The Bank of England's climate-related financial disclosure 2024

In July 2024 the Bank published its annual climate-related financial disclosure, setting out the Bank's approach to managing the risks from climate change across its policy functions and operations in the year to 29 February 2024.

Published on 30 July 2024

Content

Foreword

I am pleased to publish our assessment of the climate-related risks relating to the Bank of England's policies and internal operations for the year to 29 February 2024. We achieved an important milestone in July 2023 when we published the Bank's first Climate Transition Plan, which aims to enhance the resilience of our internal operations by setting out our approach to deliver our net-zero target for physical operations by 2040.

During the year we have improved the specificity of our carbon footprint from physical operations by working with our suppliers to gain an improved understanding of their greenhouse gas emissions. At the end of the year, we remain on track to deliver both of the Bank's physical operations emissions targets, each of which is consistent with limiting the rise in global average temperatures to 1.5°C above pre-industrial levels.[1]

Alongside this, we have advanced our understanding of the possible monetary policy implications of climate change, publishing our key findings in the February 2024 Monetary Policy Report. We released the Bank's April 2024 Quarterly Bulletin on the Bank's use of scenario analysis to measure climate-related financial risks associated with our own operations. And we continued to actively engage with the firms we regulate on their management of climate-related financial risks.

Looking ahead, our agenda will continue to focus on those aspects of this topic that are core to our objectives and remits. This includes work to update our supervisory expectations to reflect the latest regulatory thinking and analysis, align with relevant international standards and consolidate previous feedback to firms, such as through Prudential Regulation Authority Dear CEO letters.[2] [3] We will also continue to advance our thinking on the impacts of climate change and the transition on financial stability, the macroeconomy and monetary policy.

Ben Stimson
Chief Operating Officer of the Bank of England

Executive summary

This climate disclosure sets out the Bank of England's (the Bank's) key climate-related developments in the year to 29 February 2024. It reports on:

- the climate risks, to which the Bank is exposed;

- the emissions associated with the Bank's own financial and physical operations, which we consider to be a proxy for financial risk; and
- the work the Bank does on climate change in pursuit of its core mission to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.

Consistent with previous years, the disclosure follows the structure recommended by the Financial Stability Board's (FSB's) Task Force on Climate-related Financial Disclosures (TCFD), covering four key elements: governance; strategy; risk management; and metrics and targets.[4] Key developments this year include:

Governance

Climate risks are incorporated within the Bank's internal governance and risk management frameworks, complemented by climate-specific processes where appropriate. As part of this, climate risks relevant to the Bank's mission are discussed at the Bank's senior executive committees prior to decisions being implemented by management across the Bank. Climate risks are also subject to additional governance processes due to the inclusion of climate change as one of the Bank's seven strategic priorities.

At a management level, the Bank's climate work is led by two Deputy Governors: Sarah Breeden (Deputy Governor, Financial Stability) covers the Bank's policy functions and Ben Stimson (Deputy Governor, Chief Operating Officer) covers the Bank's physical operations.

Climate change is relevant to the Bank's work in a variety of areas; from how it heats its buildings to the setting of risk management expectations for banks and insurers regulated by the Prudential Regulation Authority (PRA). For that reason, the Bank has an Executive Director-level cross-Bank steering group to discuss the design, implementation and execution of the Bank's climate strategy and work plan.

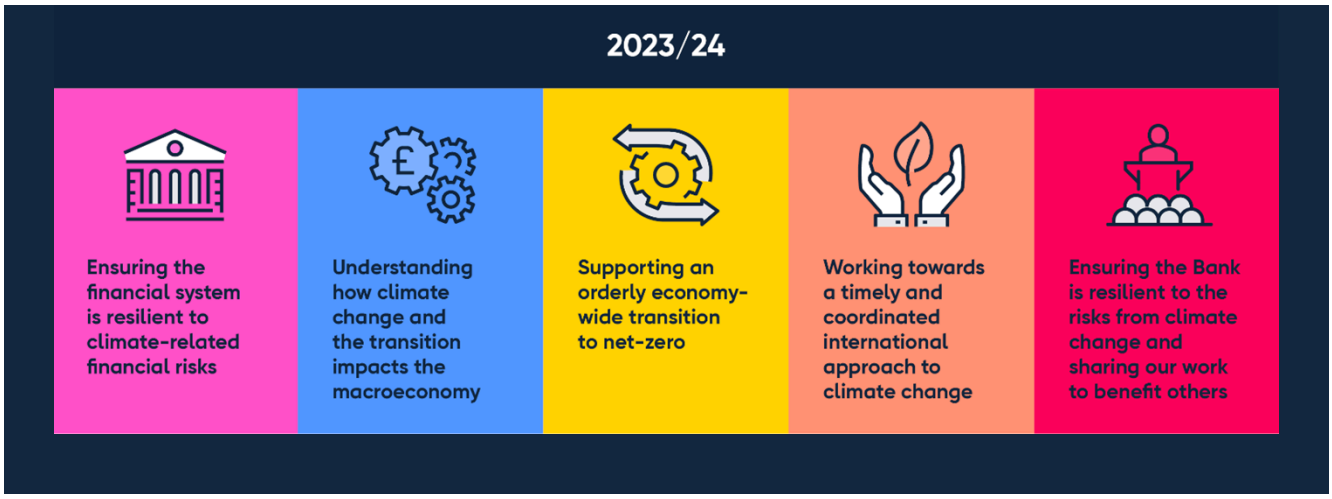
Strategy

Climate change and the transition to a net-zero economy are relevant to the Bank's mission to promote the good of the people of the UK by maintaining monetary and financial stability[5] because they create financial risks and economic consequences, which could affect:

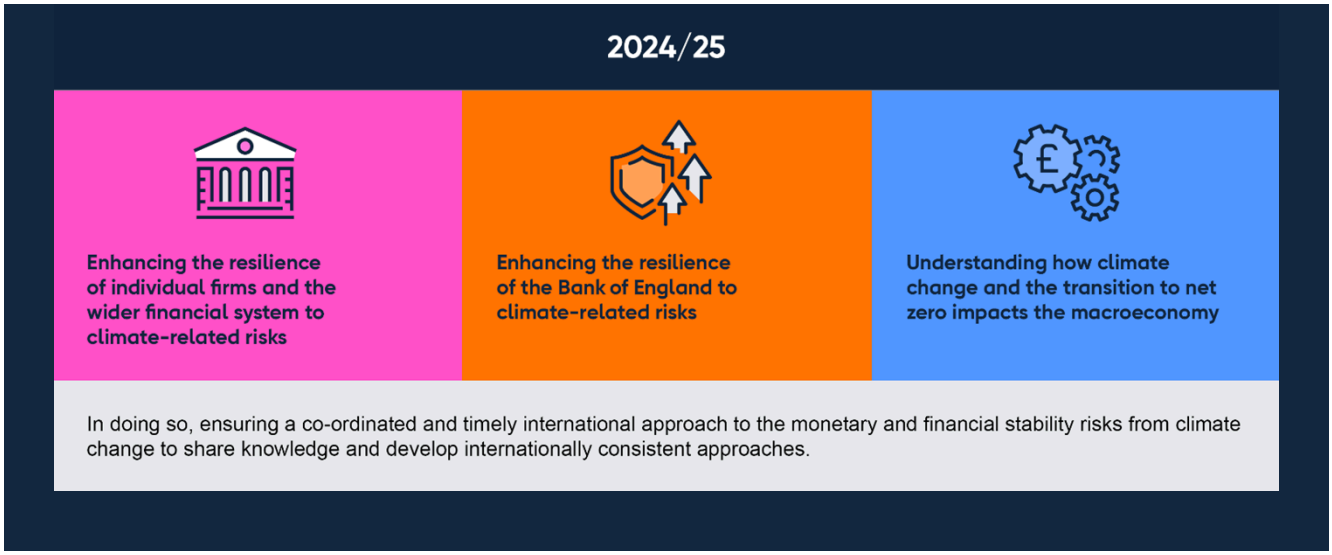
- the safety and soundness of firms the Bank regulates;
- the stability of the financial system;
- the economic outlook in a way that could have a bearing on the appropriate monetary policy stance; and
- the financial resources available to deliver the Bank's policy and operational commitments.

In response, at the time of publication, **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** (CTP) to deliver net-zero greenhouse gas (GHG) emissions from its physical operations by 2040.[6]

Under the Bank's climate strategy, its policy work for 2023/24 was organised across five pillars:



In April 2024, the Bank updated these pillars:



Progress has been made against the Bank's climate strategy since March 2023, including:

- issuance of the Bank's first **CTP** in July 2023;

- publication of the key findings of the Bank's latest work on the possible monetary policy implications of climate change in the **February 2024 Monetary Policy Report**;
- release of the Bank's **April 2024 Quarterly Bulletin** on the Bank's use of scenario analysis to measure climate-related financial risks associated with its own operations; and
- the PRA's continued engagement with firms it regulates on their management of climate-related financial risks.

Risk management, metrics and targets

The Bank is itself exposed to climate risks across both its physical operations (eg due to physical risks to its buildings) and its financial operations (eg financial asset portfolios held for monetary policy purposes). This climate disclosure sets out the Bank's approach to measuring and managing these risks.

This year the Bank's critical metrics for climate risk have been refreshed to provide enhanced insight and better reflect the Bank's Physical Greenhouse Gas Emissions Target (PGGET), which was announced in last year's climate disclosure. The Bank's critical metrics for climate risk are reported quarterly to the Bank's executive and non-executive risk committees.

The Bank's financial operations

The Bank continues to demonstrate best practice in climate risk reporting on its financial asset holdings, by disclosing analysis of its sovereign and corporate asset[7] holdings and enhancing its analysis to align with the latest guidance. In addition, this year the Bank is also reporting on its largest collateralised lending operation – the Term Funding Scheme with additional incentives for SMEs (TFSME).[8]

Collectively, the Bank's analysis suggests that its sovereign bond holdings continue to be exposed to material climate-related financial risks, but those risks remain lower than a G7 reference portfolio:

- Implied Temperature Rise (ITR) metrics for the Bank's sovereign bond holdings have remained stable and suggest that the Bank's sovereign bond holdings are aligned with the 2°C Paris goal, but not with the 1.5°C ambition. By this measure the holdings continue to perform better than a G7 reference portfolio.
- The Bank continues to build out its scenario analysis capabilities. This analysis suggests that the value of the Bank's sovereign bond holdings could fall by up to 10% in the most adverse climate scenario. This assumes that markets immediately and fully price in the effects of a very adverse scenario on future interest rates and debt levels. However, these effects are uncertain and will be determined by the actions of governments, central banks, and financial markets.

- Although the Bank continues to track the Weighted Average Carbon Intensity (WACI) and Natural Resource Rents (NRR) of its sovereign portfolios, both of these metrics are currently subject to volatility and so their usefulness as measures of financial risk are more limited. Further information is set out in Section 3 of this disclosure.

Alongside this work, the Bank is taking several steps to mitigate climate-related financial risks to residential mortgage collateral posted in the Sterling Monetary Framework (SMF). These approaches mitigate the Bank's exposure to transition and physical risks facing owner-occupied and buy-to-let mortgage collateral.[9]

The Bank's physical operations

This disclosure reports on the Bank's extended carbon footprint from physical operations, which was first set out in the Bank's CTP and in this climate disclosure in 2022/23.[10]

This year the Bank's carbon footprint is estimated at 78,919 tCO_2e, 21% (20,372 tCO_2e) lower than 2022/23 and 45% (65,458 tCO_2e) lower than the baseline year of 2015/16, against which the Bank measures progress.

The most significant contribution to the emissions reduction relative to 2022/23 is a fall in estimated emissions from purchased goods and services due to the receipt of more accurate data and methodological improvements. In line with the GHG Protocol, in 2022/23 the Bank used a conservative approach to estimate these emissions in the absence of product or service-specific supplier data. This year it has worked with suppliers to improve the specificity of its estimates, which has removed some of that conservatism and led to a reduction in the headline numbers. This is illustrative both of the rate of development in this space and the Bank's commitment to engage with its suppliers to improve its emissions reporting.

The Bank's improved understanding of its emissions will impact current, prior year and baseline balances in different ways. **During this period of rapid change the Bank does not plan to restate its baseline emissions on an annual basis but will instead revisit this alongside the next detailed update of the CTP to be published in Summer 2026**.

The Bank is on track to meet its PGGET as well as its '2030 Target' to reduce selected GHG emissions by 63% from 2015/16 to 2030. Both targets align with the reduction in emissions needed to be consistent with limiting the rise in global average temperatures to 1.5°C above pre-industrial levels.

1: Governance

Climate-related considerations are relevant to the Bank's mission,[11] functions and operations and are therefore embedded in its organisation-wide governance framework.

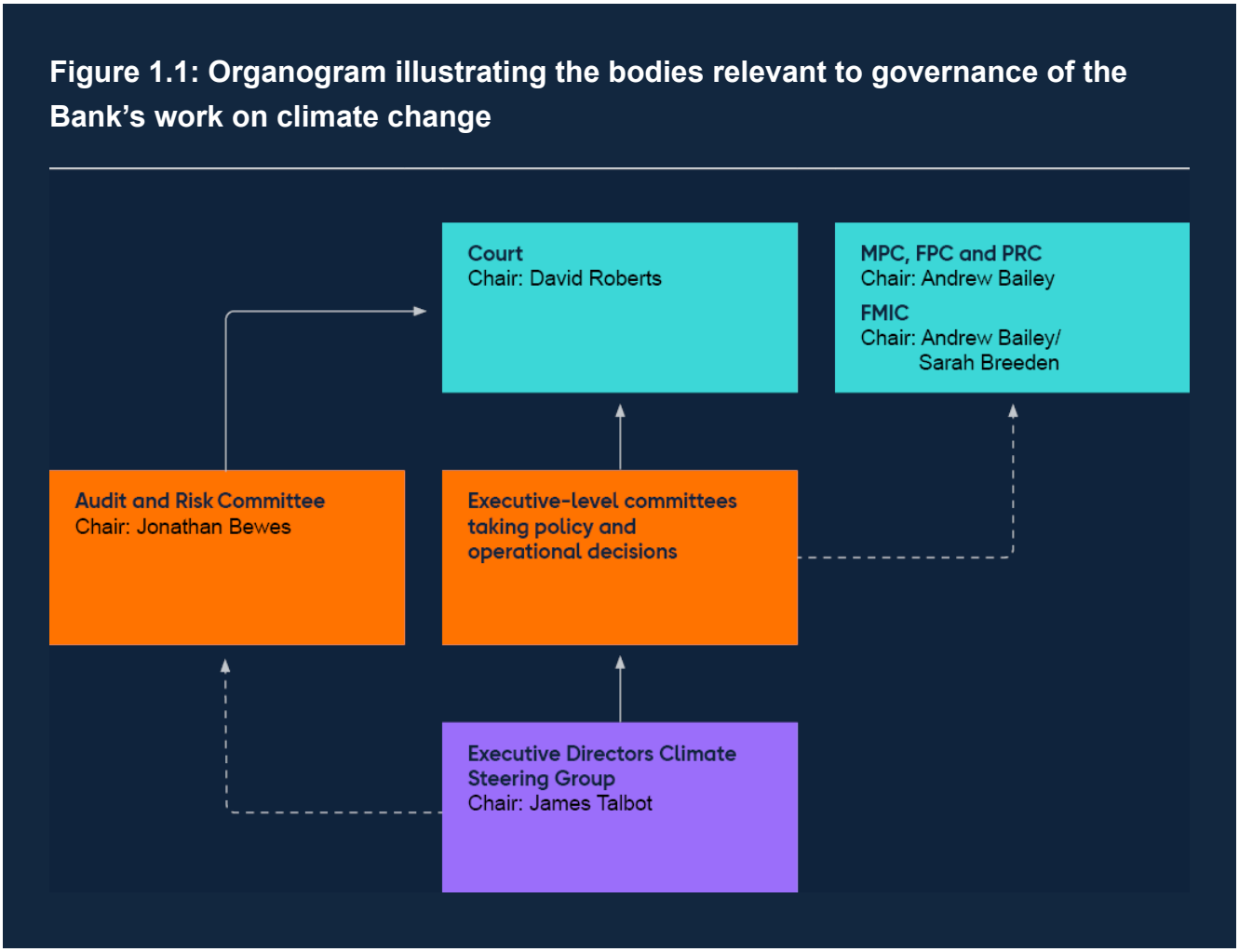
Oversight

The Bank's **Court of Directors** (Court)[12] and its Audit and Risk Committee (ARCo)[13] oversee the Bank's management of climate-related risks (climate risks). Their role is supported by established responsibilities for climate matters, which have been allocated across the Bank's executive committees,[14] steering groups and management team.

The Bank also has four statutory policy committees,[15] which collectively discharge the Bank's statutory functions in relation to monetary policy, financial stability, prudential regulation and financial markets infrastructure regulation.

Court reviews the Bank's progress against climate risk targets on an annual basis as part of its review of this climate disclosure and the Bank's Annual Report. Critical metrics for climate risk are reported to ARCo four times a year, more frequently if needed. Executive committees review and approve the Bank's climate strategy for its policy work at least once a year and oversight of the Bank's physical operations carbon strategy is achieved via the executive committees responsible for operational matters. The Bank's four statutory policy committees take into account climate-related factors within the legal framework applicable, as described in Annex 1.

Figure 1.1: Organogram illustrating the bodies relevant to governance of the Bank's work on climate change



Source: Bank of England.

Management

The Bank's climate work is led by two Deputy Governors who work closely together:

- **Sarah Breeden**, Deputy Governor, Financial Stability (DGFS), who has responsibility for climate risks to the Bank's policy functions and also holds the Senior Management Function with responsibility for the financial risks from climate change (SMF Climate);[16] and
- **Ben Stimson**, Deputy Governor, Chief Operating Officer, who has responsibility for climate risks to the Bank's physical operations.

At Executive Director (ED) level, the Bank's climate work is overseen and delivered by **James Talbot** (ED, International Directorate), on climate policy issues, and **Vivienne Grafton** (ED, Central Operations Directorate), on operational issues.

The primary management forum for co-ordinating climate work across the Bank is the Executive Directors' Climate Steering Group. Chaired by James Talbot, it facilitates discussion among the Bank's EDs on strategic climate operational and policy issues and

supports Court and the Bank's executive and statutory policy committees in their work on climate policy matters. This year, the Bank appointed its first Chief Sustainability Officer (CSO), Chris Faint, with responsibilities encompassing both climate policy and internal sustainability matters. The CSO leads the new Climate, Sustainability and Community (CSC) Division which spans the Central Operations and International Directorates, with reporting lines into both ED International and ED Central Operations. This new structure, which includes the existing operations of the Bank's Climate Hub, is designed to support consistency of approach across the Bank's policy functions and physical operations.

The Bank's operational climate work is developed and implemented by the Sustainability Team who have expertise in sustainability, procurement and engineering. The Sustainability Team sits within the Climate Sustainability and Community Division in Central Operations, reports into the CSO and engages closely with areas across the Bank.

For its climate policy work the Bank operates a 'hub and spoke' model. At the centre sits the Climate Hub, a dedicated team of climate specialists, which supports SMF Climate and implementation of the Bank's climate policy strategy across the organisation. Each spoke has one or more climate leads who are responsible for directing climate-related work within their area and co-ordinating with the Climate Hub and across other spokes. This aims to balance development of climate expertise with embedding consideration of climate risk across the Bank.

2: Strategy

The physical effects of climate change and the transition to a net-zero economy present risks to the Bank's mission[17] because they create 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.

Reflecting the diverse and interconnected nature of these risks, 'respond[ing] to the challenge of climate change' is one of the Bank's seven strategic priorities for 2022 to 2025.[18]

The Bank's climate strategy is designed to address the risks from climate change by focusing allocated resources on those areas that have the most material impact on its mission. This strategy reflects the remit of the Bank's statutory policy committees as specified by the

Chancellor of the Exchequer in his annual letters. Further information on the climate-related elements of the remit of each of the policy committees is set out in Annex 1.[19]

At the time of publication, **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** (CTP) to deliver net-zero greenhouse gas (GHG) emissions from its physical operations by 2040.[20]

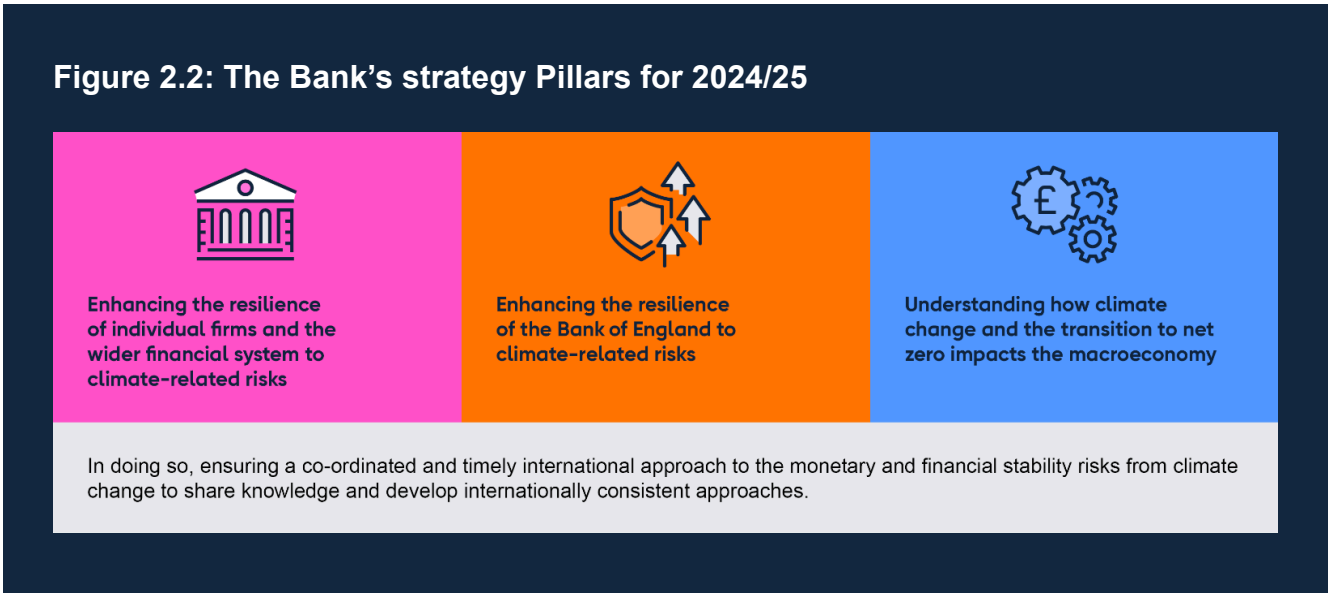
Under the Bank's climate strategy, its policy work for 2023/24 was organised across five pillars, which are set out in Figure 2.1.

Figure 2.1: The Bank's strategy Pillars for 2023/24

Source: Bank of England.

The Bank updated these pillars in April 2024 to focus on three core areas, which are set out in Figure 2.2.

Figure 2.2: The Bank's strategy Pillars for 2024/25



Source: Bank of England.

The Bank has made progress against its climate strategy since March 2023:

Pillar 1: Ensuring the financial system is resilient to climate-related financial risks

The Bank is using its micro and macroprudential toolkits to build resilience to climate risks at both an individual firm and a system-wide level.

Microprudential activities

This year the PRA continued to actively supervise firms against its **supervisory expectations**, which set out how banks and insurers should enhance their approaches to managing the financial risks from climate change.

In September 2023 the PRA issued a **letter to CFOs** of banks within scope of its written auditor reporting, providing thematic findings consistent with, and building upon, these supervisory expectations.[21] It noted that while banks had taken action to enhance their governance, data and risk assessments, several areas required further focus, for example, the determination of metrics to identify the loan portfolios and segments that could be most impacted by climate risk.

In January 2024 the Bank confirmed that it was beginning work to update its April 2019 **supervisory expectations**, which were set out in **Supervisory Statement 3/19** (SS3/19). The revisions are expected to provide clarity to firms and build on the SS3/19 approach. The work is expected to consolidate previous Bank feedback to firms, such as through the Dear

CEO letters,[22] [23] draw on Bank analysis since April 2019 and generally align with relevant international standards from the Basel Committee on Banking Supervision (BCBS) and the International Association of Insurance Supervisors (IAIS).

Alongside this supervisory work, the Bank shared its views on the integration of climate-related risks and regulatory capital frameworks in a **report** published in March 2023. The report drew on staff work and the capital conference held by the Bank in October 2022. It included updates on capability and regime gaps, capitalisation timelines and areas for future research and analysis, and has informed the Bank's supervisory work in 2023/24.

The Bank has noted the importance of scenarios as a tool for understanding how future risks might arise and has invested in developing these tools. It has been active in the Network for Greening the Financial System[24] (NGFS) where it contributed to a number of deliverables, including: a **technical document** providing guidance on the purpose and use of the NGFS scenarios; and a conceptual **paper** exploring how short-term climate scenarios can be integrated into wider NGFS models. In April 2024, the Bank published a **Quarterly Bulletin** article on its use of scenario analysis to measure climate-related financial 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.

Throughout the reporting period the PRA has continued to work jointly with the Financial Conduct Authority to convene the **Climate Financial Risk Forum** (CFRF), an industry group established to share best practice on climate issues and accelerate firms' capabilities to address climate change. **David Bailey** (ED, Prudential Policy) took up the co-chair role for the Bank in January 2024. The CFRF holds an annual plenary, the last of which was held in March 2023, and the group issues regular documentation, which is available on the **CFRF website**.

Macroprudential work

The Bank continues to monitor financial stability risks from climate change and the transition to a net-zero economy.

In March 2022 the Financial Stability Board set up the Climate Vulnerabilities and Data group under the Standing Committee on Assessment of Vulnerabilities. The group aims to develop a framework and an analytical toolkit to monitor climate vulnerabilities globally. From June 2023, Sarah Breeden (DGFS) took on the role of chair.

Pillar 2: Understanding how climate change and the transition impacts the macroeconomy

Where climate change or the transition to net-zero emissions have an impact on the economy, these changes could represent relevant economic trends and so – as is the case for other structural trends – it is appropriate for monetary policy makers to consider their impact.

The Bank has continued to explore the macroeconomic effects of climate change relevant to their statutory objective to deliver price stability for the UK economy. This year the MPC considered the assessment of the possible monetary policy implications of those macroeconomic effects. It looked at the impact of net-zero consistent policies on productivity growth in the medium and long term and published its key findings in the February 2024 **Monetary Policy Report**.

In the **Dow Lecture on climate change, the macroeconomy and monetary policy**, James Talbot (ED, International Directorate) discussed how central banks are working together to resolve the macroeconomic modelling challenge; and to develop analytical foundations to understand the macro impacts of climate change and the transition to net zero.

Internationally the Bank has been active in supporting the development of an international approach to assess and manage the risks to monetary stability from climate change in fora including the NGFS and G7.

The NGFS Workstream on Monetary Policy, which is chaired by James Talbot, aims to understand how climate change and climate policies should be considered in relation to the conduct of monetary policy. In July 2023 it issued a **report** highlighting key takeaways from a survey of its members on the implications of climate change and the net-zero transition on their economies and monetary policies, as well as the steps taken to integrate climate change considerations into monetary policy operations frameworks. In July 2024 it issued a report on **current progress and practical insights into adapting central bank operations to a hotter world**.

Pillar 3: Supporting an orderly economy-wide transition to net-zero emissions

The primary levers for driving an orderly economy-wide transition to net-zero emissions rest with the UK Government in setting climate policy, and with corporates and individuals through the choices they make. However, the Bank's actions to ensure a resilient financial system can in some circumstances catalyse or amplify the effects of UK Government climate policy and support the transition to a net-zero economy, for example through its work to ensure firms are managing the risks they might face during the transition.

This year the Bank has supported the UK Government as it developed its 2023 **Green finance strategy**. It also supported the UK Government's work to consider endorsement of the International Financial Reporting Standards Foundation's **International Sustainability Standards Board's** inaugural **global sustainability disclosure standards**, which were published on 26 June 2023. The transparency provided through high-quality, comprehensive and internationally consistent climate disclosures across the economy can improve financial firms' risk management and enable better informed decision-making.

The Bank has been an observer on HM Treasury's 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 by establishing robust criteria and the effective use of science-based targets, providing better forward-looking information. This will enable better risk management and the mobilisation of finance for the transition.

Internationally, the Bank has supported the development of a co-ordinated international approach to transition planning. This work helps to enhance the resilience of the financial system by improving the quality, international consistency and reliability of the forward-looking information disclosed, which in turn improves financial firms' risk management and enables better informed decision-making. The Bank co-led the NGFS Workstream on Transition Plans, which published a **stocktake** on emerging practices in financial institutions' transition plans and their relevance to microprudential objectives in May 2023. A further **package of reports** was published in April 2024 exploring the broader context within which transition planning takes place. To facilitate the sharing of knowledge across central banks, in December 2023 the Bank hosted a virtual conference focusing on climate disclosures and transition plans from a central banking perspective.

Pillar 4: Working towards a timely and co-ordinated international approach to climate change

The Bank engages with other central banks and prudential regulators through its position in international climate-related fora, in support of work on its statutory objectives.

The Bank is a member of the climate workstreams of a number of international standard setting groups. Contributions this year include work on the BCBS' **discussion paper** on the role of climate scenario analysis in strengthening the management and supervision of climate-related financial risks, and on a **paper on scenario analysis in the insurance sector** by the IAIS' Scenario Analysis working group, which the Bank co-chairs.

The Bank also participates in the NGFS and the Sustainable Insurance Forum (SIF). The Bank sits on the NGFS' steering committee and, through the forum, aims to share its own experience, learn from others, and promote consistent and effective responses to climate risks by central banks and supervisors across the world. This year the Bank contributed to

the second edition of the NGFS '**Guide on climate-related disclosure for central banks**', drawing on the Bank's own approach to climate disclosure. Its contributions to other NGFS Workstreams are detailed under Pillars 1, 2 and 3. The Bank also participates in the **SIF** to advance supervisory responses to climate change in the insurance sector across the globe.

The Bank also works with the UK Government to deliver progress on climate, including through the G7 Finance Track, the G7 Climate Change Mitigation Working Group, and the G20 Sustainable Finance Working Group (SFWG). Through the SFWG, the Bank is helping to deliver against the **G20 Sustainable Finance Roadmap**, which seeks the implementation of the **transition finance framework** developed in 2022 and supports efforts on capacity building and mobilising private finance. This year the Bank **disclosed its developments** against the roadmap to highlight UK progress in sustainable finance.

By its nature, the Bank's international work spans its climate strategy. Additional examples of the Bank's international work have been included under the other four pillars, where relevant.

Pillar 5: Ensuring the Bank is resilient to the risks from climate change and sharing our work to benefit others

Ensuring the Bank is resilient to the risks from climate change

The Bank holds itself to the same climate-related standards that it expects of the firms it regulates and the financial system it oversees. It is therefore taking steps to ensure its own operations are resilient to the risks from climate change – a prerequisite for the Bank to deliver its core mission. This includes reducing emissions from the Bank's physical activities (such as its buildings, production of banknotes, and travel) and measuring and mitigating climate-related financial risks to its financial market operations. The Bank mitigates the climate-related financial risks to its financial operations to the extent possible without adversely affecting its primary objectives of monetary and financial stability. The Bank has considered how its approach to its own operations, where relevant, map to the supervisory expectations it has set for PRA-authorised banks and insurers in Table 2.A of the **Bank's climate-related financial disclosure 2023**.

Sharing our work to benefit others

Given the evolving nature of the field, the Bank takes a collaborative approach to its work on climate change.[25] In instances where it has advanced its understanding or where it believes that progress is needed, the Bank aims to share what it has learned and catalyse discussion and development, for example through speeches, publications or conferences. This disclosure is one such publication, providing an overview of the Bank's key activities during the year and links to many materials made available online since 1 March 2023.

The Bank also has a specialist team, the **Centre for Central Banking Studies**, dedicated to the provision of training to other central banks and regulators on topics including climate-related financial regulation.

The Bank's Climate Transition Plan (CTP)

In July 2023, the Bank published its **CTP**, setting out its approach to deliver net-zero GHG emissions from the Bank's physical operations by 2040.[26] The Bank's strategy for implementation of its transition to net-zero emissions was included in the CTP. Over the year the Bank has taken steps to embed this strategy – these are detailed in 'Key climate-related risks in the Bank's physical operations' in Section 3.

Banknotes

This year the Bank has continued to undertake a detailed analysis to understand the environmental impact of each banknote component and process. This will facilitate targeting environmental impact reduction initiatives in the near term, with a view to informing the next series of banknotes, including any cost savings or expenditure required to enable the transition.

3: Risk management, metrics and targets

The Bank is itself exposed to climate risks across both its financial operations (eg due to physical or transition risks impacting the value of its financial assets) and its physical operations (eg due to physical[27] or transition[28] risks to its buildings). Climate risks are identified, monitored and managed using the Bank's established risk management framework that spans all of its functions.

Within that framework, climate change is identified as a 'Key Risk Type' and is overseen by a named 'Risk Custodian'. This year the Bank appointed James Talbot as Risk Custodian for climate change. As Risk Custodian, supported by the Bank's second line risk function, James Talbot is responsible for defining a set of risk metrics and tolerances to capture the full range of operational and financial climate risks to which the Bank is exposed; monitoring and reporting those metrics and, where appropriate, co-ordinating the timing and implementation of mitigants.

This year the Bank began reporting climate risks under a new set of climate metrics, which provide enhanced insight and better reflect the Bank's Physical Greenhouse Gas Emissions Target (PGGET), as announced in **last year's disclosure**.

The Bank also assesses climate risks across the near-term horizon, through regular Risk and Control Self Assessments prepared by each of the Bank's key functions and, for risks which are more uncertain or less proximate, through regular analysis of emerging risks.

The remainder of this section sets out the key climate risks the Bank has identified to its financial and physical operations, including the metrics and target that it uses to monitor and assess those risks.

Key climate-related risks in the Bank's financial operations

Summary

- Some climate metrics for sovereign bond portfolios are currently affected by macroeconomic volatility, which complicates year-on-year comparisons. These metrics are therefore limited in their usefulness as measures of financial risk. For example, the fall in the Weighted Average Carbon Intensity (WACI) of the Bank's sovereign bond portfolios between February 2023 and February 2024 largely reflected the unwind of Covid-related impacts (due to data lags). And the material increase in Natural Resource Rents (NRR) of the Bank's sovereign portfolios reflects sharp increases in commodity prices.[29]
- Implied Temperature Rise (ITR) metrics for the Bank's sovereign bond holdings have remained stable and suggest that the Bank's sovereign bond holdings are aligned with the 2°C Paris goal, but not with the 1.5°C ambition. They remain lower than a G7 reference portfolio.
- In order to quantify the financial risks, to which its sovereign bond portfolios are exposed, the Bank continues to build out its scenario analysis capabilities. This analysis suggests that the value of the Bank's sovereign bond holdings could fall by up to 10% in the most adverse climate scenario. This assumes that markets immediately and fully price in the effects of a very adverse scenario on future interest rates and debt levels. However, these effects are uncertain and will be determined by the actions of governments, central banks, and financial markets.
- Collectively, these metrics suggest the Bank's sovereign bond portfolios continue to be exposed to material climate-related financial risks, but the risks remain lower than for a G7 reference portfolio.
- The Bank's Corporate Bond Purchase Scheme (CBPS) has now been completely unwound. While three securities remained in the portfolio at the end of the reporting period, these did not expose the Bank to significant climate-related financial risks.
- The Bank is taking several steps to mitigate climate-related financial risks to residential mortgage collateral posted in the Sterling Monetary Framework (SMF). These approaches mitigate the Bank's exposure to transition and physical risks facing owner-occupied and buy-to-let mortgage collateral and are set out in Box A.

Introduction

Financial operations covered in the Bank's climate disclosures

The Bank engages in market operations to achieve its monetary policy and financial stability objectives. This includes holding sovereign bonds and other fixed-income instruments and offering secured lending to financial counterparties. As part of managing the financial risks involved in this secured lending, the Bank manages a wide range of collateral. The full range of the Bank's policy and balance sheet tools are set out in the **Bank of England Market Operations Guide**.

The largest proportion of the Bank's financial assets is held in a separate legal vehicle known as the **Bank of England Asset Purchase Facility Fund Limited (BEAPFF)**, indemnified by HM Treasury, to implement the MPC's asset purchase programme. At 29 February 2024, sterling UK government bonds (gilts) represented 99.9% of that portfolio (Table 3.A).

Holdings in the Asset Purchase Facility (APF) continued to decrease in 2024, reflecting the MPC's monetary policy decisions (Table 3.A). As part of this, the Bank has concluded a corporate bond sales programme, with only a small number of very short maturity corporate bonds remaining at the end of the reporting period for this report. These have all matured as of publication.[30] The Bank is also reducing the stock of gilts held in the APF as instructed by the MPC via allowing gilts to mature and a programme of gilt sales.[31]

The Bank's own securities holdings, composed of the Sterling Bond portfolio and the Bank's own foreign currency reserves,[32] have remained largely constant in size.

Climate metrics in the Bank's climate disclosure cover assets held on the Bank's balance sheet described in Table 3.A.[33] In general, the Bank's collateralised lending operations continue to be excluded from the disclosures. However, the Bank does for the first time disclose data on one of these operations – the Term Funding Scheme with additional incentives for small and medium-sized enterprises (TFSME). Since 2022, the climate disclosure related to the Bank's staff pension fund has been published separately, alongside the Pension Fund Report and Financial Statements.[34] [35]

Table 3.A: Financial exposures covered in this section (a) (b) (c)

Exposure	£ billions, end-Feb 2024	Purpose	Composition
Asset Purchase Facility (APF) of which:	553.0	Mandated by the Bank's MPC, as part of its asset purchase programme. Held in a separate legal vehicle and indemnified by HM Treasury.	Gilts (>99.9%) and sterling investment grade corporate bonds (<0.1%).
– APF sovereign holdings	552.8		
– APF corporate holdings (acquired through the CBPS)	0.2		
Bank's own securities holdings	20.0	For policy implementation, and to fund the Bank's policy functions.	Gilts (75.5%), other sovereign, agency, and supranational bonds.

Source: Bank of England.

(a) The asset values in Table 3.A are stated at fair value, with the exception of the Bank's own securities holdings, which is stated at fair value plus accrued interest.
(b) The Bank's own securities holdings include both the Bank's Sterling Bond Portfolio and FX bonds.
(c) Figures include mid to bid adjustment.

The Bank's climate risk management framework continues to evolve in line with best practice year on year (Figure 3.1). For example, in the last year the Bank developed more advanced methodologies to measure climate financial risks in sovereign bonds, as well as residential mortgages. Some of these are set out in more detail in the Bank's April 2024 **Quarterly Bulletin** and key insights are also reflected in these disclosures.

Figure 3.1: Sequencing of climate risk management initiatives across the Bank's financial operations

	Direct exposures			Exposures via collateral
Timeline	Sovereigns	Corporates	Financial institutions (eg banks, building societies)	Collateral
Past	Implemented initial sovereign climate risk framework and monitored impact on internal credit ratings.	Measured aggregate carbon footprint of corporate exposures	Took initial steps to-incorporate climate-related risk questions into credit risk methodologies and use these for peer reviews	Incorporated climate-related questions into the due diligence questionnaire for loan collateral
	Developed more advanced sovereign climate risk metrics to measure climate financial risks	Designed and implemented approach to CBPS greening, including developing corporate credit risk monitoring tools		Expanded climate-related risk information gathering to capture data on energy-efficiency ratings for residential mortgages
Present	Review and develop sovereign risk framework, drawing on evidence from new sovereign climate risk metrics	The Bank has concluded a corporate bond sales programme, with only a small number of very short maturity bonds held to maturity, these were fully matured as of 5 April 2024	Continue to explore additional climate risk data sources and credit rating agency approaches in line with emerging best practice	Designed and implemented approaches to mitigate climate risks to residential mortgage collateral by adjusting collateral haircuts and eligibility criteria

Source: Bank of England.

Box A: The Bank's approaches to mitigate climate risks to residential mortgage collateral

The Bank's own balance sheet is exposed to a range of climate-related financial risks, including through SMF operations. As part of these operations the Bank lends to eligible firms against collateral delivered by firms. The Bank accepts a wide range of collateral. This includes residential mortgages, which represent the majority of collateral posted with the Bank. Like other financial assets, residential mortgages may be exposed to climate-related financial risks.

The Bank is taking several steps to mitigate climate-related financial risks to residential mortgage collateral posted in the SMF. The Bank's risk management approaches build on analyses detailed in the Bank's **2022** and **2023** climate change disclosures as well as the April 2024 **Quarterly Bulletin**. These approaches mitigate the Bank's exposure to transition and physical risks facing owner-occupied and buy-to-let (BtL) mortgage collateral.

Mitigating transition risks to BtL mortgages

The Bank uses the Energy Performance Certificate (EPC) information that it collects from SMF counterparties to consider how transition risks might impact the value of BtL mortgages.

As set out in the **Domestic Minimum Energy Efficiency Standard Regulations**, rental properties in England and Wales that are let out are required since 2018 to have a current EPC rating of at least 'E' (on a scale from 'A' to 'G') or a valid exemption.

To mitigate risks associated with non-compliance with government regulation, the Bank is updating its **eligibility criteria** for BtL mortgages. The Bank will no longer accept BtL mortgages located in England and Wales with an EPC rating of less than E as collateral in the SMF, unless the counterparty can confirm that there is a valid exemption in place.[36]

The Bank is also not accepting any newly originated BtL mortgages for which SMF counterparties do not provide EPC ratings. The Bank is applying a tiered treatment to pools of older BtL mortgages with missing EPC data to recognise some challenges that lenders face in accessing comprehensive EPC data for their back books.

Mitigating physical risks to owner-occupied and BtL mortgages

As set out in the **results of the Bank's Climate Biennial Exploratory Scenario** (CBES) and the April 2024 QB article, properties in the UK are also exposed to the physical risks of climate change. In particular, flood damage can already cause significant losses for homeowners and the risk of flooding is projected to increase as climate change intensifies. In the UK, the vast majority of mortgage borrowers are currently insured against flood risk. However, an increased actual or perceived risk of flooding could affect property prices through expectations of higher insurance premia and/or withdrawal of insurance coverage. These changes may increase the loss given default of residential mortgages, especially in areas that are most vulnerable to flood risk.[37] These channels impact both owner-occupied and BtL mortgages since it is the homeowner, rather than the tenant, that typically takes out home insurance.

To quantify the impact of these risks to mortgage collateral, the Bank has used flood risk projections from a natural catastrophe risk modelling firm. These projections are used to estimate potential increases in insurance premia out to 2080 in different postcodes. The projections are conditioned on the 'Representative Concentration Pathway 8.5' scenario used by the Intergovernmental Panel on Climate Change. This is a scenario in which global efforts to tackle climate change are insufficient and temperatures increase by 4.3°C degrees above pre-industrial levels by 2100. They also reflect the fact that until 2039, insurance premia for most homes are effectively 'capped' by the UK's government-sponsored flood reinsurance scheme, **Flood Re**. In addition, the approach looks at the highest flood risk regions and applies an additional discount to property prices to account for possible impacts after 2039.

The Bank is integrating these effects into its existing haircut models. As a result, mortgage pools with a larger share of properties in flood-prone areas will tend to face higher haircuts than those with a lower exposure to flood risk. This is to ensure the Bank is protected against potential financial losses arising from the physical impacts of flooding in an improbable, but plausible, climate scenario.

Mitigating transition risks to owner-occupied mortgages

As set out in the results of the Bank's CBES and the Bank's climate-related financial disclosure 2023, transition risks may have a material impact on the value of owner-occupied mortgages. In particular, households that own energy-inefficient homes may be exposed to energy price shocks that might materialise in a disorderly transition to net zero – as well as due to factors unrelated to climate change such as geopolitical events. Such energy price shocks would increase households' stressed debt servicing ratios,[38] making it harder for households to meet their monthly mortgage payments – which in turn increases the likelihood of mortgage default.

To quantify the potential risks to collateral posted in the SMF, the Bank started collecting EPC ratings for residential mortgage collateral on a mandatory basis in 2023. Combining EPC ratings collected on residential mortgage collateral with other property characteristics and Ofgem data on household energy consumption can enable estimating the energy consumption of individual properties. These estimates can be combined with the electricity and gas price shocks in a ‘disorderly transition scenario’ to quantify the stressed energy bills that different households might face following a sharp increase in energy prices. Some households may be able to reduce the impact of the energy price shock by investing in energy efficiency improvements.

This analysis can then be incorporated into existing haircut models. As a result, mortgage pools with a larger share of poor (or missing) EPC ratings tend to face higher haircuts than those containing properties with better EPC ratings, where this has led to higher estimated probabilities of default. This helps protect against potential financial losses arising from a disorderly transition to net zero.

Next steps

In combination, these measures protect the Bank against a scenario in which both severe transition and physical risks materialise.

While the overall impact of the changes on haircuts and collateral eligibility is limited, they help protect the Bank against pockets of exposures within individual mortgage pools and enable ensuring treatment of climate risk is consistent with that of other types of risks to the value of collateral.

The Bank will continue to monitor climate-related financial risks as part of its SMF operations and refine its approach to measure and mitigate these risks as best practice continues to evolve.

The Bank’s climate-related financial risk metrics

The analysis in the Bank’s climate disclosure is based on the asset holdings and lending reported in the Bank’s and BEAPFF’s Annual Reports and Accounts as at 29 February 2024. Metrics draw on both publicly available data and on proprietary data and methodologies from external data providers.

To assess risk exposure in its financial operations, the Bank uses:

- **Point in time metrics** as proxies for exposure to transition and physical risks. These do not capture the likelihood or effectiveness of future decarbonisation strategies. They also don’t provide quantitative estimates of losses that the Bank could suffer in given climate scenarios, and therefore have limited decision usefulness for financial risk management.

- **Forward-looking metrics** incorporate actions that issuers plan to take in order to reduce their exposure to climate-related financial risks. This makes them more decision useful. But they still don't necessarily provide any quantitative estimates of losses that the Bank could suffer.
- **Scenario analysis metrics** consider potential financial impacts of climate risks on the Bank's portfolios across a range of plausible transition and physical risk scenarios. This gives the Bank the most complete measure of climate-related financial risks to its balance sheet.

In its first disclosures, the metrics the Bank considered to assess climate risk were largely point in time metrics such as carbon intensities.

The Bank is continuing to deepen the range of forward-looking scenario-based analyses it uses to assess the financial impact of transition and physical risks on its balance sheet. These analyses can provide useful insights and inform future work with respect to managing climate-related risks in the Bank's financial operations. However, methodologies are still evolving and commonly available scenarios do not capture the full suite of potential climate risks. The Bank is also cognisant of the following structural limitations of scenario analysis metrics. They:

- Are designed to reduce – but may not be able to fully eliminate – reliance on backward-looking evidence. For example, damage functions that describe the relationship between temperature increases and gross domestic product (GDP) may be predicated on historical relationships.
- Do not account for every potential implication of climate change, such as the effects of 'tipping points' (eg the collapse of Greenland and West Antarctic ice sheets), which can result in potentially irreversible damage, occur over long timescales and significantly increase the effects of climate change.
- Are sensitive to underlying scenario assumptions, including about the behaviour of governments, corporates, and households.
- Do not typically provide an indication of the probability of different scenarios occurring.

Sovereign asset holdings

Point in time metrics including carbon footprint

The TCFD's recommended metric for assessing the carbon footprint of an asset portfolio is WACI.[39] This portfolio level intensity metric is calculated by weighting the carbon intensity of each asset (GHG emissions measured relative to GDP for sovereigns), based on their proportion of the portfolio.

The data used here measure emissions on a ‘production basis’: ie emissions from goods and services produced within a country and consumed anywhere in the world. See Box B for a discussion of emissions metrics presented on other bases.

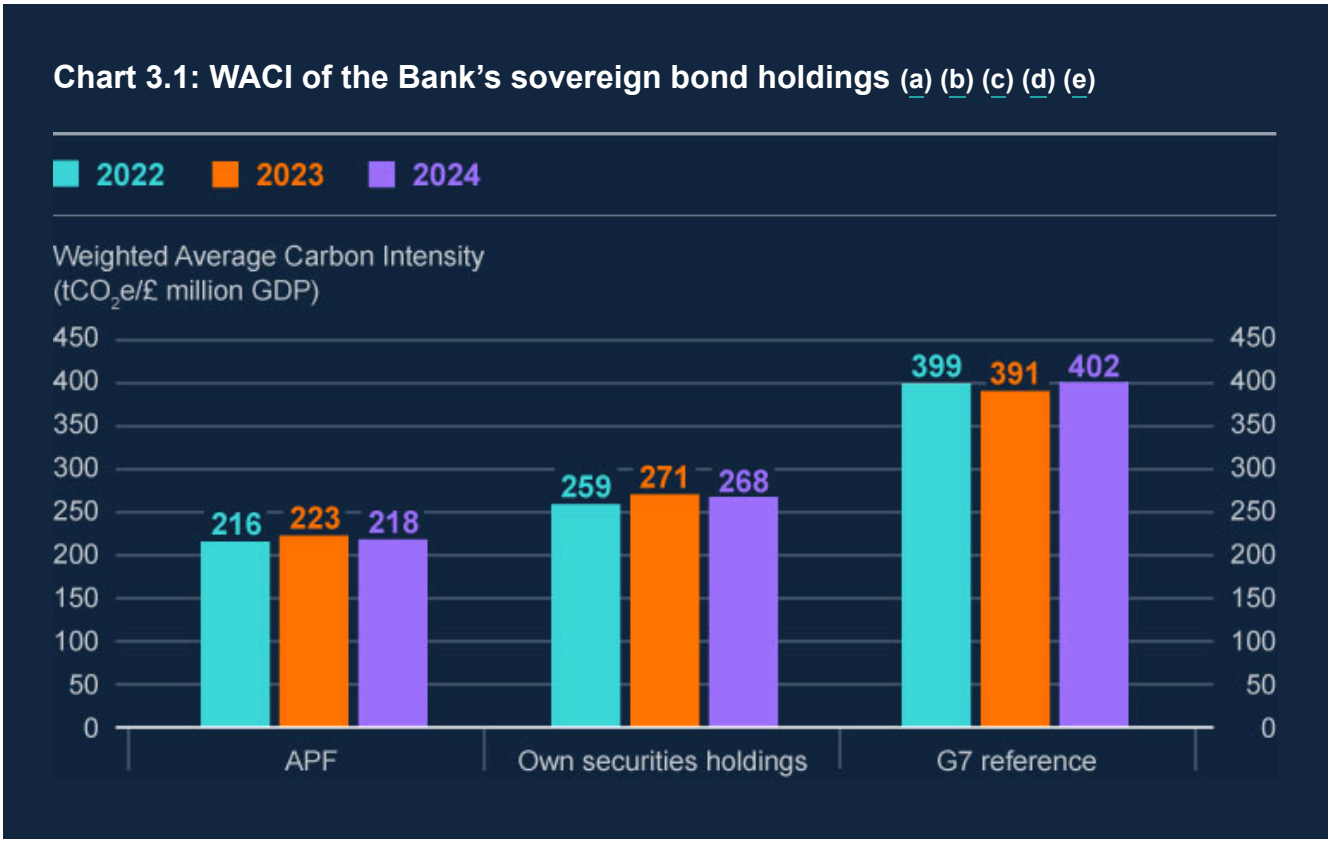
The WACI of the sovereign assets held by the APF decreased slightly year on year, from 223 tonnes of CO_2 equivalents per £million GDP (tCO_2e/£mn GDP) in 2023, to 218 in 2024 (Chart 3.1). Given the monetary policy objectives of the APF, holdings are comprised entirely of gilts, so this reflects changes in the carbon intensity of the UK.

The **WACI of the Bank’s own securities holdings continues to be higher than the APF and experienced a slight decrease year on year, from 271 tCO_2e/£mn GDP in 2023 to 268 in 2024.** In order to meet the Bank’s policy objectives, just under 25% of these assets are invested in the debt of non-UK sovereigns, agencies and supranationals which have a higher carbon intensity than the UK.

The **WACI of both the APF and own securities holdings portfolios remain materially lower than a G7 reference portfolio**, where carbon intensity increased from 391 tCO_2e/£mn GDP to 402 year-on-year. This is because the G7 reference portfolio contains more emission-intensive economies.

Due to lags in the publication of sovereign emissions data, data is presented with a three-year lag – eg 2024 data relates to the 2021 calendar year. The decreases in WACI seen between 2023 and 2024 for the APF and own securities holdings portfolios are primarily a result of Covid-related impacts in the relevant reporting years. Between 2020 and 2021, the UK economy experienced a greater increase in GDP than emissions, reducing its carbon intensity. The inverse was seen during 2019 to 2020, when UK GDP decreased to a greater extent than emissions. This was in part due to a sharp contraction in household spending, particularly on services.[40] The G7 reference portfolio saw the opposite effects, with less severe reductions in household spending and therefore emissions intensities falling during the pandemic before increasing. Looking through temporary Covid-related effects, WACI has remained broadly flat in the APF and G7 reference portfolios but increased marginally in the own securities holdings.

Chart 3.1: WACI of the Bank's sovereign bond holdings (a) (b) (c) (d) (e)



Sources: Bloomberg Finance L.P. data for market value of debt outstanding for G7 countries, UNFCCC GHG emissions data (2019, 2020 and 2021), World Bank GDP $ PPP (2017 constant prices, for 2019, 2020 and 2021) and Bank calculations.

(a) Due to the lag in reporting of national carbon emissions, the emissions data for the 2022, 2023 and 2024 portfolios are from 2019, 2020 and 2021 respectively.
(b) The G7 reference portfolio is calculated by weighting G7 countries according to the market value of debt outstanding at end-February 2024. Market value of debt data are from Bloomberg Finance L.P.
(c) For reference, the reported 2022 and 2023 WACI metrics in last year's climate disclosure were 208 and 210 tCO2e/£mn GDP (APF Sovereign) and 253 and 256 tCO2e/£mn GDP (Bank's own securities holdings). These figures have been re-stated as the external source data used to calculate the metrics has been revised. A small amount of agency bonds in the 2023 own securities holdings was also previously misattributed. Correcting this misattribution increases WACI by 1 tCO2e/£mn.
(d) APF sovereign holdings at end-February 2024 were £552.9 billion, while the Bank's own securities holdings were £20.0 billion (see Table 3.A).
(e) Agency bonds are attributed the carbon intensity of their sovereign for comparability.

Carbon intensity metrics do not account for countries' reliance on revenues from carbon-intensive natural resources. Such reliance can be a significant source of transition risk even if the carbon intensity of countries' own production is limited.

NRR are widely used as an indication of countries' reliance on natural resources, including carbon-intensive resources. From 2023 to 2024, NRR more than doubled for the APF (from 0.28% of GDP to 0.59%) and own securities holdings (from 0.29% to 0.64%). It more than tripled for the G7 reference portfolio (from 0.27% to 0.97%).

However, these changes are largely driven by the sharp increase in commodity prices between 2020 and 2021 (given data is subject to a three-year lag).

This highlights the limitation of NRR as a tool to measure climate-related financial risks. An increase in NRR that is driven by a permanent increase in the quantity of natural resource production tends to increase a country's structural exposure to transition risk. Conversely an increase in the NRR that is driven by short-term increases in the price that resources can be sold at (such as the increase observed here) may increase financial resources in the near term and improve a country's ability to absorb future transition risks.

Box B: Sovereign emissions metrics methodologies

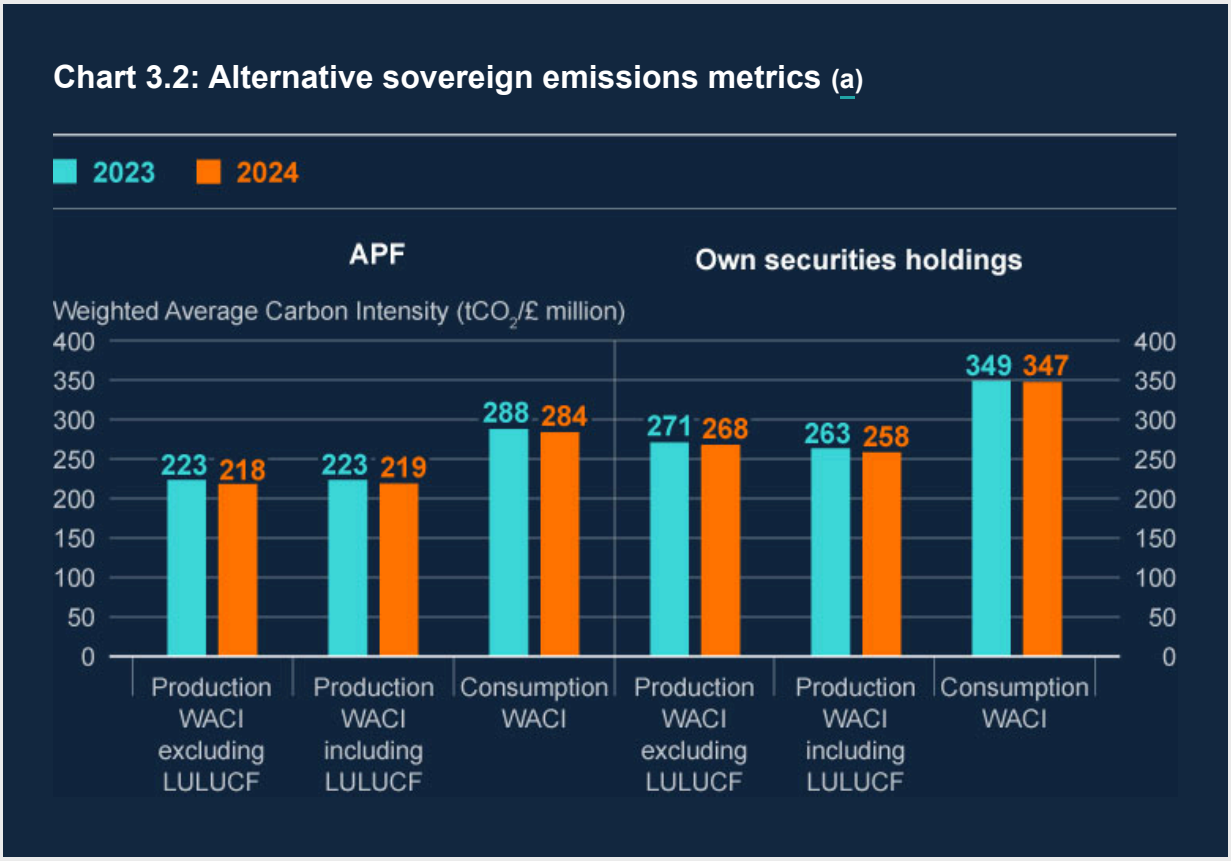
There are a range of methodologies that can be adopted to calculate sovereign bonds' carbon intensities (eg see **Partnership for Carbon Accounting Financials** (PCAF) and **MSCI**). For example, emissions can be calculated on a production, government, or consumption basis and excluding or including **Land Use, Land Use Change and Forestry** (LULUCF).

Production-based emissions measure the emissions associated with the goods and services produced in a country, regardless of where they are consumed. Consumption-based emissions measure the emissions associated with goods and services consumed in a country, regardless of where they were produced.[41]

Carbon intensities can be calculated by normalising emissions using sovereign's purchasing power parity (PPP)-adjusted GDP or on a per capita basis. PCAF recommends normalising production emissions by PPP-adjusted GDP and consumption emissions on a per capita basis.[42]

In line with PCAF recommendations the Bank tracks variants of these metrics (Chart 3.2).

Chart 3.2: Alternative sovereign emissions metrics (a)



Sources: **UNFCCC production GHG emissions** (2019, 2020 and 2021), both excluding and including LULUCF. **World Bank GDP $ PPP** (2017 constant prices, for 2019, 2020 and 2021), **Organisation for Economic Co-operation and Development Carbon dioxide emissions embodied in international trade** (2016, 2017, 2018), **World Bank Final consumption expenditure** (2015 constant US$, inflated to 2017 US$ for 2016, 2017, 2018) and Bank calculations. Agency bonds are attributed the carbon intensity of their sovereign for comparability.

(a) Production WACI has units tCO2e/£million GDP. Consumption WACI has units tCO2e/£million consumption spending.

The inclusion of LULUCF emissions does not have any meaningful impact on the APF's carbon intensity for 2024, while reducing that of the Bank's own securities holdings slightly. This is because LULUCF contributes to net emission reductions for the other sovereigns in the own securities holdings, while it is not a material factor in the UK.

Consumption-based emissions intensities[43] are materially higher for all portfolios compared to production emissions intensities, reflecting that the issuers in the Bank's portfolios are advanced economies that are net importers of carbon-intensive goods.

However, consumption-basis emissions are published with a significant time lag and are more challenging to estimate – so may be less reliable. Consumption-basis emissions may also be less directly linked to transition risks, as economies may find it easier to adjust consumption habits than to replace production facilities.

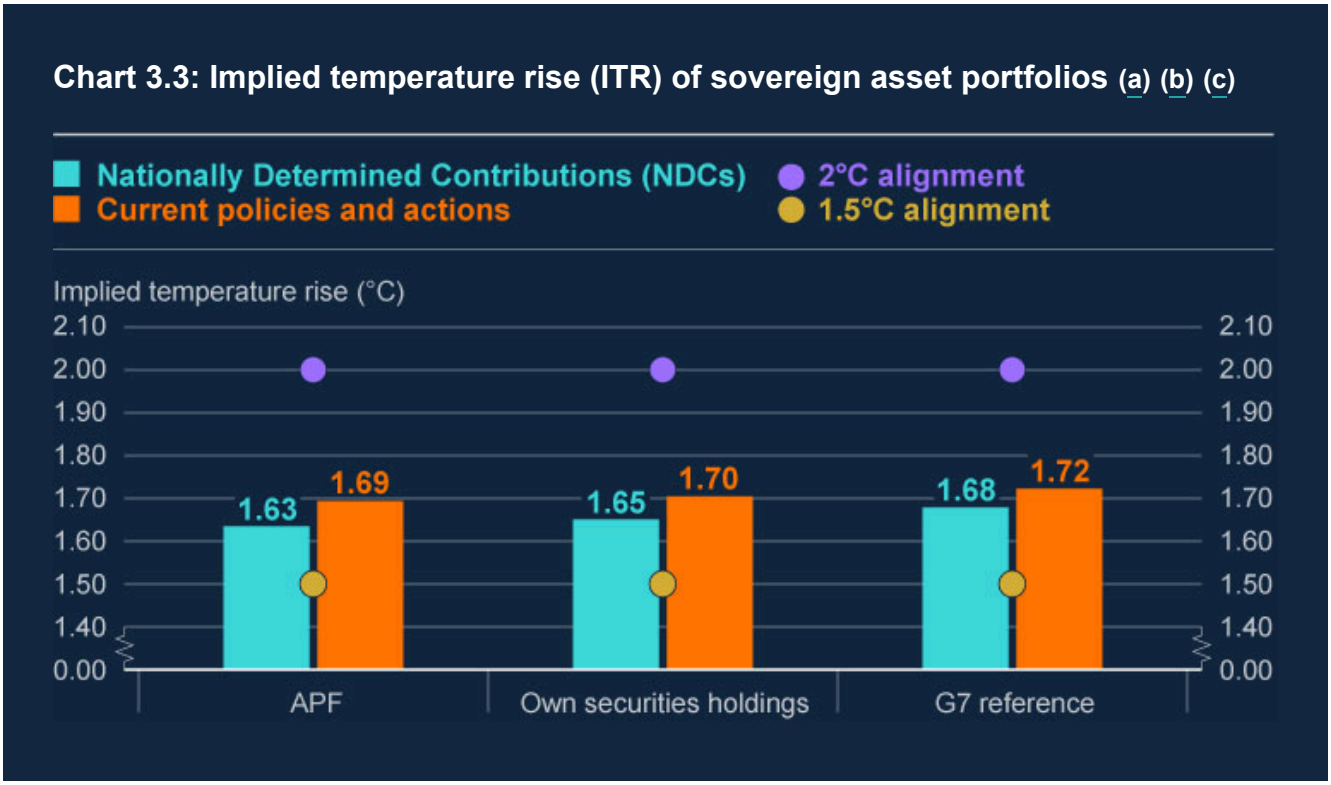
Forward-looking metrics

ITR metrics provide an estimate of global average temperature rise if the entire world were to overshoot its carbon budgets by the same proportion as the sovereigns in the Bank's portfolios are planning to do. As it is expressed in degrees Celsius, the ITR is an easy to understand forward-looking metric. It also provides an indication of the level of transition risk: countries with an ITR of close to 1.5 degrees are already planning to reduce emissions significantly, which is likely to reduce the macroeconomic cost of a transition. Despite this simplicity, ITR metrics remain sensitive to underlying assumptions (such as how individual countries are assigned a carbon budget and how future emissions are projected).

The Bank measures ITRs for two different scenarios. One scenario considers expected future emissions given countries' current policies and actions ('Current Policies'). The other one is based on the emissions reductions that countries have committed to under the Paris Agreement: Nationally Determined Contributions (NDCs).[44] See Chart 3.3.

In a **NDCs scenario, the ITR of the APF and the Bank's own securities holdings is 1.63°C and 1.65°C respectively. In a Current Policies scenario, ITR is 1.69°C and 1.70°C respectively. These are marginally lower than the ITR for a G7 reference portfolio and suggest the Bank's portfolios are exposed to similar levels of transition risk as a G7 reference portfolio.**

Chart 3.3: Implied temperature rise (ITR) of sovereign asset portfolios (a) (b) (c)



Sources: Bloomberg Finance L.P. data for market value of debt outstanding for G7 countries, **Climate Action Tracker** for reference emissions pathways and sovereign issuers NDCs and Current Policies emissions pathways to 2030, **IPCC** for global carbon budgets and transient climate response from cumulative emissions estimates and Bank calculations.

(a) In the Bank's 2023 climate disclosure the reference Below 2°C aligned emissions pathway is taken from the **NGFS Scenario Explorer** and countries NDCs and Current Policies pathways to 2030 from the Climate Action Tracker. This year, the Bank has harmonised data sources and taken all data from the Climate Action Tracker. This methodological change results in minor reductions in ITR across all portfolios of around 0.1°C.
(b) This analysis is presented by calculating overshoots to 2030. It therefore assumes that the sovereign's overshoot in 2030 is representative of the total overshoot it will have against its 2°C aligned budget in totality. While this assumption works well for ambitious emissions reductions pathways (such as NDCs) it works less well when sovereign's emissions remain elevated post-2030 and do not achieve net zero. To capture these effects, the Bank supplements Climate Action Tracker data with **NGFS Scenario Explorer data** for projected country emissions pathways out to 2050 to construct emissions pathways out to 2050. Taking this approach, the APF's ITR in a Current Policies scenario increases to 1.75°C and the own securities holdings to 1.77°C. While these ITR's increase marginally, they remain lower than the G7 reference portfolio which rises to 1.81°C, and the World ITR, which is more than 2°C.
(c) Agency bonds are attributed the emissions pathway of their sovereign.

Scenario analysis

Last year, for the first time, the Bank included scenario analysis to help understand the climate risks in its sovereign portfolios. This analysis estimated potential financial losses to the Bank's sovereign asset holdings if markets instantaneously repriced assets to reflect expected shocks to the risk-free rate in a range of **NGFS climate scenarios** out to 2050. These shocks to the risk-free rate are driven by NGFS assumptions about monetary policy responses to the climate transition.

While this was a step-forward in quantifying direct financial risks associated with sovereign bonds, the Bank noted the analysis was subject to limitations. These limitations included the fact that the analysis did not consider the impact of climate risks on sovereigns' perceived creditworthiness. If markets expect a sovereign's credit worthiness to deteriorate in light of climate-related factors, then this would put additional pressure on that sovereign's bond prices.

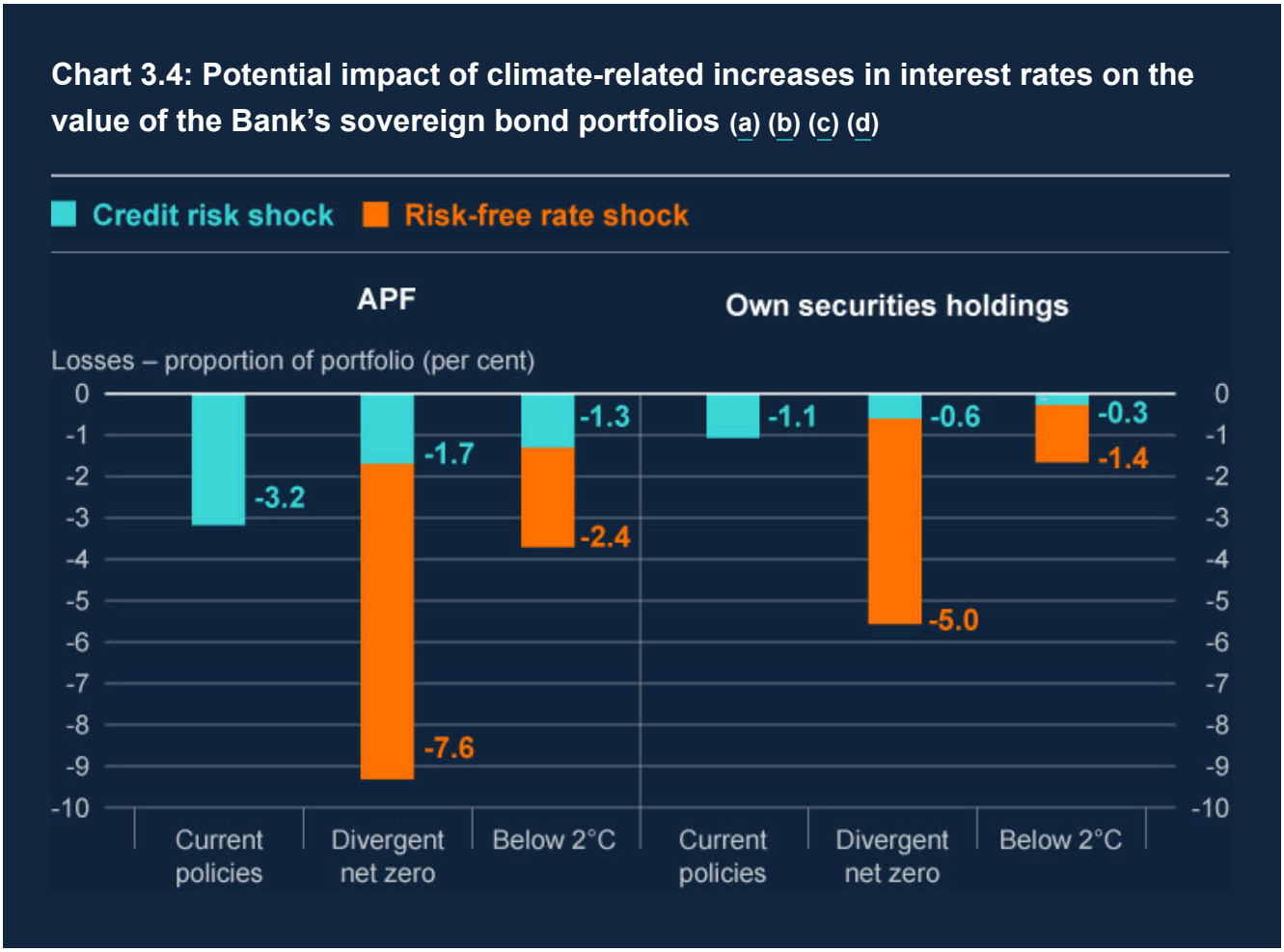
This year the Bank has enhanced its analysis to also consider potential shocks due to changes in sovereign credit risk premia in these NGFS scenarios out to 2050. A detailed summary of the Bank's methodology can be found in its April 2024 **Quarterly Bulletin** article. While the risks the Bank considers are long term, financial losses could crystalise in the immediate term if markets price forward-looking risk into bonds, particularly at longer durations. The Bank's analysis conservatively assumes that such a repricing event would occur in the immediate future.

The Bank expects that all climate scenarios reduce the value of sovereign asset holdings relative to their current market value (Chart 3.4). Across all scenarios, the **APF is exposed to greater losses than the Bank's own securities holdings**. This is because the duration of bonds in the APF is longer than those in the Bank's own securities holdings, and hence more sensitive to yield curve shocks.

Divergent Net Zero[45] is the scenario with the greatest losses (-9.3% for the APF and -5.6% for own securities holdings). This is because this scenario has the largest combined shocks across the whole curve. Shocks at the short end of the curve are predominantly derived from movements in risk-free rates given the assumption that countries increase rates to counteract any inflationary impact of climate policies. Shocks at the long end of the curve are supplemented by increases in sovereign credit risk premia which are predominantly driven by the crystallisation of physical climate risks.

Current Policies[46] is the scenario with the smallest losses (-3.2% for APF and -1.1% for own securities holdings). There are no shocks to the risk-free rate in the Current Policies scenario, and the entire shock is driven by very significant increases in physical risks that drive up sovereign credit risk. These physical risks take particularly long to materialise and mainly affect the longer duration APF. In this scenario, physical risks are projected to increase non-linearly after 2050. However, these effects wouldn't be seen in a fixed-income portfolio containing short to medium duration bonds.

Chart 3.4: Potential impact of climate-related increases in interest rates on the value of the Bank's sovereign bond portfolios (a) (b) (c) (d)



Sources: See annex of Holden et al (2024), **Measuring climate-related financial risks using scenario analysis**, for a full breakdown of data sources used in the Bank's model and analysis.

(a) Analysis undertaken on 91% of the APF portfolio and 89% of the own securities holdings at end-February 2024. Analysis excludes supranational bonds as well as bonds with the shortest remaining time to maturities due to lower sensitivity to shocks.
(b) Scenarios used in this analysis are NGFS Phase 3 scenarios, with the additional inclusion of NGFS Phase 4 estimates of acute physical risks impact on GDP.
(c) APF sovereign holdings at end-February 2024 were £552.8 billion, while the Bank's own securities holdings were £20.0 billion (see Table 3.A).
(d) Data labels rounded to one decimal place.

Corporate assets and lending

Corporate bond purchase scheme (CBPS)

As of end February 2024, the reporting date for this report, the CBPS portfolio contained only three securities, with a total portfolio value of £0.2 billion (down from £6.5 billion as of end-February 2023). All securities have matured as of the date of this publication. However, as these assets were part of the APF as of the reporting date, metrics are disclosed below in line with TCFD guidance.

The WACI of the CBPS portfolio increased from 229 tCO_2e/£mn revenue in 2023 to 396 tCO_2e/£mn[47] **revenue in 2024.** This is driven by one electricity transmission company which, given the small number of remaining bonds, accounts for a significant share of CBPS holdings. Electricity networks could benefit from significant opportunities linked to the climate transition. However, they have high carbon intensities because under the GHG Protocol, their Scope 2 emissions include all emissions associated with the generation of electricity that is lost as part of the transmission and distribution process.[48]

Financed emissions of the CBPS portfolio fell from 2.2 $MtCO_2e$ to 0.2 $MtCO_2e$[49] due to the significant reduction in the size of the portfolio.

Term-Funding Scheme with additional incentives for small and medium-sized enterprises (TFSME)

The Bank undertakes a range of secured lending to counterparties through the SMF, as well as through the TFSME. The full range of the Bank's policy and balance sheet tools are set out in the **Bank of England Market Operations Guide.** This section focuses only on TFSME lending, which is the largest category.[50]

The TFSME was introduced by the MPC in March 2020 and was designed to:[51]

- help reinforce the transmission of the reduction in bank rate to the real economy;
- provide participants with a cost-effective source of funding to support additional lending to the real economy;
- incentivise banks to provide credit to businesses and households; and
- provide additional incentives for banks to support lending to small and medium-sized enterprises.

In line with **PCAF guidance**, the Bank is disclosing Scope 1 and 2 emissions metrics for TFSME borrowers for the first time. The **Scope 1 and 2 WACI for the TFSME increased marginally to 5.0 tCO_2/£mn revenue**[52] **in 2024 from 4.2 tCO_2/£mn revenue in 2023**. **Scope 1 and 2 financed emissions for the TFSME were 0.1 $MtCO_2e$**.[53]

Due to data quality and availability, the Bank's counterparties' Scope 3 emissions are not included when calculating the WACI here, in line with **PCAF guidance**. However, as all TFSME lending is to financial institutions, Scope 3 emissions are a material component of the Bank's counterparties' total emissions. Further details are provided in Box C. The Bank will continue to monitor and review this position in future years as the quality and availability of financial institutions' Scope 3 emissions data improves, making use of improving data provided by the real economy.

Box C: TFSME financial institutions Scope 3 emissions

Commercial financial institutions typically lend directly to real-economy borrowers and can gather data directly from their counterparties to measure the carbon intensity of their loan book. This information would then be disclosed as part of the financial institution's Scope 3 emissions.

Conversely, the Bank lends to commercial financial institutions, who lend to the real economy. Hence, the Bank is reliant on commercial financial institutions' Scope 3 disclosures to measure the carbon-intensity of the ultimate 'real-economy' recipients of any lending the Bank undertakes to financial institutions.

While the volume of financial institutions' Scope 3 emissions disclosures has increased in recent years, there are still gaps in coverage. In addition, Scope 3 reported emissions' comparability, transparency and reliability are all still in their infancy. This may in part reflect financial institutions' challenges in obtaining data from their real-economy counterparties and leads to material under and over reporting of Scope 3 emissions.

While data providers have developed methodologies to estimate financial institutions' Scope 3 emissions on a comparable basis, these estimates are either (i) a function of emissions reported by other financial institutions, and therefore subject to similar limitations or (ii) subject to other data or methodological limitations. For example, providing reliable bottom-up estimates of financial institutions' Scope 3 emissions estimates require granular data on financial institutions' balance sheets and lending.

Key climate-related risks in the Bank's physical operations

Summary

- This disclosure reports on the Bank's extended carbon footprint from physical operations, which was first set out in the Bank's CTP and in this climate disclosure in 2022/23.[54] This year the Bank's footprint is estimated at 78,919 tCO_2e and primarily consists of purchased goods and services (72%), capital purchases (14%), air travel (5%) and staff commuting and working from home (4%).
- The current year carbon footprint is 21% (20,372 tCO_2e) lower than 2022/23 and 45% (65,458tCO_2e) lower than the baseline year of 2015/16, against which the Bank measures progress.
- The 21% reduction compared to 2022/23 is driven mainly by a fall in estimated emissions from purchased goods and services (a reduction of 18,281 tCO_2e) due to the receipt of more accurate data and methodological improvements. In line with

the GHG Protocol, in 2022/23 the Bank used a conservative approach to estimate these emissions in the absence of product or service-specific supplier data. This year it has worked with suppliers to improve the specificity of its estimates, which has removed some of that conservatism and led to a reduction in the emissions from purchased goods and services. This is illustrative both of the rate of development in this space and the Bank's commitment to engage with its suppliers to improve its emissions reporting.

- The Bank's improved understanding of its emissions will impact current year, prior year and baseline balances in different ways. During this period of rapid change the Bank does not plan to restate its baseline emissions on an annual basis but will instead revisit this alongside the next detailed update of the CTP to be published in summer 2026.
- The other factor contributing to the reduction compared to 2022/23 was a fall in emissions from capital purchases (a reduction of 4,343 tCO_2e) due to a reduction in the average emissions intensity of those purchases, partially offset by an increase in air travel (2,123 tCO_2e).
- The 45% reduction compared to the baseline year was driven mainly by: a fall in emissions from purchased goods and services (a reduction of 52,131 tCO_2e) due to the methodological improvements described above; the Bank's move to a contract for the supply of renewable electricity in 2020/21 (a reduction of 5,563 tCO_2e); and reductions in the Bank's spend on capital purchases and their carbon intensity (an overall reduction of 5,655 tCO_2e).

The Bank's physical operations are those related to the management and operation of its property, plant and equipment, the manufacture of banknotes, and all other non-financial activities undertaken by its staff in support of its mission. The Bank's physical operations are exposed to risks from both the physical effects of climate change and the transition to a net-zero economy:

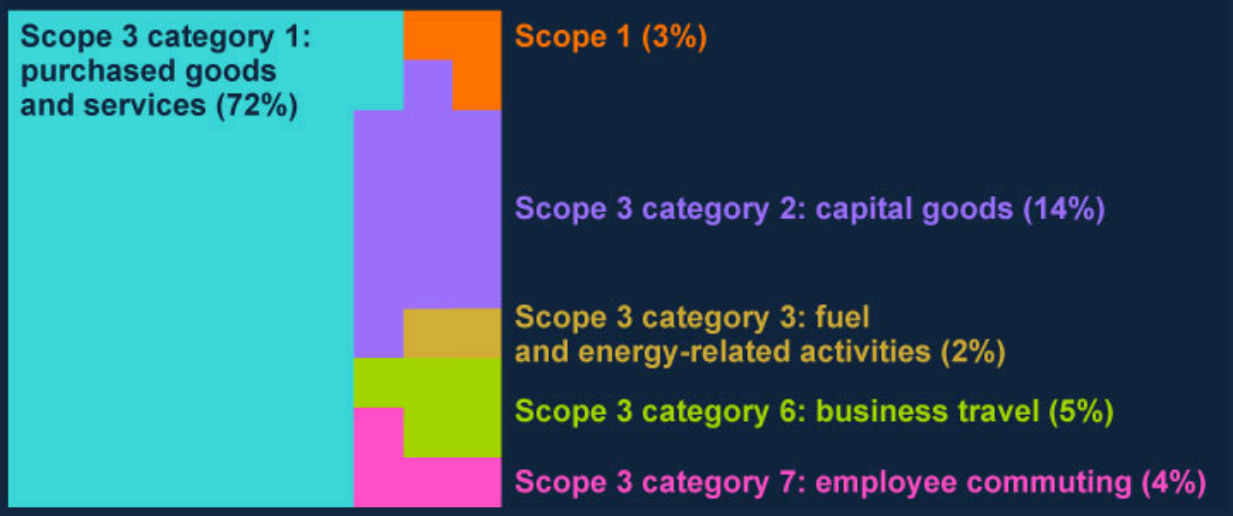
- **Physical risks** could affect the maintenance of the Bank's buildings and property. For example, this could arise through an increase in severe weather events resulting in flood or other weather damage. Physical risks could also have an impact on the Bank's staff, for example by disrupting travel.
- **Transition risks** could affect energy usage through fluctuations in energy prices or legislative requirements to decarbonise heating systems.
- Some aspects of the Bank's activities are impacted by both physical and transition risks. One example is the Bank's **supply chain**, which includes companies that may have their own physical and transition risks.

The Bank's carbon footprint for physical operations

One way in which the Bank[55] monitors its exposure to transition risks is by tracking its carbon footprint from physical operations. The sources of emission included in this carbon footprint are set out in Table 3.B with further detail in Annex 2.

This year the Bank's carbon footprint is estimated at 78,919 tCO_2e. The majority of the current year emissions relate to goods and services purchased by the Bank (72%), capital purchases (14%), business travel (5%) and staff commuting and working from home (4%). Chart 3.5 sets out the composition of the Bank's current year carbon footprint in more detail. If the Bank did not use renewable electricity,[56] its carbon footprint would rise by 5,608 tCO_2e, which would represent an uplift of 7%[57] compared to the Bank's actual reported carbon footprint for 2023/24.[58] Annex 3 provides further information on the Bank's energy consumption.

Chart 3.5: The Bank's GHG emissions from physical operations in 2023/24 (a)



Source: Bank of England.

(a) This chart uses certain information 2024 © MSCI ESG Research LLC, reproduced by permission.

Comparison with prior year

The Bank's carbon footprint this year is 21% (20,372 tCO_2e) lower than 2022/23 (99,291 tCO_2e). This reduction is driven mainly by a fall in estimated emissions from purchased goods and services (a reduction of 18,281 tCO_2e).

In line with the GHG Protocol the Bank estimates these emissions in the absence of product or service-specific supplier data by using conservative assumptions. For example, if a supplier is based in the UK the Bank might assume its services have an emissions intensity equivalent to the global average, which is known to be higher than the UK average.

This year the Bank has worked with its suppliers of goods and services to improve its understanding of their carbon footprint and therefore increase the specificity of the data used to calculate those emissions. Through this work, emissions from 60% of the Bank's purchased goods and services expenditure have been calculated using more specific data than in 2022/23.

The reduction in emissions from purchased goods and services compared to 2022/23 is materially due to the improvement in the specificity of data used in the Bank's emissions calculations. These improvements are described in more detail in Box D. In addition, the Bank has been establishing processes to facilitate the abatement of emissions, which contributed to the annual reduction by the end of February 2024. The other factor contributing to the reduction in emissions compared to 2022/23 was a fall in emissions from capital purchases (a reduction of 4,343 tCO_2e) due to a reduction in the average emissions intensity of those purchases, counteracted by an increase in business travel emissions of 2,123 tCO_2e due mainly to air travel.

The increase in air travel emissions is due to a partial return to pre-Covid travel patterns. While the absolute level of emissions remains lower than pre-Covid levels (2019/20: 4,428 tCO_2e; 2023/24: 3,874 tCO_2e), some further increase is expected. The Bank continues to take steps to raise internal awareness of the emissions implications of travel choices and more Bank colleagues are now joining overseas events virtually where practical.

Comparison with baseline year

The Bank's carbon footprint this year is 45% (65,458 tCO_2e) lower than the baseline year (144,377 tCO_2e). The methodological changes set out in Box D are responsible for a large proportion of the 52,131 tCO_2e reduction in emissions from purchased goods and services. Abatement of emissions via the Bank's move to renewable electricity contributed a reduction of 5,563 tCO_2e, and changes in the Bank's expenditure on capital purchases and the carbon intensity of those purchases reduced emissions by 5,655 tCO_2e. Table 3.B summarises the Bank's reported carbon footprint from physical operations for the current year, the previous year and the 2015/16 baseline.

Table 3.B: The Bank's carbon footprint from physical operations (a)

Type of emissions (b)	2023/24 (tCO_2e)	2022/23 (tCO_2e)	2015/16 (tCO_2e)
Scope 1	2,357	2,333	3,154
Scope 2	–	–	5,563
Scope 3 category 1: purchased goods and services	56,937	75,218	109,068
Scope 3 category 2: capital goods	10,703	15,046	16,358
Scope 3 category 3: fuel and energy related activities	1,711	1,779	3,991
Scope 3 category 5: waste	10	17	32
Scope 3 category 6: business travel	3,967	1,779	4,367
Scope 3 category 7: employee commuting	3,234	3,119	1,844
Total	**78,919**	**99,291**	**144,377**

Source: Bank of England.

(a) This table includes certain information 2024 © MSCI ESG Research LLC, reproduced by permission.
(b) Under the GHG Protocol, Scope 1 emissions are direct emissions (eg from running boilers), Scope 2 emissions are indirect emissions from electricity use (eg from powering its office buildings), and Scope 3 emissions are upstream and downstream value chain emissions (eg emissions from buying products from suppliers and emissions from products when customers use them).

The Bank's carbon targets for physical operations

Last year the Bank published its first **CTP**, setting out the approach to deliver its commitment to reduce emissions from physical operations to net zero by 2040 – the Bank's PGGET. The CTP details the transition pathway to reach net zero, including interim targets.

Emissions remain broadly on track to meet the CTP net-zero pathway and milestones. Further details on the Bank's reporting timeline and approach to baselining are set out below.

The Bank continues to monitor its previous '2030 Target' to reduce selected[59] GHG emissions by 63% from 2016 to 2030[60] and has incorporated it within the CTP transition pathway.[61] The Bank remains on track to meet the '2030 Target'. This has been somewhat helped by its move to renewable energy, which delivered a large proportion of the 63% reduction required. Further work is needed though, for example in reducing items such as air travel.

Box D: Calculation of the Bank's emissions from purchased goods and services

Methodological improvements

In the CTP the Bank committed to improving its Scope 3 emissions calculations incrementally over time. Under the GHG Protocol organisations can calculate their Scope 3 emissions using a range of methods depending on the data available to them. Table 3.C sets out the three methods, which the Bank has used in its 2023/24 reporting and which draw on the **GHG Protocol guidance**.

Table 3.C: The range of methods used to calculate the Bank's emissions from purchased goods and services in 2023/24

Method	Description
Product or activity-level method	This measures the emissions associated with a specific product or service. It is the most accurate method but is not widely available.
Organisation-level method	This measures the emissions associated with the supplier organisation, which may produce a range of products or services in addition to the one purchased. This is typically less accurate than the product or activity-level method but is more widely available.
Global average method	This measures the emissions associated with a category of expenditure on a global average basis. This method is typically less accurate than the organisation, product or activity-level methods, although the granularity of the categories of expenditure can add specificity. The method is widely available.

Source: Bank of England.

Where supplier-specific data[62] is not available, it is prudent to use a method likely to overestimate emissions and then, as more specific data become available, to change methodology to use the improved data. Scope 3 emissions are therefore expected to reduce over time due to refinement of the methods used to calculate them.

In line with this approach, when the Bank set its expanded carbon footprint in 2022/23 it chose to calculate its emissions from purchased goods and services using the global average method,[63] [64] which assesses emissions by multiplying an organisation's expenditure on a particular good or service by the global average emissions intensity of that good or service (an emissions factor). The choice of this methodology reflected

the levels of data available at the time. It was recognised as a conservative approach that was likely to overestimate emissions because UK-based suppliers tend to be less carbon intensive than their global peers and the Bank is starting to work with low-carbon suppliers, where possible.[65] This approach ensures that the Bank does not underestimate the level of emissions abatement required to meet its net-zero target. The expectation was that the balance of specific data would increase over time as the Bank engages with its suppliers and as those suppliers improve their emissions reporting capability.

This year the Bank began to increase the specificity of its emissions calculations by engaging directly with suppliers, using third-party data providers, and using publicly available information. As a result there has been a material reduction in the Bank's emissions from purchased goods and services compared to 2022/23 and the baseline year due in large part to the change in methodology.

Rebaselining

In the CTP, the Bank noted that where there is a material change in calculation methodology in the current year it will be necessary to restate baseline emissions and therefore the Bank's net-zero transition pathway, against which emissions are assessed. This is because the pathway is calculated with reference to the baseline year,[66] so a reduction in the baseline creates a reduction in the emissions permissible each year under the Bank's CTP. Restating in these circumstances aligns with the GHG Protocol and ensures that reductions in emissions due to methodological changes are not misinterpreted as abatement of emissions.

Given that there has been a material change in the calculation methodology for emissions from purchased goods and services this year, the Bank plans to restate its baseline emissions and has considered when that restatement should be made. It looked at two relevant factors:

- **Embedding the Bank's climate target within the organisation.** It is expected that the evolution of emissions calculation methodologies and the improvements in the availability of data will continue in the short to medium-term. If the Bank were to restate its baseline each year this could result in material fluctuations in the target. For example, improved supplier specific data could decrease the baseline if the supplier is UK based and has therefore benefited from less carbon-intensive energy sources than the global average. Alternatively, supplier-specific data could increase the baseline, if in 2015/16 the supplier had been outsourcing production to a jurisdiction that uses carbon-intensive energy sources but later moved production to the UK. Resultant uncertainty could impact the Bank's ability to embed its climate targets within the organisation.

- **The need to ensure that the Bank's capital investment programme to reduce its direct emissions is appropriately maintained**. The Bank is gearing up its work to reduce its GHG emission and that work will materially build over the coming years. During this initial embedding phase the scale of reductions will be less sensitive to movements in the transition pathway. As a result the pace or nature of the Bank's capital investment programme will not be affected by the rebaselining exercise in the short-term.

In light of these factors, during this period of rapid change the Bank does not plan to restate its baseline emissions on an annual basis but will instead undertake a full restatement as part of the next detailed update of the CTP for the 2025 milestone, which will be published in 2026.

Annexes

Annex 1: Factors relevant to the policy committees

The Monetary Policy Committee (MPC)

The MPC's objectives are to maintain price stability and, subject to that, to support the economic policy of the UK Government, including its objectives for growth and employment. The secondary statutory objective is refined and informed by HM Treasury's remit letter.

The MPC remit letter

The Government's economic policy objective is to achieve strong, sustainable and balanced growth. Price and financial stability are essential pre-requisites to achieve this objective in all parts of the UK and sectors of the economy.

To achieve this objective, the Government's economic strategy consists, among others, of:

'Supply side reforms to promote sustainable growth in all parts of the UK by supporting a dynamic business environment, increasing long term energy security and delivering Net Zero.'

The Financial Policy Committee (FPC)

The FPC contributes to achieving the Bank's financial stability objective and subject to that supporting the economic policy of the UK Government, including its objectives for growth and competitiveness. The secondary statutory objective is refined and informed by HM Treasury's

remit and recommendations letter. This letter also contains recommendations about matters that the FPC should regard as relevant to the FPC's understanding of the Bank's financial stability objective.

The FPC remit and recommendations letter

The Government's economic objective is to achieve strong, sustainable and balanced [economic] growth. Price and financial stability are essential pre-requisites to achieve this objective in all parts of the UK and sectors of the economy.

To achieve this objective, the Government's economic strategy consists, among others, of:

'Supply side reforms to promote sustainable growth in all parts of the UK by supporting a dynamic business environment, increasing long term energy security and delivering Net Zero.'

Matters that the FPC should regard as relevant to the Bank's financial stability objective and the responsibility of the FPC in relation to the achievement of that objective:

'The FPC should also continue to regard risks from climate change (including physical risks and risks from the transition to net zero) as relevant to its primary objective.'

The Prudential Regulation Committee (PRC)

The Prudential Regulation Authority's (PRA's) primary objectives are to promote the safety and soundness of the firms it regulates, and to contribute to the securing of an appropriate degree of protection for insurance policyholders. The PRA's 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 and to recommendations from HM Treasury about aspects of the Government's economic policy when considering how to advance its objectives and the application of the regulatory principles.

PRC 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)…where each regulator considers the exercise of its functions to be relevant to the making of such a contribution.'

The PRC recommendation letter

The Government's economic objective is to achieve strong, sustainable and balanced growth. Price and financial stability are essential pre-requisites to achieve this objective in all parts of the UK and sectors of the economy.

To achieve this objective, the Government's economic strategy includes:

'Supply side reforms to promote investment, skilled employment, infrastructure and enterprise to create a more pro-growth environment in all parts of the UK, increasing long term energy security and delivering net zero.'

Matters about aspects of the Government's economic policy to which the PRC should have regard include:

'The PRC should have regard to supporting the Government's ambition to encourage economic growth in the interests of consumers and businesses including: the UK Government's ambitions for the provision of sustainable finance and the supply of long-term investment to support UK economic growth, including the supply of finance for infrastructure projects.'

The Financial Markets Infrastructure Committee (FMIC)

The Bank's primary objective as Financial Markets Infrastructure (FMI) regulator is to maintain and enhance the stability of the financial system of the UK (the financial stability objective). In exercising its FMI functions,[67] the Bank also has a secondary objective to, so far as reasonably possible, facilitate innovation in the provision of central clearing counterparty (CCP) and central securities depository (CSD) services with a view to improving the quality, efficiency, and economy of the services. In addition, in exercising its FMI functions, the Bank must have regard to regulatory principles that are set out in statute and should have regard to any recommendations from HM Treasury about aspects of the Government's economic policy when considering how to advance its objectives and the application of the regulatory principles.

FMIC climate and environment regulatory principles

The FMIC must have regard to the regulatory principles, when exercising the Bank's FMI functions, including 'the desirability of sustainable growth in the economy of the United Kingdom in the medium or long term, including in a way consistent with contributing towards achieving compliance by the Secretary of State with section 1 of the Climate Change Act 2008 (UK net-zero emissions target)…where the Bank considers the exercise of its FMI functions to be relevant to the making of such a contribution'.

HM Treasury recommendations to FMIC under the Bank of England Act 1998

None yet made.

Annex 2: The Bank’s carbon footprint for its physical operations

Table A2.1 sets out a detailed analysis of the Bank’s carbon footprint for its physical operations in the current year, prior year and the baseline year 2015/16, against which the Bank measures progress.[68] The extended carbon footprint forms the basis of the Bank’s PGGET.

Table A2.1: The Bank's carbon footprint for its physical operations (a)

Type of emissions (b)	Activity	2023/24 (tCO_2e)	2022/23 (tCO_2e)	2015/16 (tCO_2e)
Scope 1	Natural gas (c)	2,143	2,219	2,999
	Oil – generators (c)	0	1	5
	Vehicles fleet (c)	28	23	97
	Refrigerants (c) (d)	186	90	53
Scope 2	Electricity (c) (e)	0	0	5,563

Type of emissions (b)	Activity	2023/24 (tCO_2e)	2022/23 (tCO_2e)	2015/16 (tCO_2e)
Scope 3 – Category 1: purchased goods and services	Polymer (notes) (c) (f)	1,645	2,108	2,333
	Paper (notes) (c) (f)	0	0	3,360
	Water (c)	27	23	60
	Office paper (c)	4	3	96
	Manufacturing (not elsewhere classified) (g)	24,049	14,227	29,579
	Renting of machinery and equipment, and other business activities (g)	8,450	28,349	19,670
	Post and telecommunications (g)	3,821	10,407	11,657
	Electrical and optical equipment (g)	2,993	3,205	8,606
	Health and social work (g)	1,115	3,391	4,398
	Food, beverages and tobacco (g)	1,712	2,395	3,100
	Public administration and defence; compulsory social security (g)	2,916	2,228	2,971
	Other supporting and auxiliary transport activities; activities of travel agencies (g)	176	67	2,857
	Financial intermediation (g)	1,429	1,090	1,992
	Pulp, paper, printing and publishing (g)	753	761	1,874
	Education (g)	1,018	678	1,826
	Construction (g)	652	1,047	1,638
	Machinery (not elsewhere classified) (g)	1,193	1,119	1,305
	Other community, social and personal services (g)	1,101	964	1,258
	Chemicals and chemical products (g)	181	87	1,159
	Real estate activities (g)	1,365	1,099	937

Type of emissions (b)	Activity	2023/24 (tCO_2e)	2022/23 (tCO_2e)	2015/16 (tCO_2e)
	Textiles and textile products (g)	1,857	32	86
	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of fuel (g)	15	8	83
	Other (g)	465	1,931	8,223
Scope 3 – Category 2: capital goods	Capital goods	10,703	15,046	16,358
Scope 3 – Category 3: fuel- and energy-related activities	Electricity transmission and distribution (c)	0	0	1,271
	Well-to-tank fuel- and energy-related activities	1,711	1,779	2,720
Scope 3 – Category 5: waste generated in operations	Waste (c)	10	17	32
Scope 3 – Category 6: business travel	Air travel and hotels (c) (h)	3,874	1,751	4,334
	Rail travel (c)	93	28	33
Scope 3 – Category 7: employee commuting	Employee commuting (i)	541	506	1,844
	Employee working from home (i)	2,693	2,613	0
Total		**78,919**	**99,291**	**144,377**

Source: Bank of England.

(a) This table uses certain information 2024 © MSCI ESG Research LLC, reproduced by permission.
(b) While the Bank's Scope 1 and 2 emissions are based on primary data from specific activities (eg meter readings, utility invoices), the majority of the Bank's Scope 3 Category 1 emissions are based on secondary data (eg global-average data, industry-average data). Further information on the Bank's Scope 3 emissions calculations is set out in Box A.
(c) These entries made up the less expansive set of emissions that formed the Bank's reported carbon footprint from physical operations in previous years (eg the emissions set out in Table 3.C in the **Bank's climate-related financial disclosure 2023**).
(d) Emissions associated with the use of refrigerants were not accounted for in 2015/16. The figure shown for the baseline year is an estimate based on an average of the following years.
(e) These Scope 2 figures are calculated using a supplier-specific emissions factor.
(f) Banknote production was unusually low in 2015/16, the baseline year, ahead of the transition to polymer banknotes.
(g) In 2022/23 the Bank's emissions from purchased goods and services were calculated based on purchase order and credit card expenditure. For completeness, in 2023/24 the methodology has been updated to include immaterial emissions related to additional forms of expenditure.

(h) This line entry was expanded to include hotels in addition to air travel in 2022/23 and subsequent years. They were not accounted for in the baseline year (2015/16).
(i) Details of the methodology used to calculate these emissions are included in the **Bank's climate-related financial disclosure 2022**.

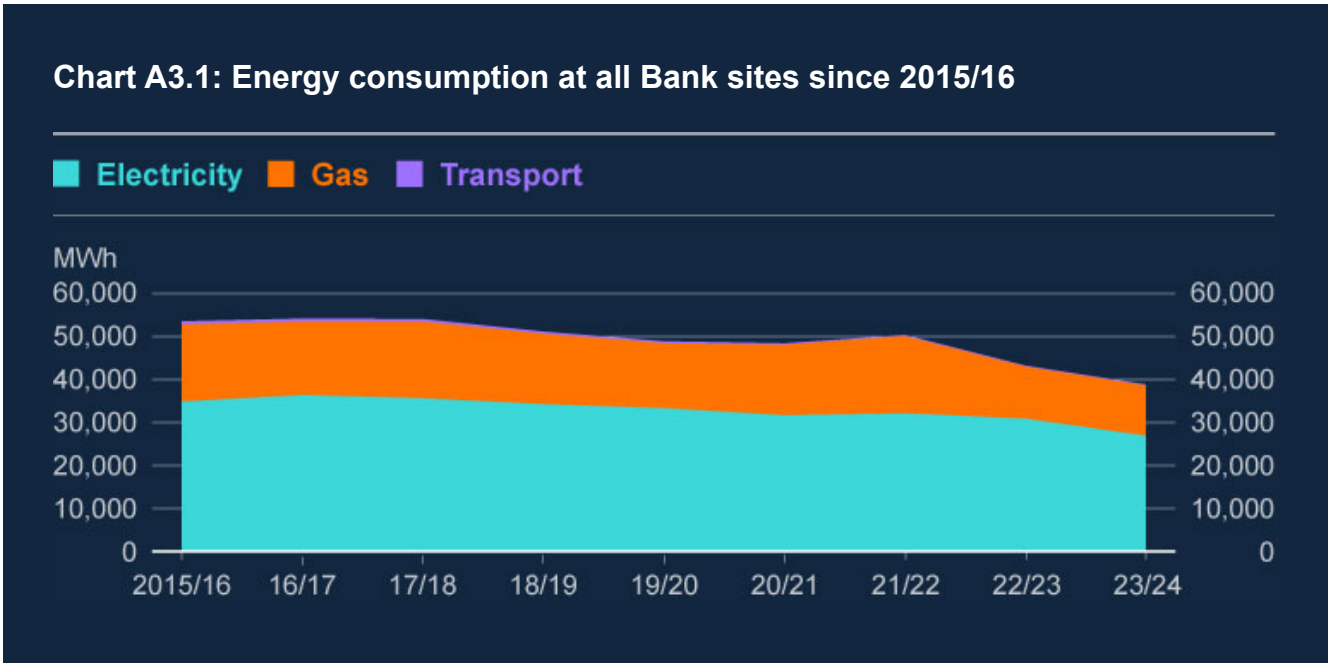
Annex 3: Energy consumption

The Streamlined Energy and Carbon Reporting (SECR) regulations are designed to increase the awareness of energy costs within organisations, help reduce overall impact on climate change and increase transparency.

SECR requires large companies to report annually on energy consumption, related carbon emissions and metrics and historical data. Where a subsidiary organisation needs to report, the parent organisation can choose to publish a group-level climate disclosure. Although the Bank does not fall within the criteria for the SECR regulations, some of the Bank's subsidiary organisations have done, and therefore the Bank has chosen to comply with SECR requirements to follow best practice.

Chart A3.1 and Table A3.1 show the electricity and natural gas consumption for all Bank sites, as well as fuel purchased for travel controlled by the Bank (eg the Bank's business fleet vehicles). It does not include transport used by staff, which is controlled by other organisations (eg taxis, trains, aeroplanes).

Chart A3.1: Energy consumption at all Bank sites since 2015/16



Source: Bank of England.

Table A3.1: Energy consumption at all Bank sites since 2019/20

Total energy use (MWh)	2019/20	2020/21	2021/22	2022/23	2023/24
Electricity	33,511	31,816	32,273	31,076	27,078
Gas	15,143	16,522	18,047	12,157	11,717
Transport	370	202	203	88	135
Total	**49,024**	**48,540**	**50,523**	**43,322**	**38,930**

Source: Bank of England.

The carbon emissions associated with the Bank's electricity use are zero, as the Bank purchases electricity backed by REGOs. This means that although the actual electricity supplied to the Bank will come from the National Grid, which draws electricity from a range of sources, both renewable and non-renewable, the Bank's electricity supplier will be obliged to purchase the same amount of renewable electricity. The Bank continues to monitor developments in the field of renewable energy and is committed to ensuring that it continues to consider the greenest options available in the market each time the electricity supply contract is put up for tender.

Annex 4: Abbreviations

APF – Asset Purchase Facility.

ARCo – Audit and Risk Committee.

Bank – The Bank of England.

BCBS – Basel Committee on Banking Supervision.

BEAPFF – The Bank of England Asset Purchase Facility Fund Limited.

BtL – Buy-to-Let.

CBES – Climate Biennial Exploratory Scenario.

CBPS – Corporate Bond Purchase Scheme.

CFRF – Climate Financial Risk Forum.

Climate risks – Climate-related financial risks.

CO_2 – carbon dioxide.

CSO – Chief Sustainability Officer.

Court – Court of Directors.

Covid – severe acute respiratory syndrome coronavirus 2.

CTP – Climate Transition Plan.

DGFS – Deputy Governor, Financial Stability.

ED – Executive Director.

EPC – Energy Performance Certificate.

FPC – Financial Policy Committee.

G7 – Group of Seven – Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

G20 – Group of Twenty – Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union. Spain is also invited as a permanent guest.

GDP – gross domestic product.

GHG – greenhouse gas.

Gilts – sterling UK government bonds.

IAIS – International Association of Insurance Supervisors.

ITR – Implied Temperature Rise.

LULUCF – Land Use, Land Use Change and Forestry.

MPC – Monetary Policy Committee.

NDCs – Nationally Determined Contributions.

NGFS – Network for Greening the Financial System.

NRR – Natural resource rents.

PCAF – Partnership for Carbon Accounting Financials.

PGGET – Physical Greenhouse Gas Emissions Target.

PRA – Prudential Regulation Authority.

PRC – Prudential Regulation Committee.

REGO – Renewable Energy Guarantee of Origin.

SECR – Streamlined Energy and Carbon Reporting.

SFE – Sovereign Financed Emissions.

SFWG – G20 Sustainable Finance Working Group.

SIF – Sustainable Insurance Forum.

SMF – Sterling Monetary Framework.

SMF Climate – Senior Management Function with responsibility for the financial risks from climate change.

SS3/19 – Supervisory Statement 3/19.

TCFD – Task Force on Climate-related Financial Disclosures.

tCO2e – tonnes carbon dioxide equivalent.

TFSME – Term Funding Scheme with additional incentives for SMEs.

TPT – Transition Plan Taskforce.

UNFCCC – United Nations Framework Convention on Climate Change.

WACI – Weighted Average Carbon Intensity.

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1. The 1.5°C threshold was the stretch target established by the **Paris Agreement** in 2015.
2. **Thematic feedback on the PRA's supervision of climate-related financial risk and the Bank of England's Climate Biennial Exploratory Scenario exercise**.
3. **Letter from Sam Woods, 'Managing climate-related financial risk'**.
4. Further information on the Bank's approach to its climate disclosure is set out in the section on 'Framework' in Annex 1 of the **Bank's climate-related financial disclosure 2023**.
5. The Bank's statutory objectives are set out in the remit and recommendations letters to the Bank's statutory policy committees. Further information on these letters is set out in Annex 1.

6. The structure and content of the report follows the draft UK Transition Plan Taskforce (TPT) framework, which the Bank adapted to reflect its function as a central bank.
7. At the time of publication, the Bank's Corporate Bond Purchase Scheme (CBPS) has been completely unwound. While three securities remained in the portfolio at the end of the reporting period, these did not expose the Bank to significant climate-related financial risks.
8. Otherwise the scope of the financial operations risk analysis in this disclosure is as described in Annex 1 of the **Bank's climate-related financial disclosure 2023**.
9. Further information is set out in Box A.
10. Otherwise the scope of the physical operations risk analysis in this disclosure is as described in Annex 1 of the **Bank's climate-related financial disclosure 2023**.
11. The Bank's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.
12. The Bank's Court acts as a unitary board and is responsible for matters that concern the Bank as an organisation such as its strategy, budget, resourcing and appointments. It does not have responsibility for policy matters, which are reserved for the Bank's statutory policy committees.
13. ARCo is a sub-committee of Court, which assists Court in its responsibility for maintaining effective risk management, internal controls and financial reporting.
14. The Bank's executive committees are the most senior executive policy making bodies beneath Court.
15. The **Monetary Policy Committee** (MPC); the **Financial Policy Committee** (FPC); the **Prudential Regulation Committee** (PRC); and the **Financial Market Infrastructure Committee** (FMIC).
16. The Bank voluntarily complies with the core principles of the **Senior Managers Regime** and the Prudential Regulation Authority's (PRA's) supervisory expectation that banks and insurers assign a Senior Management Function with responsibility for overseeing the financial risks from climate change. Further information on the role of SMF Climate is set out in Section 1 of the Bank's climate-related financial disclosure 2023.
17. The Bank's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.
18. **Bank of England Annual Report and Accounts – 2024**.
19. At the time of publication, the Chancellor of the Exchequer has not yet issued a remit letter for the FMIC.
20. 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.
21. The Bank first identified the need for banks to focus on high-quality and consistent accounting for climate change in the **letter to CFOs** issued by the Bank in 2022.
22. **Thematic feedback on the PRA's supervision of climate-related financial risk and the Bank of England's Climate Biennial Exploratory Scenario exercise**.
23. **Letter from Sam Woods, 'Managing climate-related financial risk'**.
24. The NGFS is a network of 138 central banks and financial supervisors, created in 2017, that aims to accelerate the scaling up of green finance and develop recommendations for central banks' role for climate change.
25. This collaboration was a focus of the Governor's **keynote speech** at the Net Zero Delivery Summit in May 2023.
26. 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.

27. Physical risks resulting from climate change can be event driven (eg more frequent severe weather events) or longer-term shifts in climate patterns (eg sea-level rises).
28. The Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) makes the following **statement on transition risks**: 'Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change. Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organisations.'
29. **Commodity Markets Outlook**.
30. **Asset Purchase Facility: Bank of England concludes corporate bond sales programme – Market Notice 6 June 2023**.
31. **Asset Purchase Facility: Gilt Sales – Market Notice 22 March 2024**.
32. **Markets**.
33. This excludes assets with short maturities at origination, for example money market instruments.
34. **The climate disclosure for the Bank of England Staff Pension Fund for the year ended 28 February 2023**.
35. The climate disclosure for the Bank of England Staff Pension Fund for the year ended 29 February 2024 is due to be published later in 2024.
36. For operational reasons, the Bank will assign zero nominal value to affected mortgages.
37. For example, 45% of mortgage impairments in the CBES No Additional Action scenario were located in just 10% of the areas analysed (**CBES results**).
38. This ratio is the percentage of borrowers' monthly incomes that they use to meet monthly mortgage payments following a financial stress.
39. Sovereign Financed Emissions (SFE) is an alternative measure of carbon footprint. SFE measures the financed emissions attributed to an asset portfolio. The limitation of this metric compared to WACI is that it tends to mechanically increase with the size of a portfolio, so it does not provide a good sense of potential transition risks relative to an institution's ability to absorb such losses. Consistent with the WACI methodology, the Bank uses data from the United Nations Framework Convention on Climate Change (UNFCCC) with emissions reported on a production basis. **SFE of the APF fell to 120.7 $MtCO_2$ equivalent in 2024 from 140.6tCO_2 equivalent in 2023.** This reduction is a result of a decrease in the size of the APF year on year. **SFE of the Bank's own securities has also reduced, at 4.8 $MtCO_2$ equivalent in 2024, compared to 5.2 $MtCO_2$ equivalent in 2023**.
40. **Effects of the coronavirus (Covid) pandemic on 'high-contact' industries – Office for National Statistics (ons.gov.uk)**.
41. **The Global GHG Accounting and Reporting Standard for the Financial Industry (carbonaccountingfinancials.com)**.
42. **The Global GHG Accounting and Reporting Standard for the Financial Industry (carbonaccountingfinancials.com)**.
43. Consumption emissions metrics seek to measure climate-related risks associated with the transition of the economy's demand side to net zero. The Bank chooses to normalise consumption emissions using final consumption expenditure instead of GDP per capita (as recommended by PCAF). This is because it allows for more direct comparisons between production and consumption-based emissions.
44. **Nationally Determined Contributions (NDCs), UNFCCC**.

45. The Divergent Net Zero scenario reaches net zero around 2050. However, this is associated with higher costs due to a rapid and disorderly transition.

46. The Current Policies scenario assumes that only currently implemented policies are preserved, leading to high physical risks.

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48. **Calculation Tools, GHG Protocol**.

49. This figure includes all Scope 1 and 2 emissions, as well as Scope 3 emissions for sectors required by **PCAF**.

50. **Results and usage data**.

51. **Bank of England Market Operations Guide: Our tools**.

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53. WACI and financed emissions metrics are based on 92% of the portfolio's total lending due to data limitations.

54. The sources of GHG emissions included in the extended carbon footprint are set out in Table 3.B. They are significantly wider than those reported in the Bank's carbon footprint in 2022/23 and earlier years, reflecting advances in the Bank's capabilities.

55. All references in this section to 'the Bank' apply to the Bank and its subsidiaries.

56. The Bank uses an electricity supply contract matched by Renewable Energy Guarantee of Origin (REGO). Further information on REGOs and their use by the Bank is set out in the **Bank's climate-related financial disclosure 2023**.

57. This calculation uses the UK national average carbon factor for electricity to estimate the carbon emissions associated with the Bank's electricity consumption.

58. This calculation uses the UK national average carbon factor for electricity to estimate the carbon emissions associated with the Bank's electricity consumption.

59. The sources of GHG emissions included in the '2030 Target' are limited to Scope 1 emissions (use of natural gas, fuel and refrigerants), Scope 2 emissions (electricity) and travel emissions (which fall within Scope 3). For further information see Annex 3 of the **Bank's climate-related financial disclosure 2022**.

60. The target is informed by the Science Based Targets initiative (SBTi) methodology and has **been verified by the Carbon Trust** as consistent with aligning emissions from the Bank's physical operations to the goals of the Paris Agreement. Further information on the scope and calculation of this target is set out in Annex 3 of the **Bank's climate-related financial disclosure 2022**.

61. A high-level comparison of the PGGET and '2030 Target' is set out in Table 3.E of the **Bank's climate-related financial disclosure 2023**.

62. The Bank treats the product-level, activity-level and organisation-level methods to provide ‘supplier-specific’ data. Although the global average method is sector-specific, it is not specific to the particular supplier.

63. This is a variant of the GHG Protocol ‘spend-based method’ set out in the GHG Protocol **Scope 3 calculation guidance**.

64. In 2022/23 and 2023/24 the Bank calculated emissions under the global average method using the World Resources Institute scope 3 modelling tool, which was made available by the GHG Protocol until September 2023. The Bank is considering options for enhancing its global average emissions calculation method in 2024/25.

65. Annex A2.4.5 of the Bank’s **CTP**.

66. In alignment with the **Science Based Targets** methodology.

67. These are, so far as exercisable in relation to recognised and third-country CCPs and CSDs, the function of making rules under FSMA 2000, making technical standards, preparing and issuing codes under FSMA 2000 and the function of determining the general policy and principles by which the Bank performs particular functions under FSMA 2000. See section 30D, Banking Act 1989.

68. The sources of GHG emissions included in this footprint are significantly wider than those reported previously (eg in Table 3.C in the **Bank’s climate-related financial disclosure 2023**), reflecting advances in the Bank’s capabilities. Further information on this extended carbon footprint can be found in the Bank’s **CTP** and the **Bank’s climate-related financial disclosure 2023**.