PRA Climate Change Adaptation Report 2025

The PRA has produced this report in response to an invitation by the Department for Environment, Food & Rural Affairs (DEFRA) to participate under the fourth round of the climate change adaptation reporting power.

Published on 30 January 2025

Content

Foreword

As a prudential regulator, it is part of our role to ensure that UK banks and insurance companies are prepared to manage the operational and financial risks associated with climate change and the transition to a net-zero emissions economy, and that they are able to play their part in supporting the real economy through a structural change of this kind.

This is our third climate change adaptation report. Our first report in November 2015 set out our findings on the impact of climate change on the UK insurance sector and kicked off our work on prudential climate risks. Our second report in October 2021 examined the progress made by banks and insurers in their management of climate risks and explored the links between climate change and the regulatory capital framework.

In this report we look at the steps taken by banks and insurers since 2021 to respond to the impacts of climate change, and we set out how our regulatory work has evolved in that period. We also look ahead to the planned release, later in 2025, of a consultation paper seeking views on an update to our supervisory statement (SS) 3/19. The update will represent an important development in our work on climate, forming the foundation of the PRA's supervisory approach in this area by providing greater clarity on the outcomes expected of firms in their management of climate risks. I encourage firms and other relevant stakeholders to participate in the forthcoming consultation process.

Sam Woods
Chief Executive Officer of the Prudential Regulation Authority and Deputy Governor for Prudential Regulation, Bank of England

Background

The Prudential Regulation Authority (PRA) has produced this report in response to an invitation by the Department for Environment, Food and Rural Affairs (DEFRA) to participate in the fourth round of climate change adaptation reporting.[1]

The report sets out the response of the PRA to the risks posed by climate change to its operations and policy objectives. In preparing this report, the PRA has considered HM Government's (Government) most recent climate change risk assessment[2] and national climate adaptation programme,[3] as well as statutory guidance on climate adaptation reporting. The PRA's approach to climate change is part of the broader climate strategy set for the Bank of England (Bank), which is detailed in **the Bank's climate-related financial disclosure 2024**.

Executive summary

This report sets out the response of the **PRA** to the risks posed by climate change to its operations and policy objectives in the period since October 2021, and outlines several areas of focus for the PRA in the coming months.

Climate change and the transition to a net-zero emissions economy creates operational and financial risks and economic consequences so is relevant to the **Bank's** mission to promote the good of the people of the UK by maintaining monetary and financial stability.[4] It is relevant to the PRA's primary objectives to promote the safety and soundness of the firms it regulates (firms) and to contribute to securing an appropriate degree of protection for insurance policyholders. It is also relevant to the PRA's secondary objectives to facilitate (i) effective competition and (ii) the international competitiveness of the UK economy and its growth in the medium to long term.

In response, the current goal of the Bank's policy work on climate change and the transition to net zero is to play a leading role in enhancing the resilience of the UK financial system and in understanding the impacts on the macroeconomy. As part of that work, the PRA is taking action to ensure that firms identify, measure, manage and, where outside risk appetite, mitigate the climate risks they face.

The PRA uses its microprudential toolkit to encourage firms to effectively manage their climate risks. This work has developed over the years and covers three main areas of activity: prudential supervision; domestic and international policy; and capability building. Figure 3.1 sets out a high-level timeline of key PRA climate-related work.

In April 2019, the PRA became the first prudential regulator to publish a comprehensive set of supervisory expectations (**SS3/19**) for how firms should enhance their approaches to managing the financial risks from climate change.

A **Climate Biennial Exploratory Scenario** (CBES) exercise was undertaken in 2021 to explore the micro- and macroprudential risks from climate change.[5] The findings were published in 2022 and indicated that an 'early action' scenario, where policies are introduced in a timely manner to deliver an orderly transition to net zero by 2050, resulted in the lowest costs and greatest opportunities for the financial sector.

In October 2022, the PRA issued thematic feedback on firms' progress in responding to SS3/19 and the CBES,[6] and addressing the risks arising from climate change has been a priority since 2021.[7] The PRA expects firms to take a strategic approach to managing the operational and financial risks from climate change, meeting its supervisory expectations and making improvements where required.

Alongside its supervisory work, the Bank continues to develop prudential policy to build resilience to climate risks and support the work of others in that area. It was a founding member of both the **Network for Greening the Financial System** (NGFS) and **the Sustainable Insurance Forum** (SIF) and actively contributes to their respective initiatives. The Bank has also contributed to the climate-related workstreams of international bodies such as the **Basel Committee on Banking Supervision** (BCBS), the **Financial Stability Board** (FSB) and the **International Association of Insurance Supervisors** (IAIS).

The Bank also seeks to support the financial sector to build the skills and knowledge it needs to effectively manage climate risks, for example, by co-convening the **Climate Financial Risk Forum** (CFRF) with the Financial Conduct Authority (FCA) and by providing training through the Bank's **Centre for Central Banking Studies** (CCBS) and the **Climate Training Alliance Portal**, which it works on with the NGFS.

Overall, the PRA has observed that banks and insurers have taken positive steps towards implementing the supervisory expectations set out in SS3/19. However, the levels of embedding vary and the overall assessment of supervisors is that further progress is needed by all firms.

The Bank will continue to deliver on its statutory objectives, focusing its climate-related work on the areas with most material impact on those objectives. For the PRA, a significant focus will be an update of its supervisory expectations. The PRA expects to issue a consultation paper (CP) seeking views on proposals in 2025.

Once the final supervisory statement is published, the **Climate Financial Risk Forum** (CFRF) – an industry forum co-chaired by the PRA and the FCA – will, in due course, provide a forum for industry to share experiences and collaborate to update and build on its existing guidance and tools to help firms evolve their integration of climate consistent with the revised supervisory expectations.

Alongside this, the Bank will continue to assess the potential build-up of systemic risks relating to climate change, as set out in the November 2024 **Financial Stability Report**. This work will be supported by continued collaboration in international fora in support of its statutory objectives and wider remit as they relate to matters of climate risk.

1: Our role

Role of the Bank of England

The mission of the **Bank of England** (Bank) is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. Climate change is relevant to this mission as the physical effects of climate change and the transition to a net-zero emissions economy create operational and financial risks and economic consequences, which could affect:

- the safety and soundness of firms the Bank regulates;
- the stability of the financial system;
- the economic outlook in a way that could have a bearing on the appropriate monetary policy stance; and
- the financial resources available to deliver the Bank's policy and operational commitments.

The Bank's climate strategy is designed to address the risks from climate change to its mission and the exercise of its functions, by focusing allocated resources on those areas that have the most material impact. This strategy takes account of the objectives, regulatory principles and the remit and recommendations to the Bank's statutory policy committees as specified by the Chancellors of the Exchequer (Chancellor) in their letters.[8] 'Responding to the challenge of climate change' is also one of the Bank's seven strategic priorities for 2022 to 2025.[9]

The goal of the Bank's policy work on climate change and the transition to net zero is to play a leading role in enhancing the resilience of the UK financial system and in understanding the impacts on the macroeconomy. Complementing this work, the Bank aims to enhance the resilience of its own physical operations through its Climate Transition Plan to deliver net-zero greenhouse gas emissions from its physical operations by 2040.[10]

The Bank's climate work is organised across three pillars, which are set out in Figure 1.1. The Bank's international engagement spans all three of these pillars, working towards a co-ordinated and timely international approach to monetary and financial stability risks from climate change.

Figure 1.1: The Bank's strategy Pillars for 2024/25

Source: Bank of England.

Further details on how the Bank's climate work programme supports these goals can be found in the **Bank's climate-related financial disclosure 2024**, which draws on the framework recommended by the Taskforce on Climate-related Financial Disclosure.

Role of the Prudential Regulation Authority

The **Prudential Regulation Authority** is the part of the Bank responsible for the prudential regulation and supervision of around 1,500 banks, building societies, credit unions, insurers and major investment firms (collectively 'firms'). The PRA's primary objectives are to promote the safety and soundness of the firms it regulates and to contribute to securing an appropriate degree of protection for insurance policyholders. Its secondary objectives are to facilitate (i) effective competition and (ii) the international competitiveness of the UK economy and its growth in the medium to long term.

Climate change is relevant to these objectives as the UK economy and the firms the PRA regulates are exposed to climate risks. The PRA is therefore taking action to ensure that regulated firms identify, measure, manage and, where outside risk appetite, mitigate the climate risks they face. This is consistent with the PRA's existing supervisory and regulatory principles, in the same way that the PRA expects firms to manage other drivers of financial risks. However, climate change presents firms with specific challenges and the PRA has sought to support firms to develop their capabilities.

In addition to its primary and secondary objectives, the Chancellor of the Exchequer has provided clarifications to the PRA on how it should take into account the risks from climate change. The November 2024 **recommendation letter** for the **Prudential Regulation**

Committee (PRC), which is responsible for taking decisions relating to PRA policy and the supervision of individual firms, states that it should have regard, among other matters, to: 'leading the world in sustainable finance, including by unlocking the full potential for the financial services sector to fund the green transition; making the UK a global hub for sustainable finance activity, and delivering a world-leading sustainable finance regulatory framework.'

The PRA should also have regard to the regulatory principles and certain public policy considerations set by Parliament and Government when making policy. At the time of publication, alongside other regulatory principles the PRA must have regard to the Government's net zero target[11] and environment targets,[12] where relevant to the exercise of its functions.[13]

These requirements and principles are consistent with the PRA's climate strategy and work plan to ensure firms develop capabilities to effectively manage climate risks.

The PRA's role alongside other regulators and governments

While financial regulators, such as the PRA, have a role to play to enable the transition to net zero and a climate resilient economy, they cannot drive it. The responsibility and main public policy tools for driving the transition sit with governments through setting climate policy and with the real economy – industry and individuals – through their choices and actions.

The financial sector plays a key role in supporting the transition through enabling efficient allocation of finance aligned with the transition to a net-zero and climate resilient economy while managing the risks. It is increasingly recognising the opportunities from the transition to net-zero emissions and choosing to take steps to enable, amplify and incentivise transition-aligned choices and actions in the real economy, as well as manage climate risks. As firms continue to develop capabilities, such as Climate Scenario Analysis (CSA), they will be better able to identify these opportunities for transition and navigate climate risks. Nonetheless, to achieve a net-zero transition, there is still a need to increase demand from the real economy for transition-aligned products and services, whether that be through opportunities created by government climate policies, technological innovation or market changes such as changes in consumer sentiment.

The global reach of the UK as an international finance centre means that the PRA and wider Bank work collaboratively with domestic and international partners on the risks posed by climate change to the safety and soundness of firms, the protection of insurance policyholders and the stability of the financial system.[14] This work is set out in more detail in section 3 of this report.

2: Climate-related operational and financial risks to PRA-regulated firms

Physical and transition risks

Climate change poses risks to the financial system and these risks are expected to increase over time. The risks arise through two primary categories: physical risks and transition risks.

Physical risks from climate change can relate to both specific weather events and longer term shifts in climate patterns. Risks associated with specific weather events include flood damage to mortgaged buildings; drought to agricultural producers or storm surges to ports. Risks from longer term shifts in climate patterns include changes in precipitation, extreme weather variability, sea level rise and rising mean temperatures.

These events and longer term shifts can impact operational resilience and lead to financial losses in the financial sector. For example, flooding or sea level rise can damage banks' and insurers' offices, impacting their ability to deliver services. Such events can also devalue mortgaged property, resulting in losses to the lender if the mortgagor defaults, and lead to insurance claims above expectation, resulting in losses to the insurer. Where future likelihood of such climate driven events is not incorporated into banks' and insurers' prices, but instead firms react to disasters in real time, sudden price adjustments can result, contributing to financial instability.

The effect of physical risks can reach beyond the immediate impact of the natural catastrophes to, for example, related supply chains and trade insurance and their impact will be exacerbated when these events overcome existing defences and adaptive measures. For example, the Thames flood barrier currently protects London from tidal surges and fluvial floods,[15] which can lead to financial losses for firms and impact their operational resilience. Research suggests that further adaptations will be required to maintain that protection to the year 2300.[16] Two critical adaptation thresholds have been identified: (i) when mechanical pumping has to be provided alongside the moveable tidal barrier and (ii) when a permanently closed barrier with pumping is required. At these adaptation thresholds the impact of a flood event increases significantly if no additional adaptation measures have been taken. The increase in risk is therefore non-linear and so it becomes essential that future scenarios are modelled and reflected in strategic planning.

Transition risks can arise from the process of adjustment towards a net-zero emissions economy. Factors driving these adjustments include climate policy decisions, technological innovations and market changes such as changes in consumer sentiment. For example, new government regulations that limit the use of fossil fuels (such as carbon pricing) could mean that some assets are retired earlier than would otherwise have been the case because they have become uneconomical to operate.[17] Such transition risks can prompt a reassessment of the value of a large range of assets and create risks for banks and insurers. This can impact both their own operations (for example the boilers used to heat their offices) and their financial operations (for example their lending or insurance policies).

While the magnitude and timing of future impacts for banks and insurers from climate risks is uncertain, climate risks are already crystallising and likely to increase. A growing body of research[18] shows that climate risk is already affecting banks and insurers and that impacts are expected to increase over time.[19] For example, 'insured property catastrophe losses in key global markets [...] will rise by as much as 120% over the next 20 years'[20] due to climate risk.

Distinctive elements of the risks from climate change

Climate risks have three distinctive elements which, together, present unique challenges for the financial sector and require a strategic management approach:

- **The risks are systemic.** They will affect every customer, every company, in all sectors of the economy and across all geographies. Their impact will likely be correlated, non-linear, irreversible and subject to tipping points. They will therefore occur on a much greater scale than the other risks that firms are used to modelling and managing.
- **The risks are simultaneously uncertain and yet foreseeable.** The exact combination of physical and transition risks that will emerge is uncertain, but it is clear that we will either continue on our current emissions pathway and face greater physical risks or we change our pathway by reducing emissions and face greater transition risks.
- **The size and balance of the future risks we face will be determined by actions we take now.** Once physical risks begin to manifest in a systemic way it will already be too late to reverse many effects through emissions reductions. Similarly, the longer that meaningful adjustment to our emissions path is delayed, the more disruptive a transition we will see.

As the Climate Biennial Exploratory Scenario exercise (CBES) evidenced, an orderly transition to net zero by 2050, where policies to mitigate emissions are introduced in a timely manner, will result in the lowest costs and greatest opportunities for the financial sector. As the Intergovernmental Panel on Climate Change have observed, 'risks and projected adverse impacts and related losses and damages from climate change escalate with every increment of global warming. Climatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage.'[21]

Even if the goal of the Paris Agreement to limit the increase in the global average temperature to 1.5C in the 21st century is reached, that 'locks in' a set of impacts from climate change that will drive physical risks and to which the world, countries, companies and individuals will need to adapt.

3: The PRA's response to climate-related risks

How the PRA's actions have evolved

The PRA has taken a number of actions that seek to ensure firms manage climate risks. This work has developed over the years and can be summarised in three main areas of activity: prudential supervision; domestic and international policy; and industry capability building. Figure 3.1 sets out a high-level timeline of key PRA climate-related work.

Figure 3.1: Timeline of key PRA climate-related work

Phase 1 Identifying climate-related risks	2015	PRA Climate Change Adaptation Report (CCAR) 2015 on the impact of climate change on UK insurance sector
	2018	PRA report on the transition in thinking - the impact of climate change on the UK banking sector
Phase 2 Embedding climate considerations into risk frameworks	2019	Established the Climate Financial Risk Forum to build capacity and share best practice across the financial sector industry
		Supervisory Statement 3/19 (SS3/19) issued, setting supervisory expectations for banks and insurers on climate-related risks
	2020	NGFS Phase 1 Climate Scenarios
		CFRF Session 1 practical guides for financial firms
		Letter to CEOs providing feedback to industry on progress against SS3/19
	2021	Launched the Climate Biennial Exploratory Scenario (CBES) exercise
		NGFS Phase 2 Climate Scenarios
		PRA CCAR 2021
		CFRF Session 2 practical guides for financial firms

Phase 3 Active supervision, reflecting on the policy framework and continuing to develop capabilities	2022	Published CBES results
		Letter to CEOs providing further feedback to industry on progress against SS3/19 as well as observations of effective and less effective practices
		Letter to CFOs sharing thematic findings from written auditor reports, including climate matters
	2023	Bank's report on climate-related risks and the regulatory capital frameworks
		CFRF Session 3 practical guides for financial firms
		Letter to CFOs sharing thematic findings from written auditor reports, including climate matters
	2024	Letter to CFOs sharing thematic findings from written auditor reports, including climate matters
		CFRF Session 4 practical guides for financial firms
	2025 onwards	Publication of the consultation paper for the update of SS3/19
		Publication of the Supervisory Statement updating SS3/19

Source: Bank of England.

Prudential supervision

Through **prudential supervision** the PRA aims to develop a clear and comprehensive view of the firms it regulates, to judge whether they are being run in a safe and sound manner and, in the case of insurers, whether they are protecting policyholders appropriately.

The PRA's supervisory approach is judgement-based, forward-looking and focused on key risks, utilising a broad range of tools to gather quantitative and qualitative data to inform its supervisory judgements. The intensity of supervisory activity varies across firms, reflecting the PRA's view of a firm's potential impact on the stability of the financial system, its proximity to failure, its resolvability and the PRA's statutory obligations.[22]

Direct requirements for firms are set out in the **PRA Rulebook** and the PRA's policy framework also includes non-rule material (such as supervisory statements). Firms are expected to engage directly with the PRA Rulebook and other materials in the policy framework to determine whether they are meeting the expectations set out in them.[23]

In April 2019, the PRA became the first prudential regulator to publish a comprehensive set of supervisory expectations (SS3/19)[24] for how firms should enhance their approaches to managing the financial risks from climate change. In the years that followed, the PRA engaged with firms to help them respond to these supervisory expectations and set a deadline for firms to embed them as far as possible by the end of 2021.[25]

The PRA and wider Bank undertook a **Climate Biennial Exploratory Scenario** (CBES) exercise to explore the micro- and macroprudential risks from climate change in 2021. The exercise was designed to: (1) size the financial exposures of individual firms and the financial system to climate change; (2) understand how firms might respond to different climate scenarios and the impact on their business models; and (3) improve firms' management of the financial risks from climate change. It was not a stress test and was not used to set regulatory capital.

The findings were published in 2022 and indicated that an 'early action' scenario, where policies are introduced in a timely manner to deliver an orderly transition to net zero by 2050, resulted in the lowest costs and greatest opportunities for the financial sector. Other scenarios where climate risks are higher (eg due to late action or disorderly transition) bring greater costs for the financial sector and greater potential costs for the real economy. These increased costs arise, for example, through the withdrawal or increase in price of financial services to certain businesses and households.[26] The PRA has used this work to provide feedback to support firms' capability development and it has informed the PRA's own supervision of climate risks.

Since the PRA's last Climate Change Adaptation Report (CCAR) was published, in October 2021, the PRA has issued **thematic feedback** on the CBES and firms' progress in responding to SS3/19. This feedback set out the practices that the PRA had observed, highlighting approaches that the PRA considered more and less effective, and reiterating that approaches should be proportionate to the nature of a firm's business, the scale of risks, and the complexity of operations.

In the same period, the PRA also issued three **letters to Chief Financial Officers** (CFOs) sharing thematic findings from its review of written auditor reports for major UK banks. The findings included the PRA's views on effective practice in accounting for climate risks, which are covered in more detail in the paragraphs on 'Regulatory Capital' below. Addressing the operational and financial risks arising from climate change has been a priority since 2021.[27] The PRA expects firms to take a strategic approach to managing the operational and financial risks from climate change, meeting its supervisory expectations and making improvements where required.

Delivery of the PRA's programme of prudential supervisory work is grounded in the capabilities of its supervisors. To build and maintain these capabilities the PRA has an established network of supervisors with climate expertise spanning the breadth of the firms it regulates. The network collaborates on development and implementation of the PRA's climate work programme. It works closely with other climate specialists within the Bank as well as with supervisory counterparts in other jurisdictions.

Domestic and international policy

Alongside its supervisory work, the PRA and wider Bank continue to develop prudential policy work to build resilience to climate risks and support the work of others in that area. The work is both domestic and international as physical risks are rising globally[28] and – as host to a global, interconnected and open financial system – the crystallisation of financial disruption elsewhere could spill over to the UK.

To address these international risks, the Bank aims to develop a good understanding of how the rest of the world affects the outlook and risks to the UK economy and its financial system. This knowledge is then used to inform the Bank's approach to international policy matters with a view to maintaining the safe economic and financial openness of the UK.

We look now at the Bank's work in four key policy areas: standard setting and guidance; CSA; regulatory capital; and disclosure and transition planning.

Standard setting and guidance

The initial focus of the PRA's prudential policy work on climate risks has been on building strong core capabilities in the identification, measurement and management of climate risk. In addition to their own supervisory expectations, the PRA and wider Bank have contributed to the climate-related workstreams of international standard-setters and international bodies such as the **Basel Committee on Banking Supervision** (BCBS), the **Financial Stability Board** (FSB) and the **International Association of Insurance Supervisors** (IAIS).

Since release of the PRA's 2021 CCAR, work undertaken by these bodies has included the BCBS's '**Principles for the effective management and supervision of climate-related financial risks**', the FSB Climate Vulnerabilities and Data group's **analytical framework and toolkit for assessment of climate-related vulnerabilities**, the IAIS's application papers and issues papers (eg the IAIS application paper on the supervision of climate-related risks in the insurance sector) and the IAIS's development of climate risk guidance related to various insurance core principles.

The Bank was a founding member of the **Network for Greening the Financial System** (NGFS), a forum where central banks and supervisors can share their experience, learn from others, and promote consistent and effective responses to climate risks across the world. The Bank sits on the NGFS steering committee and actively contributes to NGFS initiatives across its work on supervision and the development of reference climate scenarios (see below). It currently chairs the workstream on monetary policy, which recently shared its analysis across physical risks, transition risks and monetary policy operations, summarised in the November 2024 report '**Climate change, the macroeconomy and monetary policy**'.

The Bank was also a co-founder of **the Sustainable Insurance Forum** (SIF) and is a member of the **Consultative Group of Insurance Regulators and Supervisors** (CGIRS). SIF is a global network of insurance supervisors and regulators, who are working together on sustainability challenges facing the insurance sector, including climate change. CGIRS is a consultative group within the **United Nations' Forum for Insurance Transition to Net Zero**, which works with insurance market participants, insurance regulators and supervisors, and other key stakeholders to advance net-zero insurance thinking and practices.

Climate scenario analysis

One core capability that the PRA has given particular focus is CSA. Scenarios are hypothetical pathways rather than forecasts or predictions. They explore a range of possible outcomes, modelling the overall impact that a given top-down climate scenario has on the value of a financial asset. This approach aids in quantifying climate risk much better than standard risk models, which typically use historic data. Although other tools may be developed in future, currently CSA is significantly more effective than the other options available.

While CSA is an important tool, its use within the financial sector has been limited due to its complexity and a lack of familiarity. The PRA and wider Bank have therefore invested in developing CSA tools and guidance and have encouraged firms to incorporate CSA into their risk management activities. For example, one of the reasons that the Bank ran the CBES exercise was to develop the CSA capabilities of both the Bank and the CBES participants.

As the founding chair of the NGFS's Macrofinancial workstream, the PRA contributed to their work with a consortium of climate scientists and modellers to develop a suite of **climate scenarios** as well as the methodology for CSA exercises, which was used in the CBES.

Since the PRA's last CCAR was issued in October 2021, it has continued to build the CSA toolkit, for example, by contributing to:

- an NGFS **technical document** providing guidance on the purpose and use of the NGFS climate scenarios;
- an NGFS **report** on adapting central bank operations to a hotter world (including use of CSA);
- an NGFS **conceptual paper** exploring how short-term climate scenarios can be integrated into wider NGFS models;[29]
- a BCBS **discussion paper** on the role of CSA in strengthening the management and supervision of climate risks; and
- an **application paper on CSA in the insurance sector** by the IAIS' scenario analysis workstream, which the Bank chairs.

Regulatory capital

Having built the foundations through our supervisory work, more recently the PRA's work has evolved to consider the integration of climate risk into the prudential framework.

In October 2022, the PRA and wider Bank convened industry and regulators to consider a range of challenging and fundamental questions on the integration of climate risk into the regulatory capital frameworks for banks and insurers. The research presented was wide ranging, covering the need to address firms' capability gaps in core areas (eg risk identification and measurement) as well as regulators' need to ensure climate risks are adequately captured in the regulatory capital frameworks.

After the conference, in March 2023, **the PRA and wider Bank shared their views** on the integration of climate risks and the regulatory capital frameworks. The report expanded on the focus areas identified in the PRA's 2021 CCAR; the need to address difficulties in (i) estimating climate risks (capability gaps) and (ii) capturing risks in the existing capital regimes (regime gaps). It concluded that, as a short-term priority, the Bank should focus on ensuring firms make progress to address capability gaps to improve their identification, measurement and management of climate risks.

Accounting is a foundational building block of the regulatory capital framework for banks. The regulatory capital held by banks is calculated using their balance sheet information, so it is essential that the impact of climate risks is accurately reflected in banks' balance sheets (and wider financial statements) to help mitigate the risks of gaps in the capital framework. The PRA therefore plays an active role in promoting high-quality and consistent accounting for climate risks, particularly for banks.

In its **letter to CFOs** in October 2022, the PRA shared thematic findings from its review of written auditor reports for major UK banks. This included, for the first time, its view on elements that would contribute to the development of capabilities to capture the impact of climate risks on banks' balance sheets over time, consistent with SS3/19. The PRA has issued further letters to CFOs in **September 2023** and **September 2024**, updating on its observations of major UK banks' work in enhancing these capabilities, and will continue to monitor the progress. Firms' development in this area will directly feed into the PRA's broader consideration of capital adequacy.

Disclosure and transition planning

High-quality, comprehensive and consistent climate disclosure across the economy is essential for the identification and measurement of climate risk, which, in turn, enables firms to improve their risk management and make better decisions. The PRA and wider Bank has been a strong supporter of the work of the International Financial Reporting Standards Foundation's **International Sustainability Standards Board** (ISSB) since its launch. The ISSB's inaugural **global sustainability disclosure standards**, which were published in June 2023, are a crucial step in creating a global baseline for sustainability reporting. The PRA and wider Bank supports the UK framework for the development of **UK Sustainability Reporting Standards**, based upon the ISSB standards. The PRA is also engaging with members of the UK Finance Disclosure Code Working Group[30] to benchmark climate-related disclosures in order to develop good practice, including improved linkage to financial reporting disclosures.

The Bank has been an observer on HM Treasury's Transition Plan Taskforce (TPT), which published its **final disclosure framework for transition plans** in October 2023 and the final technical resources, including **final sector guidance** in April 2024. These publications help define the standards for transition plans so that they provide high-quality, comprehensive and consistent forward-looking information. This approach enables better informed decision making. For preparers this enables them to better transition their organisation, and for users it enables them to better manage risk and mobilise and target finance to aid the transition.

The PRA and wider Bank continue to engage with the UK Government to deliver on its sustainable finance agenda, where appropriate and in line with the PRA and wider Bank's mandate.

Industry capability building

Climate risk management is a fast evolving field and remains a nascent area for some PRA-regulated firms. The distinctive nature of climate risks mean there is a need for innovation and collaboration when developing risk management approaches, drawing on expertise in climate science and translating that into financial considerations for firms. Consequently, a key element of the PRA's work to support the financial sector is to build the skills and knowledge it needs to effectively manage climate risks.

In March 2019, alongside setting supervisory expectations in SS3/19, the PRA and the FCA co-convened the CFRF to bring industry and regulators together to build capacity by producing guidance and sharing best practice on how to address climate risks and opportunities. The Bank's Executive Director for Prudential Policy, **David Bailey**, co-chairs the Forum.

The group issues regular guidance on climate-related topics, which is available on the **CFRF website**. Since its inception, it has published a wide range of materials for the financial sector containing practical tools, information and case studies on various topics, including climate-related financial risk management,[31] scenario analysis,[32] disclosure,[33] data[34] and innovation.

A key example of how the CFRF assists industry is the recently published a report on **climate-related adaptation**, which examines the current market context and sets out a framework for using CSA to assess risks and identify adaptation needs and opportunities. The report is the first from the CFRF focused on adaptation and provides practical guidance on how to build adaptation into a firm's transition planning.

The PRA and wider Bank provide training to other central banks and regulators on topics, including climate-related financial regulation, through the Bank's CCBS. Since the last adaptation report was issued in October 2021, the CCBS has provided training on microprudential supervision of climate risks, CSA and climate disclosures as well as convening roundtable discussion on climate risks in several jurisdictions.

The PRA and wider Bank also work with the NGFS to provide annual training for supervisors on the **Climate Training Alliance Portal**; an online platform that centralises climate and environmental risks training resources to build knowledge and expertise amongst central banks and supervisors, in order to respond to financial risks arising from climate change.

Where the PRA develops a better understanding of good practice through its work, it shares its learnings to enhance others' capabilities if there is value in doing so. For example, in April 2024, the PRA and wider Bank published a **Quarterly Bulletin article** on its use of scenario analysis to measure climate risks associated with its own operations. The article explained how the Bank approaches 'extending' climate scenarios to measure asset-level financial risks across sovereign bonds, corporate bonds and residential mortgages, providing practical insights which may be of relevance to other financial institutions.

Summary of the PRA's latest view of firms' progress and preparedness

Overall, the PRA has observed that banks and insurers have taken positive steps towards implementing the supervisory expectations set out in SS3/19. However, the PRA has provided thematic feedback that levels of readiness and embedding vary and that the overall assessment of supervisors is that further progress is needed by all firms.[35]

Governance – The PRA has noted that firms have generally made substantial progress in establishing governance structures for climate risks. Consistency in application of governance frameworks across firms, including cascading down the different business lines, could however be improved.

Risk management – Firms have also made progress on climate risk management, but there are significant variations in the maturity of their processes and further work is required by all firms to develop appropriate risk management tools that input to decision-making (eg CSA capabilities).

Climate Scenario Analysis – The PRA considers that CSA knowledge and modelling capabilities have evolved and matured since the publication of SS3/19 and these improvements are reflected in the CSA approaches seen in some firms. However, further improvement is still required as, in general, scenario analysis capabilities are not sufficiently well developed to support effective strategic and business decision-making.

Climate scenarios currently have limitations, which the PRA and wider Bank have explored in the Quarterly Bulletin in 2024.[36] While scenarios illustrate impacts under these limitations and given assumptions, they do not necessarily represent the most likely or most severe potential outcomes for that scenario. As a result, conducting CSA requires clarity on the objectives of the exercise and adjustment of scenarios to suit these objectives. Many firms have not been able to articulate the objectives, for which their scenario exercise had been designed, or the ways in which their approach had been calibrated to meet those objectives.

Data – Adequate climate-related data and associated data architecture are essential foundations for all the four core areas identified in SS3/19: governance, risk management, CSA, and disclosure. The PRA has observed that data gaps remain an integral part of the climate risks that banks must manage. More robust, standardised climate-related data of sufficient coverage is needed across the financial sector.

The PRA has observed that firms need to explain how they identify their significant data gaps, what plans they have to close those gaps, and what processes they have in place to ensure that developments in data and tools will be identified and incorporated into their approach. Where data gaps exist, all firms need to put in place contingency solutions using appropriately prudent assumptions, judgements and proxies.

Capital – Firms' work on their climate-related capital assessments is complex and still evolving. Nonetheless, firms need to be able to demonstrate that the financial risks from climate change are appropriately considered within their Internal Capital Adequacy Assessment Process or Own Risk and Solvency Assessment, according to the nature, scale and complexity of their business.

Accounting for climate risk – The major banks have been developing capabilities to quantify the impact of climate risk on Expected Credit Losses (ECL). The PRA has encouraged major banks to identify further improvements in how the effect of climate risk has been considered in ECL measurement, including enhancing climate-related credit risk assessments, developing more granular approaches to quantify the impact of climate-related ECL risk drivers and adapting economic scenarios to capture the impact of climate risk.[37] Other firms applying IFRS may also find this feedback helpful. The PRA will continue to monitor progress and, as appropriate, publish updates to promote high quality and consistent accounting of climate risks.

4: Next steps

The Bank will continue to deliver on its objectives, focusing its climate-related work on the areas with most material impact on its statutory objectives.

Revision of the PRA's supervisory expectations

In January 2024, the Bank communicated to all PRA firms that it was beginning work to update its supervisory expectations set out in SS3/19. The PRA expects to issue a CP seeking views on a draft update to SS3/19 in 2025.

When SS3/19 was introduced in April 2019, it was the first supervisory statement focussing on management of climate risk. Recognising the novel nature and challenges presented by climate risks, the expectations within SS3/19 were intentionally high-level, reflecting the PRA's knowledge at the time and leaving firms scope to innovate in developing their approaches.

The PRA has since learned a great deal through its supervisory, international, analytical and policy work. To share this knowledge the PRA has provided written feedback on firms' progress and examples of effective practice in a number of different documents: two 'Dear Chief Executive Officer (CEO)' letters,[38] three 'Dear CFO' letters,[39] the **PRA CCAR 2021** and the **Bank of England report on climate-related risks and the regulatory capital frameworks**.

Subsequent to the publication of SS3/19, a number of international standard setters and other organisations have released their own guidance and principles.[40] The UK Government has also incorporated climate considerations into the PRA's statutory regulatory principles and into the recommendations letter, to which the PRA must have regard when exercising its general functions.

The PRA has also received feedback from firms that an update of the SS3/19 supervisory expectations to draw together the PRA's range of existing guidance would provide useful clarity on the PRA's expectations in relation to the management of climate risk. The PRA recognises the value that an update would provide. The PRA consulted the **PRA Practitioner Panel** and, with their support, decided to begin work in January 2024.

The updated supervisory expectations will build upon and clarify the existing expectations set out in SS3/19 to further reinforce and clarify the outcomes expected of firms. In doing so, the PRA will seek to consolidate existing published PRA climate-related guidance, including Dear CEO and Dear CFO letters, and incorporate the PRA's improved understanding of climate risks as well as reflect the work of international standards setters like the BCBS and IAIS.

While the update is underway, the PRA expects firms to continue to progress their capabilities to identify, measure and mitigate climate risks using appropriate tools. For example, the latest and existing CFRF materials continue to be relevant to support firms to build out their capabilities.

Once the final supervisory statement is published, the CFRF will, in due course, provide a forum in which firms can share experiences and collaborate to update and build on its existing guidance and tools to help firms evolve their integration of climate consistent with the revised supervisory expectations.

Alongside this, the PRA and wider Bank will continue to assess the potential build-up of systemic risks relating to climate change, as set out in the November 2024 **Financial Stability Report**. This work will be supported by continued collaboration in international fora in support of its statutory objectives and wider remit as they relate to matters of climate risk.

Annex 1: Climate-related factors relevant to the Prudential Regulation Committee (PRC)

The PRA's statutory objectives include both primary and secondary objectives. The primary objectives are to promote the safety and soundness of the firms the PRA regulates and to contribute to the securing of an appropriate degree of protection for insurance policyholders. The secondary objectives are to facilitate (i) effective competition and (ii) the international competitiveness of the UK economy and its growth in the medium to long term. In addition, the PRA should have regard to regulatory principles that are set out in statute.

The PRA should have regard to recommendations from HM Treasury about aspects of the Government's economic policy when considering how to advance its primary and secondary objectives and the application of the regulatory principles.

Factor	Description
Climate-related aspects of the government's economic policy	The UK government's economic policy objective is to restore broad-based and resilient growth built on strong and secure foundations. Price and financial stability are essential pre-requisites to achieve this objective. To achieve this objective the government's economic strategy consists, among others, of: • 'supporting investment through the effective management of public finances and overseeing sustainable taxes and borrowing, to deliver long-term growth and accelerate the transition to a climate resilient, nature positive and net-zero economy'; and • 'growing the financial services sector and increasing its international competitiveness, while enhancing its role in financing growth, safeguarding financial stability and consumer protection, and supporting the transition to a net-zero economy.'

Factor	Description
Climate-related aspects of HM Treasury's letter to the PRC	Matters about aspects of the government's economic policy to which the PRC should have regard include: The PRC should have regard to the government's policy towards the financial services sector, where the government's top priority is to promote its growth and international competitiveness. As part of this, the PRC should have regard, among others, to: 'Leading the world in sustainable finance, including by unlocking the full potential for the financial services sector to fund the green transition; making the UK a global hub for sustainable finance activity, and delivering a world-leading sustainable finance regulatory framework.'
Climate and environment regulatory principles	The PRA should have regard to the regulatory principles when discharging its general functions, including 'the need to contribute towards achieving compliance by the Secretary of State with section 1 of the Climate Change Act 2008 (UK net-zero emissions target) and section 5 of the Environment Act 2021 (environmental targets) where each regulator considers the exercise of its functions to be relevant to the making of such a contribution.'

1. The Climate Change Act (s.62 2008) provides for the Secretary of State to direct certain organisations to produce reports on the current and future predicted impact of climate change in relation to the organisation's functions, their proposals and policies for adapting to climate change in the exercise of those functions with timescales for the introduction of policies, and an assessment of progress towards implementing policies and proposals set out in previous reports. DEFRA has chosen to request Climate Change Adaptation reports rather than exercise its Climate Change Act powers. The PRA has previously produced two adaptation reports; **its first in November 2015** and **a second in October 2021**.
2. **Climate Change Risk Assessment (CCRA3)**.
3. **Third National Adaptation Programme (NAP3)**.
4. The Bank's statutory objectives are set out in the remit and recommendations letters to the Bank's statutory policy committees. Further information on the PRC recommendation letter is set out in Annex 1.
5. The Bank uses the Biennial Exploratory Scenario to explore the potential impact of risks which are not covered by its annual solvency stress tests of large UK banks. In 2021 the Biennial Exploratory Scenario explored the resilience of the UK financial system to the physical and transition risks associated with different climate pathways.
6. **Thematic feedback on the PRA's supervision of climate-related financial risk and the Bank of England's Climate Biennial Exploratory Scenario exercise**.
7. **PRA insurance supervision: 2021 priorities**; **PRA UK Deposit Takers Supervision: 2021 priorities**; **PRA International Banks Supervision: 2021 Priorities**.

8. Annex 1 provides further information on the climate-related factors relevant to the Prudential Regulation Committee at the date of publication of this report. The Chancellor's most recent letters to the Bank's other policy committees can be accessed via the following links: **Financial Policy Committee**, **Monetary Policy Committee**. The Financial Market Infrastructure Committee has not yet received a letter from the Chancellor.

9. These strategic priorities cover the Bank's financial years ended February 2022, 2023, 2024 and 2025. Further information is available in the **Bank of England Annual Report and Accounts 2024**.

10. The structure and content of the report follows the draft UK TPT framework, which the Bank adapted to reflect its function as a central bank. The draft framework was used as it was the latest version available at the time the CTP was published in July 2023. The final framework was not available until April 2024.

11. From 29 August 2023, the PRA was required to have regard to 'the need to contribute towards achieving compliance by the Secretary of State with section 1 of the Climate Change Act 2008 (UK net zero emissions target) where the PRA considers the exercise of its functions to be relevant to the making of such a contribution.' This regulatory principle was introduced by the Financial Services and Markets Act (FSMA) 2023, which amends FSMA 2000. It applies other than in relation to the proposals in CP15/22 – Implementation of the Basel 3.1 standards. For transitional provisions, see FSMA 2023 (Commencement No 2 and Transitional Provisions) Regulations 2023, SI 2023/936. Reg 4.

12. From 1 January 2025 an additional requirement relating to environment targets ['and section 5 of the Environment Act 2021 (environmental targets)'] came into force as part of the regulatory principle introduced by FSMA 2023, which amends FSMA 2000. This requirement is subject to transitional provisions. Further information on the transitional provisions is available in FSMA 2023 (Commencement No 4 and Transitional and Saving Provisions) (Amendment) Regulations 2023, SI 2023/1382. Reg 16.

13. During the period covered by the Climate Change Adaptation Report (CCAR) 2025, the PRA was also required to have regard to the target in section 1 of the Climate Change Act 2008 (carbon target for 2050) by the March 2021 recommendation letter for the PRC and when making Capital Requirements Regulation (CRR) rules (as well as holding company rules that are not CRR rules) by FSMA 2000 under provisions introduced by the Financial Services Act 2021.

14. The FPC recently set out its views on the systemic risks from climate change in the **November 2024 Financial Stability Report**.

15. Fluvial floods occur when heavy rainfall pours off the land into a river.

16. **Adaptation thresholds and pathways for tidal flood risk management in London**.

17. The Glasgow Financial Alliance for Net Zero have considered how to support the use of early retirement as part of net-zero transition planning in their report **'The Managed Phaseout of High-emitting Assets'**.

18. This research uses (i) direct measures of firms' exposure to climate risk as well as (ii) firms' reactions to climate stress.

19. On the direct impact of climate risk on assets and the implications for banks, see eg **Jung, Santos and Seltzer, 2024**, **Faiella et al., 2021**, and **Meucci and Rinaldi, 2022**. On banks' and insurers' reactions to overall climate stress, see eg **Jung, Engle and Berne, 2023**, who note an increase in climate risk globally and for UK firms in 2020, and **Jung, Engle, Ge and Zeng, 2023**.

20. **Financial Stability Report – November 2024**.

21. **AR6 Synthesis Report**.

22. **The Prudential Regulation Authority's approach to banking supervision**.

23. Policy: Find out how the Prudential Regulation Authority makes and communicates policy and engages with global policymaking.

24. Supervisory statement 3/19: Enhancing banks' and insurers' approaches to managing the financial risks from climate change.

25. Letter from Sam Woods 'Managing climate-related financial risks'.

26. Climate capital – speech by Sam Woods.

27. PRA insurance supervision: 2021 priorities; PRA UK Deposit Takers Supervision: 2021 priorities; PRA International Banks Supervision: 2021 Priorities.

28. The UN Global Stocktake.

29. Other NGFS initiatives that the PRA and wider Bank have contributed to recently include, a set of three papers on climate and monetary policy that are summarised in the November 2024 report 'Climate change, the macroeconomy and monetary policy'.

30. July 2017: UK Finance Code for Financial Reporting Disclosure.

31. CFRF Disclosures – Managing Legal Risks; CFRF Climate Risk Appetite Statements; CFRF Risk Management Use Cases; and CFRF Climate Risk Training.

32. CFRF Scenario Analysis in Financial Firms; CFRF Climate Narrative Tool; and Resilience Working Group: Short-term Scenarios Chapter.

33. CFRF Climate Disclosure Dashboard 2.0.

34. CFRF webinar on climate data coverage and the CFRF webinar on the limitations of portfolio climate data.

35. Unless otherwise indicated, the views in this section can be found in the PRA's Thematic feedback on the PRA's supervision of climate-related financial risk and the Bank of England's Climate Biennial Exploratory Scenario exercise (October 2022).

36. Measuring climate-related financial risks using scenario analysis (April 2024).

37. Thematic feedback on accounting for IFRS 9 ECL and climate risk (September 2024).

38. Managing climate-related financial risk – thematic feedback from the PRA's review of firms' SS3/19 plans and clarifications of expectations and The PRA's supervision of climate-related financial risk and the Bank of England's Climate Biennial Exploratory Scenario exercise.

39. Thematic feedback from the 2021/2022 round of written auditor reporting, Thematic feedback from the 2022/2023 round of written auditor reporting and Thematic feedback on accounting for IFRS 9 ECL and climate risk.

40. This includes: IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information; IFRS S2 Climate-related Disclosures; BCBS principles for the effective management and supervision of climate-related financial risks; and the SIF/IAIS Application Paper on the Supervision of Climate-related Risks in the Insurance Sector.

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