specific provisions for adaptation including a requirement that Flood Risk Management Plans must take account of any impacts of climate change on the occurrence of floods.

Strategy and policy drivers such as National Planning Framework 3, Scottish Planning Policy, the Land Use Strategy and the Scottish Forestry Strategy are increasingly integrating climate change adaptation as part of key outcomes, objectives and activities.

Taking action

There are good examples of adaptation being delivered in Scotland. This includes new homes, schools and infrastructure being built to be resilient and adaptable to current and future climate; organisations completing climate change risk assessments for services, assets and locations; and new partnerships forming to enable collaboration as the pace and scale of adaptation increases.

There are also many cases where adaptation is being taken forward within organisations, but is not necessarily called 'adaptation'. This could include flood risk management, biodiversity action planning or urban greening programmes.

Although a lot is happening, there are many missed opportunities where climate impacts are not being factored into decision making. This could result in increased risk and cost in the future.

The Adaptation Capability Framework is designed to enable action. There are clear tasks to identify, appraise and implement actions – and this is supported by the rest of the framework that creates enabling conditions for a public sector organisation to act.

Adaptation Capability Framework

The Adaptation Capability Framework is based on the principle that successful adaptation is not simply a case of better understanding climate data and risk models. Effective leadership, governance arrangements, inclusive planning approaches and working beyond organisation and sectoral silos are of equal importance for successful adaptation.

The Framework has been developed by Adaptation Scotland in collaboration with policy makers and practitioners from across Scotland's public sector. It draws upon our shared decade of experience delivering adaptation, while overcoming barriers and pitfalls along the way.

Structure of the Framework

The Framework aims to promote a holistic approach to adaptation. Based on local and international experience, we have developed a 'capability-maturity' approach that draws upon the characteristics of well-adapting organisations. These are clustered into four adaptation **capabilities** for organisations, which can be developed by completing recommended **tasks** as you progress through four **maturity stages**.

Capability: the Framework is based on the idea that an organisation has adaptation 'capability' that determines its ability to deliver adaptation. This capability is multi-faceted – and in the Framework we have categorised it into four adaptation capabilities:

- ▶ **Organisational culture and resources** is focussed on organisational priorities, governance structures and resource availability
- ▶ **Understanding the challenge** develops the robust evidence base on risk and vulnerability to inform decision-making
- ▶ **Planning and implementation** aligns adaptation with objectives, options appraisal, adaptation strategy development and delivery
- ▶ **Working together** fosters networking and collaboration for joint adaptation action to achieve shared adaptation outcomes.

Maturity stages: adaptation requires sustained, long-term commitment from an organisation – and adaptation capability will develop over time. The Framework includes maturity stages for each of the four capabilities: 1. **Starting**, 2. **Intermediate**, 3. **Advanced**, and 4. **Mature**.

Tasks: the Framework includes recommended tasks for each capability, and at each maturity stage. By completing these tasks, your organisation will be developing capabilities – and delivering adaptation. The Handbook includes a high-level description of tasks, more detailed information is provided online.

UNADAPTED

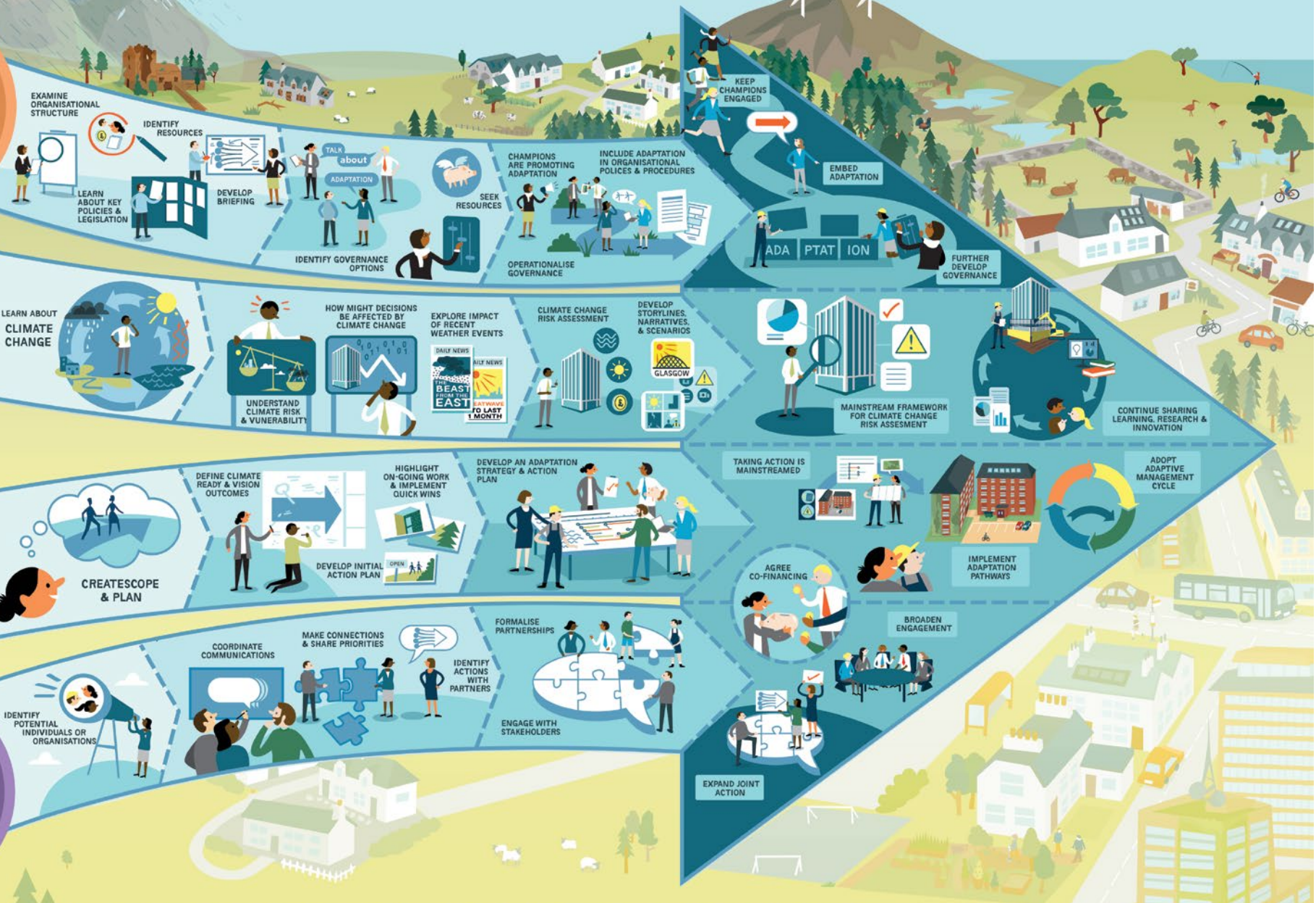
ADAPTING

ORGANISATIONAL CULTURE & RESOURCES

UNDERSTANDING THE CHALLENGE

PLANNING & IMPLEMENTATION

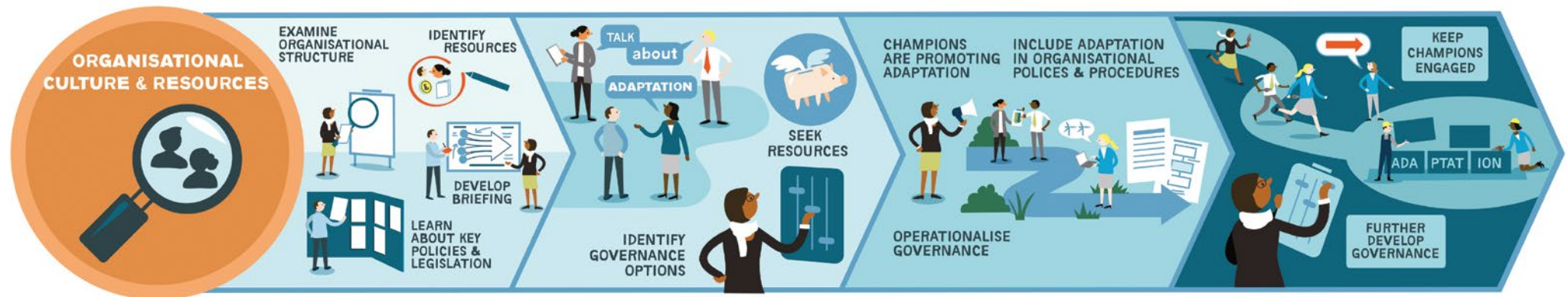
WORKING TOGETHER



ADAPTATION CAPABILITY FRAMEWORK

CAPABILITY: ORGANISATIONAL CULTURE & RESOURCES

To make progress with adaptation, it will need to fit with your **organisational culture and resources**. By developing this capability you will find ways to align adaptation activities with your organisation's priorities. Over time they will become mainstreamed into plans, policies and procedures – becoming part of business-as-usual for your organisation.



Key aspects include:

- ▶ **Resources** – you will need to commit resources to progress adaptation. These will vary depending on task, but include human, physical, financial, information and intellectual resources. Some of these can be allocated or developed internally, others will need to come from external sources.
- ▶ **Leadership** – the support of senior leaders can accelerate adaptation in an organisation. It is also important to recognise and empower adaptation ‘champions’, individuals who can lead the way in your organisation. People at all levels can be these ‘agents of change’.
- ▶ **Reflection & flexibility** – space needs to be made to try new approaches, to learn from experience, and to improve procedures, strategies and actions in response. There also needs to be flexibility to recognise that the landscape may change as adaptation progresses.

MATURITY STAGE: STARTING

Your organisation is able to communicate why adaptation matters by linking it to your strategic objectives. You have considered where adaptation fits in your organisation and identified key opportunities to begin your adaptation work – as well as what resources are available to support it.

OC1A Consider how adaptation fits with your organisation and its objectives

Identify how adaptation supports delivery of your organisation's strategic objectives. Use this to communicate why adaptation matters. You will need to consider where adaptation is best placed in your organisation and start to identify relevant groups and decision making processes.



OC1B Identify resources available for adaptation

Adaptation is a long-term process that will see you undertake many tasks requiring a range of different resources – human, physical, financial, information and intellectual. It is useful to survey resources that already exist within your organisation that will enable you to plan and deliver future work.



MATURITY STAGE: INTERMEDIATE

Your organisation is now prepared to work on adaptation. Leadership has put in place governance arrangements and committed suitable resources to progress with your initial adaptation plans. There is an emerging set of people in your organisation who can see opportunities to deliver adaptation – and may become adaptation 'champions'.

OC2A Secure resources to plan and deliver adaptation

Your organisation will need committed resources – human, physical, financial, information and intellectual – to progress with adaptation. You need to secure those needed for short-term activities, but also look ahead at likely future needs. Consider both internal and external sources.

OC2B Engage with colleagues to identify adaptation opportunities and potential 'champions'

Your organisation will (or could) be delivering adaptation through many of its functions. By actively engaging colleagues across your organisation you can identify opportunities to include adaptation in planned work – as well as key people who could become adaptation 'champions'.

OC2C Establish governance arrangements for adaptation

Setting up governance arrangements for adaptation is essential to enable effective decision-making and collaborative delivery across your organisation. Seek approval for an option that works for your organisation – and is able to deliver your adaptation objectives.



MATURITY STAGE: **ADVANCED**

Your organisation now has governance arrangements in place to deliver adaptation. You are systematically identifying opportunities to include adaptation in plans, policies and procedures. These opportunities are being taken up by emerging adaptation 'champions' across your organisation.

OC3A Identify opportunities to include adaptation in plans, policies and procedures

Take a systematic look across the breadth of your organisation's functions to identify opportunities to include adaptation in plans, policies and procedures. Think about where you can make the most impact, but also look beyond the 'obvious' to areas that may not have considered climate adaptation.

OC3B Motivate 'champions' and actively promote adaptation across the organisation

Your organisation should openly promote an adaptation agenda both internally and externally. Seek to recognise and empower adaptation 'champions', individuals who can lead the way in your organisation by setting goals, and advocating and resourcing initiatives on adaptation.

OC3C Put governance arrangements for adaptation into operation

An on-going effort is required to implement your approved adaptation governance arrangements. Good governance will provide oversight for a work programme, defines roles and responsibilities, and will have appropriate authority to approve and implement change.



MATURITY STAGE: **MATURE**

Your organisation delivers a broad range of action on adaptation, which is now being mainstreamed into many plans, policies and procedures. Your governance arrangements are kept up-to-date and are able to reflect changing demands as more people become involved. There is a supported network of 'champions' who continue to lead the way on adaptation.

OC4A Mainstream adaptation into your organisation's plans, policies and procedures

You can reduce reliance on stand-alone adaptation actions (often seen as a burden) by mainstreaming into your organisation's functions. Prioritise actions that will deliver most impact, but also embed adaptation considerations within review/update cycles for a wide range of plans, policies and procedures.

OC4B Develop a network of recognised adaptation 'champions'

As more people become actively involved in delivering adaptation across your organisation, it is important to continue to recognise, support and – to avoid silos – coordinate those who are leading the way as adaptation 'champions'. By developing a formal or informal network you can create space for communication and encourage peer support.

OC4C Review and update governance arrangements for adaptation

Your organisation should periodically review, reflect on and update governance arrangements for adaptation. This will help you take opportunities that arise and account for changing demands as adaptation progresses – as well as respond to any wider changes taking place in your organisation.





CASE STUDY: SCOTTISH NATURAL HERITAGE

Creating an organisational culture that promotes climate ready solutions to manage Scotland's nature and landscapes: Mary Christie is the Policy & Advice Manager and Natural Capital Team Manager at Scottish Natural Heritage (SNH). She has worked with the Natural Resource Management team to build understanding of climate change adaptation throughout the organisation.



'In 2012, we developed Adaptation Principles to guide us in helping nature adapt to climate change. Embedding these principles into our projects encourages the development of climate adaptive actions, which are critical to improve ecosystem health and resilience to current and future climate change. (OC3A)

To further mainstream the adaptation principles and help staff understand the impact of climate change on Scotland's environment, we developed an internal e-learning module for new and existing staff. This is supported by the Climate Champions Network, where one person in each work unit is tasked with updating and discussing climate change with colleagues. Climate Champions report back to the Climate Change Unit on work undertaken in their units, creating a two way

conversation between the team and the rest of the organisation.(OC3B)

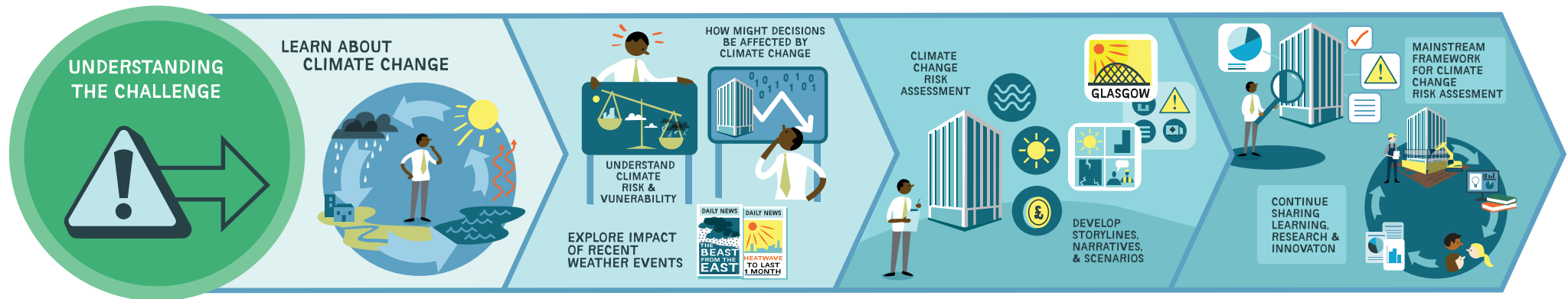
One of the challenges we face is that our staff already have high workloads, and limited time to commit to training or more work around climate change. Climate Champions help share the message that action on adaptation to climate change is not extra work, but a fundamental part of doing our job well. This message is supported by leadership at SNH, who have embedded climate change across all aspects of the new Corporate Plan for 2018-2022. While the previous corporate plan identified climate change as a key theme, the new plan represents a major shift. We no longer have a climate specific theme or target. Instead, climate change is implicit and expected to be considered in every aspect of our work. (OC4A)

Climate change risk has also been included in risk management and business planning. Reporting is undertaken on a quarterly basis to assess progress on climate related risks, and managers are then required to review and take further action if necessary as part of their business planning (OC3C).

Changing our culture and attitude to climate change adaptation at the organisational level is an ongoing and iterative task that is far from complete, but we are working across all levels and sectors to embed climate change and adaptation into the way SNH operates.'

CAPABILITY: UNDERSTANDING THE CHALLENGE

Adaptation is our adjustment to climate change, by **understanding the challenge** we can make informed decisions based on actual or expected change. By developing this capability you will gather evidence on climate risks and vulnerabilities, then integrate these into internal systems and procedures.



Key aspects include:

- ▶ **Knowledge** – build an understanding of climate change and different approaches to adaptation. This needs to be translated into your specific context, with the knowledge shared across your organisation. You will continue to learn and adjust as you make progress with adaptation.
- ▶ **Evidence** – you need an evidence base to inform decision-making in your organisation. As you progress you will develop evidence for long-term impacts under a range of possible futures – and make sure that you can use this to inform climate change risk assessment.
- ▶ **Research & innovation** – adaptation is still a relatively new as a process, especially where it is put into practice in the ‘real world’. As part of a global community learning to adapt you have an opportunity to connect with external expertise to fill knowledge gaps and drive innovation.

MATURITY STAGE: STARTING

Your organisation is learning about climate change and its potential impacts in Scotland. You will have pulled together key information that is most relevant to your organisation – and this is being used to raise awareness and develop a common understanding of potential consequences.

UC1A Learn about Scotland's changing climate

An understanding of past climate trends and future projections is a necessary foundation for adaptation. The UK Climate Projections provide key messages and you can access localised climate information for a range of climate variables, including temperature and rainfall.

UC1B Learn about climate impacts affecting Scotland

The climate is already changing, and impacts are being felt throughout Scotland. Understanding the consequences of climate change for Scotland – and locally – will help you understand how it could impact your organisation. Learn about these by accessing key synthesis reports.



MATURITY STAGE: INTERMEDIATE

Your organisation is building an understanding – and evidence – of potential climate impacts that are specific to your context and linked to strategic and operational priorities. By engaging internal stakeholders you are able to identify key functions that could be affected by climate change. Exploring recent weather events provides insight into climate-related vulnerabilities.

UC2A Develop understanding of climate risk and vulnerability

Risk and vulnerability are key concepts for understanding the potential impacts of climate change on your organisation. To inform robust decision-making these need to be understood in your specific context – and you need to identify and access relevant sources of evidence.

UC2B Consider how your organisation's functions might be affected by climate change

Your organisation will have many functions that might be affected by climate change. To identify these you will need to engage with a diverse range of internal stakeholders to explore the connection between strategic and operational priorities and climate impacts.

UC2C Explore the impact of recent weather events on your organisation

Your organisation will have been affected by recent weather events. Exploring the consequences of specific events with colleagues is a way to explore climate-related vulnerabilities in more depth. These can be useful narratives for raising awareness, as well as providing initial evidence of potential costs in some cases.



MATURITY STAGE: **ADVANCED**

Your organisation is building an evidence base for long-term climate impacts under a range of possible futures. This is used to inform climate change risk assessment – whether for strategic organisational risks, priority service areas or specific projects. You are now able to identify knowledge gaps and are working with others to address them.

UC3A Explore future change by developing scenarios and/or storylines for climate impacts

Climate projections provide a range of possible future climates that can be used to understand potential impacts. It is also important to consider how changes in socio-economic conditions could alter your vulnerability and influence your adaptation responses. The use of scenarios and storylines approaches enable you to explore a range of possibilities under future conditions.

UC3B Undertake strategic climate change risk assessment

A strategic risk assessment is used to evaluate climate risks across your organisation, or for key service / asset portfolios. This strategic ‘scan’ helps to understand the changing likelihood and consequence of a range of potential risks for your organisation. It enables you to prioritise climate risks, allowing you to better focus limited resources.

UC3C Undertake project-level climate change risk assessment

A project-level risk assessment is focussed on climate risks to a specific project, policy, asset, or location. These are typically justified if they have been identified as ‘at-risk’ in a strategic assessment, provide a critical function of your organisation or are major investments/assets. The narrow scope allows for an appropriately detailed analysis of climate risks.

UC3D Identify knowledge gaps, seek expertise and foster links with research and innovation

As work on adaptation advances, you should seek to identify knowledge gaps that are important to your decision making. Knowledge gaps, whether due to its absence or poor usability, could be addressed by seeking external expertise – and there may be opportunities to connect with research and innovation.

MATURITY STAGE: **MATURE**

Your organisation is embedding knowledge on climate and adaptation into internal systems, enabling routine use by people in their day-to-day roles. This includes assessing climate risk within a wider risk management framework. You continue to learn and adjust to the climate adaptation challenge, connecting with a wide range of partners to co-produce adaptation solutions.

UC4A Mainstreaming of climate change risk assessment

Your organisation routinely undertakes strategic and project-level climate change risk assessments, as appropriate within a wider risk management framework (i.e. not just climate). You will ensure that there is senior ownership of key risks, and that these are effectively – and creatively – communicated within your organisation.

UC4B Accessible climate adaptation knowledge is integrated into internal systems and procedures

As internal knowledge of climate adaptation grows, it will need to be made accessible to many more people in your organisation in a form that is easily utilised in their work. Look for opportunities to integrate knowledge into internal systems and procedures, so that adaptation is no longer seen as an ‘add-on’ task.

UC4C Actively engage in sharing, learning, research and innovation

Climate adaptation is long-term challenge, and your organisation will need to continually learn and adjust to meet it. You will benefit from connecting with a range of potential partners, both locally and internationally. Research and innovation can be harnessed to co-produce adaptation solutions with local stakeholders.



CASE STUDY: HISTORIC ENVIRONMENT SCOTLAND

Building an evidence base to inform climate ready decision-making for Scotland's historic environment: David Harkin is a Climate Change Scientist with Historic Environment Scotland (HES). To understand how climate change will impact their Properties in Care, HES undertook a baseline assessment of climate change risk.

'We are responsible for the care and maintenance of 336 historic properties throughout Scotland. Many of these properties are situated in landscapes that are vulnerable to climate-related natural hazards. Like much of Scotland's historic environment, our properties often show an inherent resilience to Scotland's temperate climate, but climate change is creating new challenges that they were never designed to cope with.

In order to gain a more thorough understanding of natural hazard risk across our diverse and complex estate, we worked in close partnership with the British Geological Survey and the Scottish Environment Protection Agency, to combine various natural hazard datasets into a Geographic Information System (GIS) database **(UC2A)**. We then combined this with spatial data from our own properties and were able to assess the likelihood of various natural hazards occurring at our properties.

This was used to create a baseline assessment that will allow us to now plan a more informed approach to managing these risks **(UC3B)**.

This initial assessment allowed us to identify 28 properties that we considered to be at very high risk from one or more of the natural hazards assessed. Now we are spending time visiting properties to test the initial desk based assessment in person, and update as necessary. Many of these properties are in isolated and remote areas, and visiting each one for in-depth, site specific study and analysis is time-consuming, but a crucially important step to strengthen our evidence base **(UC3C)**. The next steps will be to consider the landscapes beyond the boundaries of properties themselves, along with the climate impacts on staff and visitor safety, site operations and internal collections, and to consider how we incorporate UKCP18 data **(UC3D)**.



Evaluating the climate change risks to our estate has already improved our ability to prioritise ongoing actions and allocate resources more effectively. A strategic evidence based approach to managing climate risk is helping us give our properties, and the wider historic environment, a fighting chance of weathering the challenges presented by climate change'



HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

CAPABILITY: PLANNING & IMPLEMENTATION

Adaptation is a long-term challenge that requires strategic **planning and implementation** to achieve outcomes. By developing this capability you will set appraised options into an adaptation strategy and action plan, adopting an approach that maintains flexibility and seeks pathways for an adaptation transition.



Key aspects include:

- ▶ **Strategic approach** – you can help embed adaptation by aligning with the functions and purpose of your organisation. Set a clear vision and long-term outcomes to guide planning as you develop an adaptation strategy and action plan. Looking at the bigger picture will help make the most of opportunities.
- ▶ **Appraisal & prioritisation** – you want to identify robust, acceptable, efficient and effective measures that can be taken forward in an action plan. Develop an evidence-based appraisal process to select options that will help you achieve strategic adaptation outcomes.
- ▶ **Take action** – you learn by doing. From initial actions to a comprehensive programme, your organisation will build momentum by taking action. You also need to reflect, monitor and evaluate actions to ensure they are efficient and effective in achieving adaptation outcomes.

MATURITY STAGE: STARTING

Your organisation is able to look at the big picture and see where it can make a contribution to a Climate Ready Scotland. You have recognised ways that you are already delivering adaptation actions – and have a plan for engaging key people from across your organisation.

PI1A Identify actions already delivering adaptation

Your organisation will already be taking actions that deliver adaptation, even if they are not always recognised. By identifying some of these actions you can demonstrate alignment with your organisation's functions – and show that you have already begun an adaptation journey.

PI1B Consider how you contribute to Scotland's adaptation outcomes

The public sector has a key role in delivering the Scottish Climate Change Adaptation Programme, which sets strategic adaptation outcomes for a Scotland that is climate ready. Show how your organisation fits in the bigger picture by considering how you might contribute to delivering these outcomes.

PI1C Identify key internal stakeholders for adaptation

Planning adaptation will require you to interact with stakeholders from across your organisation. Develop an engagement plan that identifies key people based on emerging organisational priorities and areas of on-going adaptation action.



MATURITY STAGE: INTERMEDIATE

Your organisation has developed a clear vision of 'climate ready' and has defined adaptation outcomes that align with your organisation's purpose. You are considering an emerging set of potential adaptation actions and can pull these together into an action plan – while implementing early practical actions.

PI2A Define a vision and outcomes for adaptation

Adaptation is a long-term strategic challenge that you will need to align with your organisation's purpose. You should develop a 'climate ready' vision, and define adaptation outcomes that allow you to strategically plan an effective adaptation response.

PI2B Identify a range of potential adaptation actions

As you increase awareness of climate impacts, you need to start planning an adaptation response. Compile a set of options for actions that your organisation could take – either alone or with partners. It is important to consider a wide range of actions, both short- and long-term, easy and difficult.

PI2C Develop an initial adaptation strategy and action plan

For many organisations, an initial adaptation strategy and action plan can act as a catalyst for raising awareness and resourcing further adaptation work. At this stage the focus will mostly be on setting strategic objectives and capacity building initiatives.

PI2D Take action to deliver adaptation

Your organisation should be able to take early practical action on adaptation by building upon existing projects or implementing no-regret / quick-win actions. These help raise the profile of adaptation – building internal support and helping to spur further action.

MATURITY STAGE: **ADVANCED**

Your organisation has developed and is now implementing an adaptation strategy and action plan. This coordinates and integrates adaptation into relevant projects, policies and plans across your organisation and with partners. There is an appraisal of adaptation options that places them within a strategic context, aligned with your organisation's adaptation goals/outcomes. This enables effective prioritisation and sequencing of adaptation measures.

PI3A Develop a strategic change process for achieving adaptation outcomes

Set the strategic context for adaptation by systematically laying out the steps required to achieve long-term adaptation outcomes. By developing a 'change process' that includes specific intermediate outcomes you will be able to better design, monitor and evaluate a programme of activities.

PI3B Appraisal of adaptation options

An appraisal process will allow your organisation to consider a range of factors when selecting and prioritising from an emerging set of adaptation options. This will help identify robust, acceptable, efficient and effective measures that can be taken forward in an action plan.

PI3C Develop a comprehensive adaptation strategy and action plan

A 'comprehensive' adaptation strategy and action plan draws together knowledge of climate risk and appraised adaptation options, and translates your strategic objectives into practical action. It should coordinate and integrate adaptation into relevant projects, policies and plans across your organisation and with partners.

PI3D Implement a programme of adaptation actions

Your organisation should now be ready to implement a range of prioritised adaptation actions, with appropriate resources allocated. The actions should contribute to achieving your adaptation outcomes, with suitable monitoring and evaluation to learn from experience.

MATURITY STAGE: **MATURE**

Your organisation is now taking a strategic approach to adaptation, which is becoming business-as-usual as it is mainstreamed into plans, policies and procedures. You are able to be flexible and allow for uncertainty, adopting an iterative adaptive management cycle and planning into the long-term, for example using adaptation pathways to manage climate risks.

PI4A Adopt an ongoing adaptive management cycle for adaptation planning

An adaptive management cycle is a flexible, iterative approach for decision-making when faced with uncertainty, complexity and changing conditions – and well suited to climate adaptation. Effective learning and evaluation informs adjustments to strategies and actions.

PI4B Taking action on adaptation is mainstreamed into your organisation's functions

For adaptation to become routine, it needs to be mainstreamed into the business-as-usual activities in your organisation when delivering its functions. It is essential to monitor and evaluate this mainstreamed delivery to ensure it achieves adaptation outcomes.

PI4C Implement pathways for adaptation / transformational change

Alongside delivery of other societal priorities, climate adaptation will require significant change. It may require transformation, a fundamental change in our systems. An adaptation transition can be approached using pathways, which need to integrate climate action with monitoring and evaluation of progress and path dependencies.



CASE STUDY: SCOTTISH CANALS

Flexible planning to manage uncertain climate impacts: Peter Robinson is the Head of Engineering at Scottish Canals. A flexible and responsive approach to asset management is helping ensure that Scotland's network of canals is maintained to ensure long term safety and sustainability.

'We are responsible for managing over 4100 assets that comprise our five Scottish canals, as well as the bridges, buildings, locks, water supply reservoirs and landmarks like the Falkirk Wheel and the Kelpies that make up Scotland's inland waterways network. Much of this 140-mile network is inland, with only 6 coastal connections that are vulnerable to rising sea levels. The rest of the network is reasonably resilient to climate impacts in the short term, and can even contribute to resilience more broadly through initiatives such as the Glasgow Smart Canal Project. The Smart Canal is helping to manage flood risk and move water resources during projected hotter and drier summers **(PI1B)**.

Each one of our diverse assets has unique management and maintenance challenges which must be addressed to ensure that they remain safe and available for the millions of visitors who use our network each year. In the long term climate change will alter the way our assets deteriorate, and our

Asset Management Strategy ensures that when making management decisions we now take climate impacts into consideration, such as potential changes in rainfall, temperature and extreme weather that will contribute to the deterioration of assets. **(PI2C)**

To respond to uncertainty around how climate change will interact with our assets in the long term, we have developed a flexible planning approach to manage our assets in a way that is responsive to emerging risks **(PI2D)**. The Asset Management Strategy outlines how we will manage our priorities until 2030 to ensure the safety and long term sustainability of our assets. This long-term strategic direction is delivered through a 3 year forward looking Asset Management Plan that is reviewed and updated on an annual basis. This flexible management cycle allows us to take new and emerging risks into account, including those related to climate change **(PI4A)**.

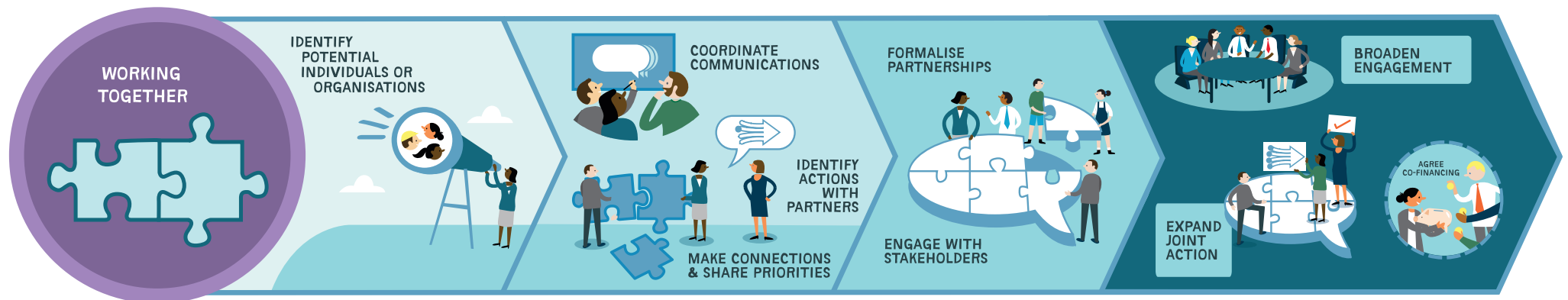


Our approach combines long term planning with short-term flexibility and risk-based responsiveness. Climate change will bring new, and sometimes unanticipated, challenges that may threaten the safety of the public or cause disruption to interconnected transport infrastructure if not addressed. **Our flexible, risk-based approach to asset management is agile and responsive to direct and indirect climate impacts, allowing us to prioritise and plan a work programme that keeps Scotland's canals safe and productive.'**

Scottish
Canals

CAPABILITY: WORKING TOGETHER

No organisation can adapt alone, by **working together** we can do more to achieve shared adaptation outcomes. By developing this capability you will forge connections with key partners to share ideas and find opportunities to collaborate. You will benefit from engaging a diverse range of stakeholders to help shape your adaptation plans.



Key aspects include:

- ▶ **Networks** – you can achieve more by sharing and learning from others. Make the most of support available, and connect with peers, whether through adaptation-focused or other professional networks. Engage with relevant groups, forums and partnerships where adaptation is appropriate within their remit.
- ▶ **Partnership** – collaboration can be essential to achieving adaptation outcomes. You may need to formalise partnership arrangements, either building upon existing arrangements or establishing a new partnership. Agree roles, responsibilities and funding allocations.
- ▶ **Engagement** – sustained engagement is an on-going commitment to involve a diverse range of stakeholders in communities, businesses and the third sector. Well-planned and inclusive engagement will allow for adjustment of your plans and is an opportunity for you to influence others.
- ▶ **Joint action** – the delivery of many adaptation actions will need to involve partners. Build collaborative relationships by taking action, from agreeing resources for initial activities to the co-financing for multi-year investment in a programme of adaptation action.

MATURITY STAGE: STARTING

Your organisation is beginning to forge connections with others working on adaptation. You are becoming active in relevant networks to share learning and expertise. You are also identifying opportunities to consider adaptation in other groups, partnerships and forums.

WT1A Join relevant professional and adaptation networks

Join networks and professional institutions to develop connections with others working on adaptation. You will benefit from shared learning and opportunities to work together, formally or informally.

WT1B Identify relevant groups, partnerships and forums

Identify existing statutory and non-statutory groups, partnerships and forums that include, or could include, adaptation within their remit. Consider their relevance to your adaptation work and find out who in your organisation already engages with them.



MATURITY STAGE: INTERMEDIATE

Your organisation is deepening its connection with partners on adaptation. You are taking opportunities to include adaptation in a range of your organisation's external activities, including co-delivery of initial actions. Together you are emphasising the importance of collective action.

WT2A Make connections with external partners

Speak with external partners about on-going or future projects, shared priorities and potential alignment to lay the ground-work for collaboration. Engage with relevant groups, forums and partnerships where adaptation is appropriate within their remit.

WT2B Coordinate with partners to deliver initial actions

Take practical action with partners to develop strong collaborative partnerships for the future. Share your adaptation priorities, and seek opportunities for joint action on adaptation. Even small projects or coordination of on-going work can build momentum.

WT2C Develop communication and engagement activities with partners

Highlight and communicate shared priorities, climate risks, and ongoing adaptation actions with partners. Use this communication to emphasise the importance of your collective action, internally and externally.



MATURITY STAGE: ADVANCED

Your organisation is working with partners on a regular basis to deliver a range of shared adaptation actions. Collaboration is supported by formalising partnership arrangements and you are actively seeking to involve diverse stakeholders in your adaptation planning. You are linking to wider networks to share ideas, experience and seek opportunities to collaborate.

WT3A Begin to formalise partnership working

As you work with partners more frequently and on larger projects, you will need to formalise partnership arrangements – agreeing roles, responsibilities and funding allocations. This might build upon existing arrangements or you might need to establish a new partnership.

WT3B Engage a wide range of stakeholders

Delivering adaptation needs to involve a diverse range of stakeholders including communities, businesses and the third sector – look beyond the ‘usual suspects’. Well-planned and inclusive engagement will allow for adjustment of your plans and is an opportunity for you to influence others.

WT3C Implement further joint actions

Ongoing collaboration with partners can help you deliver an expanding range of adaptation actions and achieve shared outcomes. It is likely that many of your adaptation actions cannot be effectively delivered without the involvement of partners.

WT3D Join networks and link with peer organisations

Adaptation benefits from sharing experience and learning with others. Your organisation and adaptation ‘champions’ can join key networks – in Scotland and beyond. Aim to link with peer organisations to share ideas, experience and seek opportunities to collaborate.

MATURITY STAGE: MATURE

Your organisation is working in partnership to undertake a programme of action that achieves long-term adaptation outcomes. Partnership arrangements are maintained and refreshed so that they remain effective. You are now a leader on adaptation and supporting others to progress.

WT4A Further develop and maintain partnership working

Achieving long-term adaptation outcomes will require effective partnership working, which needs an on-going effort to maintain and refresh arrangements. Also seek opportunities to integrate partnership working alongside your organisation’s mainstreaming of adaptation into its functions.

WT4B Sustain engagement with partners and stakeholders

Sustaining engagement with partners and stakeholders requires a significant on-going commitment – involving them in planning, implementation, and evaluation. This will be critical for acceptance and the success of your adaptation plans.

WT4C Expand a programme of joint actions

The delivery of a long-term strategic programme of adaptation will require coordination and collaboration with partners. This includes agreeing resources and co-financing for multi-year investment in adaptation actions.

WT4D Take a lead in networks and peer organisations

As an organisation that is now a leader on adaptation, you will have invaluable experience to share – and much still to learn. Your adaptation work will be strengthened when others are progressing, so take an active role in networks and connect with peer organisations.



CASE STUDY: ABERDEEN CITY COUNCIL

Partnership working to build city-wide climate resilience in Aberdeen: Aberdeen City Council is a lead partner on Aberdeen Adapts, bringing together communities, businesses and organisations to develop a city-wide approach to climate adaptation.

Aberdeen Adapts was created to drive climate change adaptation action forward and build a climate resilient city. The widespread and interconnected impacts of climate change cannot be effectively managed working alone, and this partnership allows many different stakeholders to have a say in the development of a city-wide framework that will guide adaptation action in Aberdeen **(WT2A)**.

The partnership provides a platform to share expertise and data, giving partners the opportunity to collaborate to address the risks and opportunities of climate change. Partnership working can at times be a slow process, but bringing diverse partners with different levels of experience on an adaptation journey will ensure that Aberdeen builds long term, city-wide resilience to climate impacts **(WT2B)**.

As Aberdeen's city-wide framework is being developed, some member organisations are progressing their own adaptation action individually and through project

partnerships **(WT3C)**. The relationships strengthened through Aberdeen Adapts are helping to break down organisational silos, as traditionally separate organisations are partnering to deliver cross-sectoral projects to meet the needs of our diverse communities.

Maintaining momentum is a challenge for any project, particularly when the people driving actions within organisations already have full workloads. Partnership working can help overcome this hurdle as organisations can build on Aberdeen Adapts successes. An example is the mini arts festival as a tool for community engagement. The arts and creative spaces can help organisations to engage with diverse stakeholders on climate impact action, and Aberdeen Adapts partners are now working together to develop more projects to engage with Aberdeen's diverse communities. **(WT3B)**

Aberdeen Adapts is also helping the Council progress adaptation action internally. Guided by the



strategic direction of the partnership, the Council is building climate change adaptation into business case templates, and incorporating climate risk into the corporate risk register. To support this, the Council has produced climate risk guidance, and is continuously engaging with staff on climate change, including senior management and elected members.

Partnering to deliver a city-wide adaptation framework is helping Aberdeen City Council ensure that its work programme aligns with broader action to support climate resilience, allowing them to effect change on a larger scale than if acting alone.



Using the Adaptation Capability Framework

There is no one-size-fits-all approach to adapting to climate change. The Adaptation Capability Framework will enable you to develop an adaptation journey that is right for your organisation. An interactive version of the framework, which includes a wide range of supporting resources, is available on the Adaptation Scotland website:

www.adaptationscotland.org.uk/how-adapt/your-sector/public-sector

Starter Pack – available online

The Starter Pack is specific guidance to help organisations quickly complete the Starting maturity stage of the Adaptation Capability Framework. It is particularly helpful for those with limited prior knowledge of adaptation or in organisations where adaptation work is just beginning.

For organisations that have already progressed adaptation, reviewing the Starter Pack and recording relevant information into a central resource will help identify gaps and ensure that knowledge is retained even if staff change.

Benchmarking adaptation – available online

The Benchmarking Tool helps you to take stock of your organisation's progress using the Adaptation Capability Framework. It can provide a baseline of the extent of existing adaptation work in your organisation, helps you identify gaps in your capabilities, and can be a useful tool for reporting progress over time.

Make a plan for adaptation

Agree an adaptation goal. What does your organisation need to achieve? Organisations at an early stage of adapting to climate change should identify a simple, short term goal such as '*Identify climate impacts that are affecting my organisation*'. Achieving a basic goal such as this will enable you to develop long term, more specific goals in the future.

Organisations that have completed more work on adaptation should be able to identify more specific, focused adaptation goals that cover a 3 to 5 year period, and reflect their priorities and unique circumstances. An adaptation goal should be specific, measurable, achievable, relevant and time bound (SMART).

Select tasks. Use the framework to select tasks that can help you progress towards your adaptation goal. Each of the capability tasks in the framework is supported by sub-tasks, further resources and case studies which can be accessed through the online version of the framework available on the Adaptation Scotland website. We recommend that you select a mixture of tasks across the four capabilities.

Develop a project plan. You will need to secure resources to implement your selected tasks. A project plan can manage and track progress – setting out roles, responsibilities, milestones, deliverables and timescales needed to deliver the tasks that you have agreed.

Share the journey

You will be far more effective in achieving your adaptation goals if you share and learn with others. Join the Adaptation Learning Exchange, a community of practitioners who are also working on tasks and have hands on experience implementing adaptation. www.adaptationscotland.org.uk/get-involved/our-projects/adaptation-learning-exchange

Monitoring and Evaluation

Monitoring and evaluation (M&E) is critical to the long-term success of adaptation. As we are still at the early stages of understanding how best to adapt, it is important that learning is a primary goal of adaptation M&E. We need to learn about what works (or doesn't), and be flexible, making adjustments to our adaptation plans and actions. M&E is a way to demonstrate effectiveness and accountability of adaptation actions. The process can also ensure the success of adaptation initiatives by supporting you to track the performance of activities, your implementation of risk management and determine if outcomes are achieved.

The Adaptation Capability Framework does not include dedicated tasks on M&E, as it is considered intrinsic across all tasks included in the Framework.

Process and outcomes

You will need to ensure that activities are proceeding as planned and fulfil the aims that you have set. **Process-based** M&E approaches should be familiar to any organisation. You should generally seek to use your organisation's M&E procedures, although some minor adjustments may be required for adaptation. The Framework provides a useful context for considering key stages in a broader adaptation process for your organisation – and the benchmarking tool can be used as a component of your adaptation M&E.

You will also need **outcome-based** M&E to understand whether your actions are achieving intended adaptation outcomes. These will become more clearly defined as your organisation progresses and you align adaptation with your organisations purpose and objectives. This is widely acknowledged as challenging for adaptation; the extent to which your actions contribute to an outcome are not always clear; and it can be a long time before an outcome is realised.

Indicators

Measurable **indicators** play a crucial role in M&E by providing quantifiable evidence of progress, performance and impact. Indicators must serve a clear purpose, and should be closely aligned with your adaptation process and outcomes. Poorly chosen indicators can waste effort, measure the wrong things, and even steer decisions in the wrong direction. Therefore it is important to choose 'good' indicators using appropriate selection criteria to ensure that they are both feasible and desirable. Your indicators should be subject to review and adjustment as you progress.

From getting started to maturing M&E

It is important to begin developing an approach to M&E from the outset of your adaptation journey. Your initial work will likely focus on setting up M&E for short-term actions that you are taking, with a focus on process-based measures. You should be asking questions such as 'what does success look like?' and 'how will I measure progress?' so that you can clearly demonstrate progress, even at the early stages of adaptation.

As your work on adaptation progresses, you will need to continue developing your approach to M&E. This includes clearly setting out the purpose of evaluation – UKCIP’s AdaptME Toolkit⁶ identifies eight common reasons: evaluate effectiveness, assess efficiency, understand equity, provide accountability, assess outcomes, improve learning, improve future interventions and compare with other evaluations. These are used to design M&E that responds to your organisation’s needs.

M&E will be important in everything that you do, but is an essential component in undertaking some key tasks in the framework – including climate change risk assessment, theory of change and adaptation pathways. It also underpins good governance.

Reporting

The Climate Change (Scotland) Act 2009 includes Public Bodies Climate Change Duties, which require annual reporting of progress. The Adaptation Capability Framework – and the Benchmarking Tool – can be used to demonstrate the range

6 <https://www.ukcip.org.uk/wizard/adaptme-toolkit/>

of adaptation activities that your organisation is carrying out. Adaptation Scotland is working in partnership with the Sustainable Scotland Network to support the Public Bodies Duties reporting process, including providing guidance on how the Framework can be used to support reporting.

You should also consider your organisation’s contribution to delivering outcomes in the Scottish Government’s Second Scottish Climate Change Adaptation Programme 2019-2024, which are aligned with Scotland’s National Outcomes and the UN Sustainable Development Goals.

Support and advice

The Framework – in particular the interactive online version – signposts to relevant guidance and examples of M&E relating to specific tasks. There is an M&E resource page on the Adaptation Scotland website linking to international best practice and guidance. As Scottish organisations make progress, sharing learning based on M&E will be a cornerstone of our collective efforts to adapt.

Finding Support

The best way to adapt to climate change is to collaborate. By working together it is possible to create the ideas and solutions needed for a low carbon, climate ready future. Adaptation Scotland supports collaboration through resources, the Adaptation Learning Exchange and an enquiry service.

Resources

A fully interactive version of the Adaptation Capability Framework is available on the Adaptation Scotland website www.adaptationscotland.org.uk/how-adapt/your-sector/public-sector. This includes detailed task descriptions, resources and case studies that will help you to implement the Framework.

Adaptation Learning Exchange

The Adaptation Learning Exchange is run by Adaptation Scotland, and includes exchange events, training courses and an online forum.

Membership of the Adaptation Learning Exchange is open to professionals who are committed to collaborating with others and progressing adaptation work within their organisations and sectors.

To find out more and join the Adaptation Learning Exchange visit:
www.adaptationscotland.org.uk/get-involved/our-projects/adaptation-learning-exchange

Enquiries

Adaptation Scotland is here to help. You can get in touch at any time with specific questions or for a general discussion about options for developing adaptation work within your organisation.

Contact us:

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Adaptation Scotland

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