

SA3: Develop Strategic Approach

Develop adaptation responses

This stage is concerned with developing appropriate adaptations to the threats and opportunities identified during Stage 2.

Adaptation responses to climate change can be divided into two broad categories: Building Adaptive Capacity (BAC) and Delivering Actual Adaptation (DAA).

Building Adaptive Capacity involves developing an institutional capacity to respond to climate change effectively. Examples of BAC could involve activities such as:

- Undertaking research, institutional change, education and training.
- Creating standards and legislation, changing management systems, and developing personnel. Other, resources to cope with, or benefit from, climate changes.
- Developing appropriate policies, plans, strategies.

Delivering Actual Adaptation is concerned with practical responses to climate change and could include measures such as:

- Building flood defences or managing retreat.
- Putting more nails in a roof tile, increasing the diameter of a drain.
- Creating 'siesta' times in a business or locality.

This stage of the Toolkit includes guidance on the steps for developing a strategic approach, namely

- Identifying the policy context for developing adaptations.
- Identifying possible alternative adaptation options.
- Appraising the alternative options.
- Confirming the preferred options for inclusions in the Action Plan.

Stage output: List of preferred adaptation responses for the service sector (with appropriate justification) for inclusion in Action Plan.

Identify relevant policy context

The main function of any adaptation measures will be to maintain, and ideally enhance, the capacity to deliver the aims and objectives of the services provided under changing climate conditions. In some cases, climate impacts may affect these objectives to some extent. Any service specific adaptation measures should also take account of the broader climate change strategies of the authority.

In general, the aims and objectives of a service sector will already be well-understood, but it is worth identifying the key objectives explicitly in order to establish criteria for evaluating alternative adaptation options and for future monitoring of the plan. In some cases, especially where major decisions are being made, or significant impacts have been identified, it may be worth undertaking a formal review of the relevant policies, plans and programmes (PPPs) in order to establish the precise policy context for adaptation responses. A formal review of relevant PPPs may also be appropriate where external consultants are being used to undertake, or assist, the process. It may also be useful to consider the key drivers for the sector in order that any suggested adaptation responses can be justified in policy terms.

The output of the step should be a list of relevant aims and objectives, together with any key policy drivers.

Identify adaptation options

There are a wide range of possible types of adaptation strategies that are outlined in the table below and a wide range of criteria for selecting any given option. These may include attitudes to risk, costs both financial and in terms of social or environmental impacts, conflicts and synergies with other policy objectives and

considerations of non-climate factors. Some of the more basic options are considered below before introducing a more comprehensive table of strategy types.

- The most basic option is to **do nothing**. This may be an appropriate response to low priority impacts or situations where climate risks are outweighed by non-climate factors. In some cases, it may also be appropriate for more significant impacts where no obvious adaptation response can be clearly identified, or where there are prospects that other factors may change future circumstances.
- **'No regret' options** will deliver benefits that exceed their costs, whatever the extent of climate change. These should always be implemented if they exist. For instance, if you are already experiencing weather-related problems, then cost-effective actions to deal with them should be 'no regret' options.
- **Win-win options** are ones that contribute to desired outcomes (be they environmental, social or economic), and also improve your ability to adapt to climate risks.

You should, wherever possible:

- Avoid actions that will make it more difficult to cope with climate risks
- Avoid making decisions that will make it more difficult to manage climate risks in the future. These are called adaptation constraining decisions. One obvious example is inappropriate development in a flood risk area.

The table below presents a fairly comprehensive list of possible types of adaptation strategies.

Adaptation strategy type	Notes
Use of risk-based policy and project appraisal process and techniques	Proactive. Organisations that adopt risk assessment will be more flexible and better able to cope with climate risks.
Delay and buy-time	Proactive. A delay strategy can help to deliver a better decision, if the delay time is used to improve your knowledge – for instance by combining it with research or monitoring.
Research	Proactive or strategic. Use research to better understand climate risks and performance of adaptation options.
Monitoring	Proactive: system performance monitoring. Reactive: climate impact monitoring.
Information supply, education, awareness-raising	Proactive or reactive. Can be used to raise awareness of the need to adapt.
Contingency planning	Strategic planning for low probability, high consequence events.
Diversification or bet-hedging	Proactive technical or policy response.
Insurance	Proactive, fiscal response.
Defend and manage	Proactive or reactive technical measures.
Change of use	Proactive or reactive. Includes planning responses, with or without technical measures
Retreat and abandon	Proactive or reactive. Includes strategic planning response.
Safety factors, climate headroom, buffering measures	Proactive or strategic. Includes technical and regulatory response.

Adaptation strategies should be reasonable and proportional. If you over-estimate the significance of climate risks compared to the other risks you face, you may over-adapt. This could mean that resources are wasted, although you may prefer to be precautionary to make sure you are better protected.

Timing of adaptations

If you are already experiencing problems with weather-related impacts, then you should act right away to address them. You may also want to act quickly in order to take advantage of climate change opportunities. This may be particularly significant for economic development when taking advantage of opportunities may provide a competitive edge.

In other cases, you'll need to decide when to take action based on:

- How soon climate risks will exceed any critical thresholds for your system.
- The lead-in time for planning and implementing adaptation measures.

For instance, the time taken to plan and construct a new reservoir can be about 20 years. So if a new reservoir were needed to cope with summer droughts in the 2020s and beyond, planning would need to start now. Remember that in general, proactive adaptation is more effective and less costly than reactive adaptation.

It might be appropriate to delay considering significant investment in adaptation in order to make a better informed decision. The delay time should be used to improve your knowledge – for instance by undertaking research or monitoring. However, before deciding to delay an important decision check how long it is before any critical thresholds could be exceeded.

Minimising the cost of adaptation

The costs of adapting to climate change can be minimised if adaptation is built in when:

- In the early stages of planning new developments.
- Infrastructure is upgraded anyway.
- Plans come up naturally for review.
- Before you are forced to act by a sudden event or mounting maintenance costs. For instance, costs of emergency repairs to infrastructure slopes are typically ten times the cost of routine maintenance.

Remember that this Action Pack only provides a basic approach to assessing climate impacts and the development of adaptation responses. It should be suitable for preparing climate adaptation plans for most local authority service areas, but it is not intended to be used for major climate-critical projects or strategies. These require a more rigorous, quantitative approach than is described here.

Examples of adaptation responses

Unfortunately, there are only a very limited number of concrete examples of climate adaptation in Scotland or elsewhere in the UK to date.

Some examples of possible adaptation responses for local authority services are provided in *A Survey of Scottish Local Authority Activities on Climate Change* and in *Climate change and local communities – How prepared are you?* Some of the English regional scoping studies also include examples of possible adaptations, as do some sector specific studies. The Three Regions' (covering London and the south-east) *Adapting to climate change: a checklist for development* provides useful advice for developers and planners, which may also be helpful estate management.

The output from this step should be a list of alternative adaptation options, with comments of issues raised by the various options. Note that there will often be very few practical alternatives in many situations and it is not worth exploring alternatives just for the sake of it.

Appraise adaptation options

There are a number of possible ways of appraising adaptation options which are described in the document produced by UKCIP; *Risk, uncertainty and decision-making*. However, realistically, there are likely to be relatively few practical options for each significant impact for a given service sector. Often it will be a matter of comparing a potential adaptation with the 'do nothing' alternative.

Output: Preferred options (ranked list of potential options) + appraisal report. (These provide input into any authority-wide (or higher level, e.g. directorate) assessment or integration) and into the Action Plan.

Confirm agreed adaptation response

This is a mechanism to agree preferred adaptation responses for the service sector. This is likely to vary from authority to authority and by service sector – for instance, the decision on the response to make could be referred to higher-level decision-makers (director, etc.), or be made through internal or external consultation exercise or a workshop of stakeholders. This step may be by-passed and included in SA4.

Stage output: List of agreed adaptation responses for each service sector (including justification of case according to outputs collected above) for inclusion in the Action Plan. Possibly a proposal for a service sector climate action plan – this is likely to vary from sector to sector, but, for instance, planning, emergency planning or environmental health may warrant their own action plans.

CHECKLIST

- Have you identified adaptation options for your Local Authority?
- Have you considered the timing of these adaptation responses?
- Have you considered how to minimise the costs of any adaptation measures?