

United Kingdom: The UK Adaptation Monitoring and Evaluation Framework

Context

► Policy context

The **UK Climate Change Act (2008)** is the legally binding framework for climate change mitigation and adaptation. One of the Act's requirements is for the Government to commission a UK-wide **Climate Change Risk Assessment (CCRA)** every five years. The CCRA provides a basis for monitoring preparedness for climate change in the UK. The first CCRA, published in 2012, gives a detailed analysis of 100 major risks from future climate change across 11 key sectors/themes on basis of their likelihood, the scale of their potential consequences and the urgency to address them. Another requirement of the Act is for the Government to present to Parliament a **National Adaptation Programme (NAP)** setting out the Government's objectives, policies and proposals for adaptation that will address the risks identified by the CCRA. The first NAP report was published in 2013 and contains a list of 31 objectives across seven policy themes, each with underlying objectives and associated actions. The NAP report states the need for a monitoring and evaluation framework that will 'identify whether the actions and policies contained in the Programme are making a difference to our vulnerability in the near-term'.

► Purpose of the M&E system

The framework aims to monitor and to evaluate the progress made in implementing the NAP. Specifically, it assesses:

- whether the NAP's objectives help to address the risks identified by the CCRA,

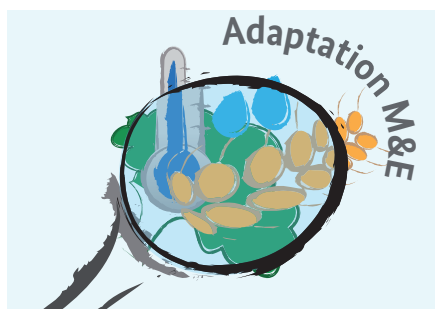
- the relative contribution/importance of each of the NAP actions for meeting the NAP's objectives and
- whether the implementation of the listed actions in the NAP, as well as of any other adaptation action, contribute in the near-term to reduce the country's vulnerability to climate change.

► Level of application and aggregation

The M&E framework operates at the national level. Local level monitoring is not generally used, but where it is possible, national-level indicators and their underlying data will be spatially disaggregated to local and/or regional scales in order to identify trends in vulnerability that are more relevant at sub-national level. The M&E framework is applied to each of the 31 objectives across the seven NAP policy themes.

► Status as of October 2013

The development of the framework was initiated in 2010 and is still on-going. It is expected to be completed in 2015. The Climate Change Act requires that the NAP's assessment is conducted every two years. As the NAP was published in 2013, the first statutory assessment using the M&E framework will take place in summer 2015, followed by its second assessment in 2017. The second CCRA is due at the end of 2017, which will inform the second NAP of 2018.



Lord Krebs; Chair of the Adaptation Sub-Committee

Process

► Institutional arrangements

The **Department for the Environment, Food and Rural Affairs (Defra)** coordinates UK Government policy on adaptation. The **Committee on Climate Change (CCC)** is an independent, statutory body that reports to Parliament on progress made in preparing for climate change.

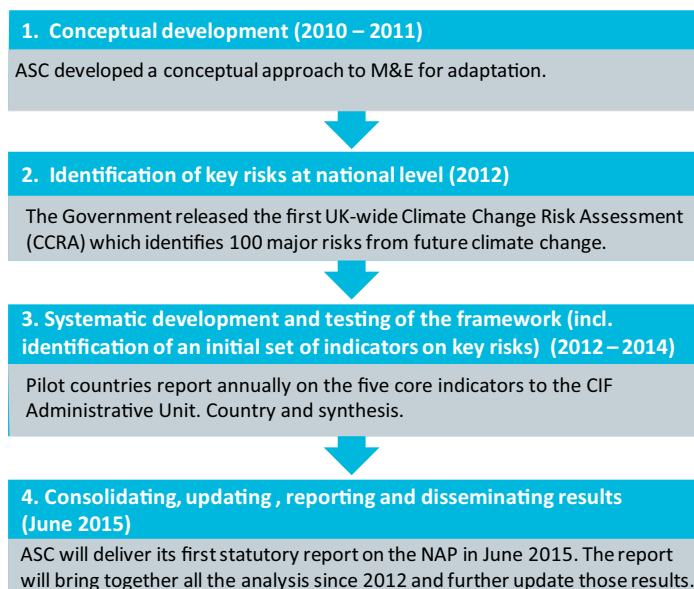
The **Adaptation Sub-Committee (ASC)** of the CCC provides independent expert advice to the Government on its preparation of the CCRA and fulfils the CCC's statutory responsibility to report to the UK Parliament on its assessment of the Government's progress in implementing the NAP. As such, the ASC is responsible for developing and implementing the M&E framework for the NAP.

The **Environment Agency (EA)** is an Executive non-departmental Public Body responsible for advice and guidance on adaptation through its Climate Ready service. EA's role in M&E should be to provide data and advice to inform the ASC's statutory assessments of progress.

► Establishment process

The framework was initiated in 2010 and is expected to be completed in 2015 (5-years process). The main steps are as follows:

Figure 1 Key steps of the establishment process of the UK M&E framework



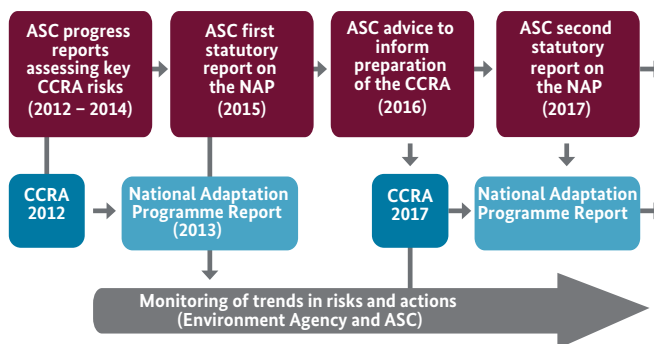
The development of the M&E framework is part of an ongoing learning process supported by a series of technical, peer-reviewed studies and progress reports to develop and use indicators to assess how the country is preparing for the risks and

opportunities from climate change. In undertaking its annual assessments, the ASC has engaged with multiple stakeholders (i.e. academics, policy teams in Government, experts in statutory agencies, non-governmental organisations, business representatives and local government) to seek expert views on indicator development and assistance with obtaining data.

► Implementation process

The preparedness of the country to climate change will be monitored and evaluated through an iterative, cyclical process of assessment, planning and reporting with each cycle building on the previous one (see the adaptation policy cycle in figure below).

Figure 2 Monitoring and evaluation cycle of the UK Climate Change Risk Assessment (CCRA) and the UK National Adaptation Programme (NAP)



Source: ASC (2013): *Managing the land in a changing climate*.

Content

► Approach

The approach is based on **regular, detailed vulnerability assessments** to monitor past and current trends in the country's exposure and vulnerability to climate change, the uptake of adaptation actions and the observed climate impacts. In doing so, the potential for further uptake of adaptation actions and for the effectiveness of policies to enable adaptation is identified (see key components of the framework in the table below).

► Indicators

The NAP covers seven policy areas with a total of 31 objectives that are further broken down into 374 actions. Each action has a responsible institutional authority for implementation (mainly department agencies but also NGOs, research institutes and private sector actors). The ASC is currently developing indicators to assess progress toward each objective and, where it is possible, toward the implementation of the individual actions. These indicators will be used, regularly updated and refined for evaluating the NAP every two years.

Table 1 Key components of the framework for each of the seven NAP policy themes

	Key components	Purpose	Approach and tools
Monitoring	1. Monitor past and current trends in risk factors and the observed climate impacts (on-going since 2012)	To assess the likely implications of any trends in exposure and vulnerability to climate change risks and to identify the factors that may contribute to any observed trends in risks.	<ul style="list-style-type: none"> ● Vulnerability assessments combining indicators and expert knowledge to interpret the trends identified by the indicators
	2. Monitor the uptake of adaptation actions that may contribute to addressing climate risks	To assess the level of implementation of actions set out in the NAP and the uptake of any other adaptation actions not included within the NAP.	<ul style="list-style-type: none"> ● Vulnerability assessments ● Updates from the responsible institutions on the implementation of the NAP actions. ● Identification of other adaptation actions not listed in the NAP
	3. Evaluate the implications of future climate scenarios for preparedness	To project different trend scenarios of the assessed indicators to evaluate implications for preparedness	<ul style="list-style-type: none"> ● Trend and scenario analysis ● Expert judgement and interpretation of the different scenarios' implications for preparedness
Evaluation	4. Evaluate progress against adaptation pathways	To identify the technical and realistic potential for additional uptake of low regret adaptation measures and to evaluate progress against those pathways.	<ul style="list-style-type: none"> ● Economic/cost-benefit analysis of the different adaptation actions to identify opportunities
	5. Evaluate the effectiveness of policies in enabling the uptake of adaptation actions and long-term decision-making	Identify potential policy barriers to adaptation and ways to strengthen policy support for climate adaptation.	<ul style="list-style-type: none"> ● Policy review and analysis based on results from the above components (points 1 to 4) supported by policy experts

Figure 3 Example of ASC indicators used to assess trends in risk and action for forestry ecosystem services

Indicator type	Indicator name Source (time series)	Direction of trend	Implication of trend
Forestry (Chapter 2)			
Risk (Exposure and Vulnerability)	Percentage of timber trees (oak/beech/pine/spruce) planted in areas likely to be climatically suitable in 2050 National Forest Inventory (1970 – 2010)	↑	Oak, pine, and spruce trees have been planted in progressively more suitable areas since 1970. Beech suitability declined between 2000 and 2010, but this only affected 0.1 km ² of forest (Section 2.5).
Action	Diversity of species delivered for planting by the Forestry Commission Forestry Commission (2005/06 and 2012/13)	↑	Number of different coniferous species delivered to the Forestry Commission increased from 11 in 2005/6 to 17 in 2012/13 (Section 2.5).
Impact	Total forest area impacted by wildfire Forestry Commission wildfire statistics (2008 – 2013)	→	Only a very low percentage of forest area (10 km ² or less, less than 0.001% of total area) has been affected by wildfire each year (Section 2.5).

Notes: the direction of the arrow depicts the trend in that indicator (increasing, decreasing or no significant trend). The colour of the box depicts the implications of that direction of trend in terms of risk (red = risk is increasing; green = risk is decreasing; yellow = risk is neither increasing nor decreasing significantly). The text explains ASC's interpretation of the trend.

Source: ASC (2013): *Managing the land in a changing climate*.

Three indicator categories have been developed for each NAP objective:

1. **Exposure and vulnerability indicators**, to monitor **trends in risk**
2. **Adaptation action indicators**, to monitor **the uptake of actions** that contribute to reduce vulnerability
3. **Climate impact indicators**, to monitor **impacts** whenever possible (i.e. it requires a long time series to distinguish any trend or attribution to climate change).

For each indicator its data source and related time series of measurement, as well as its trend direction and trend implications are identified (see examples in figure 3).

► Data and information requirements

The system mostly draws on existing data sources that are already collected and reported by the Government or its executive agencies. For example, data on flood risk and water resources are provided by the Environment Agency. The data used is reported primarily at the national level, although where possible indicators are measured using locally available data and time series (i.e. the information is aggregated across local authorities to show trends at local, regional, and national levels). In some cases, the ASC has combined existing datasets to develop indicators.

► Output and reporting

Key outputs include:

- **Annual ASC progress reports (from 2012 to 2014)** provide an update on the development and application of the M&E framework and summarize the results of the vulnerability assessments conducted on the key policy themes.
- **ASC statutory reports on the NAP (every two years)** assess to what extent the country is becoming more or less vulnerable to climate change. The first statutory report on the Government's progress in implementing the NAP will be due in June 2015. The report will bring together all results that have been identified since 2012 and will cover the seven NAP policy themes.



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 Prof. Sam Fankhauser, Dame Anne
 Johnson, Sir Graham Wynne;
 Adaptation Sub-Committee
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- **ASC synthesis report:** To inform the next CCRA to be released in 2017, ASC will produce a synthesis in 2016 on new evidences and on the outcomes of the preparedness assessment.

► Resources needed

The ASC has had a team of six staff members (who form the ASC's secretariat) to support the six Committee members from 2010 onwards. The latter are mostly academics appointed by Ministers on a part-time basis (two-days a month). The Secretariat comprises a mixture of economists and analysts. The costs of running the ASC are approximately £650k a year. Additionally, the ASC will have spent around £500k between 2011 and 2014 for research to develop indicators and undertake the analysis for the annual progress reports.

Lessons to date

The approach of the UK to M&E of climate adaptation is based on the climate risk management framework (i.e. focus on monitoring exposure, vulnerability and impacts). The linkages between mitigation and adaptation are also explored whenever possible (e.g. implications of climate change for energy supply and demand or land use issues).

A major component of the framework focuses on regular, detailed vulnerability assessments on priority themes to understand trends in the country's vulnerability to climate change. This is a sophisticated, rigorous and scientific approach going beyond the use of indicators to assess vulnerability. The framework comprises of a mix of qualitative and quantitative tools including expert evaluation on the interpretation of the indica-

tors and economic and policy analysis. The system further promotes learning by considering why vulnerability may be changing and the integration of new knowledge into the policy planning cycle.

This approach is resource-intensive and requires strong political support. The development and implementation of the framework is conducted by an independent body which allows for a clear separation between research and policy. Policy and decision-makers are involved at different stages of the monitoring and evaluation process through consultations, workshops and meetings.

For further information

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Adaptation Sub-Committee website:
www.theccc.org.uk/about/structure-and-governance/asc-members

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