



Chapter 6

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Chapter summary

In this report, we have further developed our framework and applied it to selected priority areas in order to assess progress in the UK's preparedness. We conclude that the UK is near the limits of coping with the current climate in some sectors (such as water supply) and that vulnerability to climate change is potentially increasing as a result of patterns of development in some areas and demographic trends (ageing population).

There remains work to do in developing the framework before our first statutory report on progress. We will:

- continue to develop our indicator framework, and in doing so use it to assess preparedness in other priority areas; and
- provide advice on the Government's economic analysis of adaptation to inform the National Adaptation Programme, and review lessons for the next Climate Change Risk Assessment.

We advise the Government should ensure that:

- the Climate Change Risk Assessment fully accounts for uncertainties, provides a transparent comparison of risks, and cross-checks its results with current climate vulnerability; and
- the National Adaptation Programme sets adaptation outcomes and puts in place policies to enable the timely uptake of actions and robust long-term decision-making.

6.1 What we have done

In this report, using our indicator framework we have assessed progress in the priority areas of land use planning, the management of water resources and the design and renovation of buildings.

We found that:

- the UK is coping with the current climate, but some sectors such as water supply are near their limits. Vulnerability to climate change is potentially increasing as a result of patterns of development in some areas and demographic trends, such as the ageing population;
- there are low-regret actions that could be taken now to reduce the vulnerability of buildings. However, we found limited evidence of uptake of such measures, particularly in existing homes, reflecting barriers to action and supporting the need for new policy approaches; and
- climate risks appear not to be fully incorporated into some major strategic decisions, such as land use planning and investment in water infrastructure. Embedding climate change more fully into decision-making could reduce the legacy of future adaptation costs, such as flood defences, and also ensure that climate risks are appropriately balanced against other risks and benefits.

Our analysis has identified a number of barriers to adaptation in the priority areas assessed, but also opportunities for these barriers to be addressed through existing and forthcoming policy mechanisms (summarised in Table 6.1).

Table 6.1: Review of barriers identified in this report		
ASC Priority Area	Key Barriers	Relevant Policy Mechanism
Land use planning	<ul style="list-style-type: none"> Long-term costs from climate damages and legacy of maintaining and enhancing infrastructure (e.g. flood defences) not being assessed against shorter-term priorities. Strategic cross-boundary partnerships not influencing local planning policies sufficiently. Wider uptake of planning policy guidance on surface water flooding, coastal erosion, heat and water stress. Local authority and statutory agency capacity. 	<ul style="list-style-type: none"> Reforms to Local Development Frameworks and emerging Neighbourhood Plans National Planning Policy Framework Duty to co-operate in Localism Bill Implementation of the Flood and Water Management Act
Water	<ul style="list-style-type: none"> Investment planning does not factor in the full range of climate uncertainties (UKCP09). Weak signals or incentive to encourage users to take water from areas of relative surplus compared to relative scarcity. 	<ul style="list-style-type: none"> Water White Paper Price Review 2014 – covering period 2015-2020
Residential buildings	<ul style="list-style-type: none"> Lack of and misaligned incentives, for example households without water meters. Lack of information on climate risks and the benefits of household action. Lack of available upfront capital to pay for measures. Hidden costs including the costs associated with finding the right product, sourcing reputable providers, time costs of disruption and the costs of differences in quality of the product and service. 	<ul style="list-style-type: none"> Future reviews of the Building Regulations Local planning policies and development management conditions Market mechanisms – labelling of efficient products Green Deal – scope for working with Green Deal providers to help deliver water efficiency measures Requirements for sustainable drainage in new development under the Flood & Water Management Act

6.2 What we will do next

1. Develop our indicator framework

Working with relevant organisations and partners, we will continue to develop our indicator framework to assess progress across priority areas. This will involve:

- identifying a more complete set of indicators within the priority areas assessed in this report, for example on the extent of urban greenspace, urban waste heat and on the uptake of adaptation measures in buildings;
- identifying indicators in the remaining priority areas, including other infrastructure sectors (transport, energy, information and communications technology), managing natural resources and emergency planning; and
- exploring indicators or other ways to measure progress for the remaining rungs of our preparedness ladder (decision-making, capacity and policy).

We will look to improve our understanding of the interactions between climate impacts, components of vulnerability and the effectiveness of adaptation actions. For some sectors, these interactions are complex and poorly understood, making it challenging to identify the most important components of vulnerability and where to focus adaptation efforts. We will also further review how to develop indicators of social resilience, for example the level of household insurance among lower-income groups.

Our indicator framework may have applicability for others involved in adaptation. For example, localised outcome indicators could be used by communities to assess more transparently how their councils and other local decision-makers (for example, emergency services, statutory agencies and healthcare providers) are accounting for long-term climate risks and taking up adaptation actions. Our next report in 2012 will assess progress in emergency planning, managing natural resources and one other infrastructure sector. In doing this, we will continue to identify and report on barriers to adaptation that are likely to require enabling policy.

2. Input to the Government's economic analysis of adaptation¹ and development of the National Adaptation Programme

The Government's economic assessment will appraise the costs and benefits of a range of policy options to address priority risks identified by the Climate Change Risk Assessment. We will work closely with Defra over the next year to advise and provide new analysis to inform adaptation priorities for the National Adaptation Programme.

¹ The Government will be assessing the costs and benefits of various adaptation options through the Economics of Climate Resilience (ECR) study in 2011/12.

3. Review lessons for the next Climate Change Risk Assessment (CCRA)

In scoping the second CCRA, it will be important to learn lessons from the first assessment. We will undertake an initial assessment in 2012-13 in order to inform the scoping of the second CCRA in 2013-14.

As part of this, we will review how the CCRA compares with other recent national assessments, including in the USA and Australia. We will also assess how the latest developments in the science of climate change prediction can feed into the second CCRA.

6.3 Advice to the Government

The statutory framework created by the Climate Change Act provides the opportunity for the Government to articulate, for the first time, agreed adaptation outcomes. The Climate Change Risk Assessment should provide a comprehensive overview of priority risks and opportunities. The economic assessment of climate adaptation should then appraise policy options, based on an understanding of the relationship between the risks, the costs and the benefits from avoided climate impacts. This should inform the setting of adaptation outcomes in the National Adaptation Programme.

It will be important that clear trajectories for meeting the adaptation outcomes are established, so that progress can be assessed. The experience of setting carbon budgets for mitigation policy has demonstrated how setting such trajectories not only gives the market clear signals, but is also essential for obtaining buy-in.

Through our indicator framework, the ASC will track progress in meeting these trajectories as part of our statutory duty to report on progress in the implementation of the National Adaptation Programme.

Climate Change Risk Assessment (CCRA)

The Climate Change Act requires that the first CCRA is laid before Parliament no later than January 2012 and that the ASC advises Government on its preparation. We have not seen the results of the assessment and so cannot provide detailed comments. However, we have engaged closely with Defra and advised them on the development of the method over the last two years.² From this, there are three generic principles that the Government should consider when finalising the CCRA this year:

1. **Characterise uncertainties** – the CCRA should report the assumptions made transparently and where appropriate openly explore the implications of uncertainty³ on the results.

² The ASC and Defra have engaged in a number of workshops and committee meetings on the development of the CCRA. We have provided detailed technical advice on the method on three occasions, which can be viewed on our website at <http://www.theccc.org.uk/adaptation>

³ In terms of uncertainty in both future climate projections and in socio-economic scenarios.

2. **Provide transparent comparison of risks** – ensure that the full range of economic, social and environmental risks and opportunities are assessed and compared, including those that are less easily quantified (particularly environmental risks). To do this, it will be important to utilise a range of alternative assessment methods⁴ for the weighting and scoring of risks when producing a prioritised list for subsequent policy appraisal.
3. **Cross-check results with assessment of current climate impacts** – as highlighted in Chapter 2, assessment of the current position is a good starting point for assessing future impacts, because it draws on what is already known and establishes a baseline against which changes in risk and vulnerability can be tracked over time.

We will write to the Secretary of State with more detailed comments and advice when we have seen the interim results of the assessment, and continue to provide advice on the CCRA in the lead up to its publication.

National Adaptation Programme (NAP)

The Government is required by the Climate Change Act to lay its adaptation programme before Parliament “as soon as is reasonably practical” following the publication of the CCRA. The ASC is then required to report on progress in the implementation of the NAP two years after this.

In our view, it would be useful for the Government to explore the following elements in preparing the NAP over the next two years:

- **Set the context for adaptation** – the NAP should build on the CCRA by transparently comparing priority climate and non-climate risks. This will be important for making clear the relative significance of climate risks to the UK.
- **Characterise adaptation outcomes** – by assessing the costs and benefits of adaptation for the priority risks identified by the CCRA. In doing this, the NAP should be clear on the level of acceptable risk assumed.
- **Put in place an enabling policy framework to tackle barriers to adaptation** – this will be essential for the sufficient uptake of low-regret action and robust decision-making needed for the achievement of adaptation outcomes. Some examples of the types of barriers to adaptation that we have identified from our analysis are in Table 6.1.
- **Take a partnership approach** – work with local authorities and communities, infrastructure providers, businesses and statutory agencies to reflect their roles and responsibilities within the NAP.

⁴ For example, multi-criteria analysis.