

Rothsay
Protecting Pensions

Climate
Report
2022



Our purpose

We are dedicated to securing the future for every one of our policyholders.

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➤ Other Relevant Documents

There are a number of other related documents which can be found on our website www.rothesay.com:

Sustainability Report
Stewardship Code
Responsible Investment Policy



About Rothesay

Purpose-built to protect pension schemes and their members' pensions.

Over
£47bn
Managed assets

Who we are

Rothesay is one of the UK's largest specialist pensions insurers, purpose-built to protect pension schemes and their members' pensions. Our singular focus is to secure pension annuities for the future, providing certainty as well as genuine service excellence for all our policyholders.

Due to the nature of the pension liabilities we protect, we are a low-risk investor, with a long-term investment strategy focused on investment grade debt in developed nations.

Our careful approach to investment and prudent underwriting means we are trusted to provide pension solutions by the pension schemes of some of the UK's best known companies, including Asda, British Airways, Cadbury, the Civil Aviation Authority, the Co-operative Bank, National Grid, Morrisons, Post Office and Telent. Underpinned by sophisticated risk management, our expert in-house investment team is continually developing new ways to drive predictable, dependable returns that reduce risk and create real security.

Today, we manage over £47bn in assets, secure the pensions of over 825,000 people, and pay out, on average, over £200m in pension payments each month. We are securing the future for every one of our clients and policyholders and providing value to our shareholders over the long term.

Climate and our purpose

At Rothesay, thinking long-term is central to our purpose and we understand the clear link between our core investment objectives and the need to consider climate impacts.

Our approach to the management of these risks and broader considerations allows us to not only achieve our primary goal of providing pension security to our policyholders, but also provide wider benefits to our stakeholders, the environment and society.

Message from the CEO



We have added a new target for our corporate investments to achieve a 50% reduction in carbon intensity by 2030, versus our base year of 2020.



Message from the CEO continued

We have decided this year to update the way we present Rothesay's non-financial Environmental, Social and Governance (ESG) reporting.

Our ESG report has been separated into two publications: this Climate report, which has been drafted in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and a Sustainability report which summarises Rothesay's wider sustainability progress. This report contains updates that have occurred since our last ESG report was published. Reported metrics relate to YE2022 data unless otherwise noted. To support easy access to ESG-related information, we are also devoting a section of our website to a variety of disclosures that will be updated on a regular basis. Examples include this Climate report, our Stewardship Report, our Responsible Investment Policy and other research and analysis that our team produces over the course of the year ahead.

The impacts of climate change continue to be a central news topic. Global average temperatures have jumped to new record levels. The frequency and severity of heatwaves have grown to such a point that climate scientists are prepared to say that they would be virtually impossible without the contribution of anthropogenic greenhouse gas emissions. On the other hand, it is also notable that it is no longer fair to say that governments and corporations are doing nothing about it. In our sector of the finance industry alone, we have seen the Net Zero Asset Owner Alliance, which grouped together 12 founding members in late 2019 and had expanded to 35 members when we joined in early 2021, grow to 86 members representing assets of \$11 trillion. We have found this forum to be a productive venue for the discussion of methodologies, data, and tools as we strive to maintain best practice in the field of climate risk management.

The Alliance provides rigour around disclosure, target setting (both in the short and long term) and engagement, all without reference to individual entities. Rothesay also works within the Alliance to help ensure that its guidelines are not set too narrowly so that we continue to retain the flexibility to make completely independent investment decisions.

We have previously signalled our willingness to make our lending capacity available to projects that can contribute to solutions for the climate crisis. The recent reforms to Solvency II have the potential to be incredibly helpful in this respect, allowing UK insurers to unlock more capital and invest it in a wider range of green and socially positive infrastructure. New infrastructure is urgently needed in many sectors, from water to the electricity grid to property and Rothesay is ideally suited to provide the long-term funding required.

I'm pleased to report that Rothesay has been accepted as a signatory to the UK Stewardship Code 2020, evidencing our effective stewardship activities over the previous 12 months. Also in this document, you will find updates to the climate metrics we track, presented in line with TCFD guidance. New for this year, we have sought and obtained limited assurance from Grant Thornton as to the accuracy of our data disclosure. We have also further developed our asset climate scenario analysis.

We have also added a new target for our publicly listed corporate debt investments to achieve a 50% reduction in carbon intensity by 2030, versus our base year of 2020. It is evident that macro market phenomena such as inflation and interest rate changes can affect metrics such as Carbon Intensity and Carbon Footprint.

For that reason, we continue to consider potential alternative metrics which may better measure real-world emission reductions. After all, we think it is more important to finance reduced emissions than it is just to reduce financed emissions! Finally, we are now hard at work on our formal climate transition plan with the intention to publish in 2024.

I hope you find this Climate Report informative and interesting.



Tom Pearce
Chief Executive Officer
25 October 2023

Highlights



Highlights continued

Accepted as a
signatory of the
UK Stewardship
Code 2020

Engaged with
our most climate
material issuers
representing 66% of
the total contribution to
the carbon intensity of
the corporate
debt portfolio

Undertook
emissions
analysis of our
key suppliers

50%

Added a target for a 50%
reduction in our publicly
traded corporate debt
portfolio by 2030 (vs
our 2020 baseline)

Maintained
CarbonNeutral[®]
company certification

Obtained
limited assurance
from Grant Thornton
for the key elements
of our climate
reporting

7%

Portfolio carbon
intensity (CI) declined
by 7%, in line with
target path

Our climate pillars

At Rothesay, we seek to protect the future of every one of our policyholders and to provide them with long-term financial security.

An essential part of our promise is the responsibility to carefully manage a wide range of uncertain risks and opportunities relating to climate and wider sustainability factors. In this report, we discuss how we build our climate strategy around three key pillars: investing our capital responsibly, engaging to facilitate change, and running a responsible and sustainable business.




Our climate pillars continued

Invest:

Investing our capital responsibly


- Supporting real-world decarbonisation while reducing portfolio emissions in line with targets
- Reflecting material risks in our position statements
- Financing climate solutions
- Modelling and managing the risks associated with climate change

 See page 29

Engage:

Engaging to support positive change


- Engaging with our customers to understand their climate and sustainability priorities
- Engaging with issuers to enhance climate risk management
- Working with regulators, industry bodies and policymakers to support climate progress
- Facilitating expansion of climate and sustainability practices across our workforce

 See page 35

Operate:

Running a responsible and sustainable business

- Minimising and managing the emissions within our own operations
- Accounting for emissions within our supply chain
- Collecting data and reporting infrastructure to support climate resilience
- Maintaining effective and insightful governance across all business risks

 See page 39

There are strong connections between these pillars. The outputs of the engagement pillar inform our strategic position, helping us to identify priority actions and targets for our business operations and especially our investments. We constantly measure our progress and direct our efforts to support outcomes which benefit our stakeholder community. In line with our stated commitments, this helps to reduce both the risks posed to our portfolio and the risk our portfolio poses to the environment.

Our Pathway to Net Zero

We continue to develop our Pathway to Net Zero, as first outlined in our 2021 report.

By 2050, Rothesay intend to have transitioned our investment portfolio to net zero. That transition includes setting out public targets and commitments to indicate how we intend to reach our goals. We also maintain a public Responsible Investment Policy which outlines our investment strategy including any climate-related exclusions, such as the financing of new thermal coal mines. That document is regularly updated to reflect evolving best practice and to ensure we are in the best position to protect our policyholders and manage our long-term sustainability and climate commitments.

Our earliest climate-related assessment identified physical, transition and liability risks across the portfolio, as well as noting potential opportunities. As a result, we have formalised our climate strategy into three actionable areas of focus: Invest, Engage and Operate.



Our Pathway to Net Zero continued

We have sought to understand the transition risk of our portfolio by measuring current emissions, projecting future emissions trajectories, and considering how to incorporate their consequences within our risk-return assessments, issuer engagement, and portfolio positioning. Each year we have introduced new metrics, so that last year we reported on carbon intensity, financed emissions and the temperature alignment of our portfolio for the first time. This year, we have added more information on the quality of emissions reporting, including PCAF quality scores, and noted the proportion of our corporate issuers with science-based targets approved by the Science Based Targets Institute (SBTi).

We continue to develop intuitive or qualitative findings into quantitative assessments, especially for physical risk. Similarly, our approach to climate scenario analysis is beginning to yield estimates of rating migration rather than just a directional indication of deterioration or otherwise.

Our ESG Working Group draws representatives from across the firm's business units, including Trading, Investing, Credit, Risk and Finance. We believe all our employees can contribute to our net zero and sustainability strategy, so we have established sustainability-related training for all employees and our annual performance review provides space for individuals to describe their activities.

To support our progress, we have partnered with several organisations aligned with our climate goals. These include the Climate Financial Risk Forum, the Principles for Responsible Investment (PRI) and the UN convened Net Zero Asset Owner Alliance (NZAOA). We are also a supporter of the Task Force on Climate-related Financial Disclosures (TCFD).

Our targets:

Net zero
by 2050

Rothesay is committed to transitioning our investment portfolio to net zero greenhouse gas emissions by 2050, aligned with a maximum temperature rise of 1.5°C above pre-industrial levels as outlined in the Paris Agreement.

Low-
carbon
sectors

20%
reduction
by 2025

We aim to reduce the Scope 1&2 Carbon Intensity of our total portfolio by 20% over the five years beginning with the baseline set in 2020.

We also aim to reduce the Scope 1&2 Carbon Intensity of our publicly traded corporate debt sub-portfolio by 2025 over the same timeframe.

We seek to partner with governments and industry to identify ways in which we can increase our lending to sectors which support a low carbon economy.

50%
reduction
by 2030

We have made a new commitment to a 50% reduction in the CI of our publicly traded corporate debt by 2030.

Engage
with 20

Commit to engage with at least 20 issuers contributing at least 65% of our CI each year within our corporate bond sub-portfolio.

Our Pathway to Net Zero^{continued}



Our own emissions



- Rothesay has fully embedded climate risk management into our business and processes.
- All electricity provided to our UK office comes from a supplier of 100% renewable electricity as certified by the Carbon Trust and we have employee benefits in place to support the reduction of their emissions (e.g. electric vehicle and cycle to work schemes).
- We aim to maintain carbon neutral status (first achieved in 2020) with respect to our own business' Scope 1 and 2 emissions in accordance with the CarbonNeutral Protocol. This activity prioritises tackling the reduction of emissions in the first instance, with residual emissions offset.
- We have contracted to utilise an even higher quality supply of carbon offsets for future emissions, using the Direct Air Capture technology of Climeworks. Further information on the work the firm has done to purchase high-quality voluntary carbon offsets is provided on page 40.


Portfolio emissions



- The most material source of emissions associated with our business is related to our investment portfolio. We therefore pay great attention to understanding the carbon emissions of issuers within our portfolio and assessing their alignment with 1.5°C scenarios.
- No single metric is perfect for measuring the decarbonisation that is supported by our portfolio but Carbon Intensity is the current basis for our targets. Financed emissions are perhaps more intuitive but still have dependence on market factors such as interest rates and foreign exchange while portfolio temperature alignment sounds ideal but depends heavily on a somewhat subjective allocation of the global carbon budget.
- We have committed to regular and transparent reporting and a detailed examination of these results is provided in the Metrics and Targets section of this report.

Our Pathway to Net Zero timeline

2020 2021 2022 2023 2025 2030 2050

- 
- Became signatory of the UN Principles for Responsible Investment
 - Registered support for Task Force on Climate-related Financial Disclosures
 - Launch of electric-car leasing employee benefit
- Published first ESG report, including our Pathway to Net Zero
 - Published Responsible Investment Policy
 - Published first Streamlined Energy and Carbon Reporting (SECR) disclosures
 - Joined as a member of the Net-Zero Asset Owner Alliance
 - UK office is supplied by 100% renewable electricity
 - Received CarbonNeutral® company certification for 2020 in accordance with The CarbonNeutral Protocol
- Retained CarbonNeutral® company certification for 2021 in accordance with The CarbonNeutral Protocol
 - Entered into a ten-year agreement with Climeworks to remove our 2021-2030 expected unavoidable CO₂ emissions
 - Invited to membership of the Climate Financial Risk Forum
- Retained CarbonNeutral® company certification for 2022
 - Obtained external limited assurance for material 2022 climate data
 - Accepted as signatory of UK Stewardship Code 2020
 - Undertook analysis of Supply Chain emissions
 - Added 2030 target for our Corporates portfolio
- 20% reduction in the Carbon Intensity of our publicly traded corporate debt
 - 20% reduction in the Carbon Intensity of our total portfolio
- New commitment**
- **50% reduction in the Carbon Intensity of our publicly traded corporate debt**
- Net zero investment portfolio with respect to greenhouse gas emissions

TCFD guide

We are disclosing our approach to managing climate risk in accordance with the Task Force on Climate-related Financial Disclosures (TCFD) guidelines.

The following table summarises the TCFD classification and directs readers to the pages in this report where Rothesay has made the corresponding disclosures.



TCFD mapping

TCFD pillar	Recommended disclosures	Disclosure sections/pages
Governance Disclose the organization's governance around climate related risks and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities.	➤ Board Oversight: Pages 15-17
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	➤ Management Oversight: Pages 18-19
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	➤ Risks and opportunities: Pages 25-28
	b) Describe the impact of climate related risks and opportunities on the organisation's businesses, strategy, and financial planning.	➤ Our climate pillars: Pages 21-23 Invest: Pages 29-34 Engage: Pages 35-38 Operate: Pages 39-41
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	➤ Scenario analysis: Pages 43-51
Risk Management Disclose how the organisation identifies, assesses, and manages climate-related risks.	a) Describe the organisation's processes for identifying and assessing climate-related risks.	➤ Our risk management approach: Pages 53-54 Carbon intensive sectors: Pages 55-59
	b) Describe organisation's processes for managing climate-related risks.	➤ Our risk management approach: Pages 53-54 Carbon intensive sectors: Page 55
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	➤ Our risk management approach: Pages 53-54 Carbon intensive sectors: Page 55
Metrics and Targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organisation to assess climate related risks and opportunities in line with its strategy and risk management process.	➤ Our portfolio metrics: Pages 61-68 Our operational metrics: Pages 69-71
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	➤ ESG data summary: Page 78
	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	➤ Our portfolio metrics: Page 61

Section

1

Governance



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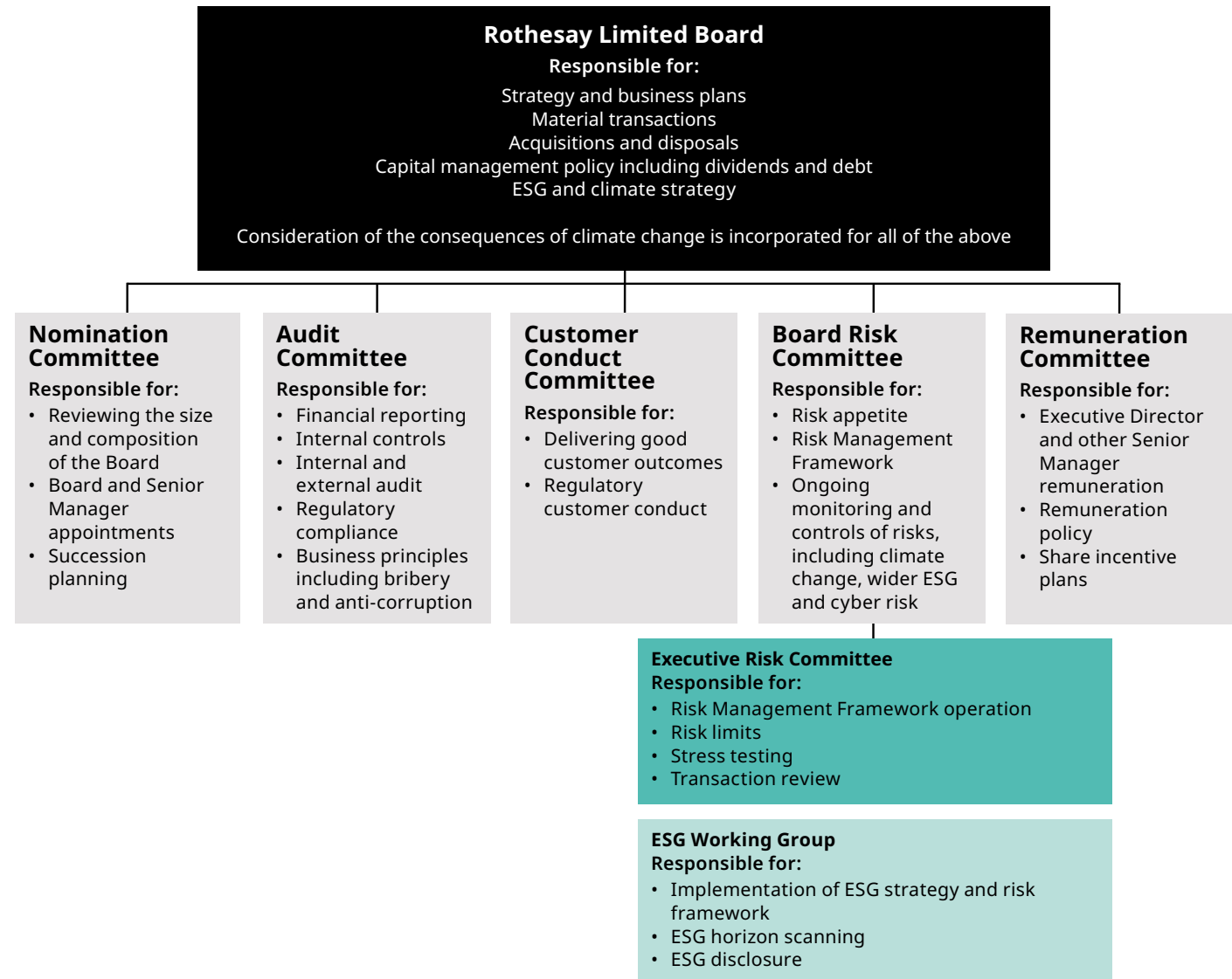
Governance

Effective management of climate opportunities and risks must be reinforced by a strong governance framework to ensure that climate considerations are factored into every business decision.



At Rothsay, we structure our governance framework so that our strategy, purpose, and values are clearly projected from our Board and can be understood and acted upon throughout the business. This approach, realised via the processes and controls we have in place, means that we can effectively manage our risk profile and help to secure the future pensions of every one of our policyholders.

The Board committee structure is shown below:



Board oversight

A strong Board with an effective supporting committee structure is a key component of the governance framework of Rothesay.

The Board is responsible for overseeing the delivery of the overall strategy of the Group and as part of this is also ultimately responsible for the business' approach to climate and related risks and opportunities.

Since the presentation of the results of the 2019 PRA climate stress test, the topic of climate change has become a regular item at Board and Sub-Committee meetings with the material presented falling into three categories: general information designed to educate and ensure a broad understanding; Rothesay's climate-related metrics, alongside progress against our targets (for business operations and the investment portfolio); and sector-specific information that provides a guide to decision making at a granular asset-by-asset level.



Board oversight continued

Case study: Items taken to Board in 2022

The table below summarises some of the climate-related items that were taken to the Board for discussion or approval in 2022:

Topic	Areas covered/approvals
Responsible Investment Policy	<ul style="list-style-type: none"> The implementation of Rothesay's ESG Risk Management Framework The role of issuer engagement in effective climate risk management Approval: Decision to not support the financing of any new thermal coal activity Approval: The publication of Rothesay's Responsible Investment Policy
ESG Disclosure	<ul style="list-style-type: none"> Overview of the ESG disclosure landscape Timeline for future climate and ESG-related disclosure requirements
ESG Strategy Session	<ul style="list-style-type: none"> Update on Rothesay's climate metrics and progress against targets Comparison of metrics used to assess climate risk across the market The role of transition finance in supporting a net-zero strategy
ESG Report	<ul style="list-style-type: none"> Outcomes from COP26 Update on approach to climate scenario analysis Approval: The publication of Rothesay's 2022 report
ESG Considerations on Liability Deals	<ul style="list-style-type: none"> Framework for ESG considerations for all liability transactions The impact of climate change on longevity Developments in carbon accounting on insured emissions

Management oversight

The PRA requires that Senior Management Functions are nominated to take overall responsibility for identifying and managing the risks from climate change. At Rothesay this role is held by the Chief Risk Officer.



Management oversight continued

During 2022, we enhanced our climate governance and management, including the creation of a dedicated ESG team managed by our Head of ESG and Liquid Credit Risk, who reports into the Chief Risk Officer. This team acts as the central hub, supporting the coordination of Company-wide activity related to climate, with our analysts advising on climate strategy, framework and trade decisions, managing climate disclosures and monitoring relevant channels for evolving requirements and best practice.

Day-to-day responsibility for the implementation of Rothesay's climate change strategy has been delegated to the ESG Working Group (EWG), a sub-committee of the Executive Risk Committee. In line with Rothesay's philosophy of ensuring that climate considerations are not confined to one team, the EWG draws membership from across the business and is chaired by the Head of Investment Strategy.

The EWG discusses developments each week, meets formally once a month and is the forum at which all climate-related work is first discussed. Duties and responsibilities of the EWG include:

- Supporting the implementation of the climate Risk Management Framework plan.
- Acting as an internal knowledge centre on the financial implications of climate, including monitoring of emerging risks and opportunities.
- Monitoring of the changing regulatory landscape across all relevant jurisdictions is performed by the representative from Compliance.
- Supporting the wider sustainability of Rothesay and its employees.
- Reviewing and monitoring ways to reduce our exposure to potential and emerging climate issues.
- Supporting the development of Rothesay's approach to public disclosures and communications relating to climate, including putting forward individuals to represent Rothesay at the Climate Financial Risk Forum (CFRF), the Association of British Insurers (ABI) and all levels of the NZAOA.

Recommendations from the EWG are subsequently presented for discussion and/or approval by the Executive, ERC and, for material items, the Board.

The EWG has developed a few sub-groups, comprising members of the ESG team, and other business experts. The purpose of these sub-groups is to help co-ordinate and drive the key strategic climate-related projects for Rothesay, involving the relevant business areas. This includes projects relating to scenario analysis, data processing and automation, and net zero transition planning, involving experts from teams including asset origination, risk, finance, legal and IT.

Beyond this, we strive to ensure all employees understand and support our climate-related goals. From 2021, alignment with, and contribution to, Rothesay's sustainability objectives forms part of every employee's annual performance review. We have also introduced training, mandatory for all employees, on sustainability in general and Rothesay's strategy in particular.

Section

2

Strategy

> **In this section**

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Our climate pillars

There is widespread recognition of the need for urgent action to tackle climate change.

This urgency has driven the very rapid evolution of climate risk management within the financial sector for good reason.

The community, including regulators, are leading with the call for disclosure of clear targets and stated ambitions, even while recognising that the data and frameworks to fully meet these commitments will need to catch up with the ambitions.

Our strategic approach to climate risk management recognises these challenges and acknowledges they will continue to grow as we seek more insightful forward-looking indicators and expand our sustainability purview beyond climate to consider topics such as enhanced physical risk mapping and biodiversity.

Our strategic pillars reflect the imperative to position our investment and risk management approach to assess and manage the risks and opportunities presented by climate change, and to engage with stakeholders, broadly defined, on priorities and best practice in a world of evolving regulations. Operational excellence is key to successful delivery, with strong leadership and governance supporting effective execution, from strategic decisions to their practical implementation. We seek to constantly measure and manage progress and continue to enhance our data processing and reporting capabilities to improve our insight.

Recent actions and outcomes across our climate pillars

Invest	Aims	2022 Progress	2023 & Beyond
	<ul style="list-style-type: none"> Support real-world decarbonisation whilst reducing portfolio emissions in line with targets Reflect material risks in our position statements Finance climate solutions Model and manage the risks associated with climate change 	<ul style="list-style-type: none"> We continued to meet our decarbonisation targets with a 7% reduction in portfolio-wide carbon intensity and a drop of 10.5% across our publicly traded corporate debt sub-portfolio We added a 2030 target of 50% reduction from the 2020 baseline of 222 for our publicly traded corporate debt sub-portfolio We continued to refine our climate scenario analysis and transition planning 	<ul style="list-style-type: none"> Continue to reduce the carbon intensity of our portfolio in line with achieving a 20% reduction in CI compared to the 2020 baseline Target additional deployment into renewables Consider potential framework for transition finance (entities with high but steeply declining emissions) Continue to enhance climate risk and scenario analysis, including working with data providers to improve our physical risk assessment across the portfolio Refine climate targets and data as appropriate. Publish our portfolio Net Zero Transition Plan

Our climate pillars continued

Engage	Aims	2022 Progress	2023 & Beyond
	<ul style="list-style-type: none"> • Engage with our customers and suppliers to understand their climate and sustainability priorities • Engage with issuers to enhance climate risk management • Work with industry bodies and policymakers to support climate progress • Facilitate expansion of climate and sustainability practices across our workforce 	<ul style="list-style-type: none"> • We formalised our horizon scanning workstream to monitor and engage on changes to regulation, disclosure requirements and emerging best practice • We were accepted as a signatory of the UK Stewardship Code 2020 • We engaged with our regulators (FCA and PRA) directly and via the CFRF, and with industry bodies such as the ABI and NZAOA to help shape evolving requirements • We conducted ongoing communications with our key stakeholders, including pension trustees, investors, and employees, ensuring we understand and position our business appropriately to support their priorities • We participated in several industry initiatives, including the provision of input to the Transition Plan Taskforce via the ABI • We had broad representation and input across NZAOA workstreams, and involvement in the CFRF • We continued to provide internal training, introducing a compulsory climate training module alongside various optional training events 	<ul style="list-style-type: none"> • Expand our engagement to include critical suppliers, and those with more material financed emissions • Continue to engage with high-intensity issuers to encourage external approval of climate targets (e.g. from SBTi) and transition plan publication • Continue to engage with issuers with fossil fuel exposure, in particular issuers with thermal coal exposure to support portfolio alignment with a 2030 coal exit date • Engage with policymakers to support financing in low carbon solutions, including the ABI led Investment Delivery Forum supporting investment into UK projects • Ongoing input to industry groups and regulators on evolving regulation and disclosure standards, and industry best practice • Consider evolving requirements, such as nature-based risk management in line with the Task Force on Nature-related Financial Disclosures (TNFD) framework

Our climate pillars continued

Operate	Aims	2022 Progress	2023 & Beyond
	<ul style="list-style-type: none"> • Minimise and manage the emissions within our own operations • Consider emissions within our supply chain • Improve climate resilience by the creation of software systems for data management and reporting • Maintain effective and insightful governance across all business risks • Disclose the information most useful to our clients 	<ul style="list-style-type: none"> • We set up a dedicated ESG team reporting to the CRO • We sought external limited assurance for the key elements of our climate reporting • We introduced the weekly internal publication of portfolio Carbon Intensity so that progress towards targets is visible to senior managers • We included climate strategy in the annual Board Strategy Day agenda • We continued to minimise and manage the emissions within our own operations, increasing recycling and reducing emissions per employee • We commissioned a review of supply chain emissions and employee emissions associated with home-working and commuting • We adopted a data quality metric and measured the prevalence of science-based targets for the first time 	<ul style="list-style-type: none"> • Continue to refine governance frameworks to meet evolving climate and ESG requirements • Enhance the way we embed our ESG objectives across Rothsay, via ongoing training, objectives and remuneration • Implement a supplier code of conduct • Continue to seek opportunities to minimise our direct emissions, and continue to offset any residual direct emissions • Enhance internal reporting and refine disclosure metrics as standards evolve • Continue to automate ESG data, systems and reporting

Risks and opportunities

Rothesay is striving to meet our climate commitments as outlined in this report.

As part of this, we need to consider the broad and varied risks and opportunities that climate change presents across our business operations, including our asset portfolio and insurance liabilities. Climate-related considerations alongside broader sustainability factors are integrated throughout Rothesay's strategy and decision making. This includes monitoring and, where possible, managing the carbon intensity of our portfolio as a key risk performance indicator. >



Risks and opportunities^{continued}

We undertake an ongoing review to identify and monitor the climate-related risks and opportunities that are most material to Rothesay. Based on TCFD definitions¹, we focus on:

Topic	Description
Transition risks	Related to the transition to a lower-carbon economy which may require extensive policy, legal, technology and market changes to address mitigation and adaptation requirements.
Physical risks	Related to material event-driven (acute) or longer-term shifts (chronic) in climate conditions.
Litigation risks	Related to liability risk arising from the potential increase in litigation relating to commitments, disclosures, and climate-related position statements.
Opportunities	Related to efforts to mitigate and adapt to climate change that produce opportunities internally and externally for Rothesay and stakeholders.

We note that climate-related risks and opportunities will materialise over the short-term (up to five years), medium-term (c.5-10 years) and long-term (up to 2050) time horizons. The uncertainty that remains over when these risks will crystallise, increases the importance of effective planning and proactive management of these risks and opportunities. We also acknowledge that both physical and transition climate-related impacts are already having an impact on our own operations and our investments.

The following table outlines our assessment of the most material climate-related risks and opportunities from Rothesay's perspective. It also outlines some potential impacts, the timeframes over which these may occur and how our strategy and frameworks are positioned to manage these. Impact is based on a materiality assessment incorporating potential financial and reputational consequences. We continue to review and assess our view of these risks and opportunities to ensure we remain appropriately positioned.

¹ Definitions based on TCFD publication: Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017).



Risks and opportunities continued

Rothsay's most material exposure to climate-related risk comes from our investment portfolio. As we manage all of our investments in-house, we retain the strong ability to deploy a number of tools to manage these risks. The Board sets and reviews our appetite to these risks. Examples include:



Key

Low Impact

Medium Impact

High Impact

Invest	Potential impacts	Timeframe and impact			Management tools
		Short	Mid	Long	
	Increasing downgrade risk for investments misaligned with climate transition				<ul style="list-style-type: none"> Screening to avoid material physical risk Frequent screening for transition risk management Engagement to understand plans of laggard issuers Divestment Tailoring maturities
	Additional capital requirements for portfolios with correlated climate risk				<ul style="list-style-type: none"> Scenario analysis to check magnitude of possible climate losses Engagement with regulators on solvency policy evolution
	Market spread risk as investors divest those issuers lacking plausible transition plans and those with emerging physical risks				<ul style="list-style-type: none"> Screening to avoid material physical risk Frequent screening for transition risk management Engagement to understand plans of laggard issuers Divestment Tailoring maturities
	Increased market volatility as climate-related events lead to macro-economic impacts such as higher inflation and policy risk				<ul style="list-style-type: none"> Scenario analysis to support monitoring performance and to understand potential impacts
	Potential opportunities	Timeframe and impact			Identification tools
	Strong credit performance of investments in companies well positioned to benefit from low carbon economy				<ul style="list-style-type: none"> Identification of pure green/climate leader investments Classification of investments according to issuer activities with green taxonomy eligibility/alignment
	Strong performance of sovereign positions in countries well positioned to benefit from low carbon economy				<ul style="list-style-type: none"> Monitoring of country performance against NDCs
	Reputational benefit of strong ESG risk management				<ul style="list-style-type: none"> Transparent climate targets, risk management and disclosures

Risks and opportunities^{continued}



Key

Low Impact
 Medium Impact
 High Impact

Engage	Potential impacts	Timeframe and impact			Management tools
	Increased litigation and/or reputational risk due to our climate-related activities	Short	Mid	Long	<ul style="list-style-type: none"> Transparent climate targets, risk management and disclosures Clear policies and processes to avoid anti-competitive behaviour Horizon scanning to identify emerging regulation
Changing stakeholder attitudes driving changes in behaviour	Short	Mid	Long	<ul style="list-style-type: none"> Engagement with stakeholders and horizon scanning 	
Operate	Potential opportunities	Timeframe and impact			Identification tools
	Increased prevalence of investment instruments suitable for Rothsay's lending constraints	Short	Mid	Long	<ul style="list-style-type: none"> Engagement with government and potential issuers
Operate	Potential impacts	Timeframe and impact			Management tools
	Increased requirements and regulatory oversight on our climate management and green/sustainability credentials	Short	Mid	Long	<ul style="list-style-type: none"> Proactive governance for evolving requirements Robust systems and processes Ongoing review of processes and reporting, including annual reporting
	Increased disruption to our own business operations and supply chain, caused by climate-related weather events	Short	Mid	Long	<ul style="list-style-type: none"> Business contingency planning Supply chain review for critical vendors
	Longevity expectations for policyholders depend on emerging climate scenarios	Short	Mid	Long	<ul style="list-style-type: none"> Consideration of climate-related scenarios in calculation of longevity risk capital
	Impact of natural catastrophes adversely impacting reinsurers	Short	Mid	Long	<ul style="list-style-type: none"> Robust counterparty risk management Diversification of reinsurers
	Potential opportunities	Timeframe and impact			Identification tools
Improved operating efficiency and high levels of resiliency	Short	Mid	Long	<ul style="list-style-type: none"> Monitoring and reporting 	

Risks and opportunities_{continued}

Our climate strategy is risk adjusted, recognising that many issuers have relatively low exposure to climate risk.

At the riskiest end of the spectrum, we seek to avoid those issuers who seem most threatened by climate change and who seem indifferent to the impact of their activities. At the other end of the spectrum, where opportunities are greatest, we seek to lend to those issuers contributing to a low carbon world and those whose plans to decarbonise seem most plausible. Our ability to identify and invest early in enterprises that successfully navigate to a low carbon future is vital to our ability to carry out our core purpose: securing the future for our policyholders by protecting their pensions.

Invest

The greatest impact that Rothesay can have on global progress to net zero is through our investments in entities which themselves are responsible for greenhouse gas emissions to varying degrees and whose efforts to decarbonise may be vital for the overall cause. As a result, this is the focus of our climate risk management strategy.



Invest continued

Investing responsibly is a cornerstone of our investment approach. Carefully considering climate and sustainability is integral to meeting our investment objectives.

Our investment objectives are defined as:

- To ensure that our liabilities to policyholders can be met in full and in a timely manner
- To maintain our financial strength and capitalisation
- To produce stable earnings from our in-force business
- To protect and increase the value of our shareholders' investment
- To safeguard Rothsay's reputation

Embedding responsible investing within our investment decision making ensures we consider material risks and opportunities across our asset classes in a structured way. This drives policyholder security, balance sheet stability, and value-driven investment, while also ensuring we can meet our own climate commitments. Appropriate climate and sustainability positioning is as important to our stakeholders as it is to us, and we will continue to refine our approach in line with changing expectations, and evolving risks and opportunities, to ensure we continue to meet the needs of our stakeholder community.

These objectives have driven our approach to portfolio management in two key ways, and provide a strong footing for climate risk management.

Asset allocation

Our portfolio composition reflects Rothsay's core objective of policyholder security and asset and liability management. We are typically an investment grade debt investor and seek out issuers whose balance sheets can support transition, or projects and properties backed by high-quality assets and stable cash flows. Typically, they are in developed countries and are less exposed to physical risk. We recognise the benefit of matching long-dated cash outflows in our pension liabilities with stable long-dated investments that fund the provision of critical infrastructure, especially in the UK, that aim to contribute to reduced emissions. Securing the future for our policyholders therefore takes a wider meaning than that related purely to their finances.

Asset management

We believe that the best way to optimise these outcomes is to manage all our investments in-house, with a team of experts across origination and trading covering our chosen asset classes and jurisdictions. Risk assessment is a cornerstone of our culture, fostering regular debate across the business and Executive team about evolving risks and opportunities. Climate risk has become a key element of this debate, and we believe this hands-on approach maximises our understanding of climate-related risks and opportunities across the portfolio, and allows a very detailed and specific response, from investment decisions and stewardship to strategic positioning.

Invest continued

Across the investment portfolio, our climate strategy delivers by:

- Decarbonising our investment portfolio
- Supporting change through proactive stewardship
- Enhancing our risk assessment through climate scenario analysis

Decarbonising our investment portfolio

Our targets

Rothsay is committed to transitioning our investment portfolio to net zero greenhouse gas emissions by 2050, aligned with a maximum temperature rise of 1.5°C above pre-industrial levels as outlined in the Paris Agreement.

To drive immediate progress, we have established the following short-term targets:

- a 20% reduction in the carbon intensity of our publicly traded corporate debt sub-portfolio by 2025, vs our year end 2020 baseline. This was established as part of our NZAOA commitments; and
- a 20% reduction in the carbon intensity of our total portfolio by 2025 vs our year end 2020 baseline.

Where carbon intensity is defined as the tCO₂e/USDm revenue.

We are introducing a medium-term target for the 2030 emissions related to our publicly traded corporate debt sub-portfolio. Our goal is for its carbon intensity to have declined by 50% vs the year end 2020 baseline. To avoid the more severe consequences of climate change by keeping global warming to below 1.5°C, the scientific research presented by the IPCC suggests that this steep rate of decarbonisation is necessary. In setting our target we are also aligning with the guidance of the NZAOA.

Transition planning

The pace of decarbonisation in our portfolio varies across asset classes and geographies, reflecting a wide array of challenges. During 2023 we started work on our Net Zero Transition Plan by considering how each sector may decarbonise, and the levers that may influence that outcome. This will inform our long-term planning and intermediate portfolio goals and targets.

Position Statements

In 2021, we published our first Responsible Investment Policy which featured our thermal coal position statement, designed to prevent us from financing new mines or electricity generation plants that predominantly produce or use thermal coal. Where issuers have coal exposure, we actively target those with clear plans to minimise this by the commonly accepted coal exit horizon of 2030 and focus our stewardship on supporting such an outcome. The most recently updated version of the policy includes exclusions for controversial weapons.

These positions limit our exposure to entities with inadequate decarbonisation paths and which therefore do not support our decarbonisation targets. We will continue to position our strategy to ensure we protect our policyholders and manage our long-term sustainability and climate commitments, recognising our Risk Management Framework naturally minimises investment in these areas.

Opportunities

Climate opportunities are typically considered to be investments in new technology which provide solutions for climate change, such as renewables projects and low carbon energy. We monitor our investment in renewables, as well as wider green bonds, with a total of just over £1bn invested across these categories, of which £140m relates to renewables financing.

We have identified investment in renewable energy and other green projects as an area for future growth. Whilst limited opportunities to date have limited our progress we are keen to accelerate the pace of our investment in these projects. This affects our industry as a whole and is why we are engaging collaboratively with our peers under the auspices of the ABI's Investment Delivery Forum to pinpoint obstacles to investment and to recommend structural and regulatory solutions that can unlock the capital that we'd like to put to work.

Invest continued

Our portfolio

Rothsay's investment portfolio can be divided into three main groups:

- **Supranational, Sovereign and Public Finance bonds**
- **Corporate Bonds and Infrastructure Lending**
- **Bonds and Loans Secured by Property**

Supranational, Sovereign and Public Finance bonds

Sovereign Bonds

Our liquidity and cash flow matching strategy calls for large holdings of gilts, and our investment in gilts and UK sovereign guaranteed bonds account for more than 80% of our sovereign exposure, with the US the next largest exposure. Our gilts have the advantage of carrying a relatively low carbon intensity, reflecting the UK's service-based economy and comparatively strong decarbonisation targets. The US is a more carbon intensive economy, though recent policy actions including the Inflation Reduction Act support meaningful investment in low carbon technologies. As a result, the US joins the UK and Australia as the only G20 nations that have 2030 targets aligned with 1.5°C (though wider policy actions are needed by all nations to achieve these targets). We have limited ability to alter our investment approach to these sectors as they support our liquidity and cash flow matching needs, but we have been heavily involved with the NZAOA initiative to promote disclosure and assessment of sovereign emissions. We believe it is important to do so because unless all-encompassing sovereign emissions show steep declines, apparently successful efforts to decarbonise corporate bond portfolios may merely have transferred ownership of highly emitting issuers to potentially less responsible investors.

Public Finance

This encompasses a wide array of high-quality and long-dated investment opportunities spanning sectors such as higher education, US non-profit healthcare, and government-linked investments across infrastructure and local authorities. Many of these investments have relatively low carbon emissions, reducing their transition risk, and many provide critical infrastructure or vital social benefits. These features, alongside their rating stability, mean they represent attractive investments. However, disclosure and reporting practices in these sectors remain in the early stages of development, with a sub-set of issuers collaborating to facilitate broader industry disclosure standards. We are keen to support enhancement to these disclosure practices and focus our approach on engagement with issuers and industry groups to support increased availability of standardised disclosure and the development of climate risk management strategies.

Invest continued

Corporate Bonds and Infrastructure Lending

This sector carries many of our most carbon intensive issuers but is also decarbonising at the fastest pace. This is demonstrated by the cumulative reduction of 25.6% in the carbon intensity of our publicly traded corporate debt sub-portfolio in the last two years, from our baseline of 222 at year end 2020 to 165 at year end 2022. This exceeds the 20% reduction we were targeting by 2025.

The assets in this sub-portfolio are among the most liquid we own which means it is possible for us to divest from those issuers demonstrating the weakest progress in the transition to a low carbon economy. We remain supportive, however, of investing in higher intensity issuers where we have high confidence in steep decarbonisation, and we prioritise these companies within our engagement strategy to support our positioning.

To this end, we slightly increased investment in companies with a higher CI and strong transition paths. This was more than offset, however, by the CI decreases attributable to our investments year on year.

Stewardship of our investments

Stewardship is an important aspect of Rothesay's climate risk management. We recognise that climate and sustainability considerations are rapidly evolving, often at a different pace across industries and jurisdictions. We adopt an engagement first approach, and typically retain investments which carry higher emissions and transition risk where we believe the issuer is incentivised to manage this risk long term. Further information can be found in the Risk Management section of this report and our dedicated Stewardship report.

Property

Our property lending can be segmented into residential mortgages, Real Estate Investment Trusts (REITs), social housing, and commercial real estate. Loans against residential property and social housing can be long dated, while commercial real estate and REIT loans are typically shorter than ten years. Our approach recognises that asset value may be impacted by the physical risk associated with location, as well as transition risk arising from policy actions.

The property sector faces challenges in reducing emissions, given the varying ages and energy efficiency of the existing property stock. Policy actions typically focus on improving energy efficiency, as measured by EPC ratings in the UK, either by incentivising action e.g. the provision of grants, or by establishing minimum future efficiency standards for new builds, or for leasing property. These actions are currently most tangible in our social housing and REITs sectors, where managers are improving efficiency standards and emissions are falling. Policy actions are also a material consideration in the commercial property space. For example, it is a sobering piece of data that less than half of London offices meet the EPC grade C requirement for new leases that comes into force in 2027. We have historically targeted high-quality properties, and this remains a key element of our risk assessment for new investments, as described overleaf.

Existing
target:
20% reduction
by 2025

New
target:
50% reduction
by 2030

² This sub-portfolio is defined in line with NZAOA guidance to members to set a target for emissions reductions for listed corporate debt investments. In this target we have included all investments across the asset classes' unsecured bonds, infrastructure and REITs, where these bonds are public, as denoted by an ISIN. Where we also have private debt investments in these issuers, the value of those investments are aggregated with the public bonds.

Invest continued

Case study:

Climate and commercial property

Our commercial real-estate lending relies on asset selection to screen out high physical risk exposure, and a forward-looking view on evolving best practices in terms of building efficiency to manage risk and reduce the emissions across our CRE portfolio over time.

Transition risk in action:

Transition risk and policy actions can have very material implications for this sector. A recent report from Knight Frank estimated that only 46% of the South-East office space carries an EPC rating of C or better, the minimum requirement by 2027 to let commercial property. This reduces to 20% versus the 2030 requirement of an EPC rating of B or better. They expect that with limited speculative space set for completion before 2025, this supply dynamic coupled with robust demand will mean that competition for best-in-class space will be strong, but supply scarce.

Our investment approach:

Our most recent CRE investment provided debt financing to a new build London office property, carrying an expected (subject to practical completion) EPC rating of B and constructed in line with expected BREEAM rating of "Outstanding" and LEED "v3 Gold" rating.

Engage

At Rothesay, engagement is an essential tool. It helps us prepare for and influence evolving regulations, understand stakeholder priorities, and empower our colleagues to drive positive outcomes.



Engage continued

Engaging with our policyholders

Understanding customer priorities

Rothesay provides defined benefit pensions to individual policyholders through bulk purchase annuities agreed with the trustees of corporate pension schemes (Corporate Trustees) and through back book acquisitions from other insurers. Overall, we are responsible for securing the pensions of over 200 schemes and 825,000 people, predominantly domiciled in the UK.

Corporate Trustees are required by their regulator to consider ESG issues (including climate change) within their investment strategy, reflecting the classification of ESG factors as financially material considerations. The largest pension schemes must also undertake governance, reporting and disclosure in accordance with TCFD recommendations, and therefore they rely on us to provide them with Rothesay's climate and sustainability-related disclosures.

+200

schemes and
825,000 people

Climate and sustainability positioning are material considerations for our customers, and trustees are often keen to ensure their pension liabilities are deployed sustainably, to mitigate the financial risk from climate change while supporting sustainable business practices. We supplement our external disclosures with direct engagement with trustees, often prior to conducting a buy-in or buy-out, and by providing regular updates as requested. Following the publication of our Climate and Sustainability reports each year, we directly engage with a number of consultants responsible for advising Corporate Trustees, as well as responding to surveys on the topics. Through these actions, we have been able to understand Corporate Trustees' priorities and concerns, allowing us to develop more useful disclosures.

We conduct our own brand awareness surveys, alternating annually between the Corporate Trustees of our policyholders and external consultants. These provide an opportunity for some of our key stakeholders to provide feedback on their perception of Rothesay, including our approach to stewardship and management of sustainability-related risks.

Climate-related screening of liability side transactions

Before offering to transact with pension scheme trustees, we consider sustainability criteria, including both the current and former operations of the scheme sponsor. Our overarching view is that people deserve a safe and secure income in retirement and consequently there are only a relatively limited number of situations where sustainability considerations relating to the sponsor itself should prevent us from securing the benefits of former employees of a company. However, in assessing a potential transaction, we will consider:

- i) issues of fairness between different categories of member; and
- ii) where there is a large return of surplus associated with the transaction, the sustainability criteria of the proposed use of proceeds by the sponsor.

Following the publication of our Climate and Sustainability reports each year, we directly engage with a number of consultants responsible for advising Corporate Trustees.

Engage continued

Engaging with our colleagues

Rothestay's culture has been built by employing talented people who take pride in their work and are able to take ownership of what they do. Our people do what it takes to be amongst the best in our industry and we have always trusted our employees to work in the way that lets them achieve that.

Our colleagues are passionate about enhancing our climate and sustainability practices, across all areas of our business. We encourage this through a range of initiatives which empower and motivate them to increase this focus within their daily role. Our employee engagement survey is a key tool to ensure we continue to understand priorities and challenges in our workforce and can adapt our approach accordingly.



Training and performance management

Training is vital to build a core understanding of the challenges climate change presents, and Rothestay's objectives in response to these. It enables our colleagues to consider how it impacts their role, and the difference they can make. We have continued to tailor our training to reflect differing needs.

This year we have initiated a mandatory climate training module for all staff, including contractors, which provides a consistent base understanding of climate change and sustainability initiatives within our workforce. It sets out how Rothestay is positioning to manage our risks and promote a more sustainable future, and how employees can contribute to this outcome.

The mandatory training is complemented by voluntary Lunch and Learn sessions through the year, and team-specific training sessions tailored to help teams understand the key considerations specific to their role and facilitate discussion on actions and responses to further our objectives.

All colleagues have sustainability-linked objectives, ESG is considered during objective setting across the firm, and all annual appraisals include analysis of performance in support of Rothestay's ESG and climate goals.

Leading by example with climate friendly services and benefits

We survey all our operations through a climate lens including the offices we lease, and the services and benefits we offer our employees. Our kitchens have a wide range of glasses, crockery, and metal cutlery so our employees do not need to use disposable cutlery for any meals. We provide free tea and coffee, using sustainable suppliers, and chiller taps offering a choice of still and sparkling water to reduce the need for disposable plastic bottles.

We have offered popular, tax-efficient electric car leasing for several years, allowing our team to reduce their own personal emissions. In addition, we also have our Cycle to Work scheme, providing financial assistance for employees to purchase a bicycle and safety equipment. This allows our staff to enjoy a healthy way to travel to work, while also reducing their carbon footprint.

Rothestay's culture has been built by employing talented people who take pride in their work and are able to take ownership of what they do.

Engage continued

Engaging with peers and policymakers

We believe it is critical to engage with policymakers and the wider industry to debate climate-linked challenges. Changes to policy, regulation and disclosure practices have accelerated and enabled genuine progress in the journey to net zero, and we actively engage across a wide range of initiatives.



Examples of engagements include:

- Working with our regulators and industry bodies such as the ABI to help shape regulation such as solvency reform, and provide feedback on draft climate and sustainability requirements
- Providing input to the UK Government on financing low carbon technology, including their future power generation and nuclear power strategy
- Participation in industry initiatives, including input to the Transition Plan Taskforce with the ABI
- We are broadly represented in the various NZAOA workstreams and co-lead the Sovereign Debt Working Group
- We are an active member of the CFRF and have provided editorial review to several of their publications
- Liaison with the ESG Social Housing Working Group to continue expansion of disclosure by housing associations

Our Partners



ESG Social Housing
Working Group



TPT Transition Plan
Taskforce



Operate

Minimising our impact

While our investment portfolio has the most influence on our journey to net zero, it is important that Rothesay recognises the direct impact from our own operations and does what it can to minimise emissions generated as we carry out our own work. For those emissions we have been unable to reduce, we purchase high-quality offsets, as noted below. We have also undertaken an exercise to measure the emissions across our supply chain, allowing us to assess the materiality of these emissions.



Operate continued

Our direct emissions

Our UK operations

Most of our workforce are based within our London office, a highly heat-efficient building with an EPC grade of B. Since late 2020, all electricity supplied to this office has come from a 100% renewable source as certified by the Carbon Trust, drastically reducing our own operational Scope 2 emissions.

We have also sought opportunities, where possible, to continue to reduce our Scope 3 emissions by implementing secure printing. In addition, our London office operates on a zero-landfill basis, with over half of the waste from the building either recycled or anaerobically digested. The office was recognised by a rating of 5 stars at the Zero Waste Awards, the highest possible score.

Our US operations

Our US operations are a relatively small part of the overall workforce, but as the team has expanded, we have taken the opportunity to relocate into a recently renovated class A property, targeting a similar heat efficiency to our UK Headquarters.

Climate and cleaning

Our property management team has demonstrated that the pursuit of climate and sustainability objectives successfully enhances sustainability across many aspects of supplier choice and facility management.

Initiatives include:

- Greywater systems to reuse waste sink and washing water for WC flushing and hose point cleaning
- Chemical-free cleaning
- Closed-loop compost for plants on our roof terrace

Offsetting our emissions

Our strategy

Our offset strategy is designed to prioritise emission reduction measures with offset mechanisms utilised to compensate for residual emissions that cannot be eliminated immediately.

We focus on the highest quality carbon offsets using criteria that includes factors such as Permanence, Additionality, Verifiability and Exclusivity, whilst ensuring the avoidance of social and environmental harms. Traditional carbon removal credits via afforestation have historically been our favoured option for offsetting our emissions (details of 2021 offsets below) but we recognise the limitations of these with regards to Permanence and Verifiability and have hence looked to improve upon this for our future emissions.

Our partnership with Climeworks

Climeworks' Direct Air Capture carbon credits represent such an improvement. They offer some of the highest quality offsets currently available given, amongst other things, their permanence (+10,000 years) and the fact CO₂ removed is easily quantified. Their direct air capture technology, which works solely off renewable energy, extracts CO₂ from the ambient air which is then permanently stored through rock mineralisation deep underground.

We feel it is important to support nascent industries like this, which need to rapidly scale to meet the IPCC projections for required carbon removal quantities in net zero scenarios. Our partnership with Climeworks will offset all our expected emissions from our own operations for the rest of this decade from 2025.

Operate continued

Offsetting 2021 operational emissions

Rothsay has again worked with Climate Impact Partners (formally Natural Capital Partners) to assess our 2021 operational emissions. Against this (and allowing for a substantial buffer) we have purchased offsets from the following projects, all of which were verified by independent third parties. Further information on the United Nations Sustainable Development Goals (SDGs) to which they contribute is also provided below:



Mississippi Valley Reforestation, USA

Aims to reforest 1 million acres in an area which was once covered by 22 million acres of dense forest. Reforestation also helps protect against hurricane and flood damage, controlling soil and nutrient run-off whilst creating jobs.



Karst Mountain Afforestation, China

This project is planting trees on more than 39,000 hectares of barren land, restoring the local degraded grassland ecosystem.



Community Reforestation, Ghana

The project is restoring degraded forest reserves in Ghana with teak, indigenous trees and natural forest in riparian buffer zones, following the principles and criteria of the Forest Stewardship Council (FSC). The project works closely with local farmers.



Section

3

Scenario analysis

➤ **In this section**

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- Stress testing our property portfolio

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Stress testing our corporate portfolio

Scenario analysis

We continue to develop our approach to climate scenario analysis to explore, understand and model how both physical risks and the transition to a low carbon economy could affect the ratings and value of our asset portfolio over time.



Stress testing our corporate portfolio continued

Scenarios

We have selected four scenarios as the foundation for our climate scenario analysis. Each of the scenarios, described in further detail on the next page, represents a different possible climate path over a 30-year horizon, encompassing the global energy system and economy, and implying various levels of physical and transition risks. Three of the scenarios envisage a net-zero future but differ in the speed and approach with which it is reached. One scenario envisages unchecked emissions, leaving businesses to continue their current practices and it is only in this case that the more severe physical consequences of climate change arise. The goal of this analysis is to identify vulnerabilities and perhaps some opportunities under scenarios which span the range of possibilities currently most prominent in the work of the Intergovernmental Panel on Climate Change (IPCC). We should note that the IPCC publishes its work only after much debate and negotiation and some practitioners argue that more severe scenarios are possible.

The United Nations Principles for Responsible Investment (UN PRI) Forecast Policy Response scenario models the impact of forecasted policies on the real economy to 2050, based on detailed effects of all emitting sectors. The scenario anticipates progressively stronger policies will be adopted in line with the so-called 2025 Paris Ratchet to limit warming to 1.8°C by 2100. Changes will be driven by corporate, civil and investor pressure coming, at least in part, due to changing weather patterns, and technology development. In contrast to NGFS scenarios described below, the FPR does not rely significantly on carbon taxes to reach its objectives. Rather, additional policies within the energy and transport sectors (e.g. bans on internal combustion engines) are expected to help support decarbonisation.

The Network for Greening the Financial System (NGFS) has developed a range of climate scenarios which are broadly similar to the scenarios developed by the IPCC. The scenarios cover an array of decarbonisation pathways, adapted to be directly relevant to the financial sector, with climate predictions further translated into impacts on macroeconomic variables, government policy (specifically a carbon tax) and certain asset prices. This in turn allows for modelling of the potential effects on company revenues and expenses.



Stress testing our corporate portfolio continued

Scenario	Forecast Policy Response (UN PRI/IEA)	Net Zero 2050 (NGFS)	Delayed Transition (NGFS)	Hot House World (NGFS)
Transition risk	Medium	Medium	High	Low
Physical risk	Low	Low	Medium	High
	Represents a high conviction scenario of likely policy developments to reflect “real world” climate policies. Policies implemented by 2025 Paris Ratchet.	Transition to a net zero emissions economy starts immediately, with stringent policies and innovation limiting global warming to below 1.5°C.	Implementation of policies to drive transition implemented after 2030, resulting in a more sudden and disorderly trajectory.	No new climate policies introduced beyond those already implemented. Without action, greenhouse gas emissions continue to rise.
Temperature by end of scenario	1.8°C	Below 1.5°C	Below 2°C	Over 3°C
Use case	Explores performance under current forecasts. Useful contrast.	Potential outcomes of achieving 1.5°C target.	Greatest stress for entities with high emissions and transition risk.	Greatest stress for entities most exposed to physical risk.

Modelling the impact of climate scenarios

Given the complexity of constructing plausible climate models, we utilise external expertise to support our capability in this area. After conducting a provider review, we selected the offering of Planetrics³ due to their transparent modelling approach and the ability to collaborate with them on model enhancements to support our needs.

Their model assesses our corporate bond portfolio, company by company, against the scenarios described above by translating changes in the energy system, economy, and physical risk exposure first into changes in the trajectory of revenues and expenses and then into the corresponding changes that would be expected to be observed in stock price and credit rating. The fraction of our total portfolio that was in scope for modelling by Planetrics was 38% or £18.8bn in market value.

Planetrics modelling considers a range of physical and transition risks, which are disaggregated into impact channels:



Key

Low Impact Medium Impact High Impact

Stress testing our corporate portfolio continued

- (i) **Transition risks:** This includes the impacts of rising carbon costs and changes in demand in responses to changes in the energy system.
- (ii) **Physical risks:** This includes both the acute impact from extreme weather events, as well as chronic damages to land and labour productivity. It is worth noting, however, that the model concentrates on the direct effect on the company alone and does not consider the feedback effects of secondary phenomena such as supply and distribution chain disruptions.

The impacts on revenue, costs and therefore earnings that result from the economic shocks are divided into eight channels, providing a way to interpret the results of scenario analysis:

Transition impacts:

- 1. Demand destruction –** Contractions in demand for emissions intensive products and services, such as oil, coal, and gas, as consumers switch to low carbon alternatives in response to changes in climate policy.
- 2. Demand creation –** Increase in demand for low carbon products and services, for example EVs, batteries, biofuels, and green minerals, as consumers shift away from emissions intensive products and services in response to changes in climate policy.
- 3. Direct carbon costs –** The direct cost burden companies face due to increases in the cost of carbon. These impacts are quantified for each issuer using Scope 1 and 2 emissions data, and scenario specific carbon prices.
- 4. Abatement –** The ability of a company to reduce emissions to relieve the cost burden of increases in carbon pricing, reducing its exposure to direct carbon costs.

Physical impacts:

- 1. Chronic physical impacts –** including changes in land and labour productivity – resulting from long-term changes in climate patterns, such as rising average temperatures. These impacts are modelled as direct shocks to the productive capacity of various sectors in a country's economy.
- 2. Acute physical impacts –** Event-driven hazards, such as extreme flooding or tropical cyclones, and the changes in the severity and frequency of such events.
- 3. Adaption –** The ability of a company or issuer to reduce exposure to physical risk, such as by burying electricity network cables underground in areas with high wildfire risk.

Combined impacts:

- 1. Market impacts –** The ability of a company to pass rising costs from physical and transition risks through to customers, and any changes in market share in response to the relative competitiveness of a company in the markets it operates in.

Finally, the projected change to a given issuer's income statement and balance sheet is then used to estimate changes in credit rating and probability of default. We choose to conduct our own translation of credit rating shocks into credit spread, yield and price shocks to remain consistent with our internal approach.

^{3/4} This report has been created by Rothesay drawing on selected data provided by Planetrics, a McKinsey & Company solution (which does not include investment advice). This report represents Rothesay's own selection of applicable scenarios selection and/or its own portfolio data. Rothesay is solely responsible for, and this report represents, such scenario selection, all assumptions underlying such selection, and all resulting findings, and conclusions and decisions. McKinsey & Company is not an investment adviser and has not provided any investment advice.

Stress testing our corporate portfolio continued

- The outcome under our base scenario – the Forecast Policy Response – anticipates around 13% of modelled bonds will be downgraded by 2050, with around 8.5% of modelled bonds downgraded to sub-investment grade. However, under both the Delayed Transition and Net Zero scenarios, around 20% of modelled bonds will be downgraded by the end of the 30-year period of which about 40% will be downgraded to sub-investment grade.
- Across all three transition scenarios, the greatest impact is to Utilities which reflects both the sector's inherent sensitivity as well as our large exposure to this sector. It is followed by other carbon intensive sectors such as Energy, Automotives, Transportation, and Real Estate. This aligns with our internal assessment of the sectors that will be significantly affected by transition risk.
- Whilst the hot house world scenario seems to suggest a smaller impact to our portfolio, a model drawback is that it emphasises “business as usual”. This does not fully consider the multiple negative feedback loops from global climate events that are likely to cause severe problems to supply chains, distribution, and the customer base across sectors. Finally, because the endpoint of the scenario is only in 2050, some of the most damaging consequences of climate change will not have yet materialised.
- To put these downgrades into context we have compared the evolution of the rating makeup by market value of this £18.8bn sub-portfolio in each scenario with that generated by repeated application of a standard S&P transition matrix (adjusted to reflect our portfolio make up). We see that the transition scenarios produce additional downgrades comparable to several years of otherwise expected transition but no more.
- We have also compared this to the estimated transition during a 1 in 200-year credit stress within our internal capital model. This capital stress is large in comparison to the additional stress that the transition scenarios cause.
- In summary, the rating impact from all scenarios remains below rating transition modelled within our capital model, which implies that based on our current modelling capabilities, our capital reserves remain adequate to manage climate impacts. This is in line with the outcomes from the climate stress testing conducted by the Bank of England.

Limitations, gap analysis and resolution

Climate scenario analysis remains a relatively immature area which continues to evolve and carries some limitations, including data gaps that restrict model coverage.

In addition, the model itself employs a significant range of assumptions about the behaviour of companies, consumers, and governments over 30 years, as well as technological progress in areas such as carbon capture, utilisation, and storage (CCUS) and the costs of decarbonisation technologies. Continued refinement of assumptions, improved access to and more uniform data, as well as updates to certain assumptions such as uptake of clean technology, the future energy mix, transition costs, developments in climate science and physical risk modelling, means outputs are not static and will continue to evolve over time, further improving the sophistication of scenario analysis modelling. As part of this, we have ongoing collaborative discussions with Planetrics to support continuous improvements of the model.

Findings are also specific to this scenario analysis and are not meant to represent statements of all potential outcomes.

Stress testing our corporate portfolio continued

Key findings of this analysis

Transition risk:

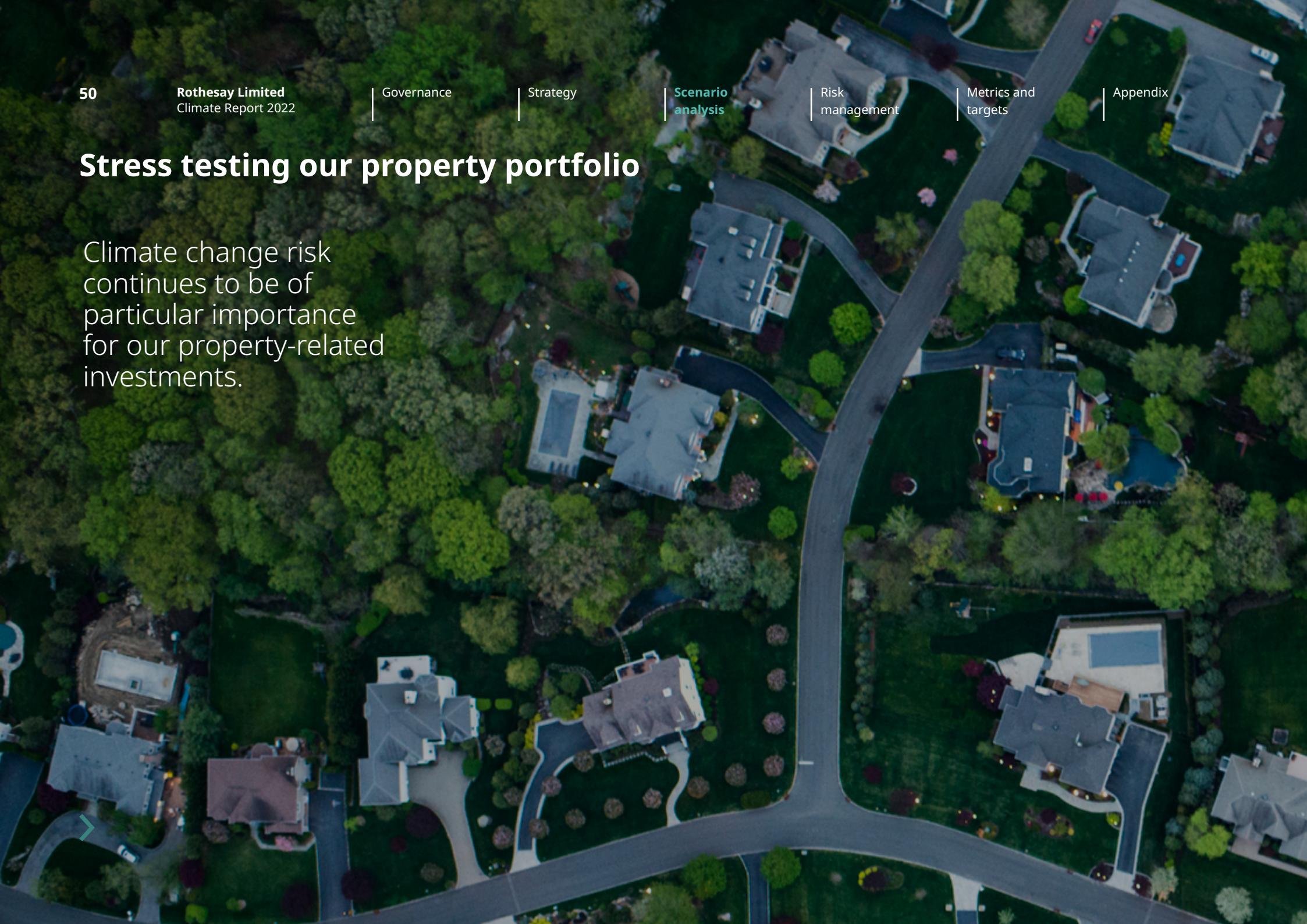
- Across scenarios, Delayed Transition has the greatest cumulative rating impact, along with the most concentrated impact, given the rapid policy response post-2030.
- Utilities carry the greatest impact in terms of the market value experience downgrades, but also have the most potential for upgrades.
- Energy companies also have downside but no prospect of upside.
- If we were to adjust the model inputs to allow for the current stated targets of the companies to come true, this would improve the rating outcomes materially, but we would not consider it to constitute a sufficiently severe stress.
- Exposure to the most impacted sectors remains manageable across the portfolio.
- While the portfolio level impact is manageable in the timeframe over which it occurs, we recognise certain issuers and sectors carry more material downside risk under some scenarios. We will consider the appropriate response for those sectors, including within our ORSA, within our wider risk management and investment strategy.

Physical risk:

- The geographic breakdown of our portfolio demonstrates limited direct exposure to locations most impacted by climate change.
- Nevertheless, we believe our current results underestimate the secondary or indirect effects of climate change in the hot house world. For example, results do not capture increased costs to companies from supply chain disruptions or more extreme physical risk outcomes arising from the breach of potential climate tipping points.
- Our property-linked portfolio sits outside the analysis performed here for corporate bonds but its most material exposure is to flood risk and our findings are summarised in the next section.
- Screening for the array of perils across geographies and all investments including corporates remains challenging, but we are seeking to enhance our capabilities with discussions underway with potential data vendors.

Stress testing our property portfolio

Climate change risk continues to be of particular importance for our property-related investments.



Stress testing our property portfolio continued

Physical risk modelling

This asset class is evidently exposed to physical risks as a function of the location of each building. The location of the properties underlying Rothsay's loans in the UK means that flood risk is the most material risk to examine.

The flood assessment on our UK property portfolio is current as of 2021 and was outlined in detail in last year's report. In that analysis we found that across our UK portfolio the number of properties which move into the highest flood risk categories by 2055 in an RCP6.0 scenario is small. For example, the portion of the houses to which we are exposed via lifetime mortgages deemed to be at very high or extreme risk grows from 3.5% to 4.4% by the end of the scenario. This does not pose a significant financial risk. However, to support ongoing management, over the last year we have introduced a tool that can be used to refine our underwriting. As part of the underwriting process for Lifetime Mortgages, we have replaced a simple check based upon the Environment Agency's current flood map with more granular data from Ambientia (recently renamed Royal Haskoning), which differentiates down to the scale of individual houses. This better supports our risk management approach in protecting us from new lending in any area which has a rising risk of flooding.

For our residential mortgage loans in the Netherlands, our origination partner provides us with a monthly report regarding flood risk impact in terms of expected loss on our portfolio. As of the end of 2022, our annual expected loss was <0.0004% of mortgage balance.

Transition risk modelling

We have continued to use the Bank of England (BoE) scenarios as published in their 2021 CBES as part of our ongoing review to assess transition risk impacts on our Lifetime Mortgage portfolio. This CBES scenario requires a property to be a minimum C rating before a house may be offered for sale. We continued using the following detailed scenarios:

1. What is the cost for the property to transition to its highest potential Energy Performance Certificate (EPC rating)? For this, the BoE published a table indicating the costs that a property is likely to incur to be upgraded.
2. Households incur an additional £5,000 to install a heat pump. This is to be applied to the costing table and to 65% of properties in each EPC band.
3. Households receive a subsidy covering two-thirds of their retrofitting costs, plus the heat pump cost, up to a maximum of £5,000.

Like the prior year, outputs indicate that scenario 2 has the greatest impact on our portfolio because it adds a higher cost per property, regardless of the current EPC rating and because we applied the cost to the 65% of properties in each EPC banding with the lowest value. This stress to property values fed through to a reduction in the mortgage portfolio value of ~1% which is the same as the previous year. Such a loss is significantly smaller than the capital already required to be held by Rothsay against declining property values.

The exercise highlighted, as with the prior year, the continued lack of known EPC data. We used Landmark's data for EPCs which gave us both the known EPC rating for the property if one was registered and a modelled rating if not. To help improve the reliability of this data we proposed the possibility of offering free EPCs to customers and we are pleased that this is now in place for all new remortgage customers.

EPCs are only required for rented properties or properties which are subject to sale, and therefore many Lifetime Mortgage transactions are not required to have one as they are classed as a remortgage. However, the customer receives a copy of the EPC so they will be aware of the energy efficiency of their property. The EPC provides an indication of improvements that can be made so we hope that this will encourage borrowers to take action to increase the energy efficiency of their homes. More widespread use of EPCs will also improve our overall data accuracy, as an alternative to using the postcode model to estimate the state of properties.

As outlined in our corporate scenario analysis, ongoing refinement of assumptions is needed to make outputs more decision-useful. As modelling matures, we will take steps to improve outputs, for example, reviewing future technology cost assumptions to consider whether they are appropriate.

Section

4

Risk management

> In this section

Our risk management approach
Carbon intensive sectors

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Our risk management approach

Our climate risk management approach is fully embedded within our Risk Management Framework as part of a holistic approach for the identification, measurement, and monitoring of risks.

To support this, Rothesay has an ESG team, including dedicated ESG analysts, to support the analysis of climate issues and facilitate the embedding of climate-related considerations across the business.

Rothesay's approach is set out in our Risk Management Framework and our Responsible Investment Policy. It requires the application of clear risk management processes at the point of asset purchase and throughout the duration of all our investments. This includes, where applicable, any exclusions as outlined in the Strategy section of this document. We continue to develop, and quantify where possible, our assessment of these climate risks.

Our process for the identification, assessment and management of risks relies on a broad range of sustainability factors. From a climate perspective, our framework considers physical, transition and liability climate risks. Climate risk factors can materialise through any of our key risks and so climate is seen as a cross-cutting risk, though the channel through which its effect is greatest is credit risk. We also outline our management of sustainability risks within our ORSA. Two of our Key Risk Indicators (KRIs) relate to the carbon intensity of our portfolio, including managing towards a 20% reduction in the carbon intensity of our publicly traded corporate debt by 2025. This information is included within our Management Information which is regularly shared with management, Executive Risk Committee and the Board.

We manage our overall portfolio exposure to climate and broader sustainability risks by utilising both qualitative and quantitative metrics. These include quantitative indices (e.g. the carbon intensity of the portfolio) which we monitor at portfolio, sector and individual issuer level. We also manage our climate risk exposure at the issuer level by assessing ongoing developments in their climate risk management strategy and performance against target metrics, including carbon intensity and emissions reductions. This aligns the risk management of our investments for the benefit of our policyholders, with real-world decarbonisation. These will be discussed in further detail in the Metrics and Targets section of this report.

We take a materiality-based approach to the management and prioritisation of climate-related risks. Heightened scrutiny, based on clear materiality thresholds, is triggered as the associated climate risk or opportunity increases to ensure focus is on those entities with the greatest likelihood of having a significant impact on our exposure to risk. From a climate perspective, our focus is on financing the transition to net zero by preferentially investing in entities with clear transition plans and which are instrumental in effecting real-world emission reductions. Where climate issues are current and deemed significantly material, issuers may be added to the Credit Watchlist, as per the existing risk framework.



Our risk management approach continued

We continue to refine our climate scoring approach to identify and assess assets with elevated exposure to climate risk, for which more detailed analysis is undertaken. A score is allocated to all issuers within the portfolio based on the materiality of climate impacts. This climate score supports our assessment of an issuer's exposure to transitional and physical climate impacts. On a scale of 0 – 5, those issuers screening at 3 or above are deemed to have material climate sensitivity. This is based on a combination of:

- a sector score reflecting the challenges climate poses in terms of long-term demand and available abatement technology; and
- an issuer transition score which reflects effectiveness of the issuer's response and management of transition risk.

The use of scores provides a quick and easy way to understand climate exposure within our existing risk framework and is updated as the targets and/or performance of an issuer evolves. Changes to scores and percentage of market value (MV) of material climate issuers in our portfolio are regularly reported in management information shared with the Executive and Board Risk Committees. Issuers with high climate scores are natural candidates to be included in our programme of engagement.

Our risk management strategy for climate includes consideration of duration and liquidity of positions. If an issuer is running material climate risk but not to the extent that we wish to immediately exclude it, we may opt for short-dated (typically <5y) maturities or the most liquid securities. This helps us to ensure we are able to appropriately respond as longer-term climate-related impacts crystallise, or if issuers do not align with our ongoing expectations.

We record our money market funds alignment with The Sustainable Finance Disclosure Regulation (SFDR). In 2022, the majority of our funds are Article 8 Aligned.

Where Rothsay funds the origination of mortgages in the UK and the Netherlands, our lending criteria include a specification of the type of properties that are acceptable including factors such as construction, location, and environmental perils such as flood risk.

Where an asset needs to be rated internally, any climate risk that is material to the credit risk arising during the life of the investment is expected to be captured during the assessment.

We have a variety of external bodies whose views, publications and rules we take into account in relation to we as a financial service company should respond to climate change. We have formalised our ESG horizon scanning process, which has a large focus on climate elements through the creation of a specific EWG sub-group, responsible for proactively identifying, evaluating, and determining the necessary next steps, where required, to align with ESG-related mandatory requirements and best practice.

Physical risk considerations



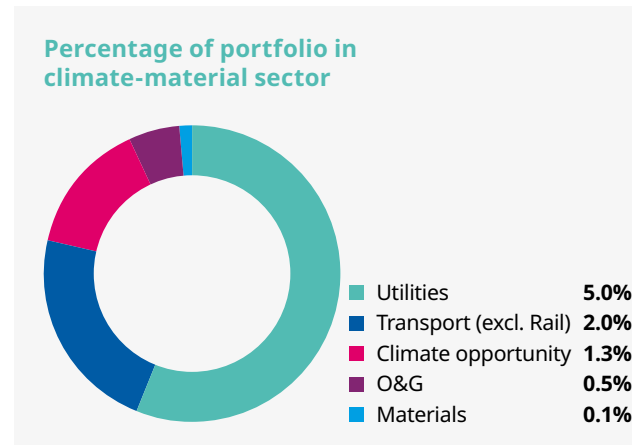
As previously noted, while we accept investments with transition risk, where this is being effectively managed, we seek to avoid material physical risk. This is most material for investments tied to locations with elevated exposure to physical risks such as flooding or wildfire, including corporates with operations concentrated in susceptible regions such as our utility and non-profit healthcare issuers based in California. Screening for the array of perils across geographies and all investments is a challenge, but we are seeking to enhance our capabilities with discussions underway with potential data vendors.

Carbon intensive sectors

Climate risks manifest in several ways. It may be that a company engaged in activity that produces high emissions will face policy risk. Or perhaps a company’s supply chain could be threatened if, for example, a raw material’s supply was restricted by a flood or a drought.

To identify and monitor these sectors, we undertake an annual review of our sector exposure which considers concentration of emissions, industry guidance and analyst views. We then conduct a mapping exercise of our portfolio against industry codes to classify each asset. GICS codes are prioritised (see below) but NACE codes and where appropriate analyst judgement (for example, where no code is available due to it being a private asset, but underlying asset activity is known) are also used when needed.

9% (+1% YoY) of Rothsay’s portfolio at YE22 was invested in sectors that we currently deem the most material from a carbon intensity perspective, which include transport, materials, oil and gas, and utilities. Of these, our investments are predominantly deployed in the utilities sector to support the transition of this vital industry necessary for reaching our broader climate goals.



This table clarifies our definition of the activities falling into our defined sectors.

Sector	GICS Industry	
Materials	Aluminium	Gold
	Building Products	Precious Metals and Minerals
	Construction Materials	Silver
	Copper	Steel
	Diversified Metals and Mining	
O&G	Coal and Consumable Fuels	Oil and Gas Exploration and Production
	Integrated Oil and Gas	Oil and Gas Refining and Marketing
	Oil and Gas Drilling	Oil and Gas Storage and Transportation
	Oil and Gas Equipment and Services	
Transport	Air Freight and Logistics	Auto Parts and Equipment
	Airlines	Automobile Manufacturers
	Airport Services	Highways and Railtracks
	Marine	Motorcycle Manufacturers
	Marine Ports and Services	Tyres and Rubber
		Trucking
Utilities	Electric Utilities	Multi-Utilities
	Gas Utilities	Renewable Electricity
	Independent Power Producers and Energy Traders	

Climate opportunities

We hold 1.9% of investments classified as climate opportunities, which includes renewables and ICMA aligned, verified green bonds.

Our internal climate scorecard considers the specific activities and exposure of entities operating in these sectors to determine whether additional monitoring and scoring is required. This creates a Rothesay-specific view of the most material climate sectors within our portfolio. Where an entity has most of their activity taking place in one of these sectors, they are subject to additional analysis and allocated a “climate material” score on our climate scorecard.

In 2022 we introduced a “climate opportunity” score of 0. This is allocated to investments which are classified as specifically financing green opportunities, such as renewable energy investments. In addition, we monitor our investments in verified green bonds.

Case study:

Green Bond Framework

Green bonds have an important part to play in encouraging investment in projects with strong environmental benefits.

However, it is important that the marketing of such bonds as ‘green’ is appropriate to prevent greenwashing. As part of our internal ESG assessment of deals for green bonds, we review bond documentation to assess their alignment with industry best practice. In particular we utilise the International Capital Market Association (ICMA)’s Green Bond Principles (GBP). We only recognise an investment as a green bond where it satisfies this standard and receives external verification.

The majority of marketed green bonds we encounter align fully with these criteria. However, we have had an example where an entity was not able to demonstrate alignment and this resulted in us not proceeding with the transaction.

We monitor our investments in verified green bonds within our Executive reporting. At YE22 we held £479m of verified green bonds.



Risk management & engagement

Geographic/asset class variations

Rothsay's investment portfolio is focused on highly rated assets in the UK, US, EU, and Australia. While the EU and UK are generally thought to have made the most progress in reducing emissions this does not mean that there are no investments to be made in the US and Australia that can contribute to the transition. On the contrary, because there is more decarbonisation to be done there, we assess numerous investment opportunities. This increases the importance of peer analysis to understand leaders and laggards not just within sectors globally, but also within operating regions.

The specific purpose associated with a project finance asset has the advantage of admitting a narrow assessment of its climate credentials, but projects can be particularly vulnerable to transition risk as their viability is closely influenced by the costs of future financing rounds. Aspects of climate change, such as policy risk, may impact the standard assumptions of stable revenue and cost base especially for projects in climate intensive sectors or regions. Therefore, for this asset class our assessment puts additional importance on evidence that the project has priced in potential decarbonisation costs and has feasible, credible transition plans to indicate how they align with our climate commitments.

Engagement and escalation

Engagement with issuers to encourage more sustainable practices is an important aspect of our approach to climate risk management. Engagement ensures that we maintain an appropriate understanding of risks to which our borrowers are exposed and allows us to encourage greater ambition in disclosures and climate risk management. We saw an increase in face-to-face engagement opportunities due to the return of conferences post COVID, which allowed for broader, more detailed discussions with issuers whose securities constitute our largest holdings.

As we do not use external asset managers, all our engagement is coordinated by analysts in the ESG team and conducted in collaboration with members of our Credit Risk and Asset Management teams. Our bilateral engagement approach is predominantly focused on specific, direct engagement with the most material corporate issuers within our portfolio. We have a target to engage with at least 20 of our most emissions intensive companies each year within our corporate bond sub-portfolio, along with our most material suppliers. This is a requirement of all NZAOA signatories. Our requests for engagement across all sustainability-related topics, including climate, received a response rate of 82%, most of which addressed our concerns or at the very least allowed us to revise or validate the opinions reflected in our internal climate scoring.

Our engagement strategy seeks to exert influence through direct communication to improve disclosures and set more ambitious science-based targets. This enhances our ability to distinguish leaders from laggards, and position accordingly. The outcome supports our ability to continuously improve our risk management, increases our confidence that the portfolio will decarbonise in line with targets, and helps us to direct financing to those companies where emissions reductions will be most vital.

In February 2023 we were pleased to be accepted as a signatory to the Financial Reporting Council's UK Stewardship Code 2020 ("the Code"). The Code sets high standards of stewardship for organisations investing money on behalf of UK savers and pensioners. To become a signatory, you must be able to demonstrate stewardship over the previous 12 months through the responsible allocation, management and oversight of capital which creates long-term value for beneficiaries and leads to sustainable benefits for the economy, the environment and society. For more detail on our broader Stewardship strategy please refer to our Stewardship Report.



Engagement

As part of our risk management framework we regularly engage with issuers within our portfolio on a wide range of topics. In addition to these BAU engagements, during 2022 we engaged with 36 companies for ESG specific reasons. 75% of these included at least one climate focused topic. We selected the entities for climate engagement based upon a combination of high emissions, targets for reducing them that have an insufficiently steep trajectory, and slower decarbonisation trends. These entities accounted for 66% of our emissions across the corporate portfolio. Engagements had two objectives:

- a) to understand their current position, key challenges, and climate plans, to validate our internal climate score; and
- b) to convey expectations for better disclosures and more ambitious, science-based, targets.

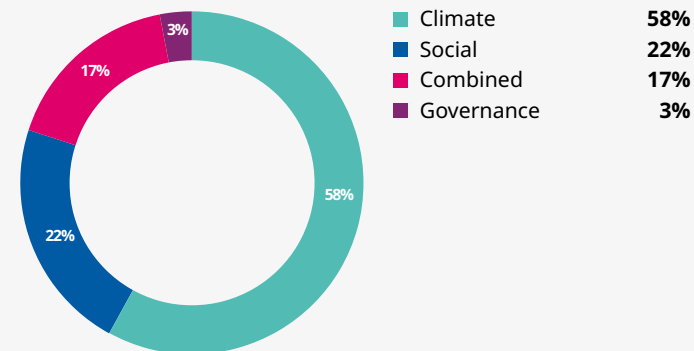
We recognise that as debt investors we have less direct influence than shareholders, but believe these engagements both improve our understanding of climate risk for key investments, and contribute towards positive change. We monitor evolving progress with climate targets at the issuer level and see improvement each year. The liquidity of our corporate bond portfolio allows for us to reduce our

holdings where an entity's progress remains too slow, recognising the challenges and opportunities they face, and considering their responses to our engagement.

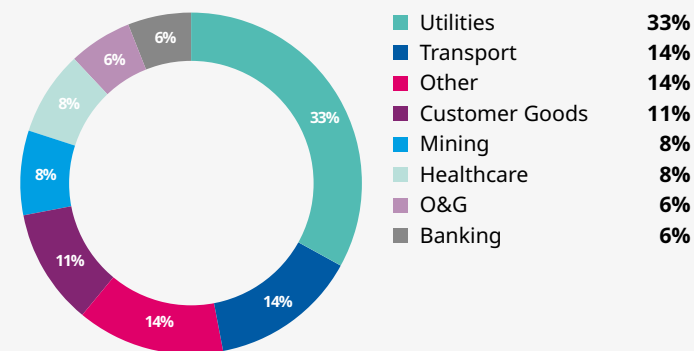
Our engagement strategy includes collaborative engagement through formal or informal industry groups where we determine there is relevance to our portfolio and that anti-trust concerns are absent. We are keen to join groups whose goal is to influence and assist sectors that are not yet mature in their sustainability reporting approaches (such as the Social Housing Sustainability Standard) and could benefit from combined industry experience to support better adoption.

Our participation in industry groups such as the Association of British Insurers, the PRI, the NZAOA and the Climate Financial Risk Forum allows us to remain at the forefront of new policy and disclosure standards. We have made significant contributions to several NZAOA working groups, especially the one devoted to Sovereign Debt which we co-lead. We also work directly with our regulators and relevant government departments on key policy developments, including most recently on Solvency II reform and avenues it may open for productive investment.

ESG theme of engagement (%)



Engagement by sector (%)



Engagement continued

Case study:

Healthcare engagement

During everyday conversations with issuers within the US Healthcare sector, we identified that whilst there was increasing appetite for discussion on sustainability issues with many entities, there was uncertainty about what expectations financial firms had for issuers.

We have therefore organised multiple bilateral conversations with entities who did not provide detailed reporting on sustainability efforts within their disclosure. As part of this, we explained our interest in this area and provided some examples of potential best practice for them to consider. It is rare to be able to provoke an immediate response so we were pleased to see that one of these entities recently made sustainability disclosures that addressed the themes we suggested.



Section

5

Metrics and targets

> In this section

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- Our operational metrics

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Our portfolio metrics



Rothesay is committed to transitioning our investment portfolio to net zero greenhouse gas emissions by 2050, aligned with a maximum temperature rise of 1.5°C above pre-industrial levels as outlined in the Paris Agreement.



Our targets

To track our progress on transitioning our investment portfolio to net zero, we have a number of additional targets in place:

Target	Base year value (2020 unless stated otherwise)	2022 value	Change vs base year (%)
20% reduction in the carbon intensity of our total portfolio by 2025	211 ⁵	183	-13%
20% reduction in the carbon intensity of our publicly listed corporate debt sub-portfolio	222 ⁶	165	-26%
1.5°C portfolio temperature alignment	2.7°C (2021)	2.6°C	N/A

In the following assessments, in addition to publishing the numbers as completely and transparently as possible, we try to explain drawbacks and unintuitive features of the metrics we use, allowing the reader to better gauge how much importance to attach to each. In particular, we note that revenue-based measures can flatter results in inflationary periods. Further information on scope and methodology of our climate data can be found in Appendix page 79 to 82 of this report.

⁵ These numbers were rebased in our 2021 ESG report due to data adjustments. Details can be found in our 2021 ESG Report.

⁶ These numbers were rebased in our 2021 ESG report.

Our portfolio metrics_{continued}

Expanding our climate metrics

Carbon Intensity:

Last year we undertook an exercise to measure carbon intensity across as much of the portfolio as possible, including all issuers in high emissions sectors. Our portfolio coverage has increased further this year, from 90% at year-end 2021, to 93% this year. While a revenue-based measure of carbon intensity allows for comparisons among the broadest range of issuers, it has the drawback, in inflationary times, of flattering the steepness of emissions declines as revenue increases become disconnected from production increases. We actively monitor the impact of investment activity decisions and issuer actions on CI reductions, and with an eye on our 2025 targets, we have developed weekly internal reporting to follow the evolution of the Carbon Intensity as the portfolio's composition varies, whether due to trading or to changes in market levels for FX and interest rates.

Financed emissions:

Tracking the share of issuer emissions for which Rothesay can be deemed responsible by virtue of the portion of their balance sheet we finance is at first sight more useful. For the financed emissions of a growing business like ours, however, one needs to try to separate the effects of issuer activity from that of additional assets. The obvious way to do that is to track financed emissions per unit invested (often called Carbon Footprint), though we note that this also fails to provide a pure measure of decarbonisation, given the market value denominator is affected by wider factors such as interest rates and currency movements. We also lend to several issuers for whom it is easy to obtain revenues but not possible to find the size of the full balance sheet and so lower coverage is a shortcoming.

This year we are adding a measure of annual issuer-driven carbon intensity reductions across our corporate portfolio, allowing us to track whether we are positioning in companies that are leading the way on emissions reductions. We are also reporting our exposure to high intensity issuers and climate opportunities. We continue to monitor portfolio temperature alignment, albeit on a small subset of the portfolio for which data is available, and we repeat the caveat concerning the subjectivity involved in the carbon budget allocations that underpin the metric. Finally, we disclose a PCAF data quality score.

Our portfolio metrics continued

With climate change firmly embedded into our Risk Management Framework, climate data is of increased importance as we look to monitor our exposure to climate risks and opportunities.



Aggregated Carbon Intensity for the Rothsay investment portfolio

Rothsay reports the Carbon Intensity of our investment portfolio on a revenue basis, covering Scope 1 and Scope 2 emissions. These are linked most directly to the burning of fossil fuels by or on behalf of the constituent issuing entities. For Rothsay these make up the bulk of our Scope 3 emissions and we analyse them independently from the rest of the emissions with which the firm is associated.

Scope 1 and 2 emissions vary with production and decarbonisation and so forth but do not proliferate in the way reported Scope 3 emissions sometimes do as an issuer decides to expand the scope of their disclosure relating to their supply chain, as Rothsay has done in this report. Scope 3 emissions suffer from additional problems such as double counting, inconsistency of measurement and availability of data. For these reasons we do not currently attempt to include Scope 3 emissions in our aggregate portfolio metrics.

Nevertheless, some issuers can be more appropriately analysed if you think about certain components of their Scope 3 emissions, particularly for sectors such as Oil and Gas where following Scope 1 and 2 emissions alone would paint an incomplete picture of the climate risk associated with the company. In such cases, we take into account Scope 3 emissions when conducting our risk analysis.

Data sources and availability

With climate change firmly embedded into our Risk Management Framework, climate data is of increased importance as we look to monitor our exposure to climate risks and opportunities. When conducting active portfolio management, the need for accurate and up-to-date data is imperative when making buy/sell decisions.

In 2022 we conducted a thorough review of the climate data vendor market to ensure that we were partnering with providers who aligned with our ever-expanding requirements. As a result of this process, we have used climate data from two new third-party data sources for this year's report: Bloomberg and MSCI. In addition, we have continued to use data from other providers including CDP and Planetrics.

The appendix of this report outlines the scope and methodology for our portfolio metrics, including details of our carbon intensity estimates.



Our portfolio metrics continued

For our portfolio, as constituted at year end 2022, the **average Carbon Intensity was 183 tCO₂e/m USD revenue**, a reduction of 7% from our portfolio CI at year end 2021. Note that due to misalignment between the publishing of emissions data and our reporting dates, this disclosure is based on data reported by companies in 2022, which is related to their 2021 financial year data.

Data coverage and quality

As mentioned earlier in the Risk Management section, one of the key objectives of our engagement approach is the drive for increased and improved climate disclosure from our investees. As such, we are happy to have seen a 3% improvement in our overall portfolio coverage from last year, with a particular improvement from our Sub-Sovereign assets.

One of the key challenges of climate data remains the availability and transparency of entity reported emissions data. To help assess these issues, we have introduced a new climate metric for this year, the PCAF quality score. This metric is based upon data quality scorecards, developed by the Partnership for Carbon Accounting Financials (PCAF), which assess the standard of climate data on a scale of 1 to 5. A score of 1 indicates that an entity has reported emissions data that has been verified by a third party, while a score of 5 indicates that estimates have been made using limited available data.

Our portfolio score at year end 2022 was 2.5, with over 50% (by £MV) of our climate data coming from reported entity disclosures. As expected, the standard of disclosure is higher for our corporate book, while limited data availability elsewhere has led us to introduce estimation techniques for large portions of the portfolio. We believe that it is preferable to make an estimate than to make no disclosure at all.

Category	Supra/Sov/Public	Corporate	Property	Total
PCAF Score	2.7	1.3	3.6	2.5

Data coverage and quality remain key focus areas for our engagement strategy, and we will continue to encourage improved climate-related disclosures for our investment portfolio and work to source additional climate data to help fill any remaining gaps.



Our portfolio metrics continued

Portfolio breakdown

The table opposite shows a detailed breakdown of movements in carbon intensity by asset class. Details on the methodology used for each asset class can be found in the Appendix:

Category	2022 YE WACI* tCO ₂ e/\$m	PCAF Score (1-5)	Data Coverage (% MV)	Covered MV (£m)	Total MV (£m)	2021 YE WACI (tCO ₂ e/\$m)	YoY Change WACI % vs 2021
Supra/Sov/Public	196	2.7	93%	13,619	14,627	196	0%
UK Sovereign	138		100%			140	-1%
UK Sovereign Guaranteed	32		85%			19	72%
US Sovereign	287		100%			281	2%
EU Sovereigns	304		100%			147	107%
Other Sovereigns	327		100%			282	16%
Supranationals	0		100%			0.25	-31%
UK Sub-Sovereigns	97		100%			231	-58%
EU Sub-Sovereigns	38		100%			101	-62%
Other Sub-Sovereigns	2172		78%			2410	-10%
UK Public Finance	31		99%			20	55%
US Public Finance	47		91%			54	-14%
Corporate	163	1.3	96%	16,025	16,623	172	-5%
Infrastructure and Utilities	457		95%			430	6%
Other Corporate Bonds	27		98%			66	-58%
Covered Bonds	2		100%			6	-61%
Secured Financing	7		85%			4	100%
Bonds with CDS protection	20		100%			33	-40%
Property	193	3.6	90%	16,762	18,597	215	-10%
Ground Rent Funding	173		100%			145	19%
Social Housing	292		100%			362	-19%
REITs	74		87%			69	7%
UK Mortgages	244		100%			233	5%
Dutch Mortgages	83		100%			150	-45%
CRE	79		57%			85	-7%
UK Fixed Rate Mortgages	215		100%			-	0%
Overall Portfolio (ex. MM Fund/Cash)	183	2.5	93%	46,405	49,847	197	-7%

* WACI: weighted average carbon intensity.

Our portfolio metrics continued

The publicly listed corporate debt has a size of £14.6bn and represents

29%

of the full portfolio

Currently ahead of our target of a

20%

reduction in the carbon intensity of our publicly listed corporate debt sub-portfolio by 2025

The largest contribution to the reduction in CI came from increases in issuer revenues rather than reductions in their emissions which were smaller even than the effect of portfolio rebalancing caused by our deployment or redeployment of assets. Market moves in foreign exchange and interest rates also led to portfolio rebalancing but in this case the standalone contribution to CI was a small increase.

When comparing portfolio CI values from year end 2021 and 2022 it is important to consider all factors that can impact overall carbon intensity, and not just assume that all changes are caused by long-term issuer emission reductions or increases. Data for both years has been significantly affected by COVID-19, with lighter restrictions in 2021 causing an increase in activity generating both entity emissions and revenues.

2022 also saw very volatile markets, with large movements in interest rates and foreign exchange rates likely to have impacts on issuer revenues but also affecting portfolio weighting by duration and currency of asset. All these fluctuations reinforce the need to set and monitor targets over medium to long-term time periods and ensure that issuers can implement and carry out their emission reduction plans before we make a divestment decision. It also demonstrates the need to check that the metrics we follow are serving the purpose for which they were intended: to determine whether emissions are falling fast enough to avoid the worst consequences of climate change.

Publicly listed corporate debt sub-portfolio

We track the CI of both the whole portfolio and publicly listed corporate debt sub-portfolio defined as listed issuers with an ISIN and reported data in the Corporate category (excluding Secured Financing) together with the REITs component of the Property category. This sub-portfolio has a size of £14.6bn and represents 29% of the full portfolio.

One of the key commitments we set out in our first ESG report was to see a 20% reduction in the carbon intensity of this sub-portfolio by 2025. Due to active portfolio management and issuer intensity reductions, supported by analyst engagement, we are currently ahead of our carbon intensity target level. The year-end CI value is 165 tCO₂e/USDm revenue versus a 2025 target of 177.

Sub-portfolio	2022	2021	2020
Weighted Average CI (tCO ₂ e/\$m)	165	184	222
YoY Change	-10%	-17%	

Again, it is important to note that extrapolation for future years should be avoided given abnormal emissions and revenue patterns during 2020 and 2021 due to COVID-19-related effects. We also recognise this creates the potential for some reversal of these declines. Despite the potential for annual fluctuations, we are confident that we are investing in issuers which are managing emissions over the long run and have introduced a follow-on target of 50% reduction in CI by 2030 for our publicly listed corporate debt sub-portfolio versus the same 2020 baseline.

Our portfolio metrics continued

Financed Emissions

In our 2021 ESG report we provided, for the first time, an inventory for the financed emissions of our investment portfolio. The table below is the updated version for 2022.

As a reminder, when we calculate the percentage allocation to Rothsay of an issuer's emissions the numerator in the fraction is our nominal holding while the denominator is a measure of the total balance sheet size of the issuer. The denominator chosen varies by asset class as follows:

- i) for property loans it is the market value of the property;
- ii) for corporate bonds it is the EVIC (nominal value of equity and debt including cash) of the corporation;
- iii) for sovereigns it is 2017 PPP USD GDP.

The financed emissions for an issuer can equivalently be expressed as the product of the nominal holding and the issuer carbon intensity per EVIC. These individual CIs per EVIC can be combined to yield a portfolio weighted average just as we do for CI per Revenue.

Finally, we express the financed emissions per mGBP of investment. This is our Carbon Footprint and is identical to the WACI per EVIC modulo the presence of nominal values rather than market values in its definition.

Our approach to the calculation of EVIC and financed emissions is aligned with Partnership for Carbon Accounting Financials (PCAF) methodology.⁷

Overall, we have seen a 11% reduction in our financed emissions to 3.5m tCO₂e and a corresponding weighted average carbon intensity per EVIC of 88 tCO₂e per mGBP. The Carbon Footprint is 86 tCO₂e per mGBP.

Despite coverage for this metric remaining lower than for our revenue-based carbon intensity, we have seen a promising increase this year to 82%.

⁷ Further information on this methodology can be found in the Appendix and PCAF guidance which can be accessed here: <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>

Category	Financed Emissions (tCO ₂ e) (000s)	2022 YE WACI per EVIC (tCO ₂ e/£m EVIC)	Data Coverage EVIC (% MV)	Covered MV (£m)
Supra/Sov/Public	2,052	173	80%	11,681
UK Sovereign	777	190		
UK Sovereign Guaranteed	11	3		
US Sovereign	609	395		
EU Sovereigns	45	385		
Other Sovereigns	40	450		
Supranationals	<1	0.01		
UK Sub-Sovereigns	8	48		
EU Sub-Sovereigns	24	57		
Other Sub-Sovereigns	489	961		
UK Public Finance	8	67		
US Public Finance	40	60		
Corporate	1,055	67	88%	14,659
Infrastructure and Utilities	786	154		
Other Corporate Bonds	268	27		
Covered Bonds	<1	0		
Secured Financing	<1	4		
Bonds with CDS protection	1	7		
Property	424	41	78%	14,487
Ground Rent Funding	38	13		
Social Housing	274	135		
REITs	4	5		
UK Mortgages	80	13		
Dutch Mortgages	8	6		
CRE	20	9		
UK Fixed Rate Mortgages	1	11		
Overall Portfolio (ex. MM Fund/Cash)	3,531	88	82%	40,827

Our portfolio metrics continued

Portfolio temperature alignment

Where data is relevant and available, we use temperature alignment scores to provide an additional dimension to our understanding of the climate characteristics of our holdings. This score is an all-encompassing forward-looking metric that gives consideration to the expected trajectory of a company's emissions from now to 2050 and compares it with a 1.5°C carbon budget that has been allocated to the company based upon both the difficulty of decarbonising its sector and the current scale of production of the company. The greater the margin by which the company is expected to exceed its budget the more its temperature score exceeds 1.5.

Although very promising in theory, these types of scores are still in their infancy and, given their complexity and reliance on underlying data that may lack comprehensiveness and quality, should be treated with caution. Not only is the budget allocation somewhat subjective, but so is the estimation of the emissions trajectory which depends heavily on the reliance placed on any corporate targets being met.

We have assessed the temperature alignment score of our liquid corporate credit sub-portfolio (where data is most widely available) and continued to use the data provider MSCI.

For 2022 our temperature alignment score was 2.6°C (fractionally lower than the result of 2.7°C reported last year).

One of the drivers in the improvement was trading, with several of our largest position reductions being in issuers with >2°C alignment scores (for example in Oil and Gas) and most of our largest position increases being Paris aligned or better (for example in technology). However, it is worth noting that other factors, some of which we had no control over, also had material impacts on final score:

- A material increase in coverage
- Improvements in data quality
- Considerable and unintuitive changes in the underlying MSCI scores of many companies

It is therefore important to recognise the limitations of this metric in its current state. Methodologies continue to evolve, which may lead to changes in scores in future too, irrespective of company action.

Portfolio temperature score	
Scope 1 and 2 weighted by financed emissions	2.6
Scope 1, 2 and 3 weighted by financed emissions	2.5
MV weighting	1.9

We provide further information below to help understand the make-up of the portfolio score, dividing it into temperature categories. This shows 78% of our portfolio is Paris aligned (or better).

Temperature	MV %	% Emissions
<1.5°C	43%	23%
Paris aligned (1.5-2°C)	35%	29%
2-3°C	14%	26%
>3°C	8%	21%

Broader metrics

	%MV Allocated
Exposure to Material Climate Sectors	9.3%
Climate Opportunity Financing	1.2%
SBTi Alignment (commitment and/or approved targets)	51% (corporate portfolio)
SBTi Alignment (approved only)	40% (corporate portfolio)

As outlined in the Risk Management section, we monitor and report our exposure both to material climate sectors and climate opportunities. For the first time, we are also reporting the SBTi alignment of our portfolio to support tracking of our entities making verified science-based targets and commitments. This is reported on our publicly listed corporate debt sub-portfolio given the SBTi approach is focused on corporate companies (does not capture sovereign and standalone property). This information is also monitored within our climate scorecard as part of our transition assessment for each entity in scope.

Our operational metrics

Our Scope 1 and 2 emissions from internal operations

Rothestay is committed to lowering our own operational emissions and our UK office has been supplied by 100% renewable energy since the beginning of 2021, as certified by the Carbon Trust. The table below displays Rothestay's energy consumption, CO₂ and other greenhouse gas emissions, and emissions intensity metrics for 2022, 2021 and 2020, as per Streamlined Energy and Carbon Reporting (SECR) requirements. Note that the UK office was fully closed for a few months in 2020 due to COVID.

Note that the table here does not include Scope 3 emissions for 2022, as we have expanded the extent to which we measure Scope 3 emissions from 2022 onwards, meaning that no like-for-like comparison has been conducted. Our expanded Scope 3 analysis is detailed further in the next section.

We consider the market-based metric to be the most accurate reflection of our emissions, as it reflects the actual emissions associated with the electricity that Rothestay has consumed. We have also included location-based metrics for comparison. They use the average emissions associated with the electricity grid of the UK. More detailed analysis can be found in the SECR section of our latest annual report.

		2022	2021	2020
Energy consumption (kWh)		1.127m	1.215m	1.197m
Total CO₂e emissions (in tonnes)	Market based	56	112	n/a
	Location based	214	240	263
Scope 1 CO ₂ e emissions (tonnes) ⁸		56	111	59
Scope 2 CO ₂ e emissions (tonnes) ⁹	Market based	-	-	n/a
	Location based	158	129	203
Scope 3 CO ₂ e emissions (tonnes) ¹⁰		See next section	0.4	1
Carbon dioxide emissions intensity				
Total CO ₂ e tonnes per FTE	Market based	0.1	0.3	n/a
	Location based	0.6	0.7	0.9

⁸ Scope 1 covers CO₂ emissions occurring from sources owned or controlled by Rothestay (e.g. gas). These are primarily calculated using meter readings, with the Area Method used to estimate Rothestay's contribution for communal office areas as detailed by the Climate Registry's General Reporting Protocol v3.0.

⁹ Scope 2 covers CO₂ emissions from the generation of electricity purchased by Rothestay. These are primarily calculated using meter readings, with the Area Method used to estimate Rothestay's contribution for communal office areas. Location-based values are estimated using conversion factors from the UK Government's GHG conversion factors for company reporting in 2022.

¹⁰ Scope 3 covers CO₂ emissions occurring from business travel in rental or employee-owned vehicles where Rothestay is responsible for purchasing the fuel. These are estimated from total mileage by using the "Average car" and "Petrol" conversion factors from the UK Government's GHG conversion factors for company reporting in 2022.

Our operational metrics continued

We have also estimated the operational emissions arising from our US office, which was occupied by 12 full-time employees at year end 2022. With detailed meter readings not available, emissions have been estimated through our percentage occupation of total office floor space.

US Office	2022	2021
Energy consumption (kWh)	0.064m	0.071m
Total CO ₂ e emissions (in tonnes)	13	13
Scope 1 CO ₂ e emissions (tonnes)	<1	<1
Scope 2 CO ₂ e emissions (tonnes)	13	13
CO ₂ e emissions intensity		
Total CO ₂ e tonnes per FTE	1.1	1.2

As expected, given its smaller size, our US office had a higher emissions intensity than our UK premises in 2022. We hope that the team's move to their new A grade office will lead to emission reductions next year.

Determining our operational Scope 3 emissions

We have engaged Supercritical to gain further understanding of the Scope 3 emissions for which we are responsible. For this analysis, we have focused on gathering data for areas that are most applicable for our business operations, available in the table below:

No.	GHG protocol categories	Footprint (tCO ₂ e)	Includes
1	Purchased goods and services	3,861.3	Cloud, Food, Software, Digital marketing, Consultants, Insurance, Shipping, Furniture, Office supplies, Training, Cleaning, Maintenance, Textiles, and Merchandise
2	Capital goods	19.1	Hardware
3	Fuel- and energy-related activities	115.3	Upstream emissions of purchased fuels and electricity (including that associated with business travel, commuting and electricity transmission and distribution losses)
4	Upstream transportation and distribution	Not applicable	Not applicable
5	Waste generated in operations	0.1	Wastewater from the offices
6	Business travel	275.2	Accommodation, flights, trains, cars, and taxis
7	Employee commuting	179.7	From employee survey
8	Upstream leased assets	0.1	Energy and water used in leased offices
9	Downstream transportation and distribution	Not applicable	Not applicable
10	Processing of sold products	Not applicable	Not applicable
11	Use of sold products	Not applicable	Not applicable
12	End of life treatment of sold products	Not applicable	Not applicable
13	Downstream leased assets	Not applicable	Not applicable
14	Franchises	Not applicable	Not applicable
Total operational Scope 3 emissions		4,450.8	
15	Investments – Financed emissions	See Financed Emissions	Includes Scope 1 and 2 emissions of our investments – further information is provided in Our Portfolio Metrics section above

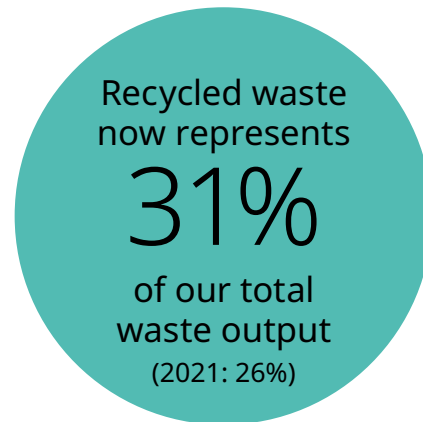
Our operational metrics continued



For most suppliers, our allocation of Scope 3 emissions was determined by multiplying the supplier's total emissions by a factor that is the ratio of the amount they invoiced us to their total revenues. For software and cloud services, however, we directly estimated the emissions associated with the computing power used.

Together the third-party administrators constituted over 25% of the operational total. 23% arose from consultants including our auditors and 6% was attributed to law firms. 15% was generated by software and cloud services while business travel accounted for nearly 7%.

We will continue to track our operational Scope 3 emissions over the coming years and to engage with our suppliers in an attempt to shrink these numbers noting that this can be achieved in two ways: the supplier can reduce their total emissions or revenues earned from Rothestay can be reduced.



Waste

Rothestay has estimated its production of waste in the UK office as a fraction of the total building's waste pro-rated by floor space. Again, it should be noted that for 2021 our total waste usage was affected by the COVID-19 pandemic's impact on office occupancy. Recycled waste now represents 31% of our total waste output, up from 26% in 2021.

In 2022 Rothestay's people produced an average of 106kg of waste per employee (72kg per employee in 2021).

The Post Building – Rothestay share (kg)

Stream	2022	2021
Recycled	12,737	6,436
Anaerobic digestion	9,953	7,342
Waste to energy	18,002	11,237
Total	40,692	25,016

Water

Rothestay's water consumption in our UK office was calculated by pro-rating the whole building's water usage by our portion of the floor space and found to be 3,044m³ in 2022. This works out at the equivalent of about two showers per week per employee.

Section

6

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Glossary

The plethora of terms and acronyms used in climate reporting can often be challenging to understand. This glossary provides some context to a number of phrases used throughout the report.

Term	Definition
Absolute Emissions	Total emissions of greenhouse gases (GHG) a company emits in a year. The various GHGs have different warming potentials, so they are converted into CO ₂ equivalents so total emissions can be compared appropriately across companies.
Adaptation	Adaptation in the climate change context is the process of behaviour and system change in order to protect from impacts of climate change.
Carbon Footprint	Total greenhouse gas emissions caused by an individual, entity or activity, expressed in CO ₂ equivalent (CO ₂ e). For our portfolio this is the financed emissions per million USD of investment.
Carbon Intensity	Absolute emissions will vary reflecting the size of the company, as well as the “dirtiness” of their operations. Carbon intensity measures are used to adjust for company size, to better compare this “dirtiness”. There are different measures of carbon intensity.
Carbon Neutral	Carbon dioxide emissions are balanced by carbon removed through activities such as carbon sinks or removal.
Carbon Offsets	An action intended to compensate for the emission of carbon dioxide into the atmosphere as a result of industrial or other human activity, especially when quantified and traded as part of a commercial scheme.
CDP	Previously known as Carbon Disclosure Project. CDP is an international entity that runs a global disclosure system for climate, water and forestry data points.
Climate Financial Risk Forum (CFRF)	Industry forum, convened by the PRA and FCA, to build capacity and share best practice on risks and opportunities that arise from climate change.
Climate Scenario	A representation of future environment constructed to support investigation of the potential impacts of climate change.
Climate Opportunities	Activities that relate to efforts to mitigate and adapt to climate change such as adoption of low-emission energy sources, development of new products/services to support climate transition and building resilience.
CO₂e	Carbon dioxide equivalent – greenhouse gases (GHGs) all have varying warming potentials and therefore in order to report one metric, other GHGs are converted to CO ₂ equivalent.
Controversial Activity	Activities/products that have greater levels of associated Environmental, Social and Governance risks based on their perception (both public and industry) and/or impacts.
Engagement	Activity undertaken to influence an entity's behaviour in line with particular expectations of engager.
EPC	Energy Performance Certificate – legal document which provides an energy efficiency rating in relation to the energy performance of a property.
ESG	Short for Environmental, Social and Governance – a set of standards measuring a business's impact on society, the environment, and how transparent and accountable it is.

Glossary continued

Term	Definition
Financed Emissions	The emissions associated with our investments, in line with the GHG Protocol Scope 3 Category 15 definition.
Greenhouse Gas Protocol	A global framework outlining best practice for measurement and management of greenhouse gas emissions.
GICS	Hierarchical industry classification system.
Green Bonds	Debt securities designed to finance environmentally friendly projects, usually in line with specific framework.
Greenhouse Gas (GHG)	Gases that contribute to the greenhouse effect by trapping heat in the earth's atmosphere.
Implied Temperature Rise (ITR)	A forward-looking temperature alignment metric that compares an entity/portfolio project's greenhouse gas emissions against a specific carbon budget and calculates an estimated overshoot or undershoot. This overshoot or undershoot is expressed in °C.
IPCC	Intergovernmental Panel on Climate Change – United Nations body responsible for scientific research related to climate change.
ISSB	International Sustainability Standards Board – An international body looking to develop a comprehensive sustainability-related disclosure standard. Will ultimately replace TCFD.
Mitigation	Mitigation in the climate change context is related to activities looking to reduce or prevent emission of GHGs.
Net Zero	A state in which the GHGs going into the atmosphere (including anthropogenic emissions) are balanced by their removal out of the atmosphere (carbon sinks/removal).
Net Zero Asset Owner Alliance (NZAOA)	United Nations convened group of institutional investors who have committed to transitioning their investment portfolio to net-zero greenhouse gas emissions by 2050.
Paris Aligned	Actions and financial flows that are consistent with the Paris Agreement's long-term goal of limiting global warming to well below 2°C and pursuing 1.5°C above pre-industrial levels.
PCAF	Partnership for Carbon Accounting Financials – an industry initiative to establish best practice for the measurement and disclosure of greenhouse gas emissions.
Physical Climate Risk	Risks resulting from climatic events including acute and chronic impacts. Acute risks include droughts, floods, and wildfires. Chronic risks include rising temperatures, sea level rise, and an accelerating loss of biodiversity.
Science-Based Target	A target, usually relating to emission reductions, that has been developed in line with scientific pathways to keep global warming below 2°C from pre-industrial levels.
SBTi	Science-Based Targets Initiative – SBTi is an organisation established to support companies to set emission reduction targets in line with the reductions required to limit global temperature rise to 1.5°C.
Scope 1 Emissions	Measured in tCO ₂ e annually. Direct emissions that occur from sources controlled by the entity in question. For example, emissions from a gas-fired boiler on company premises.

Glossary continued

Term	Definition
Scope 2 Emissions	Measured in tCO ₂ e annually. Indirect emissions largely associated with the purchase of electricity by the entity in question to operate their business and buildings including purchased electricity, municipal heating and cooling. Scope 2 emissions can be calculated as Location-based – operational emissions using an average emissions intensity for the energy system on which energy consumption occurs – or Market-based – operational emissions using actual energy consumption of entity.
Scope 3 Emissions	Measured in tCO ₂ e annually. Emissions that are the result of activities elsewhere in the value chain of the entity in question. These include emissions produced indirectly, through purchased goods and services, business travel, employee commuting, investments. The Scope 3 emissions of one entity are the Scope 1 and 2 emissions of other entities.
SDG	Sustainable Development Goals – 17 global goals designed to be a blueprint to achieve a better and more sustainable future for all established by the United Nations.
Stewardship	The responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society.
Sustainability Bonds	Debt securities designed to finance a broad range of sustainable projects including green and social projects, usually in line with a specific framework.
TCFD	Task Force on Climate-related Financial Disclosures – an international initiative established by the Financial Stability Board (FSB) in 2015 to develop recommendations for disclosing climate-related financial risks and opportunities in various sectors of the economy.
Temperature Alignment	A forward-looking metric that attempts to convey the future trajectory of greenhouse gas emissions of a given entity or portfolio in terms of its estimated global temperature rise.
Transition Climate Risk	Risks associated with the requirements for an entity to manage and adapt to changes related to reduction in greenhouse gas emissions and transition to a low-carbon economy.
Transition Plan	A transition plan sets out an organisation's approach for how it will align all its activities to net zero.
Weighted Average Carbon Intensity (WACI)	WACI is the average Carbon Intensity of this issuers making up a portfolio, weighted by their market value in the portfolio.

Independent Limited Assurance Report

Grant Thornton UK LLP (“Grant Thornton” or “we”) were engaged by Rothesay Life Plc (“Rothesay”) to provide limited assurance over the Subject Matter Information described below.

Limited assurance conclusion

Based on the work we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information has not been prepared, in all material respects, in accordance with the Reporting Criteria.

This conclusion is to be read in the context of what we say in the remainder of this report.

Subject Matter Information

The scope of our work was limited to assurance over selected aspects of Rothesay’s Climate Report (“the Report”) for the year ended 31 December 2022 highlighted with a “^” symbol and listed in the “ESG data summary table” section within the Appendix of the Report (“the Subject Matter Information”).

Our assurance does not extend to any other information that may be included in the Report for the current year or for previous periods unless otherwise indicated.

Reporting Criteria

The Reporting Criteria used for the measurement or evaluation of the Subject Matter Information and to form our judgements are Rothesay’s methodology as set out as in the “Emissions and Climate Metric Methodology” section within the Appendix of the Report (“the Reporting Criteria”).

Inherent limitations

The absence of a significant body of established practice on which to draw to measure or evaluate the Subject Matter Information allows for different, but acceptable, measurement or evaluation techniques and can affect comparability between entities and over time. In particular we draw attention to the methodological and assumption-based limitations Rothesay have disclosed in the Reporting Criteria.

In respect of the weighted average carbon intensity (WACI) per EVIC, our work was limited to agreeing the EVIC data used in the calculation to information provided to us by Rothesay and reperforming the calculation.

Directors’ responsibilities

The Directors of Rothesay are responsible for:

- the design, implementation and maintenance of internal control relevant to the preparation and presentation of Subject Matter Information that is free from material misstatement, whether due to fraud or error;
- selecting and/or establishing suitable Reporting Criteria;
- measuring or evaluating and presenting the Subject Matter Information in accordance with the Reporting Criteria; and
- the preparation of the Report and the Reporting Criteria and their contents.

Our responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the Subject Matter Information has been prepared in accordance with the Reporting Criteria;
- forming an independent limited assurance conclusion, based on the work we have performed and the evidence we have obtained; and
- reporting our limited assurance conclusion to Rothesay.

Our independence, professional standards and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

We apply International Standard on Quality Control (UK) 1, “Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements” and accordingly we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Independent Limited Assurance Report continued

Assurance standards and level of assurance

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements other than Audits and Reviews of Historical Financial Information" ("ISAE 3000 (Revised)"), issued by the International Auditing and Assurance Standards Board (IAASB). This standard requires that we plan and perform this engagement to obtain limited assurance about whether the Subject Matter Information is free from material misstatement.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks which vary in nature from, and are less in extent than for a reasonable assurance engagement.

Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not report a reasonable assurance conclusion.

Work performed

Considering the circumstances of the engagement our work included, but was not restricted to:

- assessing the suitability of the Reporting Criteria as the basis of preparation for the Subject Matter Information;
- assessing the risk of material misstatement of the Subject Matter Information, whether due to fraud or error, and responding to the assessed risk as necessary in the circumstances;
- conducting interviews with relevant Rothesay management and examining selected documents to obtain an understanding of the processes, systems and controls in use for measuring or evaluating, recording, managing, collating and reporting the Subject Matter Information;
- performing selected limited substantive testing including agreeing a selection of the Subject Matter Information to corresponding supporting information;
- considering the appropriateness of a selection of selected carbon conversion factor calculations, other unit conversion factor calculations and other calculations used by Rothesay to prepare the Subject Matter Information including by reference to widely recognised and established conversion factors;
- evaluating the overall presentation of the Subject Matter Information; and
- reading the Report and narrative accompanying the Subject Matter Information in the Report with regard to the Reporting Criteria, and for consistency with our findings.

Intended use of this report

This limited assurance report, including our conclusion, is made solely to Rothesay in accordance with the terms of the agreement between us. Our work has been undertaken so that we might state to Rothesay those matters we are required to state to them in an independent limited assurance report and for no other purpose. We have not considered the interest of any other party in the Subject Matter Information.

To the fullest extent permitted by law, we do not accept or assume responsibility and deny any liability to any party other than Rothesay for our work or this report, including our conclusion.

Grant Thornton UK LLP

Grant Thornton UK LLP
Chartered Accountants
Cambridge

25 October 2023

The maintenance and integrity of Rothesay's website is the responsibility of the Directors; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the reported Subject Matter Information, the Report or the Reporting Criteria presented on Rothesay's website since the date of our limited assurance report.

ESG data summary

The table below summarises the data presented as part of this Climate report.

Metric	Reported unit	Reported value	Location in report
Portfolio Carbon Intensity			
Total Portfolio WACI [^]	tCO ₂ e/\$m	183	Page 64
Total Portfolio PCAF Score	Score	2.5	Page 64
Total Portfolio Data Coverage	%	93	Page 65
Publicly listed corporate debt Sub-Portfolio WACI [^]	tCO ₂ e/\$m	165	Page 66
Portfolio Financed Emissions			
Financed Emissions [^]	tCO ₂ e (000s)	3,531	Page 67
Carbon Intensity per EVIC [^]	tCO ₂ e/£m EVIC	88	Page 67
Carbon Footprint [^]	tCO ₂ e/£m	86	Page 67
Portfolio Temperature Alignment			
Scope 1 & 2 weighted by financed emissions	°C	2.6	Page 68
Scope 1, 2 & 3 weighted by financed emissions	°C	2.5	Page 68
MV weighting	°C	1.9	Page 68
Broader Portfolio Metrics			
Exposure to Material Climate Sectors	%	9.3	Page 68
Climate Opportunity Financing	%	1.2	Page 68
SBTi Alignment (commitment and/or approved targets)	%	51	Page 68
SBTi Alignment (approved only)	%	40	Page 68

Metric	Reported unit	Reported value	Location in report
UK Office Emissions			
Scope 1 & 2 Energy Consumption [^]	kWh millions	1.127	Page 69
Scope 1 & 2 Market-Based Emissions [^]	Tonnes CO ₂ e	56	Page 69
Scope 1 & 2 Location-Based Emissions [^]	Tonnes CO ₂ e	214	Page 69
Scope 1 & 2 Market-Based Emissions Intensity [^]	Tonnes CO ₂ e/FTE	0.1	Page 69
Scope 1 & 2 Location-Based Emissions Intensity [^]	Tonnes CO ₂ e/FTE	0.6	Page 69
UK Office Water & Waste			
Waste Usage	kg	40,692	Page 71
Water Usage [^]	m ³	3,044	Page 71
US Office Emissions			
Scope 1 & 2 Energy Consumption	kWh millions	0.064	Page 70
Scope 1 & 2 Location-Based Emissions	Tonnes CO ₂ e	13	Page 70
Scope 1 & 2 Location-Based Emissions Intensity	Tonnes CO ₂ e/FTE	1.1	Page 70
Operational Scope 3 Emissions			
Total Operational Scope 3 Emissions	Tonnes CO ₂ e	4,450.8	Page 70

[^] Indicates that the presented item has received external assurance from Grant Thornton.

Emissions and climate metric methodology

Basis of methodology

The basis for our reporting methodology is the Partnership for Carbon Accounting Financials (PCAF)'s Global GHG Accounting and Reporting Standard.



Calculating own operations emissions

Scope

- Data within the Rothesay Climate report relates to financial YE 2022.
- We follow the operational control approach to determine the emissions included in this report. We report in tCO₂e unless stated otherwise.
 - **Scope 1:** CO₂ emissions occurring from sources owned or controlled by Rothesay (e.g. gas).
 - Primarily calculated using meter readings, with the Area Method used to estimate Rothesay's contribution for communal office areas as detailed by the Climate Registry's General Reporting Protocol v3.0.
 - **Scope 2:** CO₂ emissions from the generation of electricity purchased.
 - Primarily calculated using meter readings, with the Area Method used to estimate Rothesay's contribution for communal office areas.
 - Location-based values are estimated using conversion factors from the UK Government's GHG conversion factors for company reporting in 2022.
 - Market-based values are calculated based on certified energy usage.
- We report on both a location and market basis.

– Scope 3:

- CO₂ emissions occurring from business travel in rental or employee-owned vehicles where Rothesay is responsible for purchasing the fuel AND portfolio emissions (tCO₂e) are part of our emission data on which we conducted external limited assurance.
 - For business travel these are estimated from total mileage by using the "Average car" and "Petrol" conversion factor from the UK Government's GHG conversion factors for company reporting in 2022.
 - For Category 15: Investments please see below for more information.
- In 2022, as outlined in Our Operational Metrics section we have broadened our Scope 3 emission analysis through engaging with Supercritical.

Calculating portfolio metrics

Scope

- For our portfolio, emissions data within this report is, where possible, based on 2021 data, reported in 2022. For a subset of issuers where no new data has been published, 2020 data has been utilised.
- Due to the way in which companies publish their ESG disclosures, the emissions data collected is assumed to relate to issuers' full year ending 2021.
- We choose to take reported market-based emissions data, where available, as this reflects that companies have chosen (or not chosen) to source cleaner electricity providers. Location-based is used where this is not available.
- Due to data availability, our primary focus remains on reporting Scope 1 and Scope 2 data. As availability for our issuers' Scope 3 emissions improves we will look to report on this too.

Emissions and climate metric methodology continued

Data sources

- We utilise a number of third-party data providers to calculate our climate metrics including:
 - Bloomberg
 - CDP (previously Carbon Disclosure Project)
 - MSCI Inc.

Data collation and reporting

- Sector and overall averages are calculated by weighting individual borrower carbon intensities by the market value of the corresponding assets as a proportion of the total market value of assets for which we have obtained data.
- For the majority of issuers (Corporates and sub-Sovereigns) our first source for information is Bloomberg and/or CDP databases. Data is provided via CSV file and incorporated into our climate data files.
- We have taken the decision to include Forward Funded Bonds in our Climate Universe, where we have committed to purchase at a future date, as we will ultimately be responsible for these emissions.
- Where data is not available via our primary data providers, we seek to gap fill based on a materiality threshold. The initial basis of this materiality assessment is:
 - Entities operating in a climate material sector
 - Material MV holding of above £5m MV.

- The first stage of our gap-filling exercise is to seek reported data through manual extraction of the desired data from climate reporting published by industry bodies.
- For assets where directly measured emissions data is unavailable yet the contribution of their emissions to the portfolio's WACI is expected to be material, we make an estimate. This practice is most prevalent in our property-backed lending and sub-sovereign/public finance sub-portfolio.

- For a position to be deemed sufficiently material to warrant such an estimate the following criteria must hold:
 - Entity operates in a climate material sector
 - Position size is above £100MV (either individual or sector basis) and initial assessment indicates that emissions associated are likely to meet our carbon intensity threshold (4x portfolio average).



Emissions and climate metric methodology continued

Internal estimate methodologies

We have established an internal methodology review group which reviews each approach to estimation and the assumptions made in the calculations. The table below outlines the methods used to determine issuer emissions by broad sector:

Given the need for various assumptions these datapoints are not as exact as reported data – our approach seeks to “err on the side of the planet” in line with PCAF requirements where necessary.

Asset Class	Unit	Source	Description
Corporates	tCO ₂ e/\$m revenue	Bloomberg / CDP	Reported Scope 1 and 2 emissions data from entity divided by reported revenue.
Sovereign	tCO ₂ e/\$m of GDP	PRIMAP	The starting point for our Sovereign data is global and country GHG emissions based on International Energy Agency (IEA) datasets broken down by GHG. Some extrapolation is required to estimate the non-CO ₂ GHGs. Country-level emissions are divided by \$m of GDP (which represents the most similar metric to revenue at country level).
Public Finance: Healthcare	tCO ₂ e/\$m total operating revenue	Company Reporting / Proxy Data	Issuers with reported data used as proxies for wider sub-portfolio by normalising emissions by number of care sites. This “emissions per care site” metric is then multiplied by the number of care sites maintained by given, non-disclosing issuer in the sub-portfolio to provide an estimate of its emissions. Revenue is derived from reported total operating revenue.
UK Fixed Rate Mortgages	tCO ₂ e/\$m achievable rent	Landmark / Rightmove	Emissions estimate taken per EPC, where available through Landmark. Where no EPC is available, we extrapolate from the EPC information for neighbouring properties. Rental yield calculated using Rightmove data on each property.
Property: Lifetime Mortgages	tCO ₂ e/\$m achievable rent	Landmark / Rightmove	Emissions estimate taken per EPC, where available through Landmark. Where no EPC is available, we extrapolate from the EPC information for neighbouring properties or based on property characteristics. Rental yield calculated using Rightmove data using average house price and rental price based on specific regional bandings.
Property: DRM	tCO ₂ e/\$m achievable rent	DMFCO / Pararius / CBS	Every property has been individually assessed for both its emissions (estimate based on energy label and floor area) and its achievable rent (€/m ² vs average sale price for owner occupied homes).
Property: Ground Rents	tCO ₂ e/\$m achievable rent	Landmark / Proxy Data	Emissions estimate taken per EPC, where available through Landmark. Where no EPC is available, we extrapolate from the EPC information for neighbouring properties or based on property characteristics. Rental AVM used for each property, normalised by rental change over period.

Emissions and climate metric methodology continued

Asset Class	Unit	Source	Description
Property: Social Housing	tCO ₂ e/\$m SHL turnover	Housing Expert / Proxy Data	<p>Emissions from housing stock are included as we determine housing associations to be in direct control of the emissions of its stock. Data on stock count is taken from Housing Expert or financial statements. Issuers with reported data are used as proxies for the wider sub-portfolio by normalising emissions on a per unit basis.</p> <p>This "emissions per unit" metric is then multiplied by the number of units under management of the given, non-disclosing issuer in the sub-portfolio to provide an estimate of its emissions.</p> <p>Revenue is derived from turnover from social housing lettings per Housing Association. Revenue is limited to capture only social housing income.</p>
Property: Other RMBS	tCO ₂ e/\$m achievable rent	SEAI Report	<p>Residential mortgage backed securities (RMBS) follow the same methodology as our lifetime mortgages portfolio, with the exception of the source of the CO₂ emissions per property which given Ireland jurisdiction are sourced through Sustainable Energy Authority of Ireland datasets.</p>
Project Finance: High Emission Intensity	tCO ₂ e/\$m	Various	<p>We hold a number of assets that are high-energy intensity projects, that do not have reported data.</p> <p>For these assets we calculate a deal-specific, asset-level estimate of emissions and associated revenue. In these scenarios we seek to calculate emissions based on specific vessel type gCO₂ emission factors, matching revenue assumptions as closely as possible:</p> <ul style="list-style-type: none"> • Aviation: gCO₂/occupied seat/km • Shipping: gCO₂ per vessel type <p>We acknowledge these estimates require a number of assumptions to form reasonable data points. We continue to review these methodologies to ensure they remain fit for purpose.</p>

Foreign exchange (FX) rate considerations

- Since climate metrics are impacted by currency conversion, we set the below approaches to ensure consistency. For our balance sheet we use YE 2022 FX rate, as based on year-end 2022 portfolio positions.
- For issuer calculations:
 - Where data is provided by a third party, we take information as reported.
 - For estimate methodologies within property based fully on averages, we take the FX value of when the data was extracted.
 - For all other areas, average annual FX rates are used.

Verification process

- We undertake a detailed internal verification process of our climate data. The numbers used have been checked for consistency with data from earlier years, with any outliers, defined by high YoY changes, being further investigated. High CI names and large holdings as outlined above are also checked.
- In addition, when reviewing estimate methodologies YoY, the governance process involves a discussion for any change to allow clear identification of rationale for YoY changes and any potential need to restate baseline figures.

We engaged Grant Thornton UK LLP to provide independent limited assurance over selected KPIs within the ESG data using the assurance standards ISAE 3000 (Revised) and ISAE 3410. Grant Thornton has issued an unqualified opinion over the selected data and the full assurance report can be found on pages 76 to 77.

Restatements and changes to portfolio

- Our approach captures all positions held on our balance sheet on 31 December 2022.
- Restatements may be made to previous data points where an error has been identified and/or methodology best practice has evolved. On these occasions, restated data will be clearly identified if material.

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