HM Treasury

TCFD-aligned disclosure for the UK public sector

Application guidance

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Foreword

This document sets out the principles and standards underpinning the application of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations in central government, and, where relevant, the wider public sector. This disclosure framework is a key part of the UK central government performance reporting framework, enhancing transparency and public accountability.

Year of applicability

This application guidance for TCFD-aligned disclosure applies to reporting periods from 2025-26. A three-year phased implementation approach to TCFD recommendations has been used for central government, of which this is the third and final phase – refer to Annex C for more details.

In July 2025, HM Treasury published Appendix A: Sustainability reporting for the UK public sector Concepts, Principles and Foundations (herein Appendix A) consolidating related guidance into a single document. Relevant content previously included in this guidance has been moved to the Appendix to streamline the focus and promote a consistent approach across both the TCFD Application Guidance and the Sustainability Reporting Guidance (SRG).

Published alongside the SRG for 2025–26, the Appendix sets out a common, materiality-led approach aligned with this guidance. It introduces shared reporting thresholds, minimum requirements, and the comply-or-explain basis for disclosure. It also includes supplementary guidance on materiality, reporting boundaries, and risk reporting.

Scope

This guidance applies to all departments (ministerial and non-ministerial), central government and wider public sector bodies that meet specific criteria or where they have been directed/instructed to follow the guidance by their respective relevant authority [1]. Other central government and public sector bodies may voluntarily choose to follow this guidance in full or in part. Refer to Chapter 1 for more details on the scope of this guidance.

Summary requirements

Phase 1 (central government from 2023-24) - In-scope reporting entities shall report:

TCFD Compliance Statement – summarising the extent to which this guidance has been complied with, the reasons for non- compliance, and providing an overview of plans for future reporting.

Governance recommended disclosures:

a) describe the board's oversight of climate-related issues.

b) describe management's role in assessing and managing climate-related issues.

Metrics and Targets recommended disclosure:

b) disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks -aligning with existing GHG emissions reporting methodologies where appropriate.

Phase 2 (central government from 2024-25) – In-scope reporting entities shall meet Phase 1 requirements, in addition to the following:

Risk Management recommended disclosures:

a) describe the organisation's processes for identifying and assessing climate-related risks.

b) describe the organisation's processes for managing climate-related risks.

c) describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

Metrics and Targets recommended disclosures:
where climate is a principal risk, a significant component of another principal risk or otherwise considered material

a) disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

c) describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Phase 3 (central government from 2025-26) – In-scope reporting entities shall meet Phase 1 and 2 requirements, in addition to the following:

TCFD Strategy recommended disclosures:
where climate is a principal risk, a significant component of another principal risk or otherwise considered material

a) describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

b) describe the impact of climate-related risks and opportunities on the organisation's operations[+], strategy, and financial planning.

c) describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

[+] Denotes UK public sector interpretation and adaptations applied to TCFD's recommended disclosures and supporting guidance set out in subsequent chapters.

Mandatory and advisory elements

This document includes both mandatory and advisory elements, using consistent terminology as defined in the table. These definitions are intended solely for this guidance and should not be applied more widely unless explicitly directed.

Term	Intention
shall	denotes a requirement: a mandatory element.
should	denotes a recommendation: an advisory element.
may	denotes approval.
might	denotes a possibility.
can	denotes both capability and possibility.
is/are	denotes a description.

Chapter 1
Introduction

1.1 Climate change is a significant crisis facing the global community, and one the UK will need to continue to confront head-on amid the greater chance of warmer, wetter winters and hotter, dryer summers, plus more variable rainfall and more severe storms. Sea levels are rising by approximately 4 millimetres per year [1], around the UK coastline, increasing the risk to buildings and infrastructure close to the shoreline. Extreme weather – flooding, storms, heatwaves – already cause significant disruption in the UK every year, so we should not underestimate the challenges that a more extreme climate will have on our lives, the economy and our environment.

1.2 This chapter provides an overview of the Task Force on Climate-related Financial Disclosures recommendations and explains how public sector bodies should use this guidance, as well as why TCFD-aligned disclosure is being pursued in UK public sector annual reports and accounts (herein referred to collectively as 'annual reports'). An overview of the TCFD framework has been included in Figure 1.1 at the end of this section, and further information on TCFD in Annex A.

Background

1.3 The Task Force's recommendations for climate-related financial disclosures in annual reports and accounts, published in 2017 [2], proposed:

- four widely adoptable recommendations across four thematic areas (Governance, Strategy, Risk Management, and Metrics and Targets) – please refer to Figure A.5 in Annex A;
- eleven recommended disclosures structured around the thematic areas, representing the core elements of the organisation's operations. The disclosures are intended to interlink and inform each other– refer to Figure A.5 in Annex A;
- general and sector-specific guidance for applying the framework;
- seven key principles for effective disclosure:
  1) relevant
  2) specific and complete
  3) clear, balanced, and understandable
  4) consistent over time
  5) comparable across the sector, industry, or portfolio
  6) reliable, verifiable, and objective
  7) timely

[1] State of the UK Climate 2021 - Kendon - 2022 - International Journal of Climatology - Wiley Online Library: rmets.onlinelibrary.wiley.com/doi/10.1002/JOC.7787 and The Third Climate Change Risk Assessment (CCRA) Technical Report

[2] FSB's TCFD guidance: www.fsb-tcfd.org/

1.4 Since their inception, the TCFD recommendations have been adopted by a broad range of organisations across countries, industries and sectors. The UK government formally endorsed the TCFD framework and has mandated TCFD-aligned disclosure for large entities in the private sector [3].

1.5 This guidance has been introduced to improve the quality and breadth of climate-related information in public sector annual reports and align climate-related reporting with the private sector.

Rationale for public sector adoption

Incorporating climate-related disclosures into annual reports enhances decision-making by providing critical insights into future risks and opportunities via horizon scanning. This helps organisations strategically plan and build resilience, ensuring long-term value and transparency for stakeholders, improving climate risk management and enhancing response efforts.

Application

1.6 This guidance should be read in conjunction with the TCFD's Guidance: Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures. Reporting entities should familiarise themselves with the TCFD recommendations and the relevant supporting guidance.

1.7 When preparing their Sustainability Report (including TCFD), reporting entities shall adhere to the principles, concepts and foundations set out in Appendix A.

1.8 Necessary interpretations and adaptations for applying the TCFD framework in a public sector context have been addressed in the subsequent chapters. These have been explained in Annex A. In addition, Figure A.5 (in Annex A) sets out the TCFD framework's structure and recommended disclosures.

Implementation approach

1.9 Reporting entities will likely benefit from adopting TCFD-aligned disclosure in a phased approach. Annex C provides details on phased implementation, including when the application guidance was published. Organisations should engage with the framework early, scaling up based on priorities, materiality, and available resources.

Scope

1.10 Reporting entities are required to verify whether they are 'in-scope' of this guidance – refer to Figure 1.2 Flowchart for applying this guidance.

[3] Department for Energy Security and Net Zero's (DESNZ's) Climate-related financial disclosures for companies and limited liability partnerships and The Companies Act (Strategic Report) (Climate-related Disclosure) Regulation 2022: https://www.legislation.gov.uk/uksi/2022/31/contents/made

Central government

1.11 HM Treasury sets the requirements for central government annual reports and accounts in consultation with the Financial Reporting Advisory Board (FRAB). FRAB advise on annual reporting requirements for all relevant authorities across the public sector. This guidance has been reviewed and approved by FRAB.

1.12 All central government departments (ministerial and non-ministerial) are required to apply this guidance.

1.13 Arm's-length bodies (ALBs) are required to follow this guidance where they have:

- more than 500 employees [4]; or,
- total operating income and funding received (including grant- in-aid) exceeding £500m; or,
- been instructed by their sponsoring department to follow this guidance.

1.14 This guidance is not mandatory for:

- ALBs not explicitly brought into scope (see previous paragraph);
- Other central government bodies where existing TCFD-related regulatory or legislative requirements override this guidance (see later in section);
- Wider public sector bodies (unless specifically directed by their respective relevant authority or relevant regulation and legislation (see next paragraph).

Wider public sector

1.15 This guidance does not automatically apply to local government, NHS bodies (Trusts, Foundations, Integrated Care Boards), public corporations, and entities in the devolved administrations.

1.16 Relevant authorities may direct reporting entities in their jurisdiction to follow this guidance or choose to adapt this guidance to meet their needs (e.g., Department for Health and Social Care (DHSC) sets out their TCFD-aligned disclosure requirements in the Group Accounting Manual (DHSC GAM).

Voluntary adoption

1.17 Applying the TCFD recommendations is useful for decision makers and supports accountability and transparency to report users. As a result, public sector bodies may choose to voluntarily apply this guidance – in full or in part.

1.18 Where a reporting entity is impacted by climate issues, they should consider the benefit of TCFD information – even where they do not meet the specific criteria for mandatory disclosure laid out in this chapter.

[4] Full Time Equivalent (FTE) staff averaged across the reporting period.

Other climate-related disclosures resulting from legislation or regulation

1.19 Where an entity is subject to legislation or regulation relating to climate-related disclosures or similar, they shall follow the related requirements in full. This can be summarised as follows:

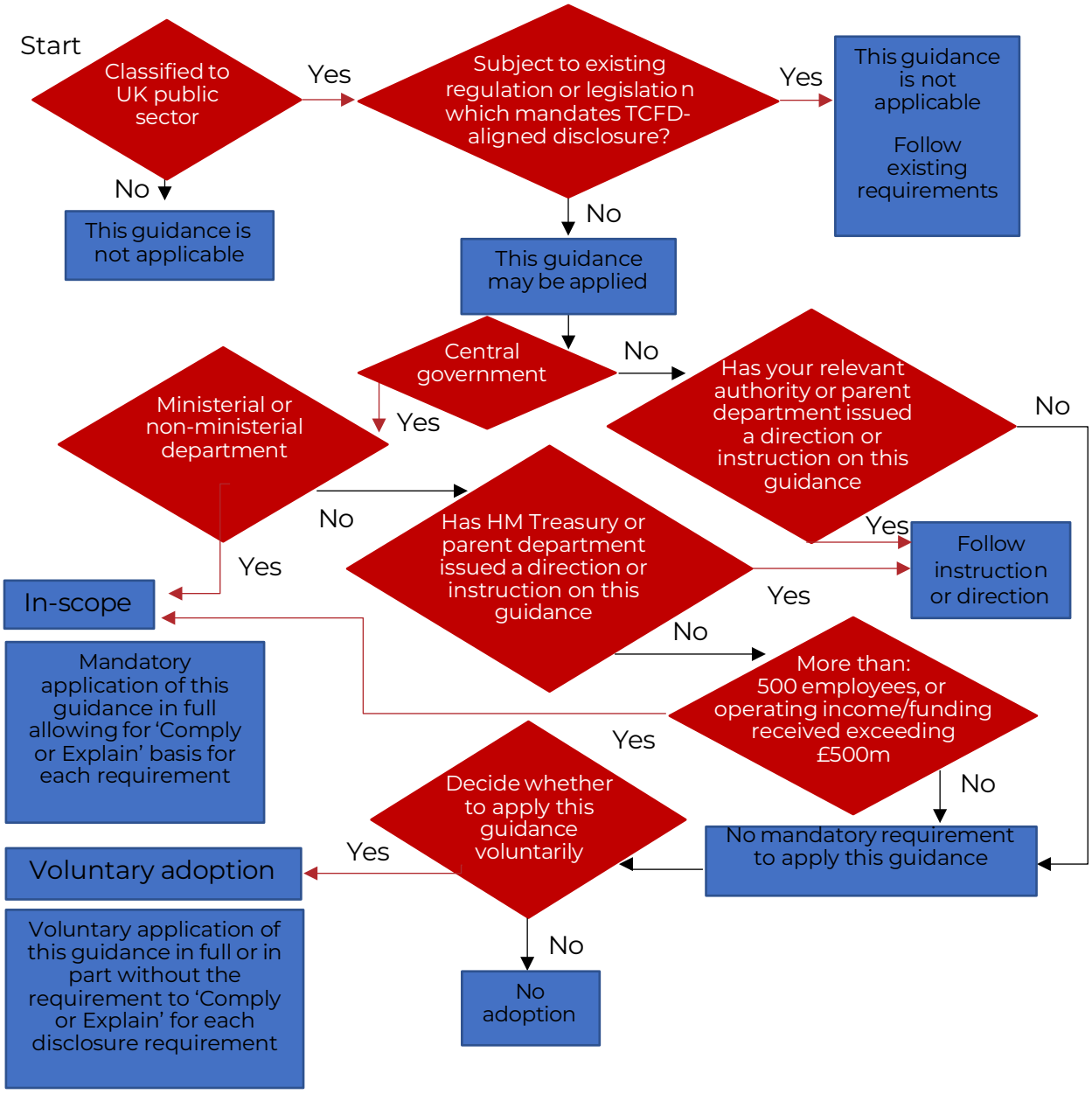
- Publicly quoted companies, large private companies, and Limited Liability Partnerships (LLPs) should check the mandatory climate-related financial disclosure [5] and UK Sustainability Reporting Standards (UK SRSs) (expected 2025) [6].
- Premium-listed and standard-listed companies should check the Financial Conduct Authority (FCA) Listing Rules[7].
- FCA-regulated companies should check the FCA Climate-related Disclosure Rules. Relevant types of entities include:
  - asset managers
  - life insurers, including pure insurers
  - non-insurer pension providers, including platform firms and Self-Invested Personal Pension (SIPP) operators
  - FCA-regulated pension providers

1.20 Given the rapid pace of change across frameworks and requirements, this list is unlikely to be exhaustive. It remains the responsibility of each organisation to understand the legislation and regulations to which it is subject.

[5] The government is a strong supporter of the ISSB, and is working to endorse the first two sustainability standards in the UK private sector: www.gov.uk/guidance/uk-sustainability-disclosure-standards

[6] www.fca.org.uk/firms

Figure 1.2 Flowchart for scoping and applying this guidance



Mandatory requirements

1.21 The Task Force requires disclosures related to the Governance and Risk Management pillars, as well as Metrics and Targets recommended disclosure (b) – on Scope 1 [8] and Scope 2 GHG emissions only – to be included in annual reports, without being subject to a materiality assessment (set as minimum reporting requirements). This information is fundamental to understanding an organisation's ability to identify, assess and manage climate-related risks.

1.22 Other recommended disclosures – Strategy (a) to (c) and Metrics and Targets (a) and (c) – are subject to a materiality assessment.

	Governance		Strategy			Risk Management			Metrics and Targets		
	(a)	(b)	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
Mandatory - not subject to materiality assessment	■	■				■	■	■		Scope 1 and Scope 2	
Subject to materiality assessment			■	■	■				■	Scope 3	■

Materiality assessments

1.23 Materiality assessments of climate-related information should be consistent with the materiality assessment of other topics and information included in an entity's annual report and accounts.

1.24 Materiality assessments require analysis to establish an organisation's exposure and vulnerability to climate-related issues, and/or whether these constitute a principal risk (or significant component of a principal risk) for the organisation. Please refer to Chapter 3 for further guidance on principal risks.

1.25 Further guidance on materiality assessments and primary users is included in Appendix A. When considering reporting requirements - please refer to Figure 1.3 Minimum requirements for in-scope reporting entities and Figure 1.4 Principal risk reporting requirements and materiality assessments.

Significantly impacted sectors and industrial groups

1.26 TCFD identified certain industries and groups, considered to potentially be most affected by climate change and the transition to a lower carbon economy. The Task Force published TCFD Supplementary Guidance for these industries and groups for recommended disclosures related to Strategy, Risk Management and Metrics and Targets – refer to Table 1.1.

Table 1.1 TCFD's Supplementary Guidance for Financial Sector and Non-Financial Groups

		Governance		Strategy			Risk Management			Metrics and Targets		
Industries and Groups		a)	b)	a)	b)	c)	a)	b)	c)	a)	b)	c)
Financial	Banks			■			■			■	■	
	Insurance Companies				■	■	■	■		■	■	
	Asset Owners				■	■	■	■		■	■	
	Asset Managers				■		■	■		■	■	
Non-Financial	Energy				■	■				■		
	Transportation				■	■				■		
	Materials and Buildings				■	■				■		
	Ag. Food and Forest Products				■	■				■		

Source : www.fsb-tcfd.org/publications/

1.27 Where climate is likely to impact public sector bodies operating, regulating or setting policy in these industries and groups, they should strongly consider making TCFD-aligned disclosure, and applying TCFD's Supplementary Guidance. For example, a regulator in the energy sector should strongly consider applying the TCFD Supplementary Guidance and alongside this guidance. Conversely, if a reporting entity who is not operating in these industries or groups, and whose only interaction with these industries or groups is via arm's length commercial transactions would not need to consider the Supplementary Guidance.

1.28 Where these activities are not the primary or sole function of the body but still apply to certain operations, regulation or policy setting functions; the organisation should assess the overall materiality of the related information. This assessment should consider:

- The relative importance of the associated climate-related risks, opportunities (and impacts) from these operations, compared to other risks, opportunities (and impacts) faced by the organisation.
- The relative size and magnitude of these activities to the entity overall.
- The responsibility and influence of the entity (e.g., policy setting or regulatory role)

Figure 1.3 Minimum requirements for in-scope reporting entities

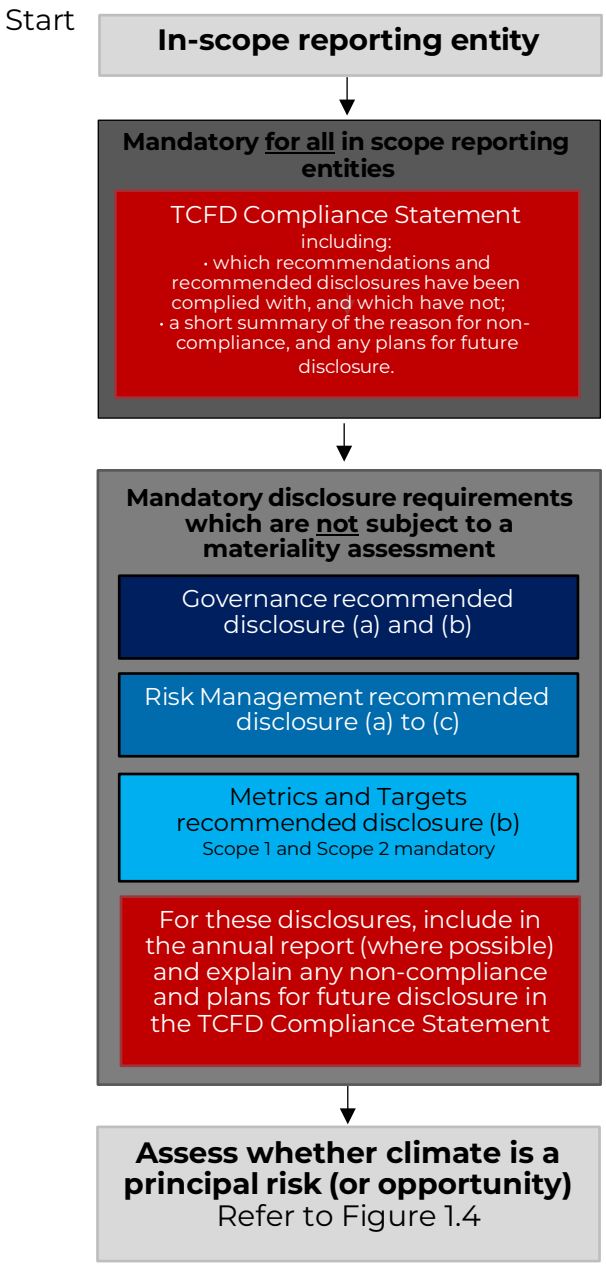
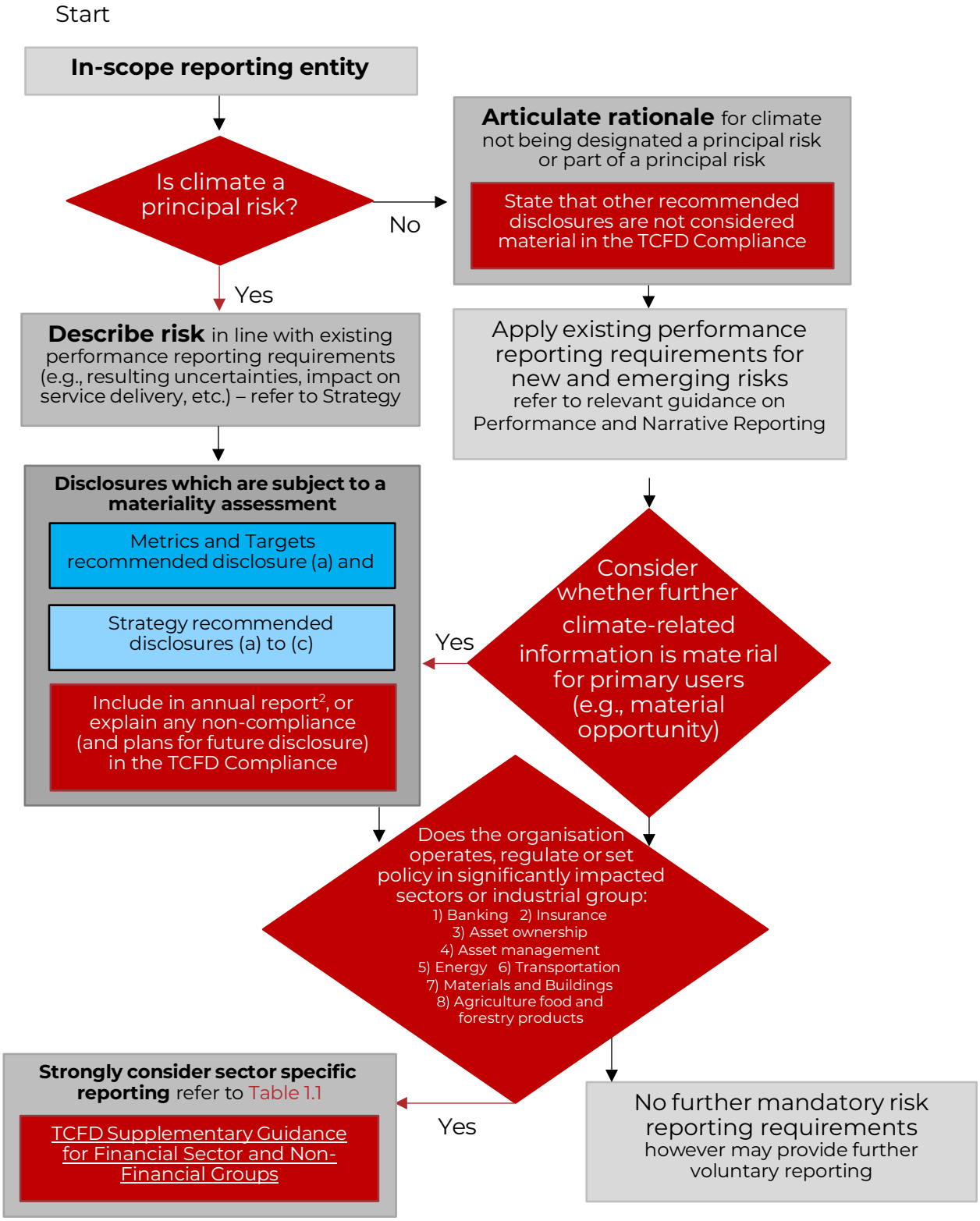


Figure 1.4 Principal risk reporting requirements and materiality assessments



[1] Reporting entities adhering to the Department for Health and Social Care (DHSC) Group Accounting Manual (GAM) are not required to include a TCFD Compliance Statement.
[2] Relevant authorities may direct preparers to report in separate publications.

Concepts and Principles

Comply or explain

1.29 The TCFD framework is principles-based. In-scope reporting entities shall apply a 'comply or explain' basis for disclosure; complying with each of the required TCFD's recommended disclosures; or explaining non-compliance.

1.30 Further guidance on the comply or explain basis for disclosure is included in Appendix A.

Compliance Statement or Compliance Summary

1.31 Reporting entities[7] shall include an overall summary or statement of the extent of consistency with the TCFD's recommended disclosures. The compliance information shall be presented at the start of the TCFD-related disclosure section in the annual report and shall detail:

- which recommendations and recommended disclosures have been complied with and which have not;
- for those which have not, a short summary of the reason for non-compliance, and any plans for future disclosure.

Example: TCFD Compliance Statement

[Entity] has reported on climate-related financial disclosures consistent with HM Treasury's TCFD-aligned disclosure application guidance, which interprets and adapts the framework for the UK public sector. [Entity] [considers/does not consider] climate to be a principal risk, and has therefore complied with the TCFD recommendations and recommendations disclosures around [sic]:

- Governance - recommended disclosures (a) and (b)
- Risk Management - recommended disclosures (a) to (c)
- Metrics and Targets - recommended disclosures (b)

[further recommended disclosure are only mandatory (subject to comply or explain) where climate is deemed a principal risk]

- Metrics and Targets - recommended disclosures (a) and (c)
- Strategy – recommended disclosure (a) and (b – partial)

[Entity] has [detail progress on Strategy recommended disclosure (b)]. [Entity] plans to provide recommended disclosures for Strategy recommended disclosure (c) in future reporting periods in line with the central government implementation timetable.

1.32 This is an illustrative example. The format and content may vary, provided the minimum requirements are met.

[7] Reporting entities adhering to the DHSC Group Accounting Manual (GAM) are not required to include a TCFD Compliance Statement - refer to DHSC GAM for further details.

Information location

Publication

The TCFD recommends that material climate-related information is included in an organisation's main financial fillings (or published financial statements for public sector bodies) to improve the linkage and consistency between the information included in the narrative/performance reports and the financial statements. For example, where there are material financial impacts driven by climate change or the transition to net zero [8], these may link to narrative information on management's control over related risks in the future. Integrated annual reports, which include both performance and financial information, encourage better financial management [9].

1.33 Further guidance on the location/position, as well as the use of cross referencing and signposting is included in Appendix A.

Risk reporting and more qualitative requirements

1.34 While TCFD is an entity-level framework, users of annual reports need to understand the wider context for climate-related risks and opportunities. Guidance on reporting boundaries is included in the Reporting boundaries and Group reporting considerations in Appendix A.

[8] The 'net zero target' refers to a government commitment to ensure the UK reduces its GHG emissions by 100% from 1990 levels by 2050. If met, this would mean the amount of GHG emissions produced by the UK would be equal to or less than the emissions removed by the UK from the environment.

[9] Review of Financial Management in Government (December 2013)

Chapter 2
Governance

2.1 Good governance is fundamental to any effective and well-managed organisation – be it private or public sector – and is the hallmark of any entity that is run accountably and with long-term interests clearly in mind.

Recommendation for Governance

Disclose the organisation's governance around climate-related issues.

Overview

2.2 This chapter addresses TCFD's recommendation for an organisation's governance arrangements for climate-related issues. These principally qualitative, disclosures are designed to assist report users in assessing the adequacy and effectiveness of an organisation's board to oversee, evaluate and manage climate-related issues.

2.3 The management structures for making decisions and holding responsibility in the UK public sector are not always aligned with the private sector. While the Code of Good Practice [10] has embedded the 'department board model' into central government departments, other public sector bodies may have governance structures which vary significantly from private corporations. In such instances, the principles for the Governance recommended disclosures should be applied – even if the terminology, composition and structures themselves are different.

Materiality

2.4 All in-scope bodies should provide the recommended disclosures for Governance – refer to Figure 1.3. The level of detail provided remains at the discretion of preparers but should meet the needs of the primary users of annual reports.

Recommended disclosures

2.5 Information disclosed should allow annual report users to understand how risks and opportunities relating to climate change are identified, considered, and managed within the organisation's governance structure.

2.6 This section outlines the TCFD recommended disclosures (in red boxes) for Governance. For each recommended disclosure, TCFD's Guidance for All Sectors provides supplementary information to support preparers – refer to Table B.2 (in Annex B). Minor UK public sector interpretations and adaptations have been incorporated to support application.

2.7 Further public sector considerations and guidance, has been included to support preparers with disclosure. This draws from

[10] UK Government's Corporate governance code for central government departments (April 2017)

common findings and identified good practice from the private sector conducted by the FCA [11] and Financial Reporting Council (FRC) [12].

Recommended disclosure for Governance (a) Board's Oversight

Describe the board's oversight of climate-related issues.

2.8 Organisations should outline how the board oversees climate-related issues, including the processes and frequency of updates provided to the board or its committees (e.g., audit or risk committees). Organisations should describe how the board monitors progress against climate-related goals and targets. They should also explain whether climate-related issues are considered when guiding:

- strategy,
- risk management,
- budgets,
- performance objectives, and
- overseeing major capital expenditures or restructures.

2.9 Disclosure may include information on whether the organisation's climate policies and strategies are addressed by the same governance processes, disclosure controls and procedures used for financial management or alongside other risk management processes (e.g., strategic, stakeholder management, safety, etc.).

Public sector considerations

2.10 The Orange Book sets out principles for effective risk management and applies to all central government departments and their ALBs. The guidance is likely to be helpful to other public sector bodies, as the same principles generally apply, with adjustments for context. Section A: Governance and Leadership in the 'Orange Book: Management of Risk – Principles and Concepts' is pertinent to this chapter.

Climate policies and strategies set across a group, industry or sector

2.11 In some cases, a reporting entity's overall climate-related policies and strategies may be determined by another public sector entity, such as departments using their policy setting or regulatory powers. In some cases, organisations may have a governing body within their own structure, or it may be shared with or may be a matrix structure with other public sector bodies. The entity should provide disclosure for a user to understand the structure and level of oversight the governing body provides for the entity specifically and may signpost to external sources. The annual report may signpost to external information – refer to Appendix A. These same considerations for disclosure apply to Governance b) management's role.

Recommended disclosure for Governance (b) Management's role

Describe management's role in assessing and managing climate-related issues.

[11] www.fca.org.uk/publications/multi-firm-reviews/tcfd-aligned-disclosures-premium-listed-commercial-_companies

[12] www.frc.org.uk/getattachment/65fa8b6f-2bed-4a67-8471-ab91c9cd2e85/FRC-TCFD-disclosures-and-climate-_in-the-financial-statements_July-2022.pdf

2.12 Organisations should disclose the key reporting channels and processes for climate-related issues, and how these are integrated into the organisation's overall governance. The information disclosed may include the responsibilities of relevant committees or individual management positions (e.g., job titles, individuals accountable), as well as identify specific reviews being undertaken.

2.13 For example, the organisation may want to disclose if a member of their Executive Committee is responsible for internal climate change policy, or how climate change issues are considered in investment committees and decisions. Similarly, if no directors have oversight of climate-related risks and opportunities and/or no individual within the organisation has responsibility for assessing or managing climate-related issues, then this should be stated and explained.

Public sector considerations

2.14 Management refers to executive or senior management positions and that are generally separate from the board. For central government, this would include the structures described in the Corporate Governance Report – please refer to the FReM.

2.15 The disclosures interact with other requirements in annual reports, and reporting entities should appropriately cross-reference to enable users to understand the governance of climate change and the actions by the board in an overall context (e.g., to the Governance Statement).

2.16 The level of detail and/or cross-referencing to elsewhere in the annual report may depend on the extent to which climate policies and their risks and opportunities are addressed by the same governance processes, controls and procedures detailed elsewhere in the accounts as well as the extent to which specific climate policies and strategies have been established.

2.17 Where climate change has been identified as a principal risk, entities should indicate how climate change has been addressed as a principal matter for the organisation – refer to Chapter 3.

Chapter 3
Strategy

3.1 An organisation's strategy establishes a foundation against which it can monitor and measure its progress in reaching a desired future state. Strategy formulation generally involves establishing the purpose and scope of the organisation's activities and the nature of its undertakings, taking into account the risks and opportunities it faces and the environment in which it operates. A strategy is a plan or approach which is intended to help the entity achieve an objective.

3.2 Primary users need to understand how significant climate-related risks (and opportunities) may affect an organisation's operation, strategy, and financial planning over the short, medium, and long term.

3.3 A description of the strategy for achieving an entity's objectives provides insight into its development, performance, position and future outlook. This, alongside existing performance and narrative [13] reporting requirements on objectives offers context for strategic information, allowing stakeholders to make an assessment of its appropriateness.

Recommendation for Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's operations[+] ~~businesses~~, strategy, and financial planning where such information is material.

Overview

3.4 This chapter focuses on the qualitative and quantitative disclosures concerning an organisation's identified climate-related risks, opportunities climate-related and their impacts. This chapter also tackles climate scenario analysis, identifying common anchor points and scenario pathways to be used.

Materiality

3.5 The reporting requirements for the strategy recommended disclosures remain subject to materiality – except where they are specifically mandated by other reporting requirements (i.e., in regulation or legislation, or by relevant authorities).

3.6 Reporting entities should consider the Broader considerations section in Appendix A when considering what material climate-related information to report.

Principal, new and emerging risks

3.7 Understanding climate-related risks is essential for understanding the resilience of an organisation's strategy to climate change and the transition to net zero.

[13] For simplicity, this guidance refers to narrative and performance reports collectively as performance reports throughout this guidance.

Risk reporting

3.8 Reporting entities should refer to Appendix A which draws from existing risk reporting for UK public sector annual reports on principal, new and emerging risks. Guidance on reporting on an organisation's processes for identifying, assessing, and managing climate-related risks is covered in Chapter 4.

3.9 While climate risk is well established, the level of climate-related risks on individual organisations will vary. These climate risks will continue to emerge and evolve over time. Reporting entities shall apply principal and emerging risk reporting requirements for climate, where relevant.

3.10 Climate risk may be a standalone risk category or considered within other existing risk categories. Where climate is a significant component of another principal risk, climate information will be material to primary users.

3.11 An illustrative example of a public sector body facing climate-related issues and the related reporting has been included in Annex A.

Risk categories and grouping

3.12 Organisations are responsible for their own risk management - including the categorising and grouping of risks. Approaches for categorising risks are explored in Annex A refer to Table A.1 and Figure A.3.

3.13 The impacts of climate change are broad and wide reaching. They may be cross cutting in nature, impacting other risks or areas. Reporting entities should provide relevant information to primary users to understand the impact of climate change on other risks.

Climate principal risk assessment and reporting

Climate as a principal risk

Where climate change (or the transition to net zero) is a principal risk, the reporting entity must describe the risk in line with existing performance reporting requirements (e.g., impact on objectives and outcomes, resulting uncertainties, impact on service delivery, etc.) including related uncertainties facing the organisation.

Climate as a significant component of a principal risk

Where climate change (or the transition to net zero) forms a significant component of another principal risk, then the reporting entity must describe its impact on the other principal risk, using cross-referencing in annual report where appropriate.

Climate not as a principal risk or significant component of a principal risk

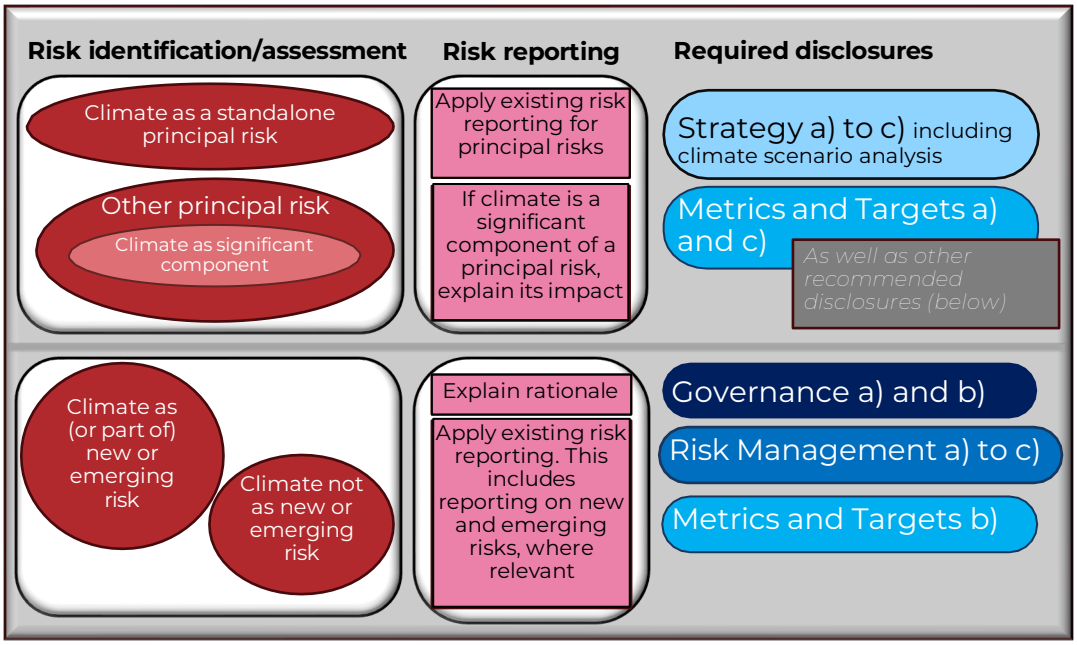
Where climate is not designated a principal risk (or part of a principal risk) reporting entities must articulate their rationale for this judgement and comply with other relevant risk reporting requirements (i.e., on new or emerging risks).

Risk prioritisation

3.14 Reporting entities should clearly set out the relative importance

of principal, new or emerging climate-related risks, compared both with each other and other non-climate risks. They should also set out their assumptions for assessing and prioritising the risks, including judgements on what is material - refer to Strategy recommended disclosure a).

Figure 3.1 Required disclosures where climate is a principal risk or significant component of a principal risk



Recommended disclosures

3.15 This section sets out the TCFD's recommended disclosures for Strategy (in red boxes). UK public sector interpretations or adaptations have been made to Strategy recommended disclosures c) as well as to TCFD's 'Guidance for All Sectors' for Strategy recommended disclosures (b) and (c) – refer to Table B.2 (in Annex B).

Recommended disclosure for Strategy (a)

Risks, opportunities, and time horizons

Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

3.16 Reporting entities that have identified climate as a principal risk (or part of a principal risk), shall outline potential climate-related risks and opportunities for each horizon that could materially affect finances and their strategy, as well as the processes used to assess relevant risks and opportunities. Reporting by sector or geography may also be included, with reference to Tables A1.1 and A1.2 (in Annex A) for further detail.

3.17 Reporting entities should describe their short-, medium-, and long-term time horizons. In identifying these time horizons, reporting entities should consider the useful life of assets and infrastructure, as well as the longer-term nature of climate risks and opportunities.

Public sector application

3.18 Strategy recommended disclosures a) and b) (covered in the next subsection) should draw from and link to the existing risk reporting on principal, new and emerging risks addressed earlier in this chapter.

Climate-related opportunities

3.19 Assessing climate-related opportunities enables the development of proactive strategies that enhance the resilience of the organisation. Reporting entities shall provide information on material climate-related opportunities and how they are managed, ensuring information is fair, balanced, and understandable.

3.20 Balanced disclosure should focus on climate-related opportunities that are material – considering their likelihood, timing and potential impact on the organisation, its operations, its finances and strategy. The relative significance of the climate-related opportunity should also be clear to annual report users.

Time horizons

3.21 The time horizons applied to Strategy recommended disclosure a) should align with the organisation's existing strategic and business planning time horizons, enabling improved integration into existing risk management processes and strategy, and consistency across the annual report. Organisations tailor business and strategic planning time horizons based on entity-specific factors [14].

3.22 Reporting entities should explain the time horizons adopted in the context of legislative requirements and public sector outcomes and targets (e.g., Net Zero) set by their relevant authority.

Longer-term time horizons for climate

3.23 Physical risks from long-term climate changes (e.g., precipitation, temperature, and weather patterns) often evolve over extended periods. Government and public sector operations also span long time horizons, so reporting should account for how these risks may intensify. Climate scenarios analysed for Strategy recommended disclosure c) supports longer-term horizon scanning for climate-related risks - refer to common reference period - end of the century.

3.24 Where reporting entities are analysing much longer-term time horizons - which stretch well beyond their business and strategic planning horizons - they may choose to differentiate between longer-term time horizons. For example, using long-term and very-long-term horizons may provide for better analysis (and management) of longer-term climate-related risks and opportunities within existing risk management and strategic planning frameworks (which typically have shorter time horizons in comparison).

3.25 While longer time horizons apply to gradual climate change, shorter-term horizons will likely be more appropriate for extreme weather events or transition risks. Transition risks are the climate risks associated with transitioning to a lower-carbon (mitigation), and more climate-resilient (adaptation), economy.

[14] Public sector bodies that are responsible for delivering a major longer-term project (e.g., design of long-life infrastructure), but have a limited operating, funding lifetime, and associated business planning time horizon – should consider the time horizons for the associated project.

Recommended disclosure for Strategy (b)
Impacts

Describe the impact of climate-related risks and opportunities on the organisation's ~~businesses~~ operations†, strategy, and financial planning

3.26 Organisations that have identified climate as a principal risk (or significant component of a principal risk) shall explain how identified climate-related issues have impacted their operations/core undertakings, strategy, and financial planning, covering areas such as products, services, supply chains, research and development (R&D), investments, operations, acquisitions, and access to capital, where the information is material.

3.27 They should describe how climate risks and opportunities influence financial planning, including timeframes and prioritisation, and outline the impact on financial performance and position.

3.28 Disclosures should reflect interdependencies for long-term value creation and, where relevant, include transition plans to a low-carbon economy. Organisations should also explain how climate risks and opportunities are integrated into decision-making, including mitigation, adaptation, and planning for legacy assets, and address how GHG emissions and physical risks are considered in capital planning. Flexibility in reallocating capital to manage emerging climate risks should also be discussed.

Materiality filter for climate-related information

3.29 Organisations with climate-related opportunities should describe impacts, while applying an appropriate materiality filter, considering likelihood, impact, and exposure. Materiality is specific to reporting entity and is based on the nature and/or magnitude of the items to which the information relates.

Climate-related impacts

3.30 The strategy of government or public sector bodies often extends beyond their operations and assets. Reporting bodies that are responsible for the provision of public goods and services, or the management of infrastructure, shall consider the associated climate-related impacts (where the related-information is material).

3.31 Reporting bodies in policy setting or regulatory roles can have a significant influence on the economy, the environment, and people - through legislation, regulation, guidance, grants, subsidies, taxes and other levers. These interventions, and their effectiveness, may be impacted by climate-related issues. Where deemed material, this information shall be disclosed in the annual report, applying appropriate cross-referencing.

Connectivity with existing performance reporting

3.32 Climate change (and the transition to net zero) may impact a policy setter or regulator's strategy – including the effectiveness and outcomes of the bodies' policies and programmes.

3.33 Climate-related issues should be considered in the context of existing performance reporting, and their impact on the organisation's wider goals and objectives.

Quantification

3.34 Quantifying risks enables better financial planning, improves the organisations' understanding, and supports decision makers – for example, with policy development and business cases. Nonetheless, there is considerable uncertainty around what the future will look like in terms of future global GHG emissions; the resulting level of global warming; and changes to UK weather and climate.

3.35 Organisations are encouraged to disclose quantified financial information, where practicable and useful, alongside any significant estimates and assumptions that have been used – noting that longer term time horizons are likely to experience higher levels of uncertainty.

3.36 High-quality disclosure should be open with users on the level of uncertainty behind any quantitative information and assumptions included in estimates. The comply or explain basis for disclosure may be used where appropriate (e.g., commercial sensitivity). Reporting entities should use their own judgement in making these assessments.

Recommended disclosure for Strategy (c)
Scenario analysis

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

3.37 Organisations should assess the resilience of their strategies to climate-related risks and opportunities, taking into consideration relevant scenarios for increased physical risks and transition to a low-carbon economy (aligned with a 2°C or lower scenario). They should discuss areas where their strategies may be impacted, potential adaptations to address these risks and opportunities, and the effects on financial performance and position.

3.38 Additionally, organisations should outline the climate-related scenarios and time horizons considered in their analyses. For further details on applying scenarios to forward-looking analysis, refer to Section D in the Task Force's report.

3.39 Organisations should discuss the implications of various policy assumptions, macroeconomic trends, energy pathways, and technology assumptions in publicly available climate-related scenarios to assess the resilience of their strategies. They should provide information on critical input parameters, assumptions, and analytical choices related to policy, energy deployment, technology pathways, and timing for the scenarios used.

Climate as a principal risk

3.40 Where climate is identified as a principal risk (or a significant component of another principal risk), the organisation shall apply climate scenario analysis to test the strategic resilience of the organisation to different future plausible climate states - or explain non-compliance.

Climate scenario analysis

3.41 The Task Force defines climate scenario analysis as the process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty. Scenarios allow an organisation

to explore and develop an understanding of how the physical and transition risks of climate change may impact its operations†, strategies, and financial performance over time.

3.42 To enable comparability and simplify implementation of TCFD-aligned disclosure across government and the public sector, this guidance identifies common reference periods and pathways for climate scenario analysis.

3.43 Reporting entities should adopt these reference periods and pathways in their analysis, unless there is a suitably good reason to deviate, – where they may apply the comply or explain basis for disclosure.

Time horizons and reference periods

3.44 In TCFD's Guidance on Scenario Analysis, the Task Force challenges organisations to consider longer term time horizons compared to typical business and strategic planning. Government's responsibilities for stewardship and service provisions necessitate longer-term strategic thinking.

In setting time horizons for its scenario analysis, an organisation should consider:

- time horizons that are compatible with the organisation's (1) capital planning and investment horizons and (2) the useful life of major organisation assets and
- time horizons that are harmonised or anchored with those of national and international climate policy communities (e.g., 2030 and 2050). Harmonising scenario time horizons to key years and the cycle of the climate policy community can provide an important anchor to, and context with, global climate scenarios, as well as enhance comparability.

3.45 Reference periods need to consider jurisdictional commitments and international agreements, as well as capital planning, investment horizons and asset lifecycles. Organisations should balance their wish for decision-useful information, with the need for comparable disclosures for primary users (which underpins wider cross-government decision making) [15].

[15] Preparers may find it useful to understand their level of exposure to future climate hazards relative to that of the current climate. A commonly used reference period for assessing present climate conditions is 1981 – 2010 but this may vary based on the underlying data sets.

Climate Scenario Analysis
Reference periods

Climate scenario analysis shall use at least three different reference periods[23], including:

- near term – mandatory for all reporting entities to select one or two reference periods/points.
- mid-century – mandatory for all reporting entities.
- end of century – mandatory for reporting entities that:
    1. own, manage, regulate or are responsible for significant long-life assets or infrastructure which are significantly affected by climate change; or,
    2. deliver essential public goods and services which are likely to be significantly impacted by climate change; or,
    3. set longer term policy which is, or regulate industries/sectors that are, likely to be significantly impacted by climate change.

Notes

1. The government and UK public sector own, manage and regulate significant assets and infrastructure with lengthy useful economic lives which are likely to be impacted by climate change and the transition to net zero.
2. Essential public goods and services include those which are essential for the maintenance of societal or economic activities, or that the UK public rely upon, on a daily or near daily basis.
3. The Task Force identified industries and sectors as being likely to be significantly impacted by climate– please refer to Table 1.1.

3.46 Climate risks will crystalise at different points in time. In the near term, variability dominates the analysis. Within a 5-year time horizon, uncertainty around climate response to future emissions is significant. Over a longer horizon—10 to 15 years—the impact of emissions on physical climate risks becomes clearer. For transition risks, which stem from policy and economic shifts, differences between scenarios may be noticeable much sooner.

Reference period ranges

3.47 Using ranges for reference periods allows the analysis to capture a group of individual risks. Drawing data from multiple years enables climate scenario analysis to consider the range of variability in changed climate.

3.48 Reporting entities have the flexibility to set their own range around reference periods to support an analysis of the risks they face. Typically, up to 20 years [16] would be considered appropriate.

Near term analysis

3.49 Reporting entities should set their own near-term reference periods (or points) for climate scenario analysis based on entity-specific factors, including financial planning or the specific transition risks they

[16] While this guidance does not set specific ranges for reference periods, a 20–30-year window centred around the period of interest is often used in the analysis of climate data (e.g., 2050s may aggregate data between 2041 – 2060)

face (e.g., from policy). These will likely overlap with existing business and strategic planning time horizons.

3.50 Organisations that report under other climate risk frameworks may choose to align their near-term analysis with common reference periods. For example, the 4th Climate Change Risk Assessment (CCRA) methodology proposes 2030s a near-term reference period, to represent the climate for which the next round of national adaptation programmes (NAPs) will need to fully prepare for and there are established emissions reduction targets by 2030 under the Paris Agreement. Selecting 2030 as an intermediate point aligns with commitments assumed by the UK [17], the EU [18] and pledges in previous Conferences of the Parties[30].

Common reference period – mid-century

3.51 This application guidance recognises the mid-century period (i.e., 2050s) as a common reference period for climate scenario analysis. This is grounded in national and international climate policy communities (i.e., the Paris Agreement [19], the UN's Intergovernmental Panel on Climate Change or 'IPCC' [20]), the UK's national statutory net zero target of 2050 (i.e., Climate Change Act 2008).

3.52 The Climate Change Committee (CCC) [21] also identifies the 2050s in current and proposed CCRA methodologies. These are used in climate risk assessment frameworks across the public and private sector (e.g., CCRA, Adaptation Reporting Power).

3.53 Most transition risks are expected to manifest themselves on or before 2050 - with government policy enacted to meet statutory net zero commitments. Transition risks that are likely to materialise close to but before 2050 should be considered within the mid-century reference period (for example, reporting entities with net zero by 2045 targets).

Common reference period – end of the century

3.54 Most significant physical climate risks are expected to materialise towards the end of the century (2080-2100). Organisations that are likely to be significantly impacted by the physical and adaptation risks associated with climate change shall consider the impact on their organisation and its strategy by conducting scenario analysis for the end of the century reference period (2080-2100) [22] reference period for a suitable scenario of future emissions and climate change.

3.55 Forecast uncertainty does however increase with more distant time horizons. These uncertainties are discussed later in this section.

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[17] For example: gov.uk/government/news/pm-recommits-uk-to-net-zero-by-2050-and-pledges-a-fairer-path-to- achieving-target-to-ease-the-financial-burden-on-british-families

[18] www.consilium.europa.eu/en/policies/fit-for- 55/#:~:text=Why%20%27Fit%20for%2055%27%3F,line%20with%20the%202030%20goal

[19] www.un.org/en/climatechange/paris-agreement

[20] unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era

[21] www.theccc.org.uk/

[22] The end of the century reference period (2080 to 2100) has a broader time period to allow for the grouping and aggregation of longer-term data sets over these more distant time horizons.

Pathways

3.56 The IPCC defines a scenario as “a plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts, but are used to provide a view of the implications of developments and actions”.

3.57 Scenarios are not intended to represent a full description of the future or to illustrate the full range of uncertainty, but rather to highlight central elements of a possible future and to draw attention to the key factors that will enable future developments.

3.58 A climate pathway is a projected trajectory of GHG emissions and temperature changes over time, based on specific assumptions about future policies, technologies, and behaviours. Pathways help illustrate potential outcomes for global warming, typically aligned with targets like limiting temperature rise to 1.5°C or 2°C.

Incorporating transition risks into scenario analysis

3.59 Transition risks, opportunities and impacts are predominantly influenced by government policy and regulation, which is set by different bodies across central government and the wider public sector. Reporting entities shall incorporate these into climate scenario analysis, with particular attention paid to the mid-century reference period, given the government’s 2050 Net Zero target.

3.60 International climate policies set agreements and targets based on specific warming thresholds to be avoided. The Paris Agreement's overarching goal is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change”. The government is signed up to the Paris Agreement and UK climate policy aims to achieve these global temperatures, reflecting this approach.

3.61 When government policy, legislation and regulation is enacted, reporting entities must consider their impact both on the organisation and its strategy using scenario analysis.

3.62 Where reporting entities have committed (or been committed by an external authority) to a more ambitious net zero target - compared to the UK’s government’s statutory net zero targets - the implications should be considered as part of climate scenario analysis.

3.63 DESNZ has published Net Zero Strategy-aligned carbon values to 2050 which may be useful for modelling purposes. Where reporting entities have exposure to carbon-pricing related transition risk, these values may be useful for quantitative analysis. Please refer to Future Carbon Values (later in this chapter) for further details.

3.64 Climate policy changes can have both direct (e.g., new regulatory requirements) and indirect (e.g., increased costs from additional reporting, changing energy prices) effects.

Global Warming Levels

3.65 Global Warming Levels (GWLs) refer to specific temperature thresholds of warming at a global level (e.g., 1.5°C or 2°C above pre-industrial levels). GWLs represent targets that pathways aim to meet (or avoid) by controlling GHG emissions. Each pathway illustrates a different trajectory of emissions reductions, energy transitions, and

societal changes that correspond to various GWLs. Pathways reaching lower GWLs (i.e., 1.5°C) generally require faster and more significant cuts in emissions, whereas higher GWL pathways (i.e., 3°C or more) represent scenarios with less aggressive climate actions or higher emissions trajectories.

3.66 GWLs facilitate the exploration of future climate projections with a simple framing of "what does the climate look like in a world where global temperatures are 'x' degrees above the pre-industrial period (typically 1850-1900)?"

3.67 GWLs are affected by international action (not just action at a UK level). The response globally will have a much more significant impact on carbon concentrations (and warming levels).

3.68 The use of warming levels holds substantial policy significance. The CCC's 3rd CCRA[23] recommended that the government prepare for 2°C of global warming and evaluate the physical risks associated with 4°C. The government's response, via the NAP, considered these GWLs.

3.69 The proposed 4th CCRA methodology[24] has been included in Table A.2 (in Annex A). Government is yet to prepare their response (via the 4th NAP) [25].

Climate Scenario Analysis

Pathways

When conducting climate scenario analysis, the default approach for reporting entities is to use the GWLs set out in the CCC's CCRA methodology. For CCRA3, 2ºC and 4ºC end of the century temperature rises are applied. Furthermore, reporting entities shall explore (at least one) scenario which is consistent with government's Net Zero policies and commitments.

Alternative or additional climate scenarios may be explored. Where a reporting entity has used different scenario pathways (e.g., transition pathways) they shall explain why.

3.70 Aligning climate scenarios with the GWLs set out in CCRAs does not signal a change in government position on Net Zero, nor is this intended as an assessment of the UK's transition to net zero. Even if the UK achieves GHG emissions compatible with the 1.5°C target, this represents a small portion of annual global emissions. The possibility remains that other countries may not meet their targets. There is also uncertainty in climate sensitivity, meaning that global warming could still exceed 1.5°C despite the UK's efforts.

3.71 Using GWLs which are CCRA aligned allows public sector bodies to leverage from existing climate risk assessments and reporting. Analysing scenarios which align with government's Net Zero policies or commitment meets TCFD Strategy recommended disclosure c) - to consider 'different climate-related scenarios, including a 2°C or lower scenario'.

3.72 Climate pathways drive exploration of the different risks that public sector bodies face (i.e., on service delivery, as insurer of last resort). Reporting entities are encouraged to use the most recent CCRA

[23] www.ukclimaterisk.org/publications/type/technical-reports/

[24] CCRA4 methodology includes the plausible future pathways for global GHG emissions, considering the global warming levels consistent with current policy futures, and includes systemic sampling of the range of UK climate changes for a given global warming level.

[25] Defra's Adaptation Reporting Power also applies CCRA methodology.

methodology published on the CCC website. Reporting entities shall state the GWLs used in the analysis and/or signpost to the methodology applied.

Climate models and uncertainty over global warming levels

3.73 Further climate changes are inevitable. While there is more certainty over mid-century global warming levels, the second half of the century has a wider range of possible outcomes – dependent on both global emissions trajectories and uncertainty in climate response.

3.74 Forecast uncertainty increases over time. Small differences or inaccuracies in the initial conditions of a forecast can grow larger as the forecast progresses - due to the sensitivity of complex systems (e.g., weather patterns). In addition, numerical models, which simplify the real world through necessary approximations, introduce further uncertainty. As forecasts project further into the future, these small initial inaccuracies and model simplifications accumulate, making the forecast less precise and increasing the range of possible outcomes.

3.75 Natural variations in climate happen year to year and due to natural cycles, such as El Nino. Climate trends interact with natural variability to produce extremes.

3.76 Alongside uncertainty in future global GHG emission and the resulting global warming levels, there is also uncertainty over the specific changes to UK weather.

3.77 Large-scale climate tipping points could be triggered as global temperatures rise, potentially causing substantial and lasting shifts in the climate and extreme weather patterns. Currently, there is less confidence in the data around tipping points compared to other climate projections, and the probability of reaching these tipping points within by 2100 is considered low. However, this likelihood increases with the degree of global warming. Plausible worst-case scenarios include tipping points.

3.78 The UK Meteorological Office (Met Office) aims to capture a broad range of uncertainty across its modelling tools, allowing users to explore both median and higher percentile (less likely but more impactful) climate change outcomes. By modelling climate hazards that reflect both median and extreme projections at specific global warming levels, the Met Office ensures comprehensive coverage of potential UK climate outcomes.

UK Climate Projections

3.79 The Met Office provides UK Climate Projections. The most recent UKCP18 [26] which offers the most up-to-date high resolution locality data to assess how the climate of the UK may change. UKCP18 uses a mix of both GWLs and Representative Concentration Pathways (RCP) emissions pathways. Please refer to the Met Office findings:

www.metoffice.gov.uk/research/approach/collaboration/ukcp/summaries/headline-findings

3.80 UKCP18 used approaches that were subsequently used in IPCC 6th assessment, and combined them with additional data from the wider research community - which was the most up to date at the time UKCP18 was launched. UKCP18 may be updated further in the future. Using UKCP18 data sets may provide access to more open data sets; however, there are also certain limitations [27].

[26] Met Office's UKCP18 Science Overview Report: www.metoffice.gov.uk/research/approach/collaboration/ukcp/science/science-reports

[27] Met Office sets out limitations: www.metoffice.gov.uk/research/approach/collaboration/ukcp/data/caveats

3.81 For certain hazards, which do not increase at the same rate as global mean temperature, the Met Office uses a tailored approach to climate scenarios modelling [28]. For example, the response time for sea level rise is on the order of centuries, with some level of increase locked-in for the next century and beyond – even if emissions rapidly reach net zero. Whilst an increase in sea level is expected throughout the century and beyond, the rates will be affected by the amount of GHG emissions. Consequently, sea level rise is very time dependent as well as temperature dependent.

3.82 As an alternative to the 2°C and 4°, UKCP18 products and related tools may be applied in the context of scenario analysis, including detailing the alignment of the preferred warming scenarios with RCP scenarios for clarity. Please refer to Table 5.A, 5.B and 5.C (in Annex A) for the model breakdown for CCRA4.

Other inputs and data sets

3.83 Reporting entities will require variety of data inputs for climate scenario analysis (i.e., for models). Official sources should be used where available – for example, Office for National Statistics (ONS) data sets – to drive consistency and comparability.

3.84 The ONS provides critical demographic, economic, and societal data for the UK, which is used to consider UK socioeconomic development for national purposes, including by the CCC. Projections like population growth, GDP forecasts, urbanisation, and energy demand inform future UK socioeconomic trends. Shared Socioeconomic Pathways are explored later.

Alternative pathways

3.85 This guidance sets GWLs as the default approach for climate scenario analysis. However, where reporting entities face significant climate risks which are better explored via alternative pathways, they may use these approaches. Similarly, where an organisation operates in an industry or sector which uses specific scenario pathways or definitions, then these may be applied. Reporting entities should select scenarios that sample a suitably wide range of uncertainty.

3.86 This section provides an overview of some alternative pathway approaches. Where additional or alternative scenario pathways have been applied, they should be stated and explained. Scenarios that are more useful for users are generally those that consider probability of occurrence and have large implications for strategy formulation.

3.87 It is essential to incorporate both smooth climate change trends and rapidly varying natural variability in chosen climate pathways, as together they shape future extreme weather and climate. More qualitative scenario approaches are suited to exploring very uncertain, high impact events at certain levels of global warming – refer to Future Carbon Values (later in this section).

3.88 The Climate Financial Risk Forum (CFRF) has published guidance on selecting climate scenarios to explore– refer to Section 3 of Mobilising Adaption Finance to Build Resilience. While this guide was produced predominantly for use by financial institutions, this and other guidance may be useful for UK public sector bodies to consider. Further details are included in Annex A.

[28] Where hazard data directly in relation to global warming levels is not yet available, analysis should use aligned Representative Concentration Pathways (RCP) emissions pathways.

Shared Socioeconomic Pathways

3.89 The IPCC defines climate scenarios in terms of pathways for emissions and socioeconomic factors - with either RCPs or Shared Socioeconomic Pathways (SSPs). SSPs set general global socio-economic changes to mitigation and adaptation – rather than UK specific [29].

3.90 IPCC SSP-RCP scenarios form the base for physical risk analysis, providing information relating to emissions (and associated temperature rise) and socioeconomic development for different levels of temperature rise.

3.91 IPCC SSP-RCP may be used to provide decision-useful insights for government bodies. Providing an analysis on socio-economic factors may be insightful for policy setting entities and those with regulatory functions.

3.92 The SSPs have been downscaled and nationalised for the UK under the UK Climate Resilience Programme – relevant data is accessible via the Met Office Climate Data Portal.

Combining data sets

3.93 Specific use cases (e.g., different geographical, industry-specific data) may drive the choice of pathways or data sources. This should be explained in the annual report.

3.94 UK-specific projections from the ONS, for example on population, can inform how different pathways account for urban expansion, housing needs, or healthcare pressures under various climate futures. Similarly, economic data can influence projections of how resilient or vulnerable the UK economy might be to climate impacts under different SSP scenarios. Scenario modelling should be built on robust, up-to-date data, drawing from global climate models and national risk assessments.

Transition pathways

3.95 Transition pathways offer a different type of analysis for reporting entities to consider, focusing on the risks an entity faces with the transition to net zero. Nations are setting net-zero targets and strategies as part of their climate change response. The transition to net zero poses risks and demands significant investments across all sectors.

3.96 Where entities have potentially material exposure to transition risk, they should consider whether exploring low and high transition risk scenarios is useful for users (i.e., decision makers, primary users).

3.97 Transition scenarios will likely be particularly relevant for policy-setting and regulatory bodies wanting to explore the impact of different net zero transition pathways on their strategy, and input from policy and regulatory teams may be necessary. Further guidance on transition plans is included in Annex A.

3.98 Where different transition scenarios are explored, an appropriate explanation shall be provided - including appropriate caveats on the scenario assumptions to avoid the disclosures being taken as government net zero policy (or pre-empting government policy).

3.99 Late transition scenarios assume Net Zero targets are met by 2050, driven by accelerated policy and technology shifts from 2040 to

[29] While UK-SSPs have been developed from global SSPs, these may not consider updates to government policy. Consequently, ONS data and projections may be more useful for climate scenario analysis.

2050. Given current progress on climate mitigation, late transition scenarios may be relevant for consideration. These scenarios foresee sharp changes in energy sources and a carbon price shock, which could create significant differences in transition risks between 2045 and 2050. In such scenarios, choices in near term reference periods will make a significant difference to scenario analysis.

3.100 There are various different international data sets which can be used for climate scenario analysis depending on the use case. The Network for Greening the Financial System (NGFS) data sets are commonly used by financial institutions, and International Energy Agency (IEA) data is used in energy-related analysis, with alternative sectoral datasets for organisations with international reach.

Future Carbon Values

3.101 The Department for Energy Security and Net Zero (DESNZ) published Traded carbon values used for modelling purposes to 2050, separated into:

- Low Sensitivity – High fossil fuel prices and low economic growth
- Net Zero Strategy-aligned [30]
- High Sensitivity – Low fossil fuel prices and high economic growth

3.102 These values are based on a specific set of assumptions with respect to the policy mix, cost of fuels, level of emissions etc. These values should not be considered as 'forecasts' of future prices.

3.103 These carbon values may be used to inform transition scenarios - aligning with government net zero strategy, and high and low sensitivity to provide alternative scenarios for analysis purposes.

3.104 Carbon prices are key drivers of technology adoption and climate policy implementation across world regions. From an analytical perspective, carbon prices in integrated assessment models also influence proposed technological changes, economic indicators, and demand trends, supporting scenario analysis and climate stress testing.

3.105 Some institutions with international exposure may need to use non-UK carbon price figures due to varying transition policies in other countries. Scenario analysis may rely on carbon price figures provided by the external scenario source.

3.106 Where reporting entities use data from a specific provider for non-UK regions, using these carbon prices for UK analysis as well may support comparability. Using carbon prices from different sources or models could result in non-comparable outcomes. The choice on which carbon price source to use for each respective analysis will depend on the context (e.g., locational mix in a portfolio).

3.107 The disclosure should explain that these are assumptions, and not in themselves government policy. Reporting entities may use alternative sources for carbon values, where these are identified and explained. Further information on Internal Carbon Values is included in Chapter 5.

[30] Follows government policies and proposals for decarbonising all sectors of the economy to meet Net Zero by 2050, assuming a level of decarbonisation is achieved through other policies. While not specific to the public sector, this may be used as an acceptable proxy (until specific UK public sector guidance becomes available)

Frequency of climate scenario analysis

3.108 Scenario analysis should be updated at least every 5 years [31]. More frequent updates may be needed where significant changes occur that affect the underlying assumptions.

Updates and factors impacting frequency

3.109 Reporting entities may find it useful to re-assess physical and transition risks on different timelines. Physical risks can generally be reviewed every 5 years [32], unless there are major changes to operations or assets under control. Transition risks may require more frequent updates, potentially every 1-2 years.

3.110 Given this, while 5 years may be appropriate for some institutions or for extensive scenario analysis exercises, it is important that reporting entities monitor new developments (e.g., transition plans in other jurisdictions, impact of geopolitical events on mitigation policies).

3.111 For some institutions, particularly with more (financial) exposure to climate risks and/or if they face risks which may be more affected by geopolitical developments or changes in the global economy, more frequent stress testing, such as on an annual basis, should be considered.

3.112 Assessing climate risks through scenario analysis is a developing field. Reporting entities should monitor new scenarios that become available from providers, in case they provide new and useful information or suggest new approaches.

3.113 Judgement should be applied in deciding the relative significance of developments and events which require assumptions underpinning their existing scenario analysis to be revisited. For example, advances in appropriate technology, the susceptibility of the mitigating activities to obsolescence and other risks arising may constitute significant developments or events triggering the need to revise the scenario analysis, but how and when to determine this is not made clear in the guidance.

3.114 Public sector bodies must consider the appropriateness of the use of resources needed to undertake climate scenario analysis (considering the principles in Managing Public Money) given scenario analysis can often be a resource and time intensive process – refer to Appendix A.

Quantification

3.115 Climate scenario analysis is an iterative process, whereby reporting entities should strive to improve the level of analysis on an ongoing basis. Starting with a qualitative narrative-based approach, before moving to a more quantitative analysis may be appropriate, as the organisation's understanding, the models, data availability and granularity all improve.

3.116 Quantitative climate scenario analysis supports organisations to properly analyse and understand the climate issues that they may face under different scenarios. However, there is considerable uncertainty in climate scenario models (e.g., around tipping points) which impacts the likely accuracy of quantitative assessments.

[31] Selected based on CCRA cycles, typical timing for political and fiscal events (e.g., elections, spending reviews) and considering the regularity of updates to relevant data sets in the past.

[32] The frequency of updates to climate models and other risk assessment processes focused on physical risks (e.g., CCRA, NAP) means significant changes are unlikely to occur frequently.

3.117 Due to the level of uncertainty for more distant time horizons, annual reports may use ranges or qualitative scales of severity [33] (e.g., likely financial impact, its duration and the relative significance to the organisation).

3.118 When broader impacts on the economy, the environment and the public are considered, a qualitative analysis may be more appropriate. Please refer to Appendix A for further details.

3.119 Whichever method is used for climate scenario analysis, annual reports are required to transparently describe the approach and its limitations. If third-party providers are used, they should be requested to provide clear explanations of their assumptions and method limitations.

3.120 The cost-benefit of quantitative climate scenario analysis should be considered.

[33] An example of scales of severity could be: low, within normal manageable risks in year; medium, with significant financial risks contained with a year or with significant financial impact; large, with significant financial impacts over multiple years; very large, as existential for the organisation.

Chapter 4
Risk Management

4.1 Risk is the possibility of an event occurring that will have an impact on the achievement of objectives. Effective risk management encompasses a series of coordinated activities strategically designed to oversee and address these risks while upholding internal control within an organisation.

4.2 The UK's public sector exhibits a considerable level of diversity, necessitating a wide spectrum of risk management practices. Overarching principles and concepts as set out in The Orange Book. Organisations must proactively cultivate tailored and efficient risk management, which will naturally vary based on the unique characteristics of the organisation and the dynamics of its operational environment. Similarly, the terminology and categorisation of risk used by reporting entities may also vary (although Annex 4 of The Orange Book provides examples of risk categories which preparers may wish to consider).

4.3 Climate-related risk is the potential negative impact of climate change on an organisation. Climate-related risk management processes and mitigation strategies should be tailored based on their associated severity, likelihood, and timing. These processes are not static and will need to evolve and mature over time, in tandem with shifts in the risk landscape and as management's comprehension of these risks deepens.

Recommendation for Risk Management

Disclose how the organisation identifies, assesses, and manages climate-related risks.

Overview

4.4 This chapter mainly addresses qualitative disclosures surrounding an organisation’s processes for identifying, assessing, and managing climate-related risks, and their integration within the organisation’s overall risk management.

4.5 For central government, existing FReM requirements for the performance analysis and the governance statement require disclosure on the processes and structures used to identify, evaluate and manage both principal, new and emerging risks. Similar requirements exist across the UK public sector.

Materiality

4.6 In-scope reporting entities shall include Risk Management recommended disclosures (a) to (c) in annual reports – without further application of a materiality filter.

4.7 This provides annual report users with the information they need to understand the organisation's overall climate-related risk management process; alongside the board and management's judgement of whether climate is a principal, new or emerging risk (or component of a principal risk) - or neither.

Recommended disclosures

4.8 This section sets out the TCFD's recommended disclosures for Risk Management (in red boxes). UK public sector interpretations or adaptations have been for Risk Management recommended disclosures (a) to (c) – refer to Table B.2 (in Annex B).

Recommended disclosure for Risk Management (a)

Risk identification and assessment

Describe the organisation's processes for identifying and assessing climate-related risks.

4.9 Organisations should outline their risk management processes for identifying and assessing climate-related risks, highlighting how they determine the significance of these risks compared to other risks. They should consider existing and emerging regulatory requirements related to climate change, such as emissions limits, along with other relevant factors. Additionally, organisations should disclose their processes for assessing the size and scope of identified climate-related risks and provide definitions of risk terminology or references to existing risk classification frameworks used.

Recommended disclosure for Risk Management (b)

Risk management

Describe the organisation's processes for managing climate-related risks.

4.10 Organisations should detail their processes for managing climate-related risks, including how they decide to mitigate, transfer, accept, or control these risks. They should also explain their prioritisation processes for climate-related risks, including how materiality is determined.

4.11 Organisations should address the relevant risks outlined in Tables A1.1 and A1.2 (in Annex A) as part of their risk management description. These 'Examples of Climate-Related Risks/Opportunities and Potential Financial Impacts' may be less relevant for certain public sector bodies and do not need to be considered if not relevant.

Public sector considerations and further guidance

4.12 As well as considering internal risk management processes, reporting entities should also consider whether information from external risk frameworks is relevant for their disclosures. The government and the wider UK public sector report against various risk frameworks (e.g., National Risk Register). These often include climate change as a risk. Identifying, assessing, and leveraging existing risk frameworks will likely aid and improve disclosure. Further guidance is included in Annex A.

Recommended disclosure for Risk Management (c)
Overall integration

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

Public sector considerations and further guidance

4.13 Climate risk may be managed alongside existing risk management procedures - without setting bespoke climate-related procedures.

4.14 Where climate is identified as a principal risk, then bespoke climate-related risk management is more likely. Where climate is not deemed a principal risk but is instead a significant component of another principal risk or a cross-cutting risk, the organisation may manage climate-related risks in the same way as other risks as part of their overall risk management.

4.15 Where risk management processes are described in sufficient detail elsewhere in the annual report (e.g., the Governance Statement), the TCFD recommended disclosures should cross-referencing accordingly to avoid duplication.

Interaction with strategic and other principal risks

4.16 Climate risk is often an exacerbation of existing strategic risks (e.g., extreme weather, water shortages, etc.). Climate change may make these risks more likely or the related impacts more serious. Hence, climate change risks should not be considered in isolation and should be clearly integrated into the strategy of an organisation.

4.17 Where an organisations existing risk types are impacted by climate, these cross-cutting risk types are likely to require integration into the risk management framework.

4.18 Reporting entities will need to apply judgement in deciding which risks should be addressed in the TCFD-aligned disclosures and which are considered as other strategic or principal risks. Linkages between related risk disclosures should be explained - making use of cross- referencing where appropriate.

4.19 While this application guidance sets minimum disclosure requirements, the level of detail should be commensurate with the significance of climate-related risks to the organisation. Care should be taken to ensure the TCFD-aligned disclosures are proportional – considering other risks disclosed in the annual report.

Chapter 5
Metrics and Targets

5.1 Stakeholders require a clear understanding of an organisation's methods for assessing and tracking climate-related risks and opportunities. Access to the metrics and targets employed by the organisation enables stakeholders to make informed evaluations of its performance, level of vulnerability to climate-related issues, and the progress made in effectively managing or adapting to those issues.

5.2 Metrics and targets are essential for monitoring performance and tracking progress. The Climate Change Act[34] commits the UK government by law to reduce GHG emissions – similar legislation has been set by devolved administrations. Central government and wider public sector bodies may have set their own net zero commitments.

5.3 Parliament, the public and other stakeholders need to understand how an organisation measures and monitors its climate-related risks and opportunities. This transparency enables them to track an individual entity's performance.

Recommendation for Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related issues where such information is material.

Overview

5.4 This chapter comprises primarily quantitative disclosures related to metrics and targets, as well as qualitative information on how the metrics and targets are used by the organisation.

Materiality

5.5 The Task Force requires organisations to provide Scope 1 and Scope 2 GHG emissions independent of a materiality assessment and, if appropriate, Scope 3 GHG emissions and the related risks. The disclosure of Scope 3 GHG emissions is subject to a materiality assessment. Further reporting on Scope 3 emissions, beyond the existing categories set out by relevant authorities, is considered voluntary at this time. GHG emission scopes are defined in the GHG Protocol – please refer Annex A for further information.

5.6 Other climate-related metric categories remain subject to materiality – except where they are specifically mandated by other reporting requirements (e.g., in legislation, from relevant authorities).

[34] The Climate Change Act 2008: www.legislation.gov.uk/ukpga/2008/27/contents

Public sector considerations and further guidance

5.7 Guidance on Key Performance Indicators (KPIs), reporting boundaries, prior years and baselining is included in Appendix A.

Broader considerations

5.8 Examples of different sustainability measurement types which public sector bodies may choose to use, include [35]:

- operational impacts
- policy effectiveness
- the state of economic, environmental, and social conditions in areas under their jurisdiction
- strategies to create value (for the organisation, its stakeholders, lenders, public-private partnerships, and society more broadly)

5.9 When determining what information to include in annual reports, preparers must consider both financial materiality with respect to their accounts and the significance of broader impacts on the organisation's current and future performance with respect to their objectives and strategy.

5.10 The public sector is a sector in its own right - with policy effectiveness, stewardship and value creation forming part of the organisation's strategy, alongside operational impacts. Related disclosures for broader impacts and outcomes should provide a balanced view, noting these are often more challenging to measure and assess.

5.11 The responsibility for setting policy, delivering outcomes, and providing services is often shared by multiple organisations and the boundaries of responsibility may be less clearly defined compared to the private sector, where formal agreements and ownership structures are more common.

5.12 Where information on broader policy and outcomes is relevant, its significance and ability to meet the primary user's needs must be considered. Summarising this information and signposting to external reports may be more useful – refer to 1.66 to 1.71

5.13 Disclosures related to broader considerations should be clearly separated from disclosures on entity-level operational impacts.

5.14 Organisations are encouraged to consider climate adaptation and resilience, as well as climate change avoidance, when considering Metrics and Targets. This will form a significant component of government's response to climate change.

Recommended disclosures

This section sets out the TCFD's recommended disclosures for Metrics and Targets (in red boxes). UK public sector interpretations or adaptations have been made to TCFD's Guidance for All Sectors for Metrics and Targets recommended disclosures (a) to (c) - refer to Table B.2 (in Annex B). 'Public sector considerations and further guidance' guides annual report preparers through the UK public sector-specific considerations to disclosure.

[35] CIPFA's Public Sector Sustainability Reporting: time to step it up; Public Agency Sustainability Reporting, GRI, 2004. Please refer to www.cipfa.org/protecting-place-and-planet/sustainability-reporting

Recommended disclosure for Metrics and Targets (a)

Metrics

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

5.15 Organisations should disclose key metrics used to measure and manage climate-related risks and opportunities, referencing Tables A1.1 and A1.2 (in Annex A), as well as metrics from the cross-industry climate-related categories in Table B.3 (in Annex B).

5.16 Organisations should include relevant metrics on climate-related risks related to water, energy, land use, and waste management. For material climate-related issues, organisations should describe how performance metrics influence remuneration policies. Additionally, organisations should report their internal carbon prices and metrics related to revenue from low-carbon economy products and services.

5.17 Metrics should cover historical periods for trend analysis and, where appropriate, include forward-looking metrics aligned with business planning horizons. Organisations should provide descriptions of the methodologies used to calculate or estimate these metrics.

5.18 TCFD's 'Examples of Climate-Related Risks/Opportunities and Potential Financial Impacts' (in Table A1.1 and A1.2) may be less relevant for certain public sector bodies - refer to Annex A for further guidance.

5.19 Organisations should provide historical trends and forward-looking projections for relevant metrics, disaggregated where appropriate. They should disclose metrics that support scenario analysis and strategic planning, as well as those used to monitor the business environment from a strategic and risk management perspective.

5.20 Key metrics related to GHG emissions, energy, water, physical risk exposures, land use, and investments in climate adaptation and mitigation should also be included, particularly those addressing potential financial implications of shifting demand, expenditures, asset valuation, and cost of financing.

Public sector considerations and further guidance

Industry and cross-sector comparatives

5.21 The TCFD framework emphasises the importance of cross-industry-based metrics and targets for comparability. Where a public sector body operates in a specialised industry, they should consider reporting cross industry-based metrics – refer to Table 1.1.

5.22 In addition to the cross-industry metrics, existing sustainability reporting frameworks across the UK public sector, which already require reporting on water, energy, land use, and waste management, may be used to draw cross-sector comparatives (e.g., GGCs for central government, NHS Greener metrics, climate and sustainability-related reporting in the devolved administrations which are often collected outside annual reports).

5.23 The Task Force has published additional Guidance on Metrics, Targets and Transition Plans which provides further information and examples on metrics and targets. Guidance on transition plans is not, however, being opined on in this guidance.

Climate-related performance-based remuneration policy

5.24 While the TCFD guidance makes specific reference to incorporating performance measures into remuneration policies, UK public sector bodies may have less flexibility in setting remuneration policies and may be subject to additional controls and limitations.

5.25 Furthermore, public sector bodies may have a broader set of levers to implement organisational change. Consequently, guidance on climate-related performance-based remuneration policy may be less relevant in a public sector context.

Internal and Shadow Carbon Pricing

5.26 Internal carbon price (similar to shadow carbon price [36]) refers to a monetary value on GHG emissions an organisation uses internally to guide its decision-making process in relation to climate change impacts, risks, and opportunities. This represents the external costs of GHG emissions.

5.27 The government already uses internal carbon prices ('carbon/emissions values') to evaluate the impact of GHG emissions on policy and programme appraisals – via the Supplementary Green Book Guidance on Valuing GHG emissions in policy appraisal. This offers a monetary value that society places on one tonne of carbon dioxide equivalent (£/tCO2e).

5.28 These differ from external carbon prices, which represent the observed price of carbon in a relevant market (such as the UK Emissions Trading Scheme – addressed in Chapter 3).

5.29 Reporting entities that use internal carbon pricing should provide relevant disclosure in their annual reports - signposting to external frameworks and sources where appropriate. This may include information on how carbon values (or internal carbon prices) are used to appraise and evaluate policies, programmes or projects, as well as the absolute value.

Recommended disclosure for Metrics and Targets (b)

Emissions

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.

5.30 Organisations should disclose their domestic Scope 1 and Scope 2 GHG emissions without a materiality assessment. Reporting entities shall disclose material overseas/international Scope 1 and Scope 2, as well as material Scope 3 emissions and related risks (or explain non-compliance).

5.31 Organisations may provide generally accepted industry-specific GHG efficiency ratios. Emissions and associated metrics should be reported for historical periods to enable trend analysis, and organisations should describe the methodologies used to calculate or estimate these metrics where necessary.

[36] Internal carbon pricing is when an organisation assigns a cost to its own carbon emissions to guide decision- making and investment, while shadow carbon pricing is a hypothetical price applied to assess the financial impact of future carbon costs without actual payment, typically used for long-term planning and risk assessment.

Existing emissions and climate-related reporting in central government

5.32 Currently, central government bodies are required to report on emissions, including Scope 1 and 2 GHG emissions. Central government bodies should align their reporting with the Sustainability Reporting Guidance[14] (SRG), ensuring the same underlying methodology is applied.

5.33 At present, disclosure of further categories of Scope 3 GHG emissions are not required in annual reports and accounts [37] (except where this information is deemed material). However, central government bodies may choose to report on other GHG emissions scopes or sources.

Other public sector bodies

5.34 Emissions reporting requirements may necessitate new reporting procedures, adapting/extending existing voluntary reporting, or assessing alignment of their existing frameworks with the TCFD guidance. Reporting entities will benefit from considering this early, and relevant authorities should be consulted where appropriate.

Methodologies and reporting boundaries

5.35 The GHG Protocol is the most widely used methodology and underpins most emissions reporting frameworks – including the TCFD's framework.

5.36 Reporting entities should provide an explanation of the methodology used to calculate emissions metrics, including whether it is in accordance with the GHG Protocol methodology, the reporting boundaries and highlighting any changes in the basis of reporting. Where organisations align their emissions methodology or reporting boundary with an existing framework (e.g., GGCs for central government) then stating this alignment is sufficient.

5.37 GHG emissions should be calculated according to the GHG Protocol methodology to ensure comparability across organisations and jurisdictions.

5.38 As there is significant scope for judgement in determining boundaries and which emissions are included, organisations should explain these decisions clearly. This information is likely to be material where these metrics underpin a major policy or strategy.

Intensity metrics

5.39 Reporting entities should consider reporting intensity metrics (emissions per chosen unit) and provide clear explanations of the choice of metric.

Scope 3

5.40 Organisations may choose to undertake an assessment of Scope 3 emissions. If a reporting entity decides to report further emissions, they must clearly identify which emissions categories are included and ensure this is understandable with historical data. Further information on emissions scopes is included in Annex A.

[37] Refer to the SRG for further information on Scope 3 GHG emissions categories.

5.41 Where Scope 3 emissions are deemed to be material to primary users but not disclosed in the annual report, the reporting entity should update their TCFD Compliance Statement, detailing the reason for the omission and setting out the expected timeframe for their inclusion, where appropriate.

Recommended disclosure for Metrics and Targe (c)

Targets

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets

5.42 Organisations should outline their key climate-related targets, including those related to GHG emissions, water usage, and energy consumption, aligning with the cross-industry climate-related metric categories in Table B.3 (in Annex B) and relevant regulatory or market goals. Additional goals may encompass efficiency targets, financial loss tolerances, avoided GHG emissions throughout the service delivery and product lifecycle, and net revenue goals for low-carbon products and services.

5.43 When describing their targets, organisations should specify whether they are absolute or intensity-based, the applicable time frames, the base year for measuring progress, and key performance indicators used to track progress. For medium- or long-term targets, organisations should also disclose associated interim targets, where available. If not clear, organisations should provide a description of the methodologies used to calculate targets and measures.

Public sector considerations and further guidance

5.44 Organisations should provide fair, balanced, and understandable commentary on climate and sustainability-related performance, detailing organisational activities and other factors that have led to significant movements. Appendix A provides further guidance on reporting against targets.

Annex A

Further guidance

Overview of the Task Force for Climate-related Financial Disclosures (TCFD) recommendations

Background

A.1 In 2015, the Financial Stability Board (FSB) established the TCFD to develop recommendations for more effective climate-related disclosures to promote more informed decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets [38] and exposures to climate-related risks.

A.2 TCFD's aim is for these disclosures to promote the management of climate-related financial risks and opportunities across the economy and financial system.

A.3 The government recognised the recommendations of the FSB's TCFD as one of the most effective frameworks for organisations to analyse, understand, and ultimately disclose climate-related financial information against.

A.4 The TCFD recommendations are being adopted as the foundation for new and developing international sustainability standards, including the International Financial Reporting Standards (IFRS) Foundation's International Sustainability Standards Board [51] (ISSB [39]) and the International Public Sector Accounting Standards Board (IPSASB [40]). Implementing TCFD's recommendations aligns the UK public sector with global best practice.

A.5 The responsibility for monitoring has been taken over by the ISSB. While the TCFD material is no longer being updated or monitored, this does not detract from the importance of the materials or how they link in to longer term advancements of sustainability reporting through the sustainability standards.

[38] Carbon-related assets are generally considered to refer to assets with relatively high direct or indirect GHG emissions.

[39] ISSB's has issued IFRS-S1 General Sustainability-related Disclosures and IFRS-S2 Climate-related Disclosures www.ifrs.org/groups/international-sustainability-standards-board/

[40] IPSASB's consultation on Advancing Public Sector Sustainability Reporting: www.ipsasb.org/publications/consultation-paper-advancing-public-sector-sustainability-reporting

Recommendation and guidance

A.6 The TCFD framework structure for recommendations and guidance is depicted in Figure A.1. There is an array of existing material and guidance published by TCFD, as well as other external bodies, which may be useful to expand knowledge, build capacity and enhance reporting. Figure A.5 sets out the TCFD framework's structure and recommended disclosures.

Figure A.1 TCFD's Recommendations and Guidance

Recommendations
Four widely adoptable recommendations tied to Governance, Strategy, Risk Management, and Metrics and Targets

Recommended Disclosures
Specific recommended disclosures organisations should include in their financial filings to provide decision-useful information

Guidance for All Sectors
Guidance providing context and suggestions for implementing the recommended disclosures for all organisations

Supplemental Guidance for Certain Sectors
Guidance highlighting important considerations for certain sectors in providing sector- or industry-specific climate-related financial information Supplemental guidance is provided for the financial sector and for non-financial sectors potentially most affected by climate change

Additional Supporting Materials
Additional information and guidance to help preparers implement key components of the TCFD recommendations

Source: www.fsb-tcfd.org/publications/

Climate-related risks, opportunities and risk management

TCFD's guidance on climate-related risks and opportunities

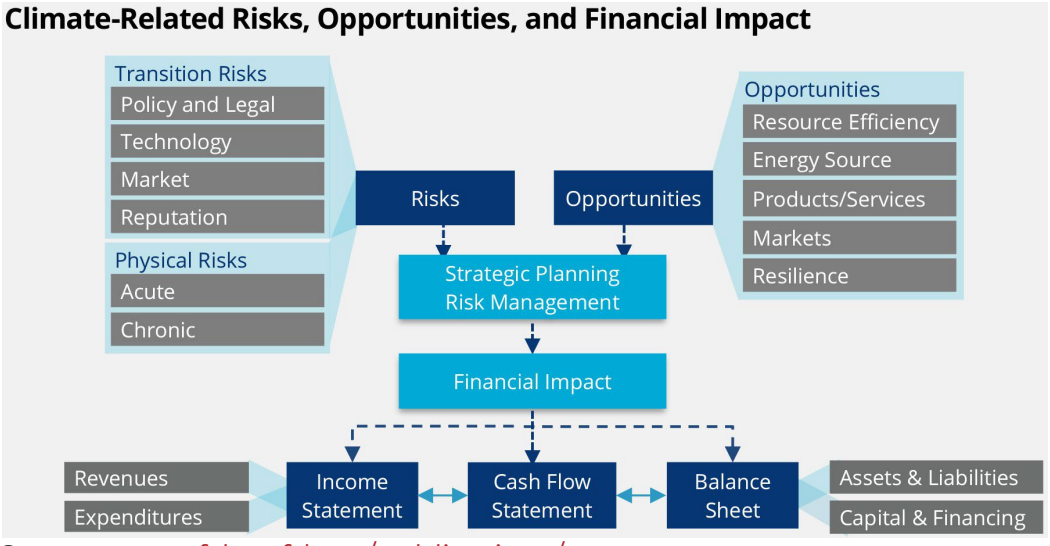
A.7 Climate change can have far-reaching impacts, encompassing not only physical effects on people and the environment but also the consequences of transitioning to a changing climate, along with the necessary tasks of adaptation and mitigation. The Task Force categorise climate-related risks as follows:

- **Physical risks** – adverse impacts (e.g., disruption to operations, destruction of property) either event-driven (acute) such as increased severity of extreme weather events (e.g., cyclones, droughts, floods, and fires) or longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g., sea level rise); or,
- **Transition risks** - associated with the move to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses, and reputational considerations.

A.8 The TCFD identified certain climate-related risks, opportunities, and financial impacts which may be relevant for disclosure – denoted in Figure A.2. The Task Force also set out examples of climate-related risks and opportunities, as well as the potential financial impacts – included in Table A1.1 and A1.2. Further details are included in the TCFD guidance.

A.9 Not all TCFD's guidance or examples are relevant to, or can be applied by, public sector bodies. Discretion must be used to determine which are relevant in their own context.

Figure A.2 Climate-related risks, opportunities and financial impact identified by the Task Force



Source: www.fsb-tcfd.org/publications/

Table A1.1 Examples of climate-related risks and potential financial impacts

Type	Climate-related risks	Potential financial impacts
Transition Risks	Policy and Legal	
	– Increased pricing of GHG emissions – Enhanced emissions-reporting obligations – Mandates on and regulation of existing products and services – Exposure to litigation	– Increased operating costs (e.g., higher compliance costs, increased insurance premiums) – Write-offs, asset impairment, and early retirement of existing assets due to policy changes – Increased costs and/or reduced demand for products and services resulting from fines and judgments
	Technology	
	– Substitution of existing products and services with lower emissions options – Unsuccessful investment in new technologies – Costs to transition to lower emissions technology	– Write-offs and early retirement of existing assets – Reduced demand for products and services – R&D expenditures in new and alternative technologies – Capital investments in technology development Costs to adopt/deploy new practices and processes
	Market	
	– Changing customer behaviour – Uncertainty in market signals – Increased cost of raw materials	– Reduced demand for goods and services due to shift in consumer preferences – Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment)Abrupt and unexpected shifts in energy costs – Change in revenue mix and sources, resulting in decreased revenues – Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations)

Transition Risks	**Reputation**		
	– Shifts in consumer preferences – Stigmatisation of sector – Increased stakeholder concern or negative stakeholder feedback	– Reduced revenue from decreased demand for goods/services – Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions) – Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention) – Reduction in capital availability	
Physical Risks	Acute		
	– Increased severity of extreme weather events such as cyclones and floods	– Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions) – Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism) – Write-offs and early retirement of existing assets (e.g., damage to property and assets in “high-risk” locations)	
	Chronic		
	– Changes in precipitation patterns and extreme variability in weather patterns – Rising mean temperatures – Rising sea levels	– Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants)	

Source: www.fsb-tcfd.org/publications/

Table A1.2 Examples of climate-related opportunities and potential financial impacts

Type	Climate-related opportunity	Potential financial impacts
Resource Efficiency	– Use of more efficient modes of transport – Use of more efficient production and distribution processes – Use of recycling – Move to more efficient buildings – Reduced water usage and consumption	– Reduced operating costs (e.g., through efficiency gains and cost reductions) – Increased production capacity, resulting in increased revenues – Increased value of fixed assets (e.g., highly rated energy-efficient buildings) – Benefits to workforce management and planning (e.g., improved health and safety, employee satisfaction) resulting in lower costs
Energy Source	– Use of lower-emission sources of energy – Use of supportive policy incentives – Use of new technologies – Participation in carbon market – Shift toward decentralised energy generation	– Reduced operational costs (e.g., through use of lowest cost abatement) – Reduced exposure to future fossil fuel price increases – Reduced exposure to GHG emissions and therefore less sensitivity to changes in cost of carbon Returns on investment in low-emission technology – Increased capital availability (e.g., as more investors favour lower-emissions producers) – Reputational benefits resulting in increased demand for goods/services

Type	Climate-related opportunity	Potential financial impacts
Products and Services	– Development and/or expansion of low emission goods and services – Development of climate adaptation and insurance risk solutions – Development of new products or services through R&D and innovation – Ability to diversify business activities – Shift in consumer preferences	– Increased revenue through demand for lower emissions products and services – Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services) – Better competitive position to reflect shifting consumer preferences, resulting in increased revenues
Markets	– Access to new markets – Use of public-sector incentives – Access to new assets and locations needing insurance coverage	– Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks) – Increased diversification of financial assets (e.g., green bonds and infrastructure)
Resilience	– Participation in renewable energy programmes and adoption of energy-efficiency measures – Resource substitutes/diversification	– Increased market valuation through resilience planning (e.g., infrastructure, land, buildings) – Increased reliability of supply chain and ability to operate under various conditions – Increased revenue through new products and services related to ensuring resiliency

Source: www.fsb-tcfd.org/publications/

Climate-related risks acutely relevant to the UK public sector

A.10 Public sector bodies face additional climate-related related risks in connection with value for money, accountability, policy leadership, and coordination and delivery. The NAO published Climate change risk: A good practice guide for ARACs which offers further reading in this area.

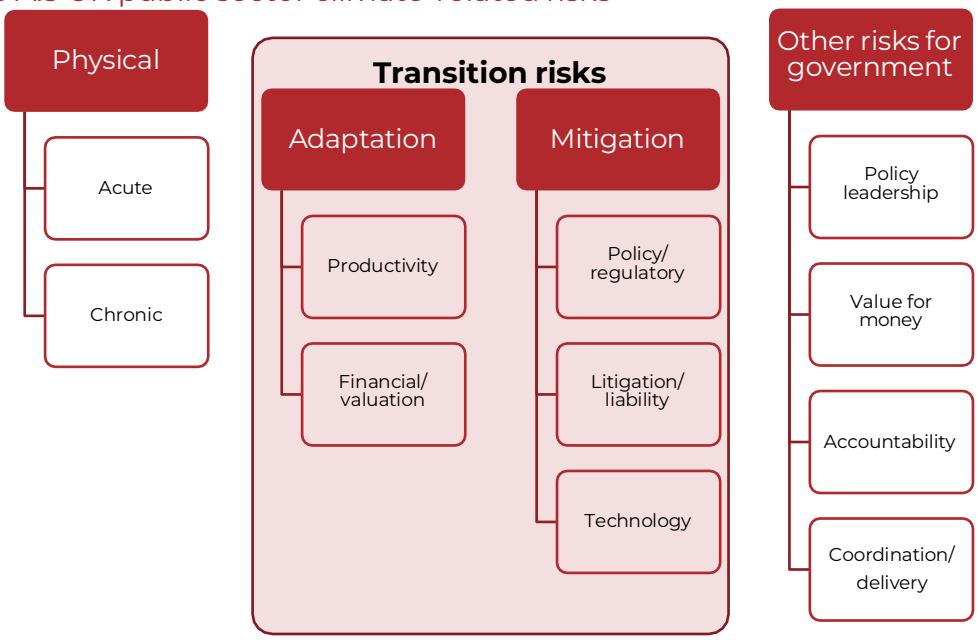
A.11 Example of climate-related risk categories that organisations may wish to consider are included in Figure A.3, with those specific to the public sector summarised as follows:

- **Policy leadership risk** refers to the danger of government failing to effectively address climate change due to the lack of a clear, coherent, and flexible strategy across departments. This risk

encompasses uncertainties in technological development, changes in behaviour, and the need for transparent, realistic plans to meet long-term objectives like net zero by 2050.

- **Value for money risk** in the context of transitioning to net zero refers to the financial dangers associated with either delayed action or hasty decisions without adequate risk assessment, potentially leading to increased long-term costs or expensive future corrections. This risk highlights the importance of integrating climate change risks in decision-making to balance cost-effectiveness with swift progress towards net zero goals.
- **Accountability risk** is the ambiguity and potential ineffectiveness in achieving net zero goals driven by unclear roles and responsibilities of public sector bodies outside central government departments.
- **Coordination and delivery risk** refers to the potential failure in effectively addressing climate change due to inadequate collaboration, communication, and sharing of knowledge among different organisations. This risk arises from unclear roles, fragmented funding, and diffuse accountabilities, particularly between central and local governments and other bodies, leading to social and economic costs and failure to meet targets.

Figure A.3 UK public sector climate-related risks



Further reading and guidance sources for managing climate-related risk

A.12 The Orange Book sets out the principals, concepts and approaches for risk management. Those charged with governance are responsible for an organisation's risk management. Other risk management frameworks may be useful to consider, alongside the Orange Book guidance, including:

- Financial risks – for financial institutions, investors, portfolio managers, etc.
- International Organisation for Standardisation (ISO), specifically the

following standards:

  - ISO 14090 Climate Change Adaptation - Guidelines for Managing Climate Change Adaptation
  - ISO 14091 Adaptation to Climate Change - Guidelines on Vulnerability, Impacts, and Risk Assessment
  - ISO 14080 Greenhouse Gas Management and Related Activities - Framework and Principles for Evaluating Climate Change-Related Investments and Financing Activities
  - ISO 31000 Risk Management – Guidelines
  - 14001 Environmental Management System

- Climate Change Risk Management Guidance

Other UK public sector climate risk frameworks

A.13 The government identifies climate change as a risk in the National Risk Register [41].

A.14 The CCC was established under the Climate Change Act 2008. Under the Act the government must have a periodic UK-CCRA produced. The UK-CCRA identifies priority risk areas for the UK government to address (including on freshwater, soil health, carbon stores, supply chains, etc.).

A.15 The Department for Environment, Food & Rural Affairs (Defra) publish the National Adaptation Programme (NAP) to respond to UK-CCRA's risks facing the natural environment, infrastructure, people and the built environment, business and industry, local government, and adaptation reporting.

A.16 Each of the devolved administrations have their own legislation with respect to climate change and are required to develop adaptation plans to respond to the risks (and opportunities) posed by climate change - as identified in the most recent UK CCRA.

A.17 The CCC independently assess progress toward reducing emissions progress on climate change adaptation plans.

A.18 UK public sector bodies that are considering the climate-related risks and opportunities impacting them, or indirectly impacting the economy, environment and people that they have a policy setting responsibility over, may wish to consider the following source: UK-CCRA4, NAP3.

A.19 The CFRF has published various guides for finance professionals, including on risk management, scenario analysis, disclosures and metrics and targets. While these guides were predominantly produced for financial institutions, they are useful when considering climate scenario analysis.

[41] The National Risk Register (2023): www.gov.uk/government/publications/national-risk-register-2023

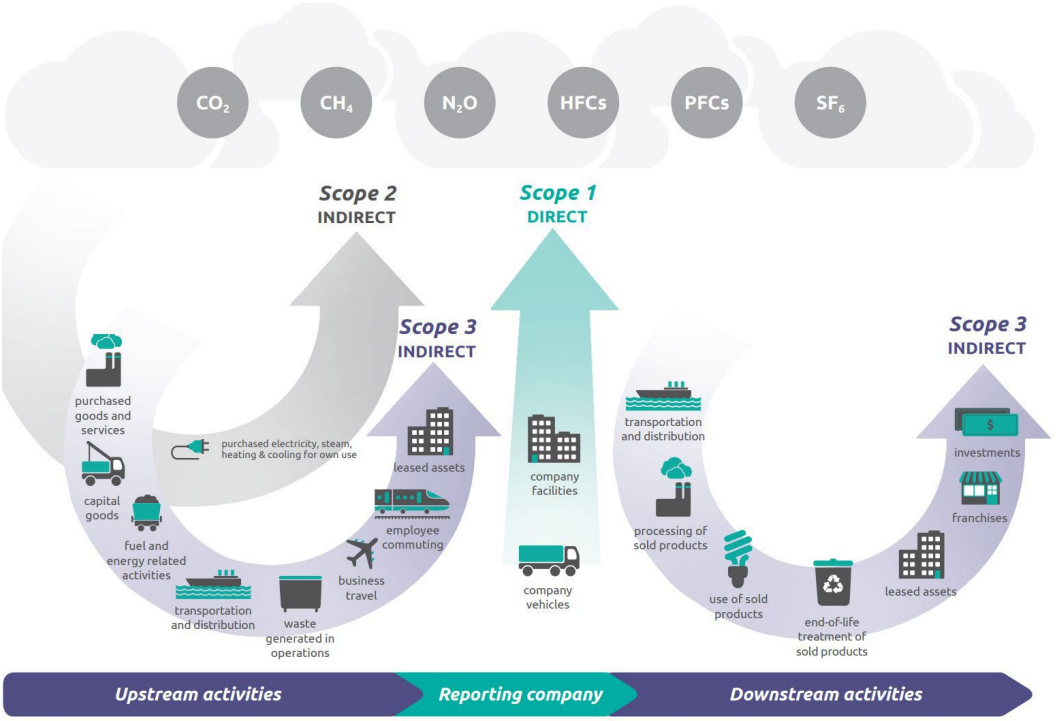
Metrics and targets

Emission scopes

A.20 The GHG Protocol set out the emission scope levels as depicted in Figure A.4. This can be summarised as follows:

- **Scope 1** - all direct GHG emissions.
- **Scope 2** - indirect GHG emissions from consumption of purchased electricity, heat, or steam.
- **Scope 3** - other indirect emissions not covered in Scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 emissions could include the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses), outsourced activities, and waste disposal.

Figure A.4 Overview of GHG Protocol scopes and emissions across the value chain



Global warming levels and temperature increases under different model assumptions and pathways

A.21 This section explores the how different warming levels and temperature increases evolve under different pathways and assumptions.

A.22 The Climate Change Committee (CCC) Fourth Climate Change Risk Assessment (CCRA) provides expected global warming levels in Table A.2 under different conditions.

A.23 The IPCC's (and UKCP18's) model projections for the 5th and 6th Assessment Reporting are depicted in Table A.3 and Table A.4.

Table A.2 Global Warming Level Pathways identified by CCC in CCRA4 methodology

	Central scenario			High climate hazard sensitivity		
Time period	**2030s**	**2050s**	**2080s-2100**	**2030s**	**2050s**	**2080s-2100**
Global warming level (above preindustrial levels)	1.5ºC	2ºC	2ºC	2ºC	2.5ºC	4ºC
UK climate hazards	Median of UKCP18 at 1.5°C	Median of UKCP18 at 2°C	*If current Nationally Determined Contributions (NDC) and net zero targets are delivered central estimates keep levels of between 1.5–2°C*	Upper-end UKCP18 at 2°C	Upper-end UKCP18 at 2.5°C	*If current policy scenarios reaching/ exceeding 4°C by 2100*

Source: www.theccc.org.uk/publication/proposed-methodology-for-the-ccra4-advice

IPCC's Assessment Report Models and UKCP18

Table A.3 IPCC Coupled Model Intercomparison Project Phase 5 (CMIP5) – used for the IPCC's 5th assessment report and UKCP18 (Seneviratne et al., 2021):

RCP	Associated mid-century temperature increase relative to pre-industrial temperature (°C) Multi-model average, 5-95% range	Associated end of century temperature increase relative to pre-industrial temperature (°C) Multi-model average, 5-95% range
RCP 2.6	1.7 (1.3-2.2)	1.7 (1.1-2.3)
RCP 4.5	2.0 (1.5-2.6)	2.5 (1.8-3.2)
RCP 6.0	1.9 (1.4-2.4)	2.8 (2.3-3.6)
RCP 8.5	2.5 (1.9-3.2)	4.4 (3.2-5.5)

Source: IPCC 5th assessment report

The Met Office has published the full UKCP18 values which are available here: www.metoffice.gov.uk/research/approach/collaboration/ukcp/summaries/headline-findings

Table A.4 IPCC Coupled Model Intercomparison Project Phase 6 (CMIP6) – used for the IPCC's 6th assessment report (Lee et al., 2021):

SSP-RCP	Associated mid-century temperature increase relative to pre-industrial temperature (°C) Multi-model average, 5-95% range	Associated end of century temperature increase relative to pre-industrial temperature (°C) Multi-model average, 5-95% range
SSP1 – 1.9	1.7 (1.1-2.4)	1.5 (1.0-2.2)
SSP1 – 2.6	1.9 (1.2-2.7)	2.0 (1.3-2.8)
SSP2 – 4.5	2.1 (1.5-3.0)	2.9 (2.1-4.0)
SSP3 – 7.0	2.3 (1.6-3.2)	3.9 (2.8-5.5)
SSP5 – 8.5	2.6 (1.8-3.4)	4.8 (3.6-6.5)

Source: IPCC 6th assessment report

Figure A.5 Overview of the TCFD framework

Illustrative example

A UK public sector organisation ('Body A') operates significant national infrastructure, such as transport networks or public utilities (e.g., energy distribution). They oversee several group entities, including regional authorities and subsidiary organisations responsible for service delivery and infrastructure management. As a regulatory authority, Body A is responsible for shaping and enforcing policies related to environmental protection and climate change mitigation.

In their risk assessment, Body A considers climate-related risks through three distinct lenses: their own operations, relationships with group entities, and their policy/regulatory role. They deem climate to be a significant risk to their operations and policy/regulatory role.

Lens: Operations
Climate change poses a risk to Body A's operations due to:

- **Physical risks** - increased frequency and severity of extreme weather events (e.g., floods, storms, heatwaves) may disrupt transport or energy services, damage assets, and increase repair and maintenance costs.
- **Operational efficiency** - rising temperatures could impact energy demands (cooling needs) or stress public transport systems (e.g., rail buckling, road surface damage), leading to unplanned service outages or operational inefficiencies.

To manage this risk, Body A may need to invest in infrastructure resilience, such as flood defences, robust transport routes, or enhanced energy grid management systems. These risks are within existing operational boundaries. When considering the relative significance of these risks, Body A should assess this from both a financial materiality perspective and from a risk perspective which involves a quantitative assessment.

Lens: Group entities
Body A's group entities face climate-related financial and reputational risks:

- **Transition risks** - new climate policies or carbon regulations may increase costs related to emissions reductions, energy efficiency upgrades, and compliance measures. This could lead to stranded assets if existing infrastructure becomes non-compliant with new environmental standards.
- **Financial exposure** - climate change may lead to increased insurance premiums for asset protection or decreased availability of insurance for high-risk assets in flood-prone areas, affecting the financial stability of group entities.

Body A must ensure that its group entities have effective climate

adaptation and transition strategies and report climate-related financial risks across the group. The materiality lens must be from the perspective of Body A (and its primary users), not the individual bodies within the group. However, these risks should be considered in aggregate.

Lens: Policy and Regulatory Role
Body A's assesses climate's impact on their policy/regulatory role. They decide that climate is a principal risk based on:

- **Regulatory gaps and stakeholder pressure** - Body A may face significant reputational risk if it fails to develop and enforce regulations that adequately address the impacts of climate change. This includes setting stringent emission reduction targets, climate adaptation standards, and ensuring compliance with national and international climate frameworks (e.g., Net Zero targets).
- **Policy uncertainty** - the evolving nature of climate policy, both nationally and globally, could create uncertainty for regulated entities, impacting investment decisions and long-term planning. Body A may be exposed to risk if it does not remain proactive in aligning its policies with emerging climate science and regulations.

To mitigate these risks, Body A may need to update policies/regulation in response to climate science and align current frameworks with government-wide climate goals. When considering what information to report to primary users, Body A must consider the impact of climate on their strategy (including on people, the environment and the economy)

Climate-related disclosures in the annual report
After analysing the risks associated with climate change and the transition to net zero across each of these different lenses, Body A's governance team assess climate to be a principal risk for the organisation.

Consequently, Body A must comply or explain against each of the eleven recommended disclosures across the four pillars. Nevertheless, the level of detail for climate information depending on materiality across each of these disclosures, and whether to include an assessment for each lens will vary.

Body A identifies significant infrastructure risk exposure. After reviewing the TCFD metrics (Table B.3), it judges the data material and includes both the percentage and absolute value of assets exposed to physical and transitional climate risks. Although the accounts use strict operational boundaries to record assets, Body A should consider including information on other relevant assets, whether across its group or sector, if this enhances primary users' understanding of the organisation's performance and accountability.

	Operations	Group	Policy/ regulatory role
Governance	Likely to constitute material information because its fundamental to understanding overall governance	Where a principal climate risk stretches across the group, or Body A identifies a principal risk within its group structure, then include disclosure.	Where a principal climate risk relates to policy or regulation role.
Risk Management	As above	As above	As above
Metrics and Targets¥	Scope 1 and Scope 2 GHG emissions Exposure (%, £) of assets with physical/transitional risks Targets for emissions reduction (interim and delivery)	Where a principal climate risk stretches across the group, or Body A identifies a principal risk within its group structure, then identify and disclose metrics and targets to assess and manage the principal risk.	Where a principal climate risk relates to policy or regulation, then identify and disclose the related metrics and targets to assess and manage the principal risk.
Strategy¥	Disclose material information on risks, opportunities and impacts of climate on operations.	Disclose material information on risks, opportunities and impacts of climate on group.	Disclose material information on risks, opportunities and impacts of climate on policy and regulation.
	Consider appropriate lens to consider the development of risks (and opportunities) across different time horizons and reference periods.		

¥ - if Body A did not consider climate to be a principal risk, disclosure would only be required against recommended disclosures associated with the Governance and Risk Management pillars - not the Metrics and Targets or Strategy pillar.

Annex B

UK public sector interpretations and adaptations

B.1 The Task Force developed their recommendations for the private sector. Consequently, certain key principles, concepts and terms used in the TCFD guidance have to be interpreted and adapted for a public sector context – as identified and explained in Table B.1 Furthermore, certain underlying disclosure requirements and supporting guidance are less applicable for most UK public sector bodies. The guidance has been adopted accordingly.

B.2 These interpretations and adaptations are limited specifically to this guidance (and the UK public sector) and should not be applied more widely.

Terms and concepts

Table B.1 Public sector interpretations and adaptations

Private sector	Public sector	Explanation
Business or company	Organisation	Encompasses a wider array of bodies, including those in the public sector.
Business plan Organisation's Business /	Organisation's Operations / Operational plan	A plan sets out what an organisation does, and what it is trying to achieve. For the private sector, this is focused on making profit; whereas for the public sector, this is focused on delivery.
An organisation's business or business model	An organisation's operations or operational model	Transforming inputs through its activities into outputs and outcomes that aims to fulfil the entity's objectives, by providing goods and/or services.

Private sector	Public sector	Explanation
Acquisition and divestures	Investment and grant decisions, or restructures (e.g., Machinery of Government changes)	While public sector bodies can acquire and divest other investments; these decisions tend to encompass a broader array of actions, including different types of restructures (e.g., Machinery of Government changes), grants, and investments.
Investors	Primary users	In the private sector, primary users of annual reports are generally accepted to be investors. For UK government and public sector annual reports, primary users vary depending on the relevant authority. For example, primary users of central government ARAs are Parliament
Sectors	Services	Private sector entities are able to define their own sectors for categorisation. TCFD identifies specific sectors, for which 'government' is a single category. For the public sector, standardising categorisations improves comparability and consistency.
Products and services	Public goods and services	The public sector delivers public goods and services, not products and services.
Supply chain and/or value chain	Supply chain	The public sector is focused on the delivery of public goods and services - not profit. This is not limited to monetisable value.
Investment in research and development	Funding research and development	Equity investment in the private sector is common. Other forms of funding (e.g., grant funding) are also used in the public sector. Consequently, funding has been used to encompass the broader funding streams.

Private sector	Public sector	Explanation
Access to capital	Access to parliamentary supply, other funding, and resources	For the private sector, access to capital predominantly refers to cash raised from debt and equity. For the public sector, funds are predominantly raised via taxes (as well as fees and levies), borrowing and other sources (e.g., donations or selling public assets).
Revenues, costs	Income, expenditure	While the meanings are equivalent, the terminology of income and expenditure is more common in the public sector
investment in research and development	investment and grants in research and development	The public sector often funds R&D through grants – rather than direct investment.

TCFD's supporting Guidance for All Sectors and Non-Financial Groups

B.3 The Task Force included further guidance on the specific recommended disclosures in TCFD's Guidance. This is split by sector and industrial grouping. Interpretations and adaptations have been made to the 'Guidance for All Sectors' and 'Non-Financial Groups'. These UK public sector interpretations and adaptations have been explained in Table B.2.

TCFD's guidance on metric categories

B.4 The Task Force published Guidance on Metrics and Targets which includes seven metric categories (Table B.3). The Task Force believes these are generally applicable to all organisations. The table also includes certain public sector interpretations which are in line with the proceeding chapters.

Table B.2 TCFD's Guidance for All Sectors

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
Governance a) Board's Oversight	In describing the board's oversight of climate-related issues, organisations should consider including a discussion of the following: • processes and frequency by which the board and/or board committees (e.g., audit, risk, or other committees) are informed about climate-related issues; • whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, annual budgets, and *organisation plans* as well as setting the organisation's performance objectives, monitoring implementation and performance, and overseeing major capital expenditures investment or grant decisions, and restructures *(e.g., Machinery of Government changes)*; and • how the board monitors and oversees progress against goals and targets for addressing climate-related issues.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1. Machinery of government changes have been included as an example of government restructures.
Governance b) Management's Role	In describing management's role related to the assessment and management of climate-related issues, *organisations* should consider including the following information: • whether the organisation has assigned climate-related responsibilities to management-level positions or committees; and, if so, whether such management positions or committees report to the board or a committee of the board and whether those responsibilities include assessing and/or managing climate-related issues; • a description of the associated organisational structure(s); • processes by which management is informed about climate-related issues; and • how management (through specific positions and/or management committees) monitors climate-related issues.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1.

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
Strategy a)	Organisations should provide the following information: • a description of what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms; • a description of the specific climate-related issues potentially arising in each time horizon (short, medium, and long term) that could have a material financial impact on the organisation; and • a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation. Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate. In describing climate-related issues, organisations should refer to Tables A1.1 and A1.2 *in Annex A*.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1.
Strategy b) Impacts	Building on recommended disclosure (a), organisations should discuss how identified climate-related issues have affected their operations† ~~businesses~~, strategy, and financial planning. Organisations should consider including the impact on their operations† ~~businesses~~, strategy, and financial planning in the following areas: • Products and services • Supply chain and/or value chain • Adaptation and mitigation activities • Investment *and grants*† in research and development • Operations (including types of operations and location of facilities) • Acquisitions or divestments • Access to funding and capital Organisations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used, and how these risks and opportunities are prioritised. Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1. Government and public sector bodies are responsible for significant grant programs where they make capital allocation decisions. The impact of these grant programs should be considered be considered.

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
	Organisations should describe the impact of climate-related issues on their financial performance (e.g., income, expenditure[+] ~~revenues, costs~~) and financial position (e.g., assets, liabilities). If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described. Organisations that have made GHG emissions reduction commitments, operate in jurisdictions that have made such commitments, or have agreed to meet *primary users*[+] ~~investor~~ expectations regarding GHG emissions reductions should describe their plans for transitioning to a low-carbon economy, which could include GHG emissions targets and specific activities intended to reduce GHG emissions in their operations and value chain or to otherwise support the transition. <u>Non-financial grouping guidance</u> Organisations should consider discussing how climate-related risks and opportunities are integrated into their: 1. current decision-making and 2. strategy formulation, including planning assumptions and objectives around climate change mitigation, adaptation, or opportunities such as: • Research and development (R&D) and adoption of new technology. • Existing and committed future activities such as investments, restructuring, write-downs, or impairment of assets *(as well as grant funding)*. • Critical planning assumptions around legacy assets, for example, strategies to lower carbon-, energy-, and/or water-intensive operations. • How GHG emissions, energy, and water and other physical risk exposures, if applicable, are considered in capital planning and allocation; this could include a discussion of major acquisitions and divestments, joint-ventures, and investments in technology, innovation, and new business areas in light of changing climate-related risks and opportunities. The organisation's flexibility in positioning/repositioning capital to address emerging climate-related risks and opportunities.	

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
Strategy c) Scenario Analysis	Organisations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a low-carbon economy consistent with a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks. Organisations should consider discussing: • where they believe their strategies may be affected by climate-related risks and opportunities; • how their strategies might change to address such potential risks and opportunities; • the potential impact of climate-related issues on financial performance (e.g., *income, expenditure*[†] ~~revenues, costs~~) and financial position (e.g., assets, liabilities); and • the climate-related scenarios and associated time horizon(s) considered. Refer to Section D in the Task Force's report for information on applying scenarios to forward-looking analysis Non-financial groups guidance ~~Organisations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the organisation, scenarios consistent with increased physical climate-related risks.~~ Organisations should consider discussing the implications of different policy assumptions, macro-economic trends, energy pathways, and technology assumptions used in publicly available climate-related scenarios to assess the resilience of their strategies. For the climate-related scenarios used, organisations should consider providing information on the following factors to allow ~~investors~~ *primary users*[†] and others to understand how conclusions were drawn from scenario analysis: • Critical input parameters, assumptions, and analytical choices for the climate-related scenarios used, particularly as they relate to key areas such as policy assumptions, energy deployment pathways, technology pathways, and related timing assumptions.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1. Revenue thresholds The one billion U.S dollar equivalent (USDE) revenue threshold for conducting a more robust scenario analysis is not appropriate for UK public sector bodies. Size thresholds to determine which central government bodies are required to adopt TCFD-aligned disclosure were introduced in Chapter 1 and align with the UK private sector. The scenario analysis requirements in Chapter 3 set out the extent, level of detail and quantification of climate scenarios for

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
	• Potential qualitative or quantitative financial implications of the climate-related scenarios, if any.	UK public sector bodies.
Risk Management a) Identification and assessment	Organisations should describe their risk management processes for identifying and assessing climate-related risks. An important aspect of this description is how organisations determine the relative significance of climate-related risks in relation to other risks. Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered. Organisations should also consider disclosing the following: • processes for assessing the potential size and scope of identified climate-related risks and • definitions of risk terminology used or references to existing risk classification frameworks used.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1.
Risk Management b) Risk Management	Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. In addition, organisations should describe their processes for prioritising climate-related risks, including how materiality determinations are made within their organisations. In describing their processes for managing climate-related risks, organisations should address the risks included in Tables A1.1 and A1.2 *in Annex A*, as appropriate.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1.
Risk Management b) Integration	Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.	Minor adaptations and interpretations have been made in respect of private sector terms – refer to Table B.1.
Metrics and Targets a) Metrics	Organisations should provide the key metrics used to measure and manage climate-related risks and opportunities, as described in Tables A1.1 and A1.2 *in Annex A*, as well as metrics consistent with the cross-industry *[or cross-sector]*, climate-related metric categories described in Table B.3 *in Annex B*. Organisations should consider including	Minor adaptations and interpretations have been made in respect

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
	metrics on climate-related risks associated with water, energy, land use, and waste management where relevant and applicable. Where climate-related issues are material, organisations should consider describing whether and how related performance metrics are incorporated into remuneration policies. Where relevant, organisations should provide their internal carbon prices as well as climate-related opportunity metrics ~~such as revenue from products and services designed for a low-carbon economy~~. Metrics should be provided for historical periods to allow for trend analysis. Where appropriate, organisations should consider providing forward-looking metrics for the cross-industry *[and cross-sector]*, climate-related metric categories described in Table B.3 *in Annex B*, consistent with their ~~business~~ *operational* or strategic planning time horizons. In addition, where not apparent, organisations should provide a description of the methodologies used to calculate or estimate climate-related metrics. <u>Additional guidance for non-financial groups</u> For all relevant metrics, organisations should consider providing historical trends and forward-looking projections (by relevant country and/or jurisdiction, business line, or asset type). Organisations should also consider disclosing metrics that support their scenario analysis and strategic planning process and that are used to monitor the organisation's business environment from a strategic and risk management perspective. Organisations should consider providing key metrics related to GHG emissions, energy, water and other physical risk exposures, land use, and, if relevant, investments in climate adaptation and mitigation that address potential financial aspects of shifting demand, expenditures, asset valuation, and cost of financing.	of private sector terms – refer to Table B.1. Removed reference to 'revenue goals from for products and services designed for a low carbon economy' which is irrelevant for the vast majority of public sector bodies
Metrics and Targets b) Emissions	Organisations should provide their Scope 1 and Scope 2 GHG emissions independent of a materiality assessment, and, if appropriate, Scope 3 GHG emissions and the related risks. All *organisations* should consider disclosing Scope 3 GHG emissions. GHG emissions should be calculated in line with the GHG Protocol methodology to allow for aggregation and comparability across *organisations* and jurisdictions. As appropriate,	

Recommended Disclosure	TCFD's Guidance for All Sectors Adaptations/interpretations are denoted by italics	Explanation
	organisations should consider providing related, generally accepted industry-specific GHG efficiency ratios. GHG emissions and associated metrics should be provided for historical periods to allow for trend analysis. In addition, where not apparent, *organisations* should provide a description of the methodologies used to calculate or estimate the metrics.	
Metrics and Targets c) Targets	Organisations should describe their key climate-related targets such as those related to GHG emissions, water usage, energy usage, etc., in line with the cross-industry *[and cross-sector]* climate-related metric categories in Table B.3 *in Annex B*, where relevant, and in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, *[and]* financial loss tolerances, avoided GHG emissions through the entire *service delivery and* product life cycle,~~ or net revenue goals for products and services designed for a low-carbon economy~~. In describing their targets, organisations should consider including the following: • whether the target is absolute or intensity-based; • time frames over which the target applies; • base year from which progress is measured; and • key performance indicators used to assess progress against targets. Organisations disclosing medium-term or long-term targets should also disclose associated interim targets in aggregate or by business line, where available. Where not apparent, organisations should provide a description of the methodologies used to calculate targets and measures.	Adapted to introduce reference to 'service delivery' in lifecycle emissions considerations relevant for public sector bodies. Removed reference to 'revenue goals from for products and services designed for a low carbon economy' which is irrelevant for the vast majority of public sector bodies.

Source: www.fsb-tcfd.org/

Table B.3 Cross-industry, climate-related metric categories

Metric Category	Example Unit of Measure	Rationale for Inclusion	Public sector applicability
GHG Emissions Absolute Scope 1, Scope 2, and Scope 3; emissions intensity	MT of CO2e	Disclosure of GHG emissions is crucial for users to understand an organisation's exposure to climate-related risks and opportunities. Disclosure of both absolute emissions across an organisation's value chain and relevant emissions intensity provides insight into how a given organisation may be affected by policy, regulatory, market, and technology responses to limit climate change.	Reporting on Scope 3 categories is not required unless the reporting entity deems this information material for primary users.
Transition Risks Amount and extent of assets or organisational activities vulnerable to transition risks*	Amount or percentage	Disclosure of the amount and extent of an organisation's assets or business activities vulnerable to climate-related transition risks allows users to better understand potential financial exposure regarding such issues as possible impairment or stranding of assets, effects on the value of assets and liabilities, and changes in demand for products or services.	The responsibilities and structures for asset ownership, control and management may differ from the private sector, extending beyond the direct remit of financial reporting. Further guidance on asset management is included in MPM. Reporting entities are encouraged to consider assets belonging to others which they protect or influence. Where such components do not form part of the entity's balance sheet, this should be clearly stated.
Physical Risks Amount and extent of assets or organisational activities vulnerable to physical risks	Amount or percentage	Disclosure of the amount or extent of an organisation's assets or business activities vulnerable to material climate-related physical risks allows users to better understand potential financial exposure regarding such issues as impairment or stranding of assets, effects on the value of assets and liabilities, and cost of business interruptions.	

Source: www.fsb-tcfd.org/publications/

Metric Category	Example Unit of Measure	Rationale for Inclusion	Public sector applicability
Climate-Related Opportunities Proportion of revenue, assets, or other business activities aligned with climate-related opportunities	Amount or percentage	Disclosure of the proportion of revenue, assets, or business activities aligned with climate-related opportunities provides insight into the position of organisations relative to their peers and allows users to understand likely transition pathways and potential changes in revenue and profitability over time.	Most public sector bodies are unlikely to generate significant revenue. Other opportunities (e.g., technology innovation) may exist but are likely to be more qualitative in nature.
Capital Deployment Amount of capital expenditure, financing, or investment deployed toward climate-related risks and opportunities	Reporting currency	Capital investment disclosure by non-financial organisations and financing by financial organisations gives an indication of the extent to which long-term enterprise value might be affected.	

Note: While some organisations already disclose metrics consistent with these categories, the Task Force recognises others—especially those in the early stages of disclosing climate-related financial information—may need time to adjust internal processes before disclosing such information. In addition, some of the metric categories may be less applicable to certain organisations. For example, data and methodologies for certain metrics for asset owners (e.g., impact of climate change on investment income) are in early stages of development. In such cases, the Task Force recognises organisations will need time before such metrics are disclosed to their stakeholders.

Source: www.fsb-tcfd.org/publications/

Metric Category	Example Unit of Measure	Rationale for Inclusion	Public sector applicability
Internal Carbon Prices Price on each ton of GHG emissions used internally by an organisation	Price in reporting currency, per MT of CO2e	Internal carbon prices provide users with an understanding of the reasonableness of an organisation's risk and opportunity assessment and strategy resilience. The disclosure of internal carbon prices can help users identify which organisations have *operational* models that are vulnerable to future policy responses to climate change and which are adapting their *operational* models to ensure resilience to transition risks.	Public sector bodies that use internal carbon prices (or carbon values) to assess and evaluate policy and programmes should disclose the values and how they are used.
Remuneration Proportion of executive management remuneration linked to climate considerations**	Percentage, weighting, description, or amount in reporting currency	Remuneration policies are important incentives for achieving an organisation's goals and objectives and may provide insight on an organisation's governance, oversight, and accountability for managing climate-related issues.	Sustainable performance-based pay may be less relevant for public sector bodies.

*Transition and Physical Risks: Due to challenges related to portfolio aggregation and sourcing data from companies or third-party fund managers, financial organisations may find it more difficult to quantify exposure to climate-related risks. The Task Force suggests that financial organisations provide qualitative and quantitative information, when available.

** Remuneration: While the Task Force encourages quantitative disclosure, organisations may include descriptive language on remuneration policies and practices, such as how climate change issues are included in balanced scorecards for executive remuneration.

Source: www.fsb-tcfd.org/publications/

Annex C

Phased implementation approach

C.1 The TCFD recommendations are intended to fundamentally change how organisations address climate change and its impacts, culminating in insightful disclosures. A phased approach - both in scope and timing - provides reporting entities with solid building blocks for effective and efficient implementation.

C.2 Generally, organisations choose to address the high-level qualitative recommendations for the Governance pillar first - to engage senior leadership. Organisations often then make disclosures against the Risk Management and Metrics and Targets pillar - before attempting the more complex and quantitative disclosures for Strategy. This has informed our implementation timetable for central government - set out in Table C.1.

C.3 Central government bodies adopted the TCFD recommendations in a phased approach, with aligning phased application guidance released by HM Treasury, as follows:

Phase 1 (issued July 2023) addressed:

- general principles (including scoping);
- the Governance recommendation and recommended disclosures (a) and (b);
- the Metrics and Targets recommended disclosure (b) – where data is available; and,
- the TCFD Compliance Statement requirements.

Phase 2 (issued March 2024) addressed:

- the Metrics and Targets recommendation and recommended disclosures (a) and (c); and,
- the Risk Management recommendation and recommended disclosure (a) to (c).

Phase 3 (issued December 2024) addresses:

- the Strategy recommendation and recommended disclosures (a) to (c).

C.4 Implementation was subject to the 'comply or explain' basis for disclosure and central government entities were able to choose to diverge from the implementation timetable, on the condition that this was explained in the TCFD Compliance Statement.

C.5 Reporting entities should assess progress and evaluate performance throughout implementation. This includes an appropriate level of oversight by those charged with governance in their review and approval of each year's annual report.

C.6 Setting out a clear and realistic implementation timetable will likely improve the quality and effectiveness of disclosure, and reduce the burden. The phased approach for central government may be used as a template, recognising the differences in users' informational needs, risks and capacity.

C.7 Relevant authorities may choose to set their own implementation timetables which entities must follow where relevant. In-scope reporting entities would need to provide an explanation for non-compliance with the timetable. Where such information gaps are considered material, the reporting entity should set out its future plans to address the gaps. The information needs of users should be the driving factor in determining what to disclose. Applying appropriate judgement to the level and breadth of disclosure is key to producing effective and useful public sector annual reports.

Table C.1 Overview of TCFD-aligned implementation phases in central government

	Phase 1 Governance focus	Phase 2 Risk Management and Metrics and Targets	Phase 3 Strategy
Target period	2023-24 (for reporting periods ending 31 March 2024)	2024-25 (for reporting periods ending 31 March 2025)	2025-26 (for reporting periods ending 31 March 2026)
Focus	High-level overview	Qualitative disclosures with existing quantitative disclosures	Quantitative disclosures with technical requirements. TCFD-aligned disclosure is fully implemented.
Requirements	Reporting entities shall provide a TCFD Compliance Statement and the recommended disclosures for: • Governance • Metrics and Targets (b), only where available from existing reporting processes. Comply or explain basis	Reporting entities shall provide a TCFD Compliance Statement and the recommended disclosures for: • Governance • Risk Management • Metrics and Targets Comply or explain basis	Reporting entities shall provide a TCFD Compliance Statement and the recommended disclosures for: • Governance • Risk Management • Metrics and Targets, considering wider reporting. • Strategy Comply or explain basis
Interaction with GGC framework	Continue to apply GGC21-25 emissions methodology for Metrics and Targets, in line with SRG	Continue to apply GGC21-25 emissions methodology for Metrics and Targets in line with SRG	Apply new GGC25-30 emissions methodology for Metrics and Targets (GGC21-25 runs until 31 March 2025 with next commitment period for GGC25-30 starting on 1 April 2025). Consider whether further emissions reporting is material (e.g., on Scope 3, overseas emissions).

Annex D

List of abbreviations

D.1 Please refer to Table C.1 for a list of abbreviations used in this document.

Table C.1 List of abbreviations

ALB	Arm's-length body
CCC	Climate Change Committee
CCRA	Climate Change Risk Assessment
CIPFA	Chartered Institute of Public Finance and Accountancy
CFRF	Climate Financial Risk Forum
CMIP	Coupled Model Intercomparison Project
Defra	Department for Environment, Food & Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DHSC	Department for Health and Social Care
FCA	Financial Conduct Authority
FRAB	Financial Reporting Advisory Board
FRC	Financial Reporting Council
FReM	Government Financial Reporting Manual
FSB	Financial Stability Board
GAM	Group Accounting Manual
GGCs	Greening Government Commitments
GHG	greenhouse gas
GWL	Global Warming Level
IFRS	International Financial Reporting Standards
IPCC	UN's Intergovernmental Panel on Climate Change
IPSASB	International Public Sector Accounting Standards Board
ISSB	International Sustainability Standards Board
LLP	Limited Liability Partnership
MPM	Managing Public Money
NDC	Nationally Determined Contributions
NAP	National Adaptation Programme
NHS	National Health Service
ONS	Office for National Statistics
R&D	Research and development

RCP	Representative Concentration Pathways
SDG	UN Sustainable Development Goal
SRG	Sustainability Reporting Guidance
SSP	Shared Socioeconomic Pathways
TCFD	Task Force on Climate-related Financial Disclosure
UN	United Nations

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