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Adaptation to climate change — Using adaptation pathways for decision making — Guide

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| Contents | Page |
|---|-------------|
| Foreword | ii |
| Introduction | 1 |
| 1 Scope | 2 |
| 2 Normative references | 2 |
| 3 Terms and definitions | 2 |
| 4 Developing and applying adaptation pathways to adaptation decision-making | 5 |
| <i>Figure 1 — Steps to develop climate change adaptation pathways</i> | 6 |
| 5 Adaptation pathways – steps | 6 |
| 5.1 Step 1: Planning | 6 |
| 5.2 Step 2: Understand the risks and opportunities from current climate | 7 |
| 5.3 Step 3: Understand risks and opportunities from a range of future climate change scenarios, including the highest climate scenarios | 8 |
| 5.4 Step 4: Consider adaptation options for different levels of risks and opportunities, and their thresholds | 9 |
| 5.5 Step 5: Identify and evaluate the implications of interdependencies with other drivers | 10 |
| 5.6 Step 6: Assemble a route map of adaptation pathways | 10 |
| <i>Figure 2 — Example of a decision tree</i> | 11 |
| 5.7 Step 7: Evaluate and choose adaptation pathways | 12 |
| 5.8 Step 8: Report preferred adaptation pathways | 13 |
| 5.9 Step 9: Set out implementation, monitoring and evaluation plans | 13 |
| Annex A (informative) Case examples of good practice | 15 |
| <i>Figure A.1 — Practical consideration for guidelines: Levels of analysis</i> | 15 |
| <i>Figure A.2 — Emerging cross regional pathways for the Eyre Peninsular Australia</i> | 17 |
| <i>Figure A.3 — Water resourcing investment decision tree for London, 2020s to 2080s</i> | 19 |
| <i>Figure A.4 — Thames Estuary 2100 Plan</i> | 22 |
| Annex B (informative) Dealing with uncertainty | 22 |
| Bibliography | 24 |

Summary of pages

This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 24, an inside back cover and a back cover.

This is a preview of "BS 8631:2021". [Click here to purchase the full version from the ANSI store.](#)

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2021. It was prepared by Subcommittee SES/1/7, *Greenhouse gas management and related activities*, under the authority of Technical Committee SES/1, *Environmental management*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Relationship with other publications

The overall approach to creating an adaptation plan is set out in [BS EN ISO 14090](#), which mentions an Adaptation Pathway (AP) as an effective approach for planning for climate change uncertainty.

Information about this document

This British Standard gives guidance on the following aspects of adaptation pathways (APs):

- 1) defining APs plan scope, objectives and constraints;
- 2) assessing capacity to develop and implement APs;
- 3) understanding uncertainties and opportunities from the current climate;
- 4) understanding and planning for a range of future climate change scenarios, as well as monitoring and evaluation;
- 5) considering adaptation options for different levels of risk and their thresholds;
- 6) considering interdependencies with other drivers and modifying options;
- 7) assembling a range of pathway options;
- 8) evaluating and prioritizing pathway options;
- 9) recommending preferred APs; and
- 10) establishing implementation and monitoring plans and a learning framework.

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Use of this document

As a guide, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice.

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The guidance in this standard is presented in roman (i.e. upright) type. Any recommendations are expressed in sentences in which the principal auxiliary verb is “should”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

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Introduction

Climate change creates a range of potential risks and opportunities to physical, environmental, social and organizational systems. However, uncertainties inherent in estimating future climate change scenarios and their impacts can make it difficult to factor these potential risks and opportunities into decision-making for adaptation purposes. Given uncertainty and future change, more than one sequence of adaptation actions might need to be considered in response to climate change, at different times, in different climate change scenarios and in response to different risk and opportunity thresholds.

Adaptation pathways (APs) form an effective planning approach for responding to climate change and its associated uncertainties. APs are sequences of potential actions that can be implemented as conditions evolve in response to climate change risks and opportunities. APs can be developed in a range of forms, most of which are graphical, such as “decision trees” or “route maps”. These illustrate the range of adaptation options, how they are sequenced over time and how these might be navigated or implemented as the future unfolds and becomes clearer.

APs can:

- help to develop flexible long-term responses to climate risks and opportunities in the face of uncertainty;
- provide a methodology to show how adaptation options can be implemented over time and help initiate action, encouraging consideration of “lead-in” times for actions (how long it might take to research, plan and deliver an action);
- help to incorporate a long-term vision and objectives into short-term decisions on adaptation actions;
- encourage consideration of a wide range of actions and the sequences in which they could be implemented;
- identify which short-term decisions could limit future adaptation and avoid “lock-in”;
- facilitate planning for multiple futures, not just a “most likely” or single predicted future; and
- help to identify interested parties to be engaged to achieve effective outcomes.

APs can be effectively applied within broader processes of adaptation planning or similar strategic planning that an organization might already be using. APs can also be used as a starting point to help understand climate impacts and potential adaptation strategies.

This British Standard provides a nine-step iterative framework that can be used by those starting to consider APs or those already using APs, as a guidance document that includes:

- planning the scope, development and application of APs;
- understanding risks from current climate conditions;
- understanding risks and opportunities from future climate change scenarios;
- identifying and evaluating adaptation options for different levels of risk and opportunities;
- considering interdependencies with other drivers of change;
- assembling and evaluating pathway options;
- evaluating and choosing adaptation pathways;
- recommending preferred pathways; and
- implementing and monitoring of adaptation actions.

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risks and opportunities associated with climate change. This could include those who manage water resources, flood and coastal management, assessment and planning for infrastructure resilience, operating a business or local, regional or national governments.

1 Scope

This British Standard gives recommendations and guidance to support organizations implementing adaptation pathways (APs). APs can be used within a broader planning process or as a stand-alone adaptation planning tool, in order to assist organizations to create long-term plans and make decisions within the uncertainty and risks of a changing climate.

NOTE 1 [BS EN ISO 14090](#) provides a full framework for implementing an adaptation plan and can be used in conjunction with this British Standard.

This British Standard sets out a nine-step process for developing and applying APs. It includes guidance on each step, decision-making within the steps and continuous learning across the approach.

The intended users of this British Standard are adaptation professionals or persons assigned by an organization to use the standard (such as the environment or sustainability manager).

NOTE 2 The information that results from the implementation of this British Standard can benefit strategic planners and decision makers within organizations who are involved in making short, medium and long-term decisions and adaptation plans.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1 adaptation pathway (APs)

series of adaptation choices involving trade-offs between short-term and long-term goals and values

NOTE These are processes of deliberation to identify solutions that are meaningful to people in the context of their daily lives and to avoid potential maladaptation.

[SOURCE: IPCC, 2018: Annex I: Glossary [\[1\]](#)]

3.2 adaptive capacity

ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences

[SOURCE: BS EN ISO 14090:2019, 3.2]

3.3 adaptive management

process of iteratively planning, implementing and modifying strategies for managing resources in the face of uncertainty and change

NOTE Adaptive management involves adjusting approaches in response to observations of their effects and changes in the system brought on by resulting feedback effects and other variables.

[SOURCE: BS EN ISO 14090:2019, 3.3]