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Preparing for a changing climate

Part 4: Implementing

Statutory Guidance under the Climate Change Act 2008

Acknowledgements

In preparing this Guidance, we have been influenced by existing non-statutory guidance, primarily Adapting to climate change: Workbook for public sector organisations (Adaptation Scotland, 2011). That document in turn recognises its debt to other guidance, including that by the UK Climate Impacts Partnership (UKCIP) and International Council for Local Environmental Initiatives (ICLEI) Canada.

If you have any ideas for improving the Guidance, please contact the Welsh Government Climate Change Team:

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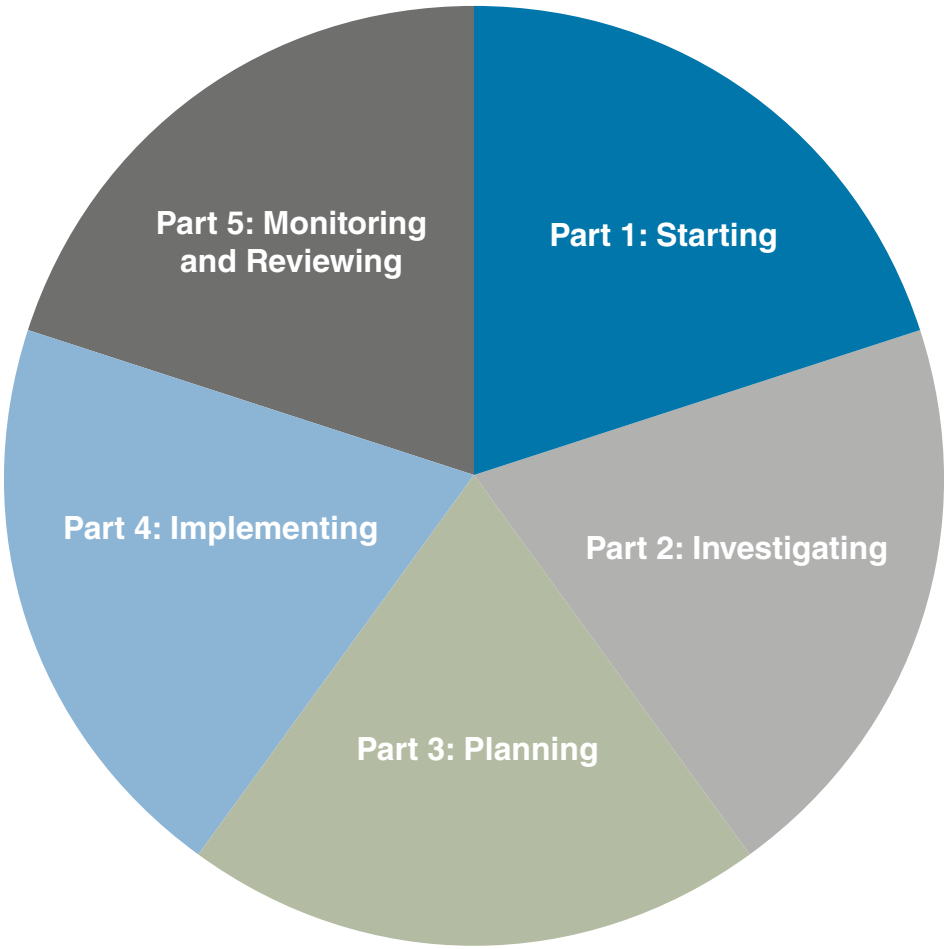

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Part 4: Implementing

Part 4 involves implementing a planned approach to taking adaptation actions. The chapters in this part describe and provide examples of actions that Build Adaptive Capacity and Deliver Adaptation Actions[1].

Please note that this phase of the workbook is in the early stages of development and will be added to over time.

This part includes:

[1] Please note that the definitions and descriptions of the terms Building Adaptive Capacity and Delivering Adaptation Actions used in this worksheet are based on information found in ''identifying adaptation options', a guidance note produced by the UK Climate Impacts Programme, 2010.

Chapter 11: Implementing Adaptation Actions

Purpose	Putting all your adaptation planning into action.
Contents	• Building Adaptive Capacity (BAC) • Delivering Adaptation Actions (DAA)

Introduction

In many cases organisations in Wales, and across the UK, are only just starting to implement climate change adaptation actions. As a new, emerging area of work, there are many opportunities to share and learn from the experiences of others. This chapter describes and provides examples of actions that Build Adaptive Capacity and Deliver Adaptation Actions. As this area of work develops, the workbook will be updated to provide further information, guidance and case studies.

Building Adaptive Capacity

Actions that Build Adaptive Capacity (BAC) involve developing your organisation's capacity to respond effectively to climate change through gathering and sharing information. Practical examples of this include:

1) Implementing monitoring systems, undertaking research and using organisational records
2) Raising awareness through education, training and communication
3) Community engagement
4) Creating a supportive institutional framework and supportive social structure.

1. Implementing monitoring systems, undertaking research and using organisational records

This will allow you to track how your organisation is being impacted by changes in climate, therefore allowing for the development of an early and strategic response. Examples are provided in the Table 1.

Table 1: Implementing monitoring systems, undertaking research and using organisational records - example actions

Example system, research initiative or organisational record	Potential use/applications
Implement systems to monitor staff absence from work during severe weather events.	Inform business continuity planning, identify costs associated with staff absence as a result of severe weather, inform development of systems for home working.
Use building maintenance logs to identify trends in maintenance work relating to severe weather events.	Identify weaknesses in current building stock and identify potential solutions. Quantify the costs of responding to different types of severe weather events and factor in to long term maintenance regimes.
Monitoring changes in use of away-from-home support services (for example day centres, community activities) during periods of intense rainfall and/or warmer temperatures.	Changes in climate may affect the willingness/ability of vulnerable people to access away from home support services such as day centres, lunch clubs and support groups. Monitoring use of these services during extreme weather, such as prolonged severe rainfall or warmer weather could help your organisation understand how support needs may change under a changing climate.
Implementing systems for monitoring air conditioning system use during warmer weather.	Monitor energy consumption and use to inform improvement/implementation of natural, low energy ventilation systems for new and existing buildings.
Implement new monitoring systems for road drainage systems.	Use to manage risk of increased rainfall intensity.

2. Implementing monitoring systems, undertaking research and using organisational records

Ongoing education, training and communication of key messages are essential components of Building Adaptive Capacity within organisations and communities.

Examples of training include:

- Including information about how your organisation or service area is likely to change and adaptation responses as part of staff inductions;
- Identifying needs and opportunities for specialist training, such as training to access the latest UK Climate projections for staff such as engineers and planners; and
- Training on the need for, and use of, monitoring systems such as those suggested in Table 1.

Case Study

Building Capacity with the Environment Agency Wales

The Environment Agency's 2010 Adaptation Report provided a very good strategic overview of the impact of climate change on its functions and operations, however this was not sufficient in itself to embed climate change adaptation throughout the organisation. There was a need for more direct intervention across all levels; the key challenge was to give staff confidence in dealing with climate change.

First, they ran adaptation workshops with the three Area management teams. They used Defra's Future World Images[2] which show potential ways to adapt to climate change in both urban and natural environments, based on our understanding of what the climate will be like in 2030. Colleagues engaged enthusiastically with these; they explored the pictures. They considered the questions: "how do these visions relate to your local area?" and "how will your job change as a result?"

The next step was more ambitious. During Climate Week 2012, a presentation for all staff was prepared. This described the science and policy frameworks and summarised the rather complex UKCP09 projections with the simple strapline "**warmer, wetter, wilder, drier and rising**": warmer all year; wetter in the winter; often wilder when it does rain; drier in summer and with sea levels rising. They illustrated these messages with photographs of past events because the best way to prepare for future climate change is to reflect on how we have dealt with extremes in the past. It got around the uncertainty of speculating exactly what the future climate will be like.

Certain parts of the organisation are already building climate change into their work, particularly in relation to flood risk management, water resources planning and biodiversity. They are now using such case studies for peer-to-peer support. The aim is to reach staff simultaneously from a number of directions, using reinforcing messages.

[2] A pdf of the future world images can be found on the defra website : http://www.defra.gov.uk/environment/climate/adapting/

The actions required to successfully adapt to the impacts of climate change will require widespread support if they are to be effectively implemented within your organisation. Effective, honest and consistent communication is an essential part of maintaining the trust and support of colleagues and stakeholders.

Consider and plan for opportunities to communicate information about the adaptation work that is being undertaken, try and make this information as relevant as possible to the stakeholders that you are targeting using language and communication channels that they are familiar with. Briefing notes and presentation such as those suggested in Part 1 and the workshops suggested throughout this guidance should already have provided many opportunities to involve and communicate with stakeholders. You should be able to make use of existing links developed through this work to continue to feed through relevant updates on a regular basis.

3. Community engagement

As part of their remit some organisations will have direct responsibility for engaging communities in adapting to the impacts of climate change. Work must be undertaken to build the capacity of communities to respond to the threats and opportunities presented by climate change. Building Adaptive Capacity is an important part of this work, equipping communities with the knowledge and information needed to influence the delivery of adaptation actions and build community resilience.

Case Studies: building resilience in communities

The Welsh Government working with the WCVA to raise awareness

The Welsh Government in partnership with the Welsh Council for Voluntary Action held four events across Wales in 2011 looking to build resilience in communities, to the impacts of climate change. Over 100 people attended and the events looked at how the impacts and consequences of climate change were going to affect organisations and the communities that they worked with. The events looked to engage and build capacity within the sector through the development of adaptation plans.

Local Authorities in Wales and heatwaves

A multi agency heatwave awareness event with delegates from the Emergency Services, Health Sector, the Welsh Government, Communities First, RCT Homes, adjacent Local Authorities and Rhondda Cynon Taf CBC took place in May 2011. The event was delivered over half a day and broken down into two sessions the first being presentations examining various aspects of heat and health and the second was a table top exercise which considered the impact of a heatwave and what participants felt their organisations could do to support their communities both individually and together.

Case Studies: building resilience in communities (continued)

It was recognised that everyone is at risk from the effects of a Heatwave but some groups were more so, for example the elderly, babies and young children, the chronically ill and people who are unable to adapt their behaviour to stay cool (dementia, drug addiction, disabled people with reduced mobility, etc.).

The event recognised that the potential impact of a Heatwave on the communities of Rhondda Cynon Taf is real and the affects could be severe and far reaching. However, with some basic knowledge and a combined effort to support the most at risk these impacts can be minimised. Some key conclusions from the event were:

- most of the advice on heatwaves is common sense, but people still need to be provided that advice in a suitable way.
- the idea of having Heatwave Ambassadors within organisations/sections to promote information awareness and to act as the expert for advice. There needs to be consideration about what training is available/needed by these Ambassadors?
- Agencies need to consider in advance who are the vulnerable and a multi agency approach can then be developed to build support networks.
- Communication is key both about the signs, symptoms and first aid measures as well as about creating the support systems within communities. It must be recognised that agencies themselves will be stretched during Heatwaves.
- The most important issue raised was that work should be proactive and not reactive with as much as possible done/prepared in advance of a Heatwave.

4. Creating a supportive institutional framework and supportive social structures

The creation of supportive institutional frameworks such as changing standards and legislation and, developing appropriate policies, plans and strategies all contribute towards Building Adaptive Capacity, particularly when considered in the context of mainstreaming climate change adaptation across different service and business areas. Integrating actions that help build adaptive capacity throughout organisational structures sends out clear messages to staff, service users, clients and suppliers that the threats and opportunities posed by the impacts of climate change to your organisational objectives are being taken seriously.

Work to identify and agree adaptation actions, is likely to have involved extensive discussions with stakeholders. These discussions may have already initiated the creation of supportive social structures, for example the formation of working groups or partnerships perhaps tasked with responsibility for specific adaptation actions. In some cases, these structures may still need to be formed to allow resources and expertise to be developed to deliver specific adaptation actions in the future.

Case Study

Managing Change Together - Brecon Beacons National Park Management Plan

Lead Organisation: Brecon Beacons National Park/Brecon Beacons National Park Authority (BBNPA)

Aims: Climate change should be built in as a cross-cutting theme throughout the National Park Management Plan. Each of the Plan's policies should be developed with resilience to climate change in mind. The plan will feed into the Local Development Plan.

Result so far: The development of the Plan has been guided by regulatory assessments (Strategic Environmental Assessment, Sustainability Appraisal, and Habitats Regulations Assessment). These assessments have been used to optimise action on climate change within the Park. The Plan's policies, in turn are providing a strategic framework and an evidence base for incorporating climate change adaptation and mitigation as key themes in the Local Development Plan.

Delivering Adaptation Actions

Delivering Adaptation Actions (DAA) involves taking practical actions to either reduce vulnerability to climate risks or to exploit positive opportunities and may range from simple low-tech solutions to large scale infrastructure projects.

Examples of delivering adaptation actions include:

- Accepting the losses and bearing the impacts that result from those risks (e.g. managed retreat from sea level rise);
- Off-setting losses by sharing or spreading the risks or losses (e.g. through insurance);
- Avoiding or reducing one's exposure to, climate risks (e.g. building new flood defences, or changing the location or activities);
- Exploiting new opportunities (e.g. engaging in a new activity, or changing practices to take advantage of changing climatic conditions, such as developing new services)

There are an increasing number of examples available to show different ways in which organisations are delivering adaptation actions. A wealth of examples is available through UKCIP's case studies and the Welsh Government's knowledge hub.[3]

[3] https://knowledgehub.local.gov.uk/group/welshgovernmentsclimateresilienceandextremeweathergroupcrew

Case study

Riverside Scheme, Newport

In June 2012, the Environment Agency completed the construction on a new £7m flood defense project on the River Usk. The scheme protects over 400 homes and businesses in Newport from flooding and extreme high tidal river levels

Work began in June 2011 to repair and replace 200m of the existing flood wall, and extend the flood wall by an extra 200m to provide additional protection. **The scheme has been designed so that flood walls can be raised over time if needed, and provides protection to withstand climate change-related risk for the next 100 years.** Prior to the works, the flood wall was in very poor condition and no longer effective in protecting people from high tides. The scheme, which replaced the wall with a new sheet piled wall, will provide a standard of protection of 0.5% (1 in 200) annual probability flood event.

As well as strengthening flood walls in Riverside, the scheme also improved pedestrian and cycle links, pavements and mudflat habitats. EAW worked closely with the Gwent Wildlife Trust, and were able to contribute 5 hectares of land to the Solutia Nature Reserve to benefit wildlife in the area. The project was managed by the Environment Agency's National Capital Programme Management Service, the design consultants were Halcrow and the construction was undertaken by Birse.