

The Bank of England's Climate Transition Plan

The Bank published its Climate Transition Plan in July 2023, which details the Bank's target and strategy to reach net zero greenhouse gas emissions for physical operations.

Published on 06 July 2023

Content

Foreword

Executive summary

1: Foundation

- 1.1: The Bank's approach to transition planning
 - 1.2: Physical Greenhouse Gas Emissions Target
 - 1.3: Standards
-

2: Emissions reduction trajectory and milestones

- 2.1: Baseline
 - 2.2: Physical Greenhouse Gas Emissions Target trajectory and milestones
 - 2.3: Scope 1 and 2 emissions
 - 2.4: Scope 3 Emissions (physical operations)
-

3: Target boundary

- 3.1: Target boundary overview
 - 3.2: Financed emissions
-

4: Business model implications and implementation strategy

- 4.1: Banknotes
 - 4.2: Geographic footprint
 - 4.3: Scope 1 mitigation plans
 - 4.4: Scope 2 mitigation plans
 - 4.5: Scope 3 mitigation plans for Physical Greenhouse Gas Emissions Target
 - 4.6: Delivery risks to decarbonisation plans
-

5: Engagement strategy

- 5.1: Engagement with supply chain
 - 5.2: Engagement with industry
 - 5.3: Engagement with government, public sector, and civil society
-

6: Metrics and targets

- 6.1: Operational metrics
 - 6.2: Engagement metrics
 - 6.3: Financial metrics
 - 6.4: GHG emissions metrics
-

7: Governance

7.1: Board oversight and reporting

7.2: Management's role in assessing and managing climate-related risks

7.3: Culture

7.4: Incentives and remuneration

7.5: Skills, competencies and training

Annexes

Related documents

Foreword

In 2019 the UK Government legislated to transition the UK economy to net-zero emissions by 2050. Across the private and public sectors, organisations will increasingly need to consider how they respond to the impacts of this transition. At the Bank of England (the Bank) a substantial part of our work has been enhancing our resilience to climate change as an organisation so we can continue to deliver our mission – to promote the good of the people of the United Kingdom by maintaining monetary and financial stability.

This report, the Bank's Climate Transition Plan (CTP), sets out our strategic approach to delivering the Bank's net zero target for physical operations – and for the first time sets a target to do so by 2040. The structure and content of the report follows the draft UK Transition Plan Taskforce framework, which we have adapted to reflect our function as a central bank. Our approach is also informed by the trajectory and targets of the Science Based Targets initiative (SBTi) and reflects ISO Net Zero guidance.

We have chosen to produce the CTP at this stage because transition plans are an important tool for providing stakeholders with the information necessary to assess the strategy, ambition, and credibility of climate commitments. Alongside climate-related financial disclosures, transition plans are a fundamental part of the framework to enable action across the economy to address climate risks and seize climate-related opportunities.

For this reason, the Bank's CTP is being published alongside our annual climate-related financial risk disclosure (climate disclosure) and Annual Report. These reports set out our assessment of the climate-related risks that impact our policy function and internal operations, and our approach to strategy setting and managing those risks. Each year we will report our progress against the CTP transition pathway in our annual climate disclosure.

Transition planning is, however, at an early stage in its development. Government climate policy, transition planning frameworks, and standards of best practice are all nascent and will continue to evolve for some time. We will therefore need to repeatedly develop and refine the CTP to reflect these changes, in the same way that we have iterated our annual climate disclosure.

The creation of this report has challenged us on how we can embed cultural and practical steps to decarbonise the Bank. And as we move towards our 2040 target date, we hope to take the opportunity to share and learn from others' experiences along the way.

Ben Stimson

Chief Operating Officer of the Bank of England

Executive summary

The latest [Intergovernmental Panel on Climate Change \(IPCC\) assessment](#) [↗] states that irreversible climate change may be limited by deep, rapid and sustained global greenhouse gas (GHG) emissions reductions.

The UK is committed to achieving net-zero greenhouse emissions by 2050 on a national basis. Consistent with this target and the Bank's mission, in 2021 as part of our climate strategy we committed to achieving net-zero greenhouse gas emissions from our physical operations no later than 2050. In 2022 we committed to publishing a transition plan alongside our 2023 climate-related financial disclosure.

This document, the Bank's Climate Transition Plan (CTP), sets out for the first time our Physical Greenhouse Gas Emissions Target (PGGET), which has been calibrated to align with actions required to limit global warming to no more than 1.5°C above preindustrial levels. It will do this by delivering upon the following commitment:



The Bank commits to reaching net zero greenhouse gas emissions from physical operations by 2040.

The Physical Greenhouse Gas Emission Target boundary has been set to include all emissions over which the Bank can proactively control. These relate to its physical operations, with key emissions arising from:

- Scope 1 emissions (direct emissions like gas and fuel use);
- Scope 2 emissions (electricity); and
- Scope 3 emissions (supply chain and related emissions).

Standards

Transition plans are an important tool for providing stakeholders with the detail necessary to assess the strategy, ambition, and credibility of climate commitments. Standards of best practice and disclosure frameworks are only just emerging and will

continue to evolve. We have produced our transition plan with an aim of aligning with the UK Government's draft TPT framework. Our approach is also informed by the trajectory and targets of the SBTi and reflects the ISO Net Zero guidance.

Emissions reduction trajectory and milestones

The Bank started recording its carbon footprint in 2015 and uses this year (financial year 2015/16) as the emissions baseline. The Bank will prioritise absolute emissions reductions, reducing emissions by 90% by 2040. It will then be necessary to neutralise any residual emissions to achieve the Physical Greenhouse Gas Emissions Target.

We have also set a series of interim dates against which to monitor our performance on the way to the 2040 target. These milestones provide an opportunity to assess progress in detail and report publicly on our efforts:

Table A: Interim Climate Transition Plan milestones

	2025	2030	2035	2040
Emissions reduction from 2015/16 baseline	40%	62%	84%	90%

Source: Bank of England.

Implementation strategy

As the Bank reduces emissions across its physical operations, its mission will remain, and the Bank will still need to deliver on the mandate Parliament has set. Most of the emissions within our target boundary originate from the operation of our properties and offices, the manufacture of banknotes, and our supply chain.

Each milestone is supported by practical measures that will be taken by the Bank, including:

- short to medium-term actions for reducing direct emissions, focused on optimising the energy efficiency of our buildings, plant and equipment, as well as business travel;
- a longer-term strategy for decarbonising our buildings by replacing gas-fired boilers; and
- a supply chain action plan for engaging with our suppliers to reduce the carbon intensity of the products and services we purchase.

Our Physical Greenhouse Gas Emissions Target is ambitious and comes with challenges that we will need to address. For example, the Bank's largest site, located on Threadneedle Street in London, is a Grade 1 listed building and a historic landmark – so decarbonisation will require a careful and architecturally sensitive approach.

Modelling shows that in 2022 Scope 3 emissions accounted for around 98% of the volume of emissions within the boundary of our Physical Greenhouse Gas Emissions Target. It is therefore essential that we improve the data we use for calculating our carbon footprint – specifically relating to measurement of supply chain emissions with actual data provided by suppliers. The Bank will need to work with its supply chain to develop the capability to provide this data, and work to align the carbon intensity of both existing and future contracts to the decarbonisation trajectory required.

Engagement strategy

The Bank continues to work with peers, government, civil society, and industry on carbon, net-zero and sustainability issues. Globally we participate in various forums and are in regular discussion with central banks to share experience and strategies for operational decarbonisation.

Metrics and targets

Various internal metrics are used for regular operational monitoring and risk reporting. Collectively these metrics allow management to assess progress towards carbon targets and help to ensure the appropriate allocation of resources to decarbonisation efforts.

Reporting on the Bank's carbon footprint and decarbonisation progress will be included within the Bank's annual climate change disclosure. This will also provide details on actions implemented and those planned for the coming year. At milestone years, the Bank will publish an update to our Climate Transition Plan detailing progress and any amendments. In addition to public reporting, we will continue to internally track and report Scope 1 and Scope 2 emissions on a quarterly basis.

Governance


The governance of the Bank's climate commitments has been embedded within existing frameworks and has clear lines of responsibility within the Bank's executive.

Performance against the carbon action plan is both an operational and reputational risk. This is managed by the executive committees responsible for oversight of the Bank's physical operations carbon strategy, and for taking decisions concerning the most significant operational matters of the Bank.

1: Foundation

1.1: The Bank's approach to transition planning

The Bank of England's mission is to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. As part of its work, the Bank has been investing to better understand how transition and physical impacts from climate change impact its ability to meet its objectives. The Bank's broad climate change objective is 'to play a leading role, through its policies and operations, in ensuring the financial system and the Bank itself are resilient to the risks from climate change and in understanding its macroeconomic implications. Where there is alignment with the Bank's objectives and legal framework, it acts to support the transition to a net-zero emissions economy'. The approach and actions to deliver that objective are set out in the [Bank's Climate Change Disclosure \(BCCD\)](#).

In undertaking its work, the Bank is mindful of both the impact of the UK Government's [legislation](#)  committing the UK to reach net zero emissions by 2050 and its supporting role in delivery. This role was partly articulated in the legislation's ambition that 'the wider public sector will lead by example during the transition to net zero,' and observation that public sector organisations 'should report their progress so they can be held accountable.'

1.2: Physical Greenhouse Gas Emissions Target

In [June 2021](#) the Bank made a commitment to target net-zero GHG emissions from its physical operations by 2050 at the latest. In [June 2022](#) a further commitment was made to publish a transition plan setting out how this would be achieved. This report sets out for the

first time our Physical Greenhouse Gas Emissions Target, which has been calibrated to align with actions required to limit global warming to no more than 1.5°C above preindustrial levels. It will do this by delivering upon the following commitment:



The Bank commits to reaching net zero greenhouse gas emissions from physical operations by 2040.

The target date of 2040 seeks to meet external expectations and the responsibility to reduce emissions across the Bank's physical operations, while supporting the UK Government's ambition for leadership in climate action, all while providing value for money.

Emerging best practice is for transition plans to include all sources of material emissions within its net-zero target boundary. The Bank has sought to map this best practice to a central banking model, and as first disclosed in the 2021 BCCD, the Physical Greenhouse Gas Emissions Target covers emissions sources associated with physical operations (eg emissions from buildings, business travel and supply chain) but excludes financed emissions (eg assets we hold to fulfil the Bank's core functions), see Section 3.2.

Beyond the Physical Greenhouse Gas Emissions Target, the Bank is taking a number of actions that contribute to the UK's orderly transition to net zero, as set out in the [2023 BCCD](#). For example, over the last year work has included:

- Publication of the results of the Climate Biennial Exploratory Scenario (CBES) exercise;
- continued active supervision of banks^[1] and insurers against its climate expectations and reporting on the progress observed;
- the convening of a research conference and publication of a report to explore links between climate and regulatory capital; and
- setting out the latest thinking on the macroeconomic impacts of climate change.

This work reflects the Bank's steps to meet its [core climate objectives](#) and the net zero aspects of its recent remit letters from HM Treasury.

1.3: Standards

Standards for transition plans are developing, but in many cases have not been finalised. To help ensure that this disclosure reflects available best practice, the following standards have been utilised:

- Format and content have been aligned to the draft disclosure standards set out in the [UK Transition Plan Taskforce guidance](#) [↗] launched by HM Treasury in April 2022. This guidance supports the preparation and assessment of private sector climate transition plans.
- In drawing together the plan, supporting processes, and documentation, the Bank has followed the recently released ISO Net Zero guidelines [IWA 42:2022](#) [↗].
- For development of the carbon emissions trajectories the Bank has used the [Science Based Targets methodology](#) [↗]. In April 2022 the Science Based Targets initiative (SBTi) published [Foundations for Science-Based Net-Zero Target Setting in the Financial Sector](#) [↗] which aims to bring rigour to the financial sector and the actions required to achieve net zero by 2050. While public bodies like the Bank are not the intended audience, we have still used this methodology as the foundation of our approach; though adapted where necessary to accommodate our statutory mission.

To demonstrate the type of work necessary for the achievement of our emission reduction milestones, we provide examples of the short, medium, and long-term actions needed, as well as the assumptions and dependencies associated with those actions. We will keep these under review through our governance framework, supporting delivery and identification of material risks and opportunities, and providing guidance internally on prioritisation of actions.

Best practice for disclosures will evolve as more stakeholders, particularly public bodies with complex policy functions, begin transition planning and disclose their strategies. As an early adopter, the Bank recognises it will be necessary for future iterations of this disclosure to reflect updates to methodology, content, and structure to keep pace with these developments.

Relatedly, consistent with the UK Government's commitments on sustainable disclosure, the Bank expects to reflect the International Financial Reporting Standards (IFRS) Foundation's International Sustainability Standards Board (ISSB) standards in future iterations.

2: Emissions reduction trajectory and milestones

2.1: Baseline

The Bank started recording its carbon footprint in 2015 and uses this year (financial year 2015/16) as the emissions baseline. Initial analysis focused on the emissions over which the Bank had the greatest influence. Under this approach, the emissions baseline totalled 20,127 tCO₂e.

As capabilities and ambition have grown, the boundary of emissions sources for calculation of the Physical Greenhouse Gas Emissions Target has been extended, and now includes all material sources of physical emissions (Figure 2.1). Our previously disclosed baseline has been expanded to reflect the new boundary totalling 144,377 tCO₂e (Table 2.A) in financial year 2015/16. The Bank will begin reporting on progress against the expanded boundary in the 2024 BCCD.

Figure 2.1: Summary of the greenhouse gas emissions reported in the 2023 BCCD and those included within the expanded boundary of the Physical Greenhouse Gas Emissions Target (a)

Existing reporting and New reporting			
Scope 1	Gas (buildings)		
	Fuel (generators)		
	Fuel (vehicles)		
	Refrigerants		
Existing reporting and New reporting			
Scope 2	Electricity (buildings)		
Existing reporting		New reporting	
Scope 3	Electricity (transmission & distribution)	Purchased Goods & Services	
	Business Travel	Capital Goods	
	Water	Fuel and Energy-Related Activities	
	Office paper	Waste Generated in Operations	
	Waste	Working from home	
	Paper & polymer (Banknotes)	Employee Commuting	

Source: Bank of England.

(a) [GHG Protocol Scope 3 guidance](#)

Table 2.A: Baseline year greenhouse gas emissions by reporting scope

Bank of England Scope 1, 2 and 3 greenhouse gas emissions in financial year 2015/16 (a) (b)

Type of emissions	Activity	2015/16 (tCO ₂ e)	2022/23 (tCO ₂ e)
Scope 1	Natural gas	2,890	2,106
	Oil – generators	5	1
	Vehicles fleet	97	23
	Refrigerants	53	90
	Subtotal	3,045	2,220
Scope 2	Electricity	5,563	0
Scope 3 – Category 1 purchased goods and services	Polymer (notes)	2,333	2,108
	Paper (notes)	3,360	0
	Water	60	23
	Office paper	96	3
Subtotal	5,849	2,134	
Scope 3 – Category 3 fuel and energy related	Electricity (transmission and distribution)	1,271	0
Scope 3 – Category 5 waste	Waste	32	17
Scope 3 – Category 6 business travel	Air travel	4,334	1,751
	Rail travel	33	28
Subtotal	4,367	1,779	
Total emissions (calculated using the boundary from the Bank's FY21/22 Climate change Disclosure) (c)		20,127	6,150
Scope 3 emissions included as expansion of ambition (d)		124,141	93,028
Adjustments versus previously disclosed baseline (e)		109	113
Total Emissions within the boundary of the PGGET		144,377	99,291

Source: Bank of England.

(a) See Figure 2.1 for a description of greenhouse gas emissions reporting Scopes.

(b) Scope 3 emissions are modelled based on expenditure data.

- (c) Emissions reporting in the Bank's Climate Change Disclosures has included all Scope 1 and 2 emissions, and selected Scope 3 emissions (Figure 2.1).
- (d) The Climate Transition Plan expands the boundary of included emissions, and from financial year 2023/24 onwards the BCCD will report against this boundary. Annex 1 provides more granular detail about Scope 3 emissions categories.
- (e) This is an adjustment relative to the baseline reported against in the BCCD in financial years up to and including 2022/23. These are Scope 1 emissions associated with Roehampton The Grange, which had previously been excluded from the reporting boundary as it was listed for sale in 2019 (Section 3.1).

Further details of the breakdown of the baseline year emissions inventory are included in Annex 1.

2.2: Physical Greenhouse Gas Emissions Target trajectory and milestones

The Bank's Physical Greenhouse Gas Emissions Target to reduce emissions by 90% in 2040, and to neutralise the residual emissions of c.14,400 tCO₂e, is informed by the SBTi which states that most companies must cut emissions by more than 90% and neutralise any residual emissions to reach net zero.

In addition to the 2040 target, a series of interim milestones have been set (Figure 2.2). These milestones are broken down by scope and provide an opportunity to assess and publicly report on progress (Table 2.B). The Bank will review and report on progress at each milestone.

Figure 2.2: Milestones and associated actions needed to achieve the Bank of England’s Climate Transition Plan

Interim milestones of the Bank of England’s Climate Transition Plan



Source: Bank of England.

Table 2.B: Detailed Climate Transition Plan milestones broken down by greenhouse gas reporting Scopes

	2025	2030	2035	2040
Scope 1 emissions (tCO₂e)	2,270	2,060	742	150
Scope 2 emissions (tCO₂e)	0	0	0	0
Scope 3 emissions (tCO₂e)	84,416	53,061	21,706	14,288
Total emissions (tCO₂e)	86,686	55,121	22,447	14,438
Percentage reduction from 2015/16 baseline	40%	62%	84%	90%

Source: Bank of England.

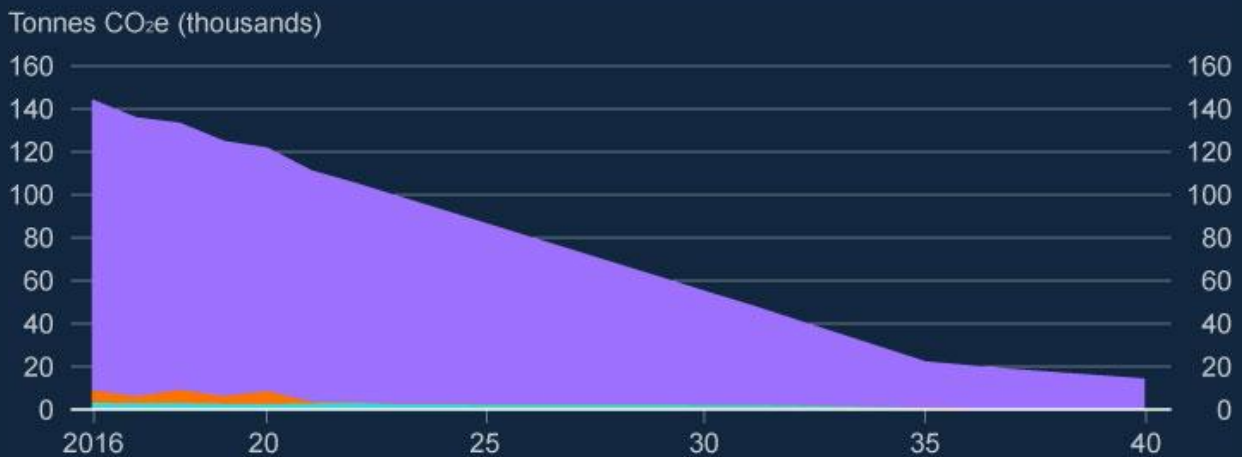
These milestones will stand alongside the Bank's pre-existing 2030 carbon target, which was verified by the [Carbon Trust](#). The 2030 carbon target is a subset of the 2030 milestone and focuses on reducing absolute GHG emissions from Scope 1, 2, and selected Scope 3 sources by 63% from a 2015/16 baseline. While both the 2030 carbon target and the 2030 milestone are aligned to a 1.5°C pathway, we retain the 2030 carbon target as it requires us to maintain focus on reducing emissions from business travel in line with existing commitments.

The trajectory for the Bank's emissions reduction, incorporating milestones, is set out in Chart 2.1. More detailed explanations for the pathway by emission scope are also provided below:

Chart 2.1: Combined greenhouse gas emissions reduction trajectory from physical operations aligned to a 1.5°C pathway

The Bank of England's Scope 1, 2, and 3 greenhouse gas emissions reduction trajectory 2016–40
(a) (b)

■ Scope 3 ■ Scope 2 ■ Scope 1



Source: Bank of England.

- (a) Scope 3 emissions are modelled based on expenditure data, and exclude category 15 financed emissions.
(b) Historical Scope 3 emissions have only been calculated for the baseline year and financial year 2022/23.

2.3: Scope 1 and 2 emissions

Scope 1 [↗](#) emissions are direct emissions, largely resulting from use of natural gas, refrigerants, and vehicle fuel. **Scope 2** [↗](#) emissions are associated with the purchase of electricity and the emissions that have been created in its generation.

The decarbonisation trajectory for Scope 1 and 2 emissions has been calculated with reference to the [SBTi trajectory](#) [↗](#); the Bank's previously published 2030 Carbon Target; and relevant [UK Government targets for public buildings](#) [↗](#), which are to halve direct emissions from public sector buildings by 2032, and by 75% before the end of 2037, both against a 2017 baseline.

2.3.1: Trajectory

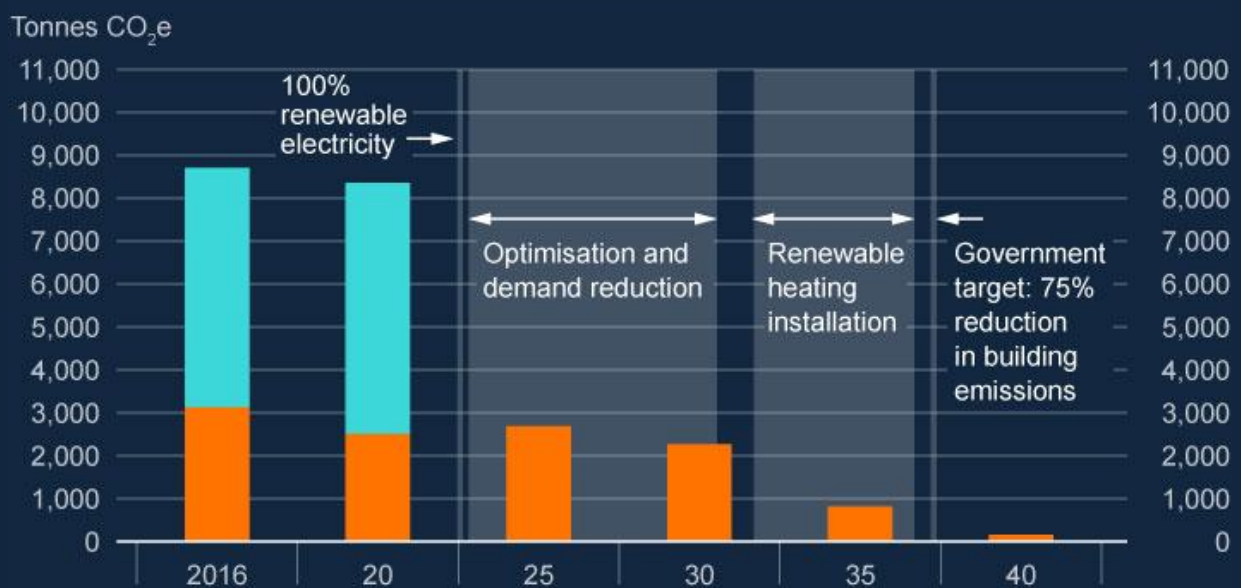
The Bank will prioritise a reduction in its Scope 1 emissions resulting from gas usage. This will be achieved largely through efficiency improvements to existing systems and plant, improving plant control strategies, and the upgrade of key components. A sharper decline in emissions is then forecast to begin post-2030, with the most significant reduction achieved by 2036 once the main heating systems are replaced.

The Bank reduced Scope 2 emissions to zero in 2021 when it began purchasing electricity backed by [Renewable Energy Guarantees of Origin](#) [↗] certificates (Chart 2.2). While the Bank will continue using renewable electricity, it will also set targets to reduce electricity consumption and improve energy efficiency.

Chart 2.2: Scope 1 and 2 emissions will reduce c.90% from baseline by 2040

Bank of England projected Scope 1 and 2 greenhouse gas emissions trajectory 2016–2040

■ Scope 1 ■ Scope 2



Source: Bank of England.

2.3.2: Quantification methodology

Scope 1 and 2 emissions were measured using primary source data. This includes invoices, meter readings, and data provided by suppliers.

The target for Scope 1 and 2 has been based on the SBTi 1.5°C aligned trajectory. This has been calculated using an [absolute contraction](#) [↗] approach which requires a minimum 90% reduction in emissions compared to the baseline year. The SBTi target was reviewed considering potential mitigation measures and requires full decarbonisation of the heating systems at Bank sites. This is forecast to achieve a reduction in Scope 1 and 2 emissions of just over 90%.

2.4: Scope 3 Emissions (physical operations)

Scope 3 [↗](#) emissions arise from everything the Bank purchases that are not included in Scope 1 and Scope 2, as well as upstream emissions (eg polymer for Banknotes).

Modelling suggests that in 2022/23 Scope 3 emissions represented around 98% of the total GHG footprint covered by the Physical Greenhouse Gas Emissions Target (Table 2A). This highlights the importance of plans to reduce emissions associated with purchased goods and services. These plans include steps to engage with suppliers and gather better data.

2.4.1: Trajectory

The Scope 3 target has been calculated using the **SBTi methodology** [↗](#), with 2015/16 used as the baseline year. The methodology implies a c.84% reduction will be **required** [↗](#) from the baseline by 2035, and has been adjusted to account for the fall in emissions from the baseline year to 2022/23. The remaining reductions required to achieve a total 90% reduction in emissions from baseline have been scheduled to take place between 2035 and 2040 in line with **SBTi requirements** [↗](#).

Analysis suggests the fall in emissions from baseline year to 2022/23 is partly driven by changes in spend profile, improvements in supplier data, and falling emissions intensities. Emissions are expected to further reduce as the Bank works with suppliers to decarbonise their products and services (Chart 2.1).

2.4.2: Quantification methodology

Scope 3 emissions have been modelled based on expenditure data, using the **GHG Protocol methodology** [↗](#).^[2] This maps expenditure data across a variety of categories to average emissions factors, providing an estimate for the entire business for the baseline year. This modelling has been supplemented by actual data where available (currently representing about 4% of supply chain emissions).

2.4.3: Working from home emissions

The emissions associated with staff working from home have been included in the Scope 3 baseline. The methodology for calculating these emissions has been developed within the Bank and has been disclosed in the BCCD in **2021** and **2022**.

3: Target boundary

3.1: Target boundary overview

As outlined in the GHG Protocol's [Corporate Accounting and Reporting Standard](#) [↗], an organisation must clearly define the boundary for a net zero target, and be consistent in its application. The following description outlines the Bank's organisational and operational boundaries used for this plan.

The Bank of England is a public authority. The Physical Greenhouse Gas Emissions Target boundary includes physical emission sources (Scopes 1, 2 and 3) from the Bank and the subsidiaries listed below. It does not include emissions which result from its financial operations.

- Bank of England Asset Purchase Facility Fund Limited (BEAPFF);
- The Covid Corporate Financing Facility Limited (CCFF);
- The Bank of England Alternative Liquidity Facility Limited (BEALF); and
- The Securities Management Trust Ltd.

The Bank's pension fund is operationally independent from the Bank of England. In line with disclosure requirements from [The Pensions Regulator](#) [↗], in 2022 the Bank's pension fund published its own climate disclosure, therefore the portfolio is not included in the Bank's climate disclosure or within the Physical Greenhouse Gas Emissions Target boundary.

The Bank reports on Scope 1 and 2 emissions from all properties over which it or one of its subsidiaries has operational control, namely: Threadneedle Street (Head office), Debden Printing Works, Moorgate Prudential Regulation Authority, Leeds Cash Centre,^[3] and Roehampton The Grange.^[4]

Emissions included within Scope 3 are defined by the GHG protocol, and are reported for the entire Bank (including banknote production) unless stated otherwise (Figure 2.1).

3.2: Financed emissions

Best practice suggests that a firm include the entirety of its GHG footprint within its [net-zero target boundary](#) [↗].

The Bank's Physical Greenhouse Gas Emissions Target does not include emissions which result from its financial operations. Given the Bank's core functions, the vast majority of its financial assets are held in gilts. The financed emissions associated with gilts reflect the carbon emissions of the UK as a whole. In June 2019 the UK Government legislated a net zero emissions target by 2050. So the Weighted Average Carbon Intensity (WACI) of the Bank's assets is expected to decrease broadly in line with the UK economy, as the UK decarbonises and works towards the Government's goal.

Full details of the Bank's organisational and operational boundaries including a list of exclusions with justifications can be found in Annex 1.

4: Business model implications and implementation strategy

This section provides a high-level overview of the strategic and tactical measures required to achieve the decarbonisation pathway necessary to reach the Bank's Physical Greenhouse Gas Emissions Target.

As the Bank makes the transition to low emissions physical operations, its mission will remain, and the Bank will still need to deliver on the mandate Parliament has set. This will need to be undertaken in a way that maintains both operational continuity and resilience.

Most of the emissions within the target boundary originate from the manufacture of banknotes, the operation of properties and offices, and the broader supply chain. This profile is broadly similar to other businesses with a mix of office space and manufacturing activities.

Future strategic decisions on how the Bank operates will need to consider the impact on emissions and the Physical Greenhouse Gas Emissions Target. Additional analysis may be found in Annex 2.

4.1: Banknotes

Improving the carbon efficiency of banknote manufacture is a work in progress. Following the [2013 Life Cycle Analysis](#) which indicated that polymer banknotes have an overall lower environmental impact than paper notes, the Bank completed the [launch of the polymer series of banknotes](#) in 2021. We expect this should cause production costs to decline, assuming polymer notes last for as long as forecast,^[5] and demand does not increase significantly. Current data suggests that the £5 polymer notes will last more than 2.5 times longer than the £5 paper notes, but it will be some time before this can be known for all denominations.^[6]

In recent years, the Bank has been actively engaging with its polymer substrate suppliers on carbon reduction initiatives. These endeavours are now being widened to include, and better understand the transition plans of, all key suppliers involved in the production of banknotes. A detailed analysis is also being undertaken to baseline current practice in order to understand the environmental impact of each banknote component and process. This will facilitate targeting environmental impact reduction initiatives in the near term, and with the view to informing the next series of banknotes, including any cost savings or expenditure required to enable the transition.

4.2: Geographic footprint

As the Bank increases the number of staff working outside of its London offices, the property portfolio will need to evolve to meet business requirements. Any changes in the freehold estate will be accounted for in future iterations of the transition plan.

The Physical Greenhouse Gas Emissions Target introduces a new set of requirements to ensure that the office space we occupy is at least as efficient as our existing footprint. Where new property is added to the portfolio in the future, we will aim to specify these as low carbon buildings wherever possible. This will help to manage down the average emissions intensity per-desk and reduce energy costs.

4.3: Scope 1 mitigation plans

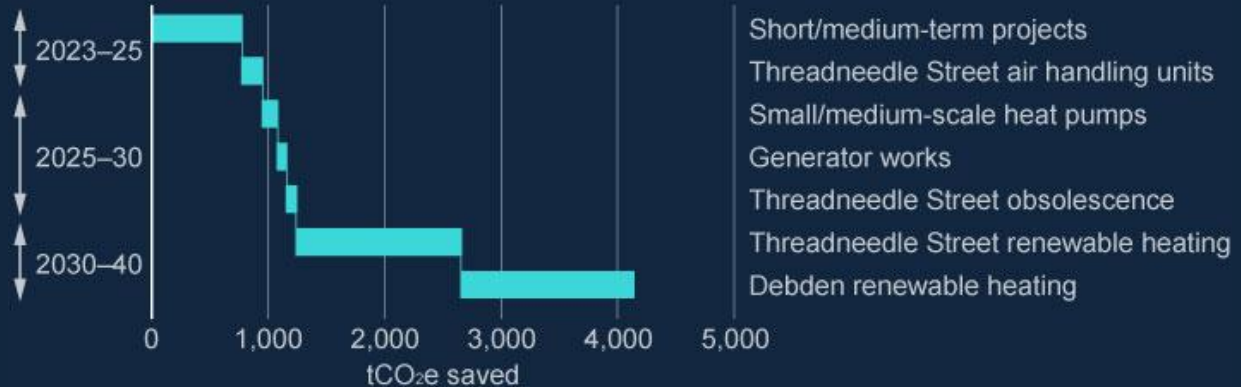
Particular focus has been given to the Bank's direct emissions (Scope 1 emissions) as these are specifically within the Bank's control and can most readily be reduced. Most Scope 1 emissions are property related (eg combustion of natural gas for heating), so the main area of focus for this strategy will be to reduce building gas consumption.

The activities to achieve this are split into actions through the medium-term (for example energy efficiency improvements to buildings and equipment), and a longer-term renewable heating strategy.

By using less gas we will reduce emissions and lower utility costs. Improving efficiency will also cut demand for heating, which means future heating systems can be designed smaller. The estimated reductions for planned refurbishment and obsolescence works have been mapped into the Scope 1 trajectory, with impact of specific projects shown in Chart 4.1.

Chart 4.1: Greenhouse gas reduction impacts of Scope 1 and 2 mitigation projects

Bank of England projects planned to meet Physical Greenhouse Gas Emissions Target



Source: Bank of England.

The material component of the Scope 1 decarbonisation plan will require replacing c.8MW of gas-fired heating with an alternative. Feasibility studies have been carried out at our Threadneedle Street and Debden sites to investigate options for zero carbon heating.

4.4: Scope 2 mitigation plans

The Bank purchases renewably generated electricity, so Scope 2 emissions are currently reported as zero-carbon using the [GHG reporting protocol's market-based approach](#). 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. We expect that electricity emissions will remain zero for the foreseeable future.

While using renewable electricity is good, it remains important to improve overall energy efficiency to align management of our properties with [sector wide energy and carbon intensity trajectories](#). We will set targets to reduce electricity consumption at each site, taking into account planned energy saving and optimisation activities. However, this will be a significant challenge for us to work on through the course of the plan, given the constraints in identifying suitable opportunities for listed buildings.

4.5: Scope 3 mitigation plans for Physical Greenhouse Gas Emissions Target

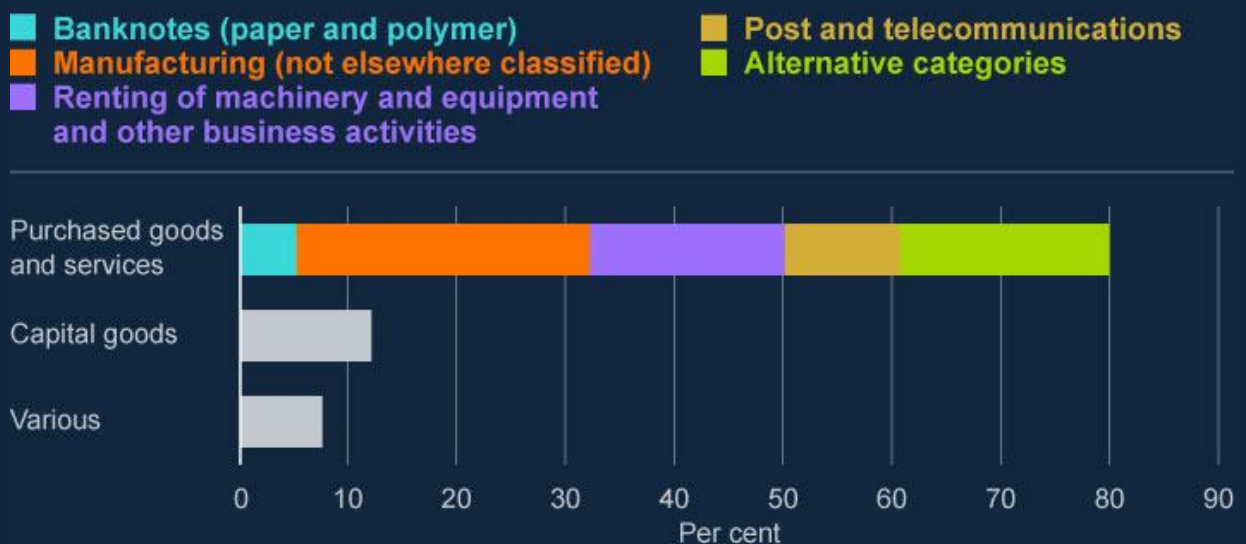
Our Scope 3 emissions from physical operations are modelled using the [GHG Protocol methodology](#) and internal expenditure data. As data on the emissions of products and services supplied to us improves, we aim to move towards a calculated Scope 3 approach using data provided by our suppliers.

Most of the Bank’s Scope 3 emissions within the target boundary are due to purchased goods and services, which make up 76% of the total, for the baseline year. Within purchased goods and services, 6% of emissions are due to activities that do not fall within the GHG Scope 3 modelling categories, and so are categorised as ‘other’ (for example, purchasing software). While the Bank has good data on this expenditure, the modelling methodology does not provide a relevant factor with which to calculate the associated emissions, resulting in the ‘other’ emissions figure. The emissions associated with suppliers categorised as ‘other’ will reduce as methodologies improve, and as suppliers provide actual data.


Using the modelled approach, we have calculated emissions for the baseline year as follows:

Chart 4.2: Purchased goods and services are the most significant source of Scope 3 emissions within the boundary

Distribution by category and sub-category of the Bank of England’s modelled Scope 3 greenhouse gas emissions footprint from physical operations in the baseline year 2015/16



Source: Bank of England.

A [common challenge](#)  in developing Scope 3 targets is sourcing accurate data on supply chain emissions. As the Bank sources more data directly from suppliers, an increasingly detailed picture of Scope 3 emissions will develop. This will improve our ability to categorise sources of emissions, reduce the proportion of emissions categorised as 'other' over time, and take more targeted action to reduce emissions.

We have carried out a materiality assessment to help prioritise decarbonisation efforts, and in the short term will focus on:

- purchased goods and services;
- fuel and energy-related activities;
- business travel; and
- waste generated in operations.

We have begun work to source emissions data from our supply chain both directly, and via third-party solutions. Analysis shows that our most carbon-intensive suppliers account for over 75% of emissions. Work with these suppliers will help to obtain accurate and precise data on those emissions attributable to the Bank's purchases. We will then need to work with these suppliers to develop specific mitigation plans and timelines for the products and services they provide.

Where possible within our business requirements and mission, we will work to abate the Scope 3 emissions sources which are under our control, by taking action to reduce consumption. These activities include business travel, waste production, and water usage.

Business travel however is essential for the Bank to effectively deliver our mission. We will seek to manage down these emissions in line with the trajectory necessary to achieve the Bank's 2030 carbon target but expect that business travel emissions will remain a component of our Scope 3 emissions footprint throughout our plan. We have already started to address business travel emissions by changing travel policies to reduce emissions (eg by encouraging colleagues to replace air travel with train journeys where applicable, to consider the size of delegations, and to participate virtually when appropriate).

The Bank has been working to expand the use of GHG emissions performance metrics to our tender requirements, and to work with suppliers to introduce relevant Key Performance Indicators (KPIs).

We will implement a supply chain action plan which will include:

- **Sourcing:** Aim to include sustainability and carbon criteria in requirements;
- **UK Government:** Monitor the approach of the UK Government on supply chain sustainability with a view to aligning our procurement process with best practices (eg

informed by PPN06/21 we will seek to incorporate the evaluation of carbon emissions into tendered contracts of over £5 million/year). The Bank's procurement team are working directly with suppliers to source and review carbon reduction plans, and engage on net zero;

- **Integrate into procurement strategy:** Integrate the aims of the Climate Transition Plan and Physical Greenhouse Gas Emissions Target into the Bank's procurement strategy;
- **Direct data from top emitters:** Work with our most carbon-intensive suppliers to source actual emissions data;
- **Supplier engagement:** Commensurate with best practice we will work to engage with our suppliers to help reduce carbon emissions across our supply chain; and
- **Sustainability scoring on tenders:** Take steps to maintain appropriate focus on sustainability in tenders.

4.6: Delivery risks to decarbonisation plans

While the Bank has a plan to reduce emissions over the coming years, achieving a 90% reduction in emissions will be challenging and there are risks to delivery. There are dependencies and assumptions whose probabilities and materiality of impact are difficult to predict. If one or more were to occur, it could significantly affect the Bank's decarbonisation trajectory.

The Scope 3 trajectory is especially sensitive to the rate at which the Bank's suppliers reduce their own carbon intensities. It is possible, particularly in the early years, that the Bank's 2040-aligned trajectory will require more rapid reductions than suppliers aligned to a 2050 net-zero target would otherwise plan. This risk will be mitigated to the extent possible by the Bank's procurement strategy.

See Annex 2 for further details.

5: Engagement strategy

5.1: Engagement with supply chain

As a customer, the Bank can help to signal to suppliers that there is demand for low/zero-emissions products and services, and the increasing importance of suppliers being able to provide customers with emissions intensity data to facilitate Scope 3 reporting.

To reduce supply chain emissions, it will be essential for the Bank to communicate its expectations to suppliers, and work to align the carbon intensity of both existing and future contracts to the decarbonisation trajectory required. We will seek to do this in part through our contract managers helping to facilitate the development of a peer community of suppliers willing to share knowledge and experience about their own net zero journeys.

5.2: Engagement with industry

The Bank's engagement with industry, both within the UK and globally, is detailed in this year's [BCCD](#).


Highlights of recent work includes:


- In 2019 the Bank convened relevant stakeholders to ensure that the wholesale cash distribution model for the UK is effective, resilient, and sustainable in an environment of declining cash volumes. Firms involved in this group have made [voluntary commitments](#) to reducing the environmental impact of wholesale cash processing.
- In October 2022 a [letter to Chief Executive Officers](#) provided thematic feedback on firms' progress in responding to climate risk supervisory expectations (SS3/19). The PRA continues to engage with firms as part of the supervisory cycle to support them in addressing the issues highlighted.
- In May 2022 the Bank published the results of the 2021 [Climate Biennial Exploratory Scenario](#) (CBES) exercise.
- Building on the initial findings on the relationship between climate change and regulatory capital requirements for banks and insurers, which were published in the [PRA Climate Change Adaptation Report 2021](#), this year the Bank explored whether changes need to be made to the design, use or calibration of the regulatory capital framework. The Bank hosted a [research conference on climate change and the regulatory capital frameworks](#) in October 2022 and published a [report](#) in March 2023.
- The PRA continues to work with the Financial Conduct Authority to co-convene the [Climate Financial Risk Forum](#), an industry group established to share best practice on climate issues and accelerate firms' capabilities to address climate change.

5.3: Engagement with government, public sector, and civil society

The Bank continues to engage with peers on carbon emissions, net zero attainment and broader sustainability issues. Globally it participates in various forums and is in regular discussion with peers to share experiences and strategies. As detailed in this year's [BCCD](#), the Bank has:

- supported UK Government as it developed its 2023 [Green Finance Strategy](#) [↗](#);
- supported the team that produced the [Review of Net Zero](#) [↗](#); an independent review of the Government's approach to delivering its net zero target;
- been an active observer on HM Treasury's [Transition Plan Taskforce](#) [↗](#) (TPT), which is helping to define the standards for transition plans by establishing robust criteria and the effective use of science-based targets;
- supported the UK Government and other financial regulators in the rollout of mandatory TCFD-aligned climate disclosure requirements across the economy by 2025.^[7] The wider

rollout of climate disclosure requirements is being delivered through a combination of regulations and legislation, as described in the UK [Sustainability Disclosure Requirements](#) 

- supported multilateral work to establish a global baseline for climate risk reporting, for example the work of the [IFRS Foundation's International Sustainability Standards Board](#) 
- worked closely with HM Treasury to represent the UK in key international fora including in the G7 Finance Track and the G20 Sustainable Finance Working Group (SFWG); and
- engaged in the climate-related workstreams of various standard setters and international bodies and carry out a variety of climate-related work – notably the International association of Insurance Supervisors, Basel committee on Banking Supervision and the Network of Central Banks and Supervisors for Greening the Financial System.

6: Metrics and targets

6.1: Operational metrics

Visibility of performance is critical for ensuring that internal resources are properly allocated, and progress on decarbonisation tracks to plan.

We will use primary data wherever possible. Where primary data is not used, we will use substitution methodologies, and will state all assumptions and methodologies used. Details are available in Annex 1.

This includes:

- data sources;
- emissions factors and sources of these;
- methodologies used to calculate emissions;
- reliability of data sources;
- gaps in data sources (and route to fill these gaps); and
- assumptions used in calculations.

In addition to the above annual monitoring and reporting, we will continue to internally track and report quarterly on Scope 1 and Scope 2 emissions, and related energy use.

Where offsets, removals or credits are used (both by the Bank and within our supply chain) we will report this consistent with relevant standards.

6.2: Engagement metrics

We will monitor engagement with our strategy across both internal and external stakeholders.

Initially, internal engagement metrics will track:

- climate training delivered to staff (eg executives, contract managers);
- number of staff working on the Bank's climate strategic priority;
- staff engaging with data gathering exercises (eg Scope 3 working from home emissions); and
- air travel emissions versus pathway (eg frequency, type, and class of travel).

We will work with procurement to begin to track:

- number of most carbon-intensive suppliers providing actual emissions data for their products or services; and
- suppliers engaging with contract owners to provide climate-related KPIs.

6.3: Financial metrics

The Bank has not yet set internal financial metrics and targets for the achievement of the Physical Greenhouse Gas Emissions Target. As major investment in decarbonisation enters our budget planning cycle, it will become necessary to align this work with obsolescence and improvements across the property estate, and the Bank's wider investment priorities.

6.4: GHG emissions metrics

Various internal metrics are used for regular operational monitoring and risk reporting. Collectively these metrics provide management the ability to assess progress towards carbon targets and to ensure the appropriate allocation of resources to decarbonisation efforts.

Table 6A: Metrics used by the Bank of England for internal and/or external progress reporting

Number	Metric	Reporting frequency	Includes
1	Total GHG emissions versus 2030 and Physical Greenhouse Gas Emissions Target trajectory	Annual (public)	All Scope 1, 2 and 3 emissions within target boundary
2	Scope 1 emissions	Quarterly (internal) Annual (public)	All Scope 1 emissions
3	Scope 3 emissions	Annual (public)	All Scope 3 emissions within target boundary
4	2030 target: business travel emissions	Quarterly (internal) Annual (public)	Business travel emissions (versus the 2030 carbon target)

Source: Bank of England.

These metrics will be reported regularly to the Bank's Executive Committees and Court to track performance and progress. Annual reporting for the Bank's carbon footprint and progress on the trajectory will be reported publicly as part of the annual climate change disclosure, along with updates on actions implemented, and those planned for the coming year. At milestone years, the Bank will publish an update to our Climate Transition Plan detailing progress and any amendments.

7: Governance

7.1: Board oversight and reporting

The Bank's organisation-wide governance framework has been designed to be appropriate to the nature, scale, and complexity of its operations. As a source of risk integral to the Bank's mission, functions and operations, climate-related considerations are embedded in our approach to governance. This section sets out how the governance of the Bank's climate-related work is applied.

In this year's [BCCD](#) we provide more information on of the role of the Court of Directors' oversight of the Bank's management of climate-related risks.

7.2: Management's role in assessing and managing climate-related risks

Governance of the Bank's climate-related work at a management level is led by the Bank's two Executive Sponsors for climate change: the Executive Sponsor for the Bank's policy functions (Sarah Breeden, Executive Director for Financial Stability Strategy and Risk); and the Bank's Executive Sponsor for climate change across the Bank's internal operations (Ben Stimson, the Bank's Chief Operating Officer (COO)). The Executive Sponsors work closely together to deliver the Bank's climate work.

Sarah Breeden has also been allocated the Senior Management Function responsible for the financial risks from climate change (SMF Climate) and is therefore responsible for recommending the Bank's climate change strategy to the executive committees, overseeing its execution, and co-ordinating climate-related work across the Bank. Ben Stimson has responsibilities for climate risks to the Bank's internal operations.

The primary management forum responsible for effective co-ordination on climate-related work across the Bank is the Executive Directors' Climate Steering Group (EDCSG), which is chaired by Sarah Breeden as the SMF Climate. This group acts as a forum for Executive Directors across the Bank to discuss strategic climate-related issues and has been active in supporting Court and the Bank's executive and policy committees in their work on climate change.

Oversight of the Bank's physical operations carbon strategy is achieved via the executive committees responsible for operational matters, including operational investment, carbon emissions and performance. In line with these responsibilities, Court and the executive Committees with an operational focus all have a role in the governance of the Bank's strategy and actions related to carbon emissions and reduction efforts.

At a minimum Court reviews the Bank's progress against the Physical Greenhouse Gas Emissions Target on an annual basis, and on an annual basis as part of its review of the Bank's Annual Report and the BCCD. The executive-level committees regularly review and approve the Bank's climate strategy at least once a year, and monitor climate risks quarterly.

To embed consideration of climate change across the Bank's functions, it operates a 'hub and spoke' model. At the centre sits the Climate Hub, a dedicated division of climate specialists, which supports the SMF Climate and implementation of the Bank's climate strategy across the organisation. Each area of the Bank, or spoke, has one or more climate leads responsible for directing climate-related work within their area, and co-ordinating with the Climate Hub and across other spokes. This balances development of climate expertise with embedding consideration of climate risk across the Bank.

7.3: Culture

We seek to embed a culture of environmental awareness through regular communications with colleagues. This includes empowering our network of Green Champions, who work to embed positive change throughout the business. We plan to use the launch of the Climate Transition Plan to explore how we can expand the inclusion of environmental considerations in key documents that define our working culture. An important part of this will be business travel. We will engage with staff on how they deliver work and how to prioritise business travel while taking account of the carbon footprint of their work.

Stakeholder analysis has helped to identify individuals across the Bank that have a significant role in the achievement of our Physical Greenhouse Gas Emissions Target – either through the implementation of measures to reduce emission in their areas, or through the roles they place in governance functions. Our communications plan has been designed to ensure that people understand their role in helping to achieve the emissions reductions required by our plan, and that they maintain visibility of our performance.

7.3.1: Communications objectives

Through our communications we aim to:

- ensure our leaders understand our Climate Transition Plan commitment, and know what they can do to help;
- increase awareness among our colleagues so they can support our carbon action plan;
- support the building of skills and capability so relevant teams can collaborate to reduce our Scope 1 and 2 footprint;
- engage suppliers, customers and interested parties to collaborate to reduce Scope 3 emissions; and
- keep interested parties, including the public, informed of our progress towards our targets.

7.4: Incentives and remuneration

The Bank's Governors and Deputy Governors do not have variable remuneration, so incentivisation for achievement of climate-related work will be incorporated into their annual objectives, and a subject against which they expect to be challenged by the Bank's committees and Court.

We will work with the Executives who do have variable remuneration to incorporate carbon efficiency metrics into their performance scorecards. This will become increasingly important as we begin to rely on emissions reductions measures from various parts of the business (eg property, procurement, technology, regular business travellers, etc).

7.5: Skills, competencies and training

The Bank continues to deliver internal training on sustainability and on our Climate Transition Plan. Focused training sessions will be developed for colleagues with responsibilities in management of actions and progress against the trajectory. We will also deliver training and awareness sessions to the Bank's network of Green Champions, as well as interested staff.

We are developing a wider set of sustainability training to develop staff awareness, as well as focused training for specialists (for example training focused on Scope 3 emissions targeted at procurement and project managers).

Annexes

Annex 1: Detailed emissions breakdown

Table A: Baseline emissions reported in the 2023 BCCD and those included within the expanded boundary of the Physical Greenhouse Gas Emissions Target

Type of emissions	Activity	2015/16 (tCO ₂ e)	2022/23 (tCO ₂ e)
Scope 1	Natural gas	2,890	2,106
	Oil – generators	5	1
	Vehicles fleet	97	23
	Refrigerants	53	90
	Subtotal	3,045	2,220
Scope 2	Electricity	5,563	0
Scope 3 – Category 1 purchased goods and services	Polymer (notes)	2,333	2,108
	Paper (notes)	3,360	0
	Water	60	23
	Office paper	96	3
Subtotal	5,849	2,134	
Scope 3 – Category 3 fuel and energy related	Electricity (transmission and distribution)	1,271	0
Scope 3 – Category 5 waste	Waste	32	17
Scope 3 – Category 6 business travel	Air travel (a)	4,334	1,751
	Rail travel	33	28
Subtotal		4,367	1,779
Total emissions (calculated using the boundary from the Bank's FY21/22 Climate Change Disclosure)		20,127	6,150

Type of emissions	Activity	2015/16 (tCO ₂ e)	2022/23 (tCO ₂ e)
Scope 3 – Category 1 purchased goods and services	Manufacturing (not elsewhere classified)	29,579	14,227
	Renting of machinery & equipment and other business activities	19,670	28,349
	Post and telecommunications	11,657	10,407
	Electrical and optical equipment	8,606	3,205
	Other	8,223	1,931
	Health and social work	4,398	3,391
	Food, beverages and tobacco	3,100	2,395
	Public admin and defence; compulsory social security	2,971	2,228
	Other supporting and auxiliary transport activities; activities of travel agencies	2,857	67
	Financial intermediation	1,992	1,090
	Pulp, paper, printing and publishing	1,874	761
	Education	1,826	678
	Construction	1,638	1,047
	Machinery (not elsewhere classified)	1,305	1,119
	Other community, social and personal services	1,258	964
	Chemicals and chemical products	1,159	87
	Real estate activities	937	1,099
	Textiles and textile products	86	32
	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of fuel	83	8
		Subtotal	103,219
Scope 3 – Category 2 capital goods		16,358	15,046
Scope 3 – Category 3 fuel and energy related activities		2,720	1,779

Type of emissions	Activity	2015/16 (tCO ₂ e)	2022/23 (tCO ₂ e)
Scope 3 – Category 7 employee commuting		1,844	506
Scope 3 – Category 7 employee working from home		0	2,613
Scope 3 emissions included as expansion of ambition		124,141	93,028
Adjustments versus previously disclosed baseline (b)		109	113
Total emissions within the boundary of the PGGET		144,377	99,291

Source: Bank of England.

(a) For the first time air travel total for 2022/23 includes emissions associated with hotel stays.

(b) This is an adjustment relative to the baseline reported against in the BCCD in financial years up to and including 2022/23. These are Scope 1 emissions associated with Roehampton The Grange, which had previously been excluded from the reporting boundary as it was listed for sale in 2019 (Section 3.1).

Annex 2: Detailed business model implications and implementation strategy

A2.1: Impact on buildings

A2.1.1: Geographic footprint

The Bank's property portfolio will continue to evolve to meet business requirements – changes will be accounted for in future iterations of the transition plan. These changes include vacating the Leeds cash centre in 2023, and the expansion of the Bank's regional office footprint. These small satellite offices, in locations across the UK are rented and form part of a larger building, typically with a small number of desks. These are not sub-metered for energy, so the Scope 1 and 2 emissions for these rest with the landlord – but form part of our Scope 3 emissions.

A2.1.2: Decarbonisation

The Bank has undertaken studies to understand steps required to decarbonise the Bank's buildings in line with the trajectory. It is not possible to estimate costs with precision given the long horizon over which work will take place, but clearly electrifying heating systems will require substantial investment.

Costs will be minimised through the integration of decarbonisation into the Bank's broader property strategy with carbon efficiency measures built into new projects and building upgrades, from design level onwards. This approach will balance increased costs due to carbon efficiency, with improved value due to a more sustainable product or service (for example through reduced utility consumption).

Work will also be sequenced to match the expected lifespan of existing equipment. This will help to provide value from existing equipment (both on an accounting basis and from an embodied carbon perspective), while providing the greatest opportunity to benefit from advances in technology over time.

Prior to this work smaller scale optimisation projects will be implemented that reduce demand, improve efficiency, and provide operational cost savings. While decarbonisation works will focus on our freehold properties in Threadneedle Street and Debden, the Bank's procurement policy will take steps to ensure leasehold properties also decarbonise in line with our transition plan.

A2.2: Scope 1 mitigation plans

Focus has been given to the Bank's direct emissions (Scope 1 emissions) as these are specifically within the Bank's control and can most readily be reduced. Most Scope 1 emissions are property related (eg combustion of natural gas for heating), so the main area

of focus for this strategy will be to reduce building gas consumption.

The actions to achieve this are split into projects through the medium term (for example energy efficiency improvements to buildings and equipment), and a longer-term renewable heating strategy.

A2.2.1: Actions through the medium term (2023–30)

Implementation of a detailed programme of actions began in 2022. Once complete, initial estimates suggest a reduction in gas consumption of c.8% can be achieved.

Actions through the medium-term focus on reducing gas and energy usage. By using less gas we will reduce emissions and lower utility costs. Improving efficiency will also cut demand for heating, which means future heating systems can be designed smaller.

There are four main streams to this work:

- **Building controls** via the building management system run all major plant and equipment (such as boilers, chillers, and ventilation). Investigations have identified a range of opportunities to cut energy use, often at low cost, through settings changes and improved control strategies;
- **Boilers** use almost all the gas we consume and are the biggest source of our Scope 1 emissions. Studies assessed how the boilers operate, deliver heat to each site, and sought opportunities for improvement whether through better boiler efficiency, reducing system losses, or increasing heat recovery;
- **Chillers** are a sizable proportion of electricity demand at our main sites, providing cooling both to our data centres and offices. The assessment of chiller operation and control looked at how the cooling systems operate, examined system efficiencies, and sought opportunities for improvement by adjusting settings (for example flow and return temperatures), upgrading components of both the cooling and distribution systems, and innovations to improve cooling delivery; and
- **Ventilation** systems are used to move fresh air around our buildings. An assessment reviewed opportunities to improve the delivery of ventilation through better fans, motors and associated systems, increased recovery of heat from extract air, and reducing losses in the system.

In addition to the above areas, refurbishment and obsolescence work planned (for example on air handling units and generators) will cut emissions.

A2.2.2: Long-term heating strategy (2030–37)

The material component of the Scope 1 decarbonisation plan will require replacing c.8MW of gas-fired heating with an alternative. Feasibility studies have been carried out at our Threadneedle Street and Debden sites to investigate options for zero carbon heating. The studies used a variety of modelling techniques, including through the development of a digital twin for one site to forecast the potential for efficiency improvements and emissions reductions.

Constraints at our sites led to discounting alternatives such as; a biomass heating system at Threadneedle Street – which would be constrained by air quality concerns, space, and fuel delivery requirements. We also considered hydrogen fuelled heating at the Debden site, but discounted this based on forecast market maturity at the proposed installation date, as well as logistical factors.

The engineering analysis settled on air source and ground source heat pumps as the technology most likely to suit our requirements. Conceptual designs have been developed, and current and future refurbishment plans will consider compatibility. However, we do not foresee beginning design and installation of large-scale replacements of the heating systems until after 2030. We will reassess these plans in 2030 to ensure they remain fit for purpose and account for any developments in the interim. This timescale aligns with UK Government targets for public sector building emissions and has been incorporated into the Scope 1 and 2 emissions reduction trajectory.

Where practical in the interim, the Bank will seek opportunities to install smaller renewable heating systems. Two systems are being investigated at present, one for Threadneedle Street and one for Debden. These take advantage of refurbishment programmes to separate specific areas from the existing gas-fired heating systems, and thus reduce use of our boilers and the resulting emissions.

In Threadneedle Street we are considering the installation of a ground source heat pump to operate via existing boreholes, which should be able to deliver both heating and cooling to some of the more historically significant parts of the Bank.

At Debden we plan to install an air source heat pump as part of an office space refurbishment; this will be particularly advantageous as the area has a summer demand for heating. Once refurbished, this heating demand will be divorced from the gas-fired system, allowing the boilers to be turned off for longer periods over the summer.

A2.3: Scope 3 mitigation plans for Physical Greenhouse Gas Emissions Target

A2.3.1: Moving to actual data

We have begun work to source emissions data from our supply chain both directly, and via third-party solutions. This effort signals to our supply chain the emphasis we place on sustainability and the importance of being able to supply this data.

We have assessed our supply chain and modelled the emissions associated with each supplier. Analysis shows that our most carbon-intensive suppliers account for over 75% of emissions. Work with these suppliers will help to obtain accurate and precise data on those emissions attributable to the Bank's purchases. We detail in Section 5.1 how we will work with suppliers to improve their ability to provide this information. As we source actual data on most of the Bank's emissions from purchased goods and services, we can further refine our approach to decarbonising our supply chain and improve the accuracy of our GHG emissions reporting.

A2.3.2: Directly controlled sources

Some Scope 3 emissions sources come from activities which are under our direct control, for example business travel, waste production, and water consumption. Where possible within our business requirements and mission we will work to reduce consumption.

While waste represents a small proportion of emissions, we will continue to take action to reduce the volume of waste produced and increase recycling rates.

Water used at the Bank results in a small volume of emissions but is important to tackle from a wider sustainability perspective. We have recently carried out a water survey for our Threadneedle Street building to identify opportunities for savings. Based on the survey findings, and work at our other sites we will develop a water strategy and water saving action plan.

A2.3.3: Indirectly controlled sources

Working with suppliers to manage down the emissions intensity of the products and services they provide will be critical to achieving our decarbonisation pathway. We have developed an environmental impact review process using a materiality matrix to help advise project managers about the importance of including environmental scoring in their procurements.

For material procurements with the potential for a large carbon or environmental impact, we develop bespoke requirements and assessments; including where possible environmental performance criteria as mandatory requirements. For less material procurements, we have developed standardised tender scoring criteria and questions covering both emissions and

wider environmental impacts which help us to select the suppliers capable of providing carbon efficient solutions. This approach also helps to expand the coverage of environmental consideration across a wide range of procurements.

The Bank's internal procurement team has grown in size over the past year, and the Bank has invested in procurement policy staff to ensure we have the appropriate skills and resources to deliver in these areas. We have provided procurement staff with bespoke training on the Climate Transition Plan, carbon efficiency and the impact of the procurement process on the Bank's emissions.

We are obliged to comply with public sector procurement requirements, which means that integration of our decarbonisation plans into the Bank's procurement process needs to be carefully planned, particularly with regard to the legal requirements for the selection of suppliers and the evaluation of tenders. We will engage proactively with bidders and suppliers as part of our supply chain action plan, and will regularly review the stance of central government on carbon and procurement.


A2.4: Delivery risks to decarbonisation plans

A2.4.1: Scope 1 and 2 emissions: assumptions, dependencies, and risks

While the Bank has a plan to reduce emissions over the coming years, achieving a 90% reduction in Scope 1 emissions will be challenging and there are risks to delivery. To help anticipate these challenges, the Bank will maintain a live view on potential risks to delivery which can then be used to sensitise emission reduction pathways.

A2.4.2: Scope 1: potential risks

While the Bank has more control over Scope 1 emissions, there are a number of shared and idiosyncratic challenges to the Bank's decarbonisation plans. Some examples are set out below:


Scenario	Detail
Change in the Bank's property footprint	Material additions to the Bank's property estate would increase emissions (eg spreading employees across more office buildings increases the emissions intensity per employee), making meeting the trajectory and targets more challenging. A material decrease in the Bank's estate would trigger a recalculation of the baseline and trajectory.
Listed building	There are significant constraints to working within a grade 1 listed building, and the changes possible to buildings of architectural and historical significance (eg decarbonising the heating system while remaining sensitive to the heritage of the building could increase costs or result in planning delays).
Short-term gas rationing	The Ukraine war led to the prospect of potential shortages in the UK gas supply. Should supply shortages occur for any reason for prolonged periods during the winter, the Bank could be forced to rely on contingency supplies of diesel/gas oil for building heating. This would increase emissions in the short term.
Significant changes in local weather	If weather becomes cooler for a prolonged period (a year or more), this would drive up winter gas use, increasing Scope 1 emissions. Conversely warmer winters would lead to reduced gas emissions.
Heat pump supply chain	Problems in the future supply of heat pumps and the related supply chain (when installation is needed for the Bank's buildings) would delay decarbonisation of Bank heating systems.
Green gas	If green gas  (gas produced from renewable sources) is included in the GHG Protocol as a decarbonisation route, decarbonising building heating systems could become cheaper and easier to achieve.
Hydrogen	If the UK hydrogen market matures much faster than expected, this would require us to reassess this as an option, and possibly allow for more rapid decarbonisation of heating systems than planned.

A2.4.3: Scope 2: potential risks

Although the Bank's intention is to purchase renewable electricity in the future, there may be some Scope 2 dependencies or risks, as set out below:

Scenario	Detail
Significant changes in local weather patterns	As weather becomes warmer for a prolonged period (a year or more), this would drive up summer electricity use.
Renewable electricity availability	Reduction in availability of renewable electricity supply in the UK could affect affordability (eg commercial competition for Power Purchase Agreements). Conversely, increased renewable electricity supply could reduce the Scope 3 emissions due to purchased goods and services.

A2.4.4: Scope 3: assumptions, dependencies, and risks

There are several known weaknesses in the Scope 3 modelling methodology which will need to be addressed in future. Most importantly, the GHG Protocol model was released in 2009, and uses globally applicable carbon factors relevant at the time.^[8] Since that date the [UK has reduced emissions](#)  in some areas significantly (eg increased proportion of renewable electricity generation). While some financial variables such as inflation have been incorporated into the model, others such as exchange rate variations have not. As a result, it is likely that the GHG Protocol model overestimates Scope 3 emissions for the Bank. It is also reasonable to expect that progress made by the Bank's individual suppliers to reduce emissions, our existing procurement practices, and technological innovations in overall efficiency, have further reduced emissions compared to the model output.

Improving quantification of Scope 3 emissions will impact understanding of the decarbonisation actions required to achieve the pathway we have set. This could be achieved by calculating the emissions footprint of items purchased by taking the overall emissions of a supplier and dividing these by spend with them, or by using product specific data. Reducing the baseline would lower the absolute emissions reductions required from Scope 3 sources, but not the 90% reduction required in 2040 from a revised baseline.

There are a number of dependencies and assumptions that could affect the Bank's ability to meet the milestones and target. A sample of these have been considered below. While probabilities are difficult to predict, if one or more were to occur, there may be a material impact on the Bank's decarbonisation trajectory.

A2.4.5: Sensitivity impacts: Scope 3

Scenario	Detail
Significant change in Bank expenditure on purchased goods and services	As this category of Scope 3 emissions represents the majority of the Bank's footprint, an increase in spend will likely increase emissions, while a decrease in expenditure would lead to a reduction in emissions.
Modelling of Scope 3 emissions	Using the GHG Protocol methodology for modelling Scope 3 emissions likely overestimates the Bank's baseline emissions. As actual data refines these estimates, this will impact the nominal emissions reductions required and could potentially trigger recalculation of the baseline. Volatility in modelled Scope 3 emissions using this methodology will be more reflective of the mix of goods and services purchased than decarbonisation efforts.
Change in supplier emissions	A substantial change to supply chain emissions could occur due to a change in suppliers. This is mitigated by the Bank's procurement process and integration of carbon and sustainability metrics into the procurement process.
Supply chain limited progress	Inability to procure affordable low/zero-carbon alternative products and services could limit progress in reducing supply chain emissions. For example, if the Bank requires a specific service available only from suppliers with a high carbon intensity, this could impede progress.
Work from home emissions	Once a standard methodology is established, our calculation of working from home emissions will be updated. This may increase or decrease our Scope 3 emissions. Evolving working patterns and the relative energy efficiency of colleague's homes compared to our buildings may affect progress.

A2.4.6: Risks across all Scopes



As well as scope-specific sensitivities, the Bank's decarbonisation plan is also subject to risks that could represent challenges across one or more emission Scopes. For example:

Scenario	Detail
Substantial increase in banknote production	If demand for banknotes were to rise materially above current forecasts as seen during the pandemic , or if a new series of banknotes is required, absolute emissions from production would rise even if the carbon efficiency of banknote production improved.
Timing and allocation of investment in decarbonisation	<p>Scope 1: Achievement of the trajectory is dependent on long-term investment in low/zero-carbon plant and equipment. This investment into the estate must be balanced against all other internal priorities, but delay would result in an overshoot of the trajectory.</p> <p>Scope 3: Material progress will be dependent on the availability and affordability of low/zero-carbon alternatives for goods and services in the market. If these products are only available at a significant cost premium this may result in financial constraints to achieving the planned trajectory.</p>
Technological change	Developments in energy saving equipment have the potential to reduce the Bank's energy usage, Scope 1 and 3 emissions, and/or the cost to achieve reductions. This could include advances in renewable heating and cooling technology (eg heat pumps and radiative sky cooling) or in the efficiency of electric motors (eg fans used for ventilation).
Evolving GHG accounting methodologies	Changes to best practice and methodologies in the future may require a recalculation of the baseline and trajectories.

A2.5: Policies and conditions

A2.5.1: Carbon pricing

In 2019 we started using internal shadow carbon pricing for relevant projects. This assigns a nominal price of carbon to new projects, at the options appraisal stage. This helps to nudge investments towards lower carbon options, by assigning a price to the operational carbon emissions of a project.

We initially set a carbon price of £45/tonne in 2019, and since then the price of carbon has moved onwards – and upwards, most recently reaching [£95/tonne](#)  in the UK Emissions Trading Scheme (ETS) and [€97/tonne](#)  in the EU ETS.

We will seek to update our internal carbon price to better align with the market and intended outcomes, and review how and where we use it with a view to expand coverage.

A2.5.2: Carbon credits

Recognising the financial constraints and priorities in our transition to low-carbon physical operations, we will focus preliminary investment on measures to reduce absolute GHG emissions from our estate and business practices. We believe that in this way we can achieve the best alignment with the Paris Agreement goals of limiting global warming to 1.5°C above pre-industrial levels.

As the Bank prepares to address residual emissions, we will engage with the Bank's Executive to identify an offsetting strategy informed by best practice; and which meets the unique requirements of the Bank's mission. This will ensure that we are able to take a relevant, practical, and credible decision reflecting developments between now and our future requirement.

When developing our offset procurement strategy, we will ensure this is in line with best practice and aligned to the United Nations' Sustainable Development Goals as far as possible.

A2.5.3: Financial planning

Efforts to reduce emissions will have costs but would also drive cost-avoidance and potential savings. Improving carbon efficiency often results in operational efficiency and thus potentially cost savings. We are integrating the costs of abatement into our business-as-usual planning, including our 20-year property strategy which lays out longer-term investment across our freehold properties.

Our transition plan has a series of energy and carbon saving projects that will help to reduce our consumption, emissions, and costs. Preliminary analysis has helped us to understand which measures lead to the greatest cost-avoidance through improved efficiency, and to prioritise these works.


As part of the Scope 3 decarbonisation strategy the Bank will place an increased premium on low carbon goods and services and will reflect this using internal carbon pricing for new projects and in our procurement practices.

A2.5.4: Baseline recalculation

The Bank uses financial year 2015/16 as the baseline year for our GHG footprint. To accurately track progress towards milestones and targets, if necessary, the base year emissions inventory will be adjusted over time to account for changes that drive a material increase or decrease in emissions. The baseline could be recalculated to reflect:

- structural changes that have a significant impact on the base year emissions such as outsourcing/insourcing of emitting activities or material changes to the property estate;

-
- changes in calculation methodology, improvements in the accuracy of emission factors, or activity data that result in a significant impact on the base year emissions data; and
 - discovery of errors, or a number of cumulative errors, which are collectively significant.

Baseline adjustments will be undertaken at the end of each financial year if required. When recalculating the baseline, the [GHG Protocol methodology](#)  will be utilised. The Bank will publicly restate its baseline when reporting the latest GHG footprint for the previous financial year.

Annex 3: Mapping of Climate Transition Plan to Draft TPT Framework



Transition Plan Taskforce Framework	Climate Transition Plan Subsections
1. Foundation	
1.1 Objectives and priorities	1.1: The Bank of England's approach to transition planning
	1.2: Physical Greenhouse Gas Emissions Target
	1.3: Standards
	3.1: Target boundary overview
1.2 Business model implications	2.4.3: Working from home emissions
	3.2: Financed emissions
	4.1: Banknotes
	4.2: Geographic footprint
2. Implementation strategy	
2.1 Business planning and operations	4.3: Scope 1 mitigation plans
	A2.1: Impact on buildings
	A2.2: Scope 1 mitigation plans
	4.4: Scope 2 mitigation plans
	4.5: Scope 3 mitigation plans for Physical Emissions Target
	A2.3: Scope 3 mitigation plans for Physical Emissions Target
2.2 Products and services	4.1: Banknotes
2.3 Policies and conditions	A2.5: Policies and conditions
2.4 Financial planning	A2.5.3: Financial planning
2.5 Sensitivity analysis	4.6: Delivery risks to decarbonisation plans
	A2.4: Delivery risks to decarbonisation plans
3. Engagement strategy	

Transition Plan Taskforce Framework	Climate Transition Plan Subsections
3.1 Engagement with value chain	5.1: Engagement with supply chain
3.2 Engagement with industry	5.2: Engagement with industry
3.3 Engagement with government, public sector and civil society	5.3: Engagement with government, public sector, and civil society
4. Metrics and targets	
4.1 Governance, business and operational metrics and targets	6.1: Operational metrics
	6.2: Engagement metrics
4.2 Financial metrics and targets	6.3: Financial metrics
4.3 GHG emissions metrics and targets	2.1: Baseline
	2.2: Physical Greenhouse Gas Emissions Target trajectory and milestones
	2.3: Scope 1 and 2 emissions
	2.4: Scope 3 Emissions (physical operations)
	6.4: GHG emissions metrics
4.4 Carbon Credits	A2.5.2: Carbon credits
5. Governance	
5.1 Board oversight and reporting	7.1: Board oversight and reporting
5.2 Roles, responsibilities and accountability	7.2: Management's role in assessing and managing climate-related risks
5.3 Culture	7.3: Culture
5.4 Incentives and remuneration	7.4: Incentives and remuneration
5.5 Skills, competencies and training	7.5: Skills, competencies, and training

1. For the purpose of this report 'banks' includes both banks and building societies.

2. Analysis was based upon review and categorisation of purchase orders and credit card spending.

3. The Leeds Cash Centre closed in early 2023.

4. The Bank previously excluded Roehampton sites from the 2030 carbon target, as these sites were planned for sale at the time. Covid impacted on this process, and while the sports ground at Roehampton was sold, Roehampton The Grange is retained as a Bank property, and so is included within the Climate Transition Plan target boundary.
5. Polymer notes are expected to last at least 2.5 times longer than the cotton paper notes they replaced.
6. The later launch dates for the £10, £20, and £50 means they have not been in circulation for long enough to complete the analysis for all denominations.
7. Details can be found in the [interim report and roadmap](#)  for mandatory TCFD-aligned climate disclosure requirements, which was published in November 2020 by the UK Government-Regulator TCFD Taskforce, of which the Bank is a member.
8. The carbon factors used in the model are global average tCO₂e per US\$ expenditure. These were established in 2009, so do not account for improvements in global carbon performance since 2009. The factors are global averages and take into account countries with both low and high performance with respect to carbon. [Historically UK performance is better than average](#) .

Related documents

 [Bank of England base year emissions inventory \(XLSX 0.1MB\)](#)