Climate Change Adaptation
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Adapting to Climate Risks Using ISO 9001, ISO 14001, BS 25999 and BS 31100

Kay Johnstone and Alex Moczarski
Contents

About the authors vii
Acknowledgements ix
Introduction xi

1 Getting started 1
  1.1 Identifying a lead individual and building background knowledge 3
  1.2 Making the case and obtaining senior management buy-in 4
  1.3 Setting scope 5
  1.4 Identifying processes 7
  1.5 Developing policy and objectives 13
  1.6 Signpost to other resources 14

2 Understanding current vulnerability 17
  2.1 Catalogue recent weather events and their consequences 19
  2.2 Quantify the consequences of weather events 22
  2.3 Identify critical thresholds 23
  2.4 Signpost to other resources 25

3 Identifying significant climate risks 27
  3.1 Identify potential future impacts 29
  3.2 Assigning significance 35
  3.3 Signpost to other resources 41

4 Planning and implementing adaptation actions 45
  4.1 Identifying a range of options 47
  4.2 Selecting preferred adaptation options 54
  4.3 Putting together a programme 59
  4.4 Signpost to other resources 61
## Contents

### 5 Continual improvement 63
- 5.1 Ongoing monitoring 65
- 5.2 Regular review 65
- 5.3 Signpost to other resources 66

### Appendix I: Cross-reference tables 67
- I.1 Integrating adaptation within specific elements of ISO 14001 68
- I.2 Integrating adaptation within specific elements of ISO 9001 72
- I.3 Integrating adaptation within risk management framework and risk management process elements of BS 31100 75
- I.4 Integrating adaptation within specific elements of BS 25999-2 79

### Appendix II: The business case for adaptation 83
- II.1 Our climate is changing 83
- II.2 Climate change presents risks 88
- II.3 Extreme weather and the current climate presents risks 88
- II.4 Some risks from the current and future climate may be significant 90
- II.5 Regulatory and other requirements 90
- II.6 The case for a planned response 91

### Appendix III: Adaptation and management systems 93
- III.1 Using BS 31100 on risk management 94
- III.2 Using BS 25999-2 on business continuity 95
- III.3 Using ISO 9001 on quality management 96
- III.4 Using ISO 14001 on environmental management 97

### Appendix IV: Adaptation and mitigation 99

### Appendix V: Glossary 101
About the authors

Kay Johnstone is an Environmental Scientist with a specialism in Environmental Economics who has worked in the environmental field for eight years in both a commercial and publicly funded environment. She has a wealth of experience in business engagement spanning practical advice to small and medium enterprises (SMEs), supporting strategy development at large companies and involvement in industry-wide sector studies.

Since joining UKCIP in 2006, Kay has been responsible for delivering their programme for climate change impacts and adaptation with UK businesses. This involves working closely with the private sector and organizations that support or represent the business community to help them understand and prepare for future climate risks as well as building resilience to extreme weather. As well as being responsible for UKCIP’s own business toolkit and events for business, Kay coordinates partnerships and works to enable the business community to deliver their own capacity building activities.

Alex Moczarski holds a masters degree in Environmental Management from the University of Bath. He has worked on major projects in IT and energy, building strategic solutions for tackling climate change and energy legislation for businesses, procurement and energy efficiency programmes. Predominantly working in the energy management sector, Alex has been a strong proponent of the need to incorporate thinking on the impacts of a changing climate into all business operations and procedures including those related to security and resilience of supply.

Whilst working for the UKCIP Alex worked with various organizations from trade and professional bodies, high street retailers and national infrastructure organizations to understand the issues faced by them and encourage action to meet the challenges and opportunities of a changing climate.

Alex currently leads the energy management team within Nottingham City Council’s Sustainability and Climate Change department implementing their carbon management plan, energy strategy and energy efficiency projects.
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Introduction

Our climate is changing because of greenhouse gas emissions from human activities. For the next few decades this change is unavoidable due to the lag time of carbon dioxide in the atmosphere. There will continue to be changes long beyond that unless global greenhouse gas emissions are significantly reduced. Climate change will affect people and organizations in a wide variety of ways and, indeed, extreme weather events already frequently result in significant consequences for society and the economy. Organizations are increasingly recognizing that there is a need to embed a response to the impacts of weather and climate change into planning processes.

Adaptation to climate change involves making adjustments in response to the likely threats and opportunities arising from climatic variability and climate change.1 It is about dealing with the effects of climate change rather than tackling its causes (greenhouse gas emissions) which is known as mitigation. It can mean making physical alterations to premises, equipment, materials, products or services, but it also covers less tangible changes, such as adjustments made to working arrangements, training programmes, systems, codes of practice, organizational structures, strategies and contracts.

Many organizations already use management systems to formalize or promote good practice for processes and operational procedures. By integrating adaptation within an existing management system, managers have an opportunity to improve and raise the profile of an existing management system while delivering adaptation to climate change in cost-effective way. This guidance document aims to support organizations in using an existing management system to adapt to climate change.

About this guide

This document aims to support organizations who are introducing adaptation into an existing management system. It has been developed as a supporting

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1 The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as ‘Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities’ (IPCC TAR (2001) Climate Change 2001: Impacts, Adaptation and Vulnerability. IPCC Third Assessment Report, Cambridge University Press, Cambridge).
Introduction

guide to four standards that cover a broad subject base and that have a significant uptake. These are:

- ISO 14001, *Environmental management systems – Requirements with guidance for use*
- ISO 9001, *Quality management systems – Requirements*
- BS 25999, *Business continuity management – Part 2: Specification*

These four standards are used in this guidance as examples of how adaptation to the risks presented by climate change can be introduced into existing business processes. They are not the only standards that will be applicable to this type of approach, and the principles set out in this guidance can be expanded and used more widely, including through other formal standards and bespoke in-house approaches.

This guidance provides a process for adaptation. It is not a formal standard and is not required to achieve certification. However, it will allow users to demonstrate to their customers and other stakeholders that they are taking a systematic and robust approach to climate change adaptation. It does not provide a list of climate change impacts or details of what a successful adaptation outcome would look like, all of which are very context-specific. Each chapter provides a list of tools and resources that may help to build up more context-specific information for individual organizations.

Five appendices provide additional information as follows:

- Appendix I shows how this guidance maps onto each of the four management standards.
- Appendix II provides a framework for a business case for adaptation.
- Appendix III discusses the benefits and challenges in using management systems to adapt.
- Appendix IV discusses the links between climate change adaptation and mitigation in more detail.
- Appendix V is a glossary.

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*It is recognized that there may be other standards/systems of relevance (this is explored further in Appendix III); however, to avoid too much complexity, the guidance focuses only on these four.*

*It is based on the UKCIP Adaptation Wizard, which is in turn based on UKCIP’s Risk Decision Making and Uncertainty Framework, and has the same key elements as other adaptation frameworks in existence. Both are available from http://www.ukcip.org.uk*
Introduction

Who should use this guide

This guidance is aimed at managers with responsibility for business continuity, environment, risk or quality who:

- believe climate change impacts to be an issue for their organization
- have either a desire or requirement to deliver an adaptation response.

It is designed for use by any type of organization that already uses or is about to begin using either a quality, environmental, risk or business continuity management system.

How to use this guide

It is recommended that users read through the main section and then use the relevant table(s) in Appendix I to work through the process of integrating adaptation into their management system, referring back to the guidance section as appropriate. The information within Appendices II–V may be useful when making the case for delivering adaptation using an existing management system. The first instances of terms that are contained in the Glossary (Appendix V), have been emboldened in the main body of text.

Background to UKCIP and sources of information

This guidance has been developed by the UK Climate Impacts Programme (UKCIP). UKCIP was set up in 1997, and is funded by the Department for Environment, Food and Rural Affairs (Defra) to help organizations understand the impacts of climate change so that they can prepare for its effects. It has considerable experience of working with organizations on climate change impacts and adaptation and in the development of tools and resources in this area.

UKCIP operates on the boundary between government as it makes policy, scientists as they generate knowledge and people in organizations making decisions. It therefore acts as a conduit between theory and practice in the field of climate change adaptation.
Introduction

Where possible, the guidance provided is based on sound science, for example the UK climate projections UKCP09.\(^4\) This is built on by drawing on UKCIP’s practical experience of working with a wide range of organizations over several years and its position as a ‘boundary organization’. Adaptation is a young and rapidly developing area of theory and practice, so this guidance should be viewed simply as a suggested way forward rather than best practice.

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\(^4\) http://ukclimateprojections.defra.gov.uk
1 Getting started
Getting started

Understanding current vulnerability

Inputs:
- Initial motivation/driver
- Business plan/strategic aims, etc.

Key outputs:
- Initial thoughts on objectives
- Amended policy
- Outline of adaptation planning processes
- An idea of what you want to achieve with initial resources secured

Outcome:
- Initial thoughts on objectives
- Amended policy
- Outline of adaptation planning processes
- An idea of what you want to achieve with initial resources secured
Getting started

The ability of an organization to take appropriate adaptation actions depends on its adaptive capacity. This includes the knowledge, resources, support systems and legislative and policy frameworks that will encourage, allow or require organizations to deliver adaptation actions.

Some of the adaptive capacity required for an effective adaptation response can only be identified in response to knowledge of significant climate risks or to support chosen adaptation options (covered in Chapter 4). However, other aspects of adaptive capacity are generic and can be built, starting immediately, without reference to specific climate risks or adaptation actions.

This chapter provides guidance on the capacity-building activities that are required in order to get started with planning your adaptation response. Much of this will involve extending or adding to existing functions and structures set up by your existing system as well as beginning to gather new types of information relating to climate change impacts.

1.1 Identifying a lead individual and building background knowledge

The adaptation task at an organization often begins with the environmental manager or whoever is responsible for improving resource efficiency or reducing the carbon footprint. The knowledge and experience that this person brings will be important, but if you are integrating adaptation into risk, quality or business continuity management, you may prefer to assign the lead role to the manager responsible for this business function.

Adaptation and the consideration of climate impacts is a new and unfamiliar concept to many people. Even environmental managers may only have encountered the issue of climate change from a mitigation perspective. Therefore, a process of building a basic level of background knowledge may be required before climate change adaptation can be properly considered and integrated.

Table 1.1 illustrates the types of knowledge that the lead person may wish to build in order to get started and where information can be found.
1.2 Making the case and obtaining senior management buy-in

As with any initiative, strong leadership will be important for the success of your adaptation response (Case study 1.1). Strong senior management support, where a member of the senior management team ultimately takes ownership of adaptation objectives (and/or a policy statement that explicitly mentions adaptation), will provide this leadership as well as helping to secure the required resources.

Efforts to obtain senior management buy-in can begin at the outset by outlining the business case (see Appendix II) and the case for using an existing system in general terms (see Appendix III). A more detailed business case will not be possible until you have some idea of priority climate risks and perhaps even potential adaptation options. Therefore, in some cases it may be necessary to carry out an initial pilot study or scoping study, involving some or all of the