
It takes
AVIVA
Aviva plc
Climate-related Financial Disclosure 2022
AVIVA

It all starts with our customers.

Make the most out of life. Plan for the future. Have the confidence that if things go wrong, we'll be there to help put them right.

It takes Aviva.

Our reporting approach

The content of this report is focused on the requirements of our stakeholders, relevant regulations, and sustainability rating and benchmarking providers. It focuses on the concepts and key performance indicators (KPIs) that reflect our most material climate issues and has been prepared in accordance with the Taskforce on Climate-related Financial Disclosures (TCFD). This report includes the disclosures required in the Financial Conduct Authority's (FCA) Policy Statement (PS) 21/24 for Aviva plc and Aviva Group life insurance and asset management companies, in the United Kingdom, within the scope.

We believe clearly stated ambitions and performance information are essential for enhancing the quality, reliability and comparability of climate reporting. We are committed to disclosing meaningful data to improve our climate disclosures for internal decision-making and for our external stakeholders. As an investor, we also rely on this type of information to integrate sustainability into our core business activities. As part of this commitment, we have changed the structure of the Metrics and targets section, covering material frameworks and methodologies which we consider important in terms of communicating our approach to calculate emissions. For more details, see the Metrics and targets section of this report.

Climate metrics include estimates of emissions and climate change and forward looking metrics such as ambitions, targets, climate scenarios and climate projections and forecasts. For more details, see the Cautionary Statements.

Our reporting suite

This report forms part of our external annual reporting suite.

Reporting Criteria 2022

Sets out the definitions of the Group's Key Sustainability Performance indicators and selected data points.

⊕ **Download PDF**

ESG Datasheet 2022

All sustainability metrics are included in our data sheet.

⊕ **Download Excel**

Sustainability Report 2022

Our report on how we are progressing against our sustainability goals.

⊕ **Download PDF**

Annual Report and Accounts 2022

Our report on our Group's strategy, governance and performance in 2022 including our financial statements.

⊕ **Download PDF**

Read more and find our reporting suite in the download centre on our website:
> aviva.com/investors/reports/

Contents

How to navigate this report

Use your browser's bookmarks and tools to navigate

To search this document
PC use Ctrl+F, MAC use Command+F

Throughout this report we use a colour coding system for our 5 key focus areas:

Accountability and leadership
Decarbonising our investment portfolio
Insuring a Net Zero Future
Targeting operations and supply chain
Embedding climate

Foreword

This report brings together our disclosure in accordance with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD). We have set out how we have complied in the TCFD compliance summary.

This report includes, within the Appendix, the entity-level reporting for the entities under the FCA's PS 21/24 Enhancing climate-related disclosures by asset managers, life insurers and FCA-regulated pension providers. These entities include Aviva Life & Pensions UK Limited, Aviva Pension Trustees UK Limited, Aviva Administration Limited, Aviva Investors Global Services Limited and Aviva Investors UK Fund Services Limited.

This report should be read in conjunction with the Cautionary Statements.

The Climate-related Financial Disclosure 2022 was approved by the Board on 8 March 2023.

Assurance approach

Aviva plc appointed PwC to provide independent assurance over certain sustainability metrics, indicated with AR for reasonable assurance and AL for limited assurance in this report. In 2022 we have increased the number of metrics subject to assurance.

The assurance engagement was planned and performed in accordance with International Standard on Assurance Engagements 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' and, in respect of the greenhouse gas emissions in accordance with International Standard on Assurance Engagements 3410 'Assurance engagements on greenhouse gas statements', issued by the International Auditing and Assurance Standards Board.

The assurance report was issued and is included in Independent Assurance section of this report. This report includes further details on the scope, respective responsibilities, work performed, limitations and conclusions.

As a reminder

Reporting currency:
We use £ sterling. Unless otherwise stated, all figures referenced in this report relate to Group.

Figure and table numbers:
Figures and tables have been separately numbered within each section: Overview, Strategy, Risk management, Metrics and targets and the Appendix.

A glossary explaining key terms used in this report is available on:
www.aviva.com/climate-goals-glossary

The Company's registered office:
St Helen's, 1 Undershaft, London, EC3P 3DQ

The Company's telephone number:
+44 (0)20 7283 2000

Chief Executive Officer's statement

Our climate has already changed. No country is yet ready to deal with the impacts we know are coming our way. We need to act faster to limit emissions and at the same time prepare for the more extreme weather in the future.

Amanda Blanc
Group Chief Executive Officer

Aviva recognises the enormous value of disclosure as part of the journey to a more sustainable future. Understanding the data is a fundamental first step to taking effective action.

That's why we have published reports against the recommendations of the Taskforce on Climate-related Financial Disclosures since they were first introduced. And yet we also understand that businesses cannot just disclose their way to Net Zero.

The data needs to be a jumping off point, leading to real change in the economy and those who finance it.

We continue to work with governments, companies and the projects we invest in to encourage greater disclosure. And we are calling for public and private organisations to develop specific forward-looking plans as part of the Transition Plan Taskforce. By shifting the perspective from 'this is where we are' to 'this is where we are going' we can encourage short, medium and long-term targets to spur more immediate steps to a low-carbon future.

We have an ambitious climate transition plan for our journey to Net Zero by 2040, yet no one can achieve Net Zero on their own. We need governments and international institutions to develop their own plans to enable the global transition.

To help drive that change, we also engage with policymakers to argue the case for greater financial market reform. Such change is urgently required so that the entire system is better able to encourage the behaviours our planet needs, and so that we can conduct better business ourselves.

As part of this, we remain committed to evolving and improving our own reporting, to give interested stakeholders the most useful information about our business. This is of benefit to us too, as we take advantage of the metrics and data to better understand our own risks and opportunities.

This in turn will help guide the actions we need to take as we work towards our ambition to be Net Zero by 2040.

"At the most basic level, we have chosen to act in the face of the climate crisis because we live on this planet, just like everyone else. We want to push ourselves, and others, to take concrete steps towards a fairer society and a more sustainable world."

Amanda Blanc
Group Chief Executive Officer

Additional links:

> **Aviva's Climate Goals**
> **Aviva's Climate Transition Plan**
> **www.aviva.com/TCFD**

Our climate story

In 2022 Aviva continues to build on its history of climate action and reporting.

2016

- Aviva Investors asked to join the Financial Stability Board Taskforce on climate-related financial disclosures

2017

- Aviva Investors asked to join EU Commission's High Level Expert Group on Sustainable Finance
- Aviva's first discloses against TCFD recommendations

2019

- UN Net Zero Asset Owner Member
- Aviva Response SS3/19

2021

- Aviva becomes the first major insurer to announce Net Zero by 2040 ambition
- Aviva launches climate change plan
- Aviva signs up to internationally recognised Science-based targets initiative
- Aviva supports the creation of the Glasgow Financial Alliance for Net Zero at COP26
- Aviva announces new Climate Engagement Escalation programme
- Aviva is a founding member of the Net Zero Insurance Alliance

- Climate-related Financial Disclosure put to shareholder vote for the first time

2022

- Aviva publishes ESG baseline exclusion policies for investments and underwriting
- Aviva releases its first carbon offsetting car insurance, Aviva Zero
- Aviva releases its first Climate Transition Plan
- Aviva launches standalone cover for electric vehicle charging points

- Aviva Ireland provides €5 million funding to The Nature Trust
- Aviva ranked #2 in World Benchmarking Alliance's 2022 Financial System Benchmark, and was also ranked the #1 insurer
- Aviva launches Climate-Ready Index
- Aviva attends biodiversity COP
- Aviva publishes the Biodiversity 'One year on' report
- Aviva achieves validation of its Science-based targets from the Science-based targets initiative (SBTi)

Our strategy is encapsulated in our Climate Transition Plan

Climate change is one of the key risks facing the insurance, savings and investment industry and the greatest risk currently facing humanity.

As the UK's leading insurer, we have a responsibility and a key role to play in contributing to the transition to a low carbon economy. In March 2021, we set an ambition to become a Net Zero carbon company by 2040. The urgency of the climate crisis means we can no longer wait for everything to be neatly laid out before we act. We may not know every step, but the direction is clear and we will do everything in our power to reach our goal.

Our strategy and ambitions are:

- To be Net Zero by 2040 - our plan covers operational emissions (Scope 1 and 2) and those contributed by our suppliers by 2030, as well as our shareholder and customer investments and insurance solutions by 2040 (Scope 3).
- To reduce the carbon intensity of our investments by 25% by 2025 and 60% by 2030, and aim to transition all assets[1] to be Net Zero by 2040.

1. Scope will be UK, Ireland and Canada, all main asset classes (credit, equities, direct real estate, and sovereigns) when methodology developed; including shareholder assets and policyholder assets where we have decision making control and data

Climate Transition Plan

In March 2022 we set out the next steps in our Net Zero Ambition to support the transition to a low carbon economy, working with the insurance industry to create new methodologies and setting new standards, engaging with our clients to develop and implement their transition plan and supporting decarbonisation through our investments and insurance activities.

To execute on our ambition we have developed our initial Climate Transition Plan. This plan was developed in line with TCFD, Glasgow Financial Alliance for Net Zero (GFANZ), and Institutional Investors Group on Climate Change (IIGCC) principles, and in anticipation of forthcoming UK regulation on Transition Plans and the UK Green Finance Roadmap. The UK Transition Plan Taskforce (TPT) was set up by the UK Government in April 2022 to develop the gold standard for private sector climate transition plans in the UK. The TPT steering group is co-chaired by our Group Chief Executive Officer, Amanda Blanc.

Our plan uses five building blocks to describe how we intend to minimise risks and capture opportunities.

1. **Strategy and ambition** - detailing commitment, ambition, and scope of Net Zero pledges.
2. **Methodology** - defining the approach to identify, measure and monitor climate-related ambitions with reference to investments, insurance, and operations.
3. **Action plans** - providing clarity on the measures needed to achieve defined ambition. This supports engagement with companies invested in, underwritten and in our supply chain.
4. **Climate Risk Management** - defining the risk appetite and ensuring alignment with the Climate Transition Plan.
5. **Target Operating Model** - defining roles and responsibilities to ensure the execution of the Climate Transition Plan and create climate cultural awareness throughout the organisation.

We plan to issue an updated Climate Transition plan later in 2023 or 2024 in accordance with the TPT guidance, currently subject to consultation and expected to be finalised in the second half of 2023.

> **"Financial services are small in terms of their own emissions, but own, lend money for and invest in assets and activities in the economy that produce greenhouse gas emissions. The financial sector therefore has a crucial role to play in the transition – both as an enabler of the transition across all parts of the economy, and as a growth opportunity in itself."**
>
> **Rt Hon Chris Skidmore MP**
> Mission Zero - Independent review of Net Zero

Our Net Zero ambition

To deliver on our ambition our climate strategy has five key focus areas:

Accountability and leadership	Ensuring Aviva leads from the front through alliances and our actions to meet Net Zero.
Decarbonising our investment portfolio	Through e.g. Aviva Investors' Engagement Escalation Programme and green asset investments.
Insuring a Net Zero future	Underwriting renewable energy infrastructure and proposing a methodology for Net Zero underwriting.
Targeting operations and supply chain	To be Net Zero by 2030 through the Science-based targets initiative.
Embedding climate	In our culture by educating our employees on their role in the just transition to a low carbon future.

Impact quantification

Quantifying the impact of climate change is an emerging practice, with inherent uncertainty in the quality of available data. It is challenging to obtain consistent asset data across our entire portfolio and quantify the impact of carbon emissions from our Scope 3 financial investments.

We have made several methodology improvements in 2022 and will continue to enhance our capabilities in line with industry developments and standards.

Climate-related and general cautionary statements for our climate metrics are included in this report.

While we are working towards our Net Zero 2040 ambition, we acknowledge that we have relationships with businesses and investee companies that may be associated with significant emissions. Over time our work will include reviewing these arrangements with the aim of aligning them to our Net Zero 2040 ambition.

Investing in Clean Growth

In 2021 Aviva made a commitment to invest £50 million into venture capital funds focused on emerging technology that supports the transition to a more sustainable future.

In December 2021 Aviva announced its investment into the UK-based Clean Growth Fund. Launched in 2020, the Clean Growth Fund invests in promising early-stage UK clean technology companies, with products and services focused on driving clean growth in the low carbon economy. It aims to accelerate the commercialisation of clean growth technologies, create new employment opportunities across the UK and contribute to the UK's efforts to deliver Net Zero by 2050. Aviva has since made two further investments, including an investment into the Energy Impact Partners Deep Decarbonization Frontier Fund. These funds aim to drive clean growth in the UK economy.

Investment in clean products

In 2022, Aviva released its first carbon offsetting insurance product – Aviva Zero. The car insurance product offers 100% offsetting of the carbon emissions created by driving your car for the first year of the policy. Aviva's long-standing partnership with ClimateCare allows the provision of carbon offsetting initiatives.

In September 2022, Aviva launched standalone cover for electric vehicle (EV) charging points. This product is crucial to push forward the availability and technology of EV charging points to provide for the growing number of EV on our roads.

Our Net Zero ambition continued

Playing our role in driving the transition to a low-carbon economy.

As reflected in our signatory status to the Net Zero Asset Owners Alliance (NZAOA), Aviva is committed to playing its role in supporting the "low-carbon transition of economic sectors in line with science and under consideration of associated social impacts[1]".

We have made this commitment with a view to acting in the best interests of our clients, the long-term continuity of our business model and with respect to the wider environment in which we operate.

We recognise that whilst we have control over the decarbonisation of our own operations and supply chain, when it comes to decarbonising the real economy in which we invest, Aviva is one part of a far larger global financial ecosystem. It is for this reason that we have committed to do everything within our power to create the right conditions to become a Net Zero carbon[2] emissions company by 2040, whilst also recognising that we do not have full control over the delivery of this ambition.

This is reflected in the terms of the Net Zero Asset Owners Alliance, including the reference to such a pledge being made on the "expectation that governments will follow through on their own commitments to ensure the objectives of the Paris Agreement are met[3]".

Financial services firms have a major role to play in holding governments to account on their own commitments to decarbonise. Our extensive macro-stewardship programme involves engagement with policy makers and regulators around the world to advocate for the policy interventions needed to internalise externalities (for example the true cost of carbon) and facilitate the transition to a low-carbon economy. For the last two years, we have also written to finance ministries and central banks at the start of each year setting out expectations on climate change, biodiversity loss and other material sustainability concerns.

Financial institutions undertaking work to realign the financial system with sustainability goals is fundamental to our chances of success against the global Net Zero endeavour. Financial institutions also play a major role in decarbonising the real economy through engagement with the investments they hold as well as through collaborative action.

To give ourselves the best chance of becoming a Net Zero carbon emissions company by 2040, we must take action to drive the decarbonisation of the real economy. Our approach to Accountability and Leadership is set out on page 31. Some critical examples are detailed below.

Overhaul of global governance structures

Each element of the international financial architecture should have included within its mandate the delivery of the Paris Agreement and should have to report annually on a transition plan. These individual reports should in turn be aggregated into a global transition plan.

National governments' contributions

Major economies need to step up their level of ambition, namely, to adopt Net Zero targets on a shorter timeline.

Governments and regulators need to adopt fiscal measures that reward economic activity supporting sustainable outcomes and penalise economic activities harming sustainability goals. Examples include:

- Adoption of carbon taxes or emissions trading schemes to internalise negative externalities as source, which would require the true price of carbon emissions to be captured on companies' balance sheets and in their cashflows, ensuring that this flows through to valuations;
- Removal of fossil fuel subsidies; and
- Adoption of clean energy subsidies.

Regulators need to drive further improvements in sustainability disclosures in particular to support an understanding of how companies plan to pivot their businesses to thrive in the transition to a low carbon economy, as well as the specific policy interventions that are needed to enable the transition of each sector.

Market participants collaborating to find solutions to shared problems

Market participants need to come together to accelerate a market for high-quality carbon credits and offsets.

Technological improvements are needed in Carbon Capture and Sequestration (CCS) and Direct Air Capture (DAC) to scale up their contribution to emissions reductions.

Investors need to encourage companies and sovereigns to raise their level of ambition to adopt Net Zero targets on a shorter timeline, as well as to deliver on those targets.

1. **https://www.unepfi.org/wordpress/wp-content/uploads/2022/07/AOA-COMMITMENT-DOC-2022.pdf**
2. We often use the shorthand of carbon, but our targets are for greenhouse gases in general and measured in Carbon Dioxide equivalent (CO_2e)
3. Terms from the Net Zero Asset Owners Alliance

Our 2022 climate highlights and looking ahead

In March 2021, we announced our ambition to become Net Zero by 2040. There have been lots of activities supporting our ambition in 2022 and priorities set for 2023.

Ambition

Net Zero for all three scopes by 2040

Target
Publish a Climate Transition Plan and continue to report progress through the Climate-related Financial Disclosure

Activities in 2022
- Published Climate Transition Plan;
- Increased assurance of 2021 TCFD metrics by PwC; and
- Feasibility of Internal Carbon pricing explored including for operations, supply chain, investments and underwriting.

2023 Priorities
- Continue involvement in Transition Plan Taskforce sandbox and guidance work, including the dependencies of biodiversity and a Just Transition in the guidance framework;
- Set underwriting baseline and goals;
- Update Climate Transition Plan; and
- Aim to disclose an internal carbon price in our 2023 report.

Target
Publish a Biodiversity Policy

Activities in 2022
- Following the publication of Aviva's Biodiversity Policy in 2021, we published a 'one year on' Biodiversity report in December 2022;
- Understand the ambitions we could set in 2023;
- Carried out deforestation impact assessments for investments, underwriting, operations and supply chain; and
- Submitted comments in response to Taskforce on Nature-related Financial Disclosures (TNFD) draft biodiversity framework.

2023 Priorities
- Carry out biodiversity impact assessments across investments, underwriting, operations and supply chain;
- Continue involvement in the Taskforce for Nature-related Financial Disclosure and responding to consultations; and
- Consider defining our ambitions for deforestation reversal and biodiversity.

Target
Publish an employee guide: Tackling climate change together

Activities in 2022
- Published public version of 'Tackling climate change together'; and
- Our annual staff survey - 'Voice of Aviva' results showed that 88% of colleagues agree Aviva is a good corporate citizen and 73% are embedding sustainability into their actions at work.

2023 Priorities
- Every employee will have a specific Sustainability - focused goal in their goal setting process; and
- Build opportunities for more colleagues to obtain professional qualifications in Climate/Sustainability and Finance.

Our 2022 climate highlights and looking ahead continued

Ambition
Net Zero for all three scopes by 2040

Target
Science-based targets aligned to a 1.5°C pathway

Activities in 2022
- Gained validation of targets from SBTi.

2023 Priorities
- Build progress on SBTi targets into annual reporting suite;
- Seek assurance for progress; and
- Develop understanding of SBTi Net Zero methodology and SBTi underwriting methodology.

Target
Engagement with teeth to drive the transition

Activities in 2022
- At the beginning of 2022, Aviva Investors Chief Executive Officer Mark Versey, wrote to finance ministers and central bank governors for 37 countries whose sovereign debt we hold highlighting our climate change and biodiversity investment ambitions and asking for their active participation.

2023 Priorities
- In 2023, we will complete our engagement escalation process for the 30 largest carbon emitters globally.

Target
Link ESG performance with remuneration

Activities in 2022
- Increased weighting within the 20% allocated range covering climate, customer and diversity and inclusion metrics.

2023 Priorities
- 2023 -25 LTIP build stretch target into existing metric; and
- Develop other climate metrics to cover different business areas of Aviva.

Our 2022 climate highlights and looking ahead continued

Ambition
Net Zero operations by 2030

Target
90% reduction in Scope 1 and 2 emissions by 2030 (from a 2019 baseline)

Achievements in 2022
- Successful planning application for wind turbine at our Perth office;
- Installation of solar panels at our Glasgow and Norwich offices;
- Pioneering demand-led ventilation upgrade piloted in Norwich;
- Environmental sensors installed, measuring CO_2, lighting, temperature and occupancy;
- Desktop power management solution deployed across the UK estate; and
- 43.3% reduction of absolute Scope 1 and 2 operational emissions from 2019 base year.

2023 Priorities
- Erection of the Perth wind turbine, complete in 2024;
- Installation of further solar panels at core UK and Irish sites;
- Roll-out core offices demand led ventilation upgrade;
- Relocate Head Office to 80 Fenchurch Street; and
- Continue decarbonisation of operations through tactical changes and targeted spend-to-save activity.

Target
Switch car fleet to 100% electric vehicles Group-wide by 2025 via EV100
Purchasing 100% electricity from renewable sources Group-wide by 2025 via RE100

Achievements in 2022
- Signed-up to the EV100 pledge:
  - At the end of 2022 44% of company car fleet Group-wide are electric vehicles; and
  - At the end of 2022 100% of electricity was purchased /generated from renewable sources. We purchase energy certificates in Canada, India and our UK subsidiaries.

2023 Priorities
- Electricity for operations from 100% renewable sources, by 2025; and
- Transition essential use company vehicles to an electric vehicle fleet, by 2025.

Target
70% of suppliers by spend covering purchased goods and services (Scope 3 Category 1) setting SBTi validated targets by 2025

Achievements in 2022
- Submitted our own targets to the SBTi to provide a credible and tangible pathway to Net Zero, including Scope 3 purchased goods and services, and these have now been validated;
- Launched a mandate for new contracts above £1m and strengthened our contract clauses to reduce the carbon footprint of purchased goods and services;
- Created a sustainability best practice guide for suppliers who are starting their Net Zero journey;
- Engagement and training for our buyers and contract managers to improve their knowledge on sustainability; and
- Hosted a Net Zero Supplier Summit as a call-to-action across our supply chain with c. 250 attendees.

2023 Priorities
- 30% of suppliers by spend covering purchased goods and services that have signed up to SBTi targets;
- Measure carbon emissions at product/service level with our suppliers;
- Increased ESG weighting in our supply tenders; and
- Introduce a Sustainable Procurement Policy.

Our 2022 climate highlights and looking ahead continued

Ambition
Increasing sustainable investments

Target
By the end of 2022, we expect to invest £10 billion of assets from our auto-enrolment default funds and other policyholder funds into low carbon strategies

Activities in 2022
- Completed the investment of £10 billion of auto-enrolment assets placed into low carbon equities and climate transition strategies.

2023 Priorities
- We have achieved this target, however this process will continue across the policyholder funds, as appropriate.

Target
By 2025, we will invest £6 billion in sustainable assets[1] (from a baseline of 31 December 2019), including £1.5 billion of policyholder money into climate transition funds

Activities in 2022
- Since 2019 we have invested £5.1 billion in sustainable assets including £1.5 billion in climate transition funds. As at the end of 2022, we had invested £8.2 billion in sustainable assets of which £4.2 billion are green assets, £2.2 billion are sustainability assets and £1.5 billion are climate transition funds.

2023 Priorities
- We will further develop the definition of sustainable assets to align with external definitions, including the UK taxonomy.

Target
By 2025, Aviva Investors will invest £2.5 billion in low carbon and renewable energy infrastructure and deliver £1 billion of sustainable transition (sustainability linked) loans

Activities in 2022
- As at the end of 2022, Aviva Investors had invested in a total of £2.1 billion billion in low-carbon and renewable energy infrastructure; and
- In addition, Aviva Investors completed the £1.10 billion in sustainable transition (sustainability linked) loans target in 2022.

2023 Priorities
- We will revise our target for sustainability-linked loans and continue to work towards the £2.5 billion in low carbon and renewable energy infrastructure.

Target
Our UK pension customers to choose to put more than 20% of new savings into sustainable impact funds or Net Zero aligned funds by the end of 2022

Activities in 2022
- 22% of new policyholder business invested into sustainable impact funds or Net Zero aligned funds across 2022.

2023 Priorities
- This target was achieved in 2022.

1. In 2022 the previous definition of Green assets have been aligned to Investment in Sustainable assets. Target has been applied to this new terminology. Refer to the Climate reporting policies for the definition.

Our 2022 climate highlights and looking ahead continued

Ambition
Relationship with high carbon emitters

Divested all companies making more than 5% of their revenue from thermal coal, and companies making more than 10% of their revenue from unconventional fuel extraction, unless they have signed up to science-based targets by the end of 2022

Activities in 2022
- Published Aviva's ESG Baseline Investment Exclusion Policy in 2022; and
- Divestment of over c.89% of stock for shareholder, With-Profits and Policyholder active and passive portfolios across core markets.

2023 Priorities
- Applying the policy to Aviva India following our increased holdings and gaining financial control in September 2022.

Stop insuring companies making more than 5% of their revenue from thermal coal or unconventional fossil fuels from renewal at the end of 2021

Activities in 2022
- This is now complete.

2023 Priorities
- Agree and publish externally the near term underwriting ambitions aligned to the NZIA standard by end of 2023 (to apply to all GI markets); and
- We are looking to set further ambitions in conjunction with Net Zero Insurance Alliance.

Ambition
We intend to make it easy for customers to make climate friendly choices and support people as the economy changes

To become a leading renewable energy insurer

Activities in 2022
- UK renewables portfolio is now more that 200% of the size of the fossil fuel book exited in 2019;
- UK business further strengthened position in renewables to no. 3 position in the London Markets;
- Launched standalone policy wording for battery electric storage systems (BESS);
- Launched an Electric Vehicle (EV) Charging Point proposition; and
- Canada began writing renewable energy business.

2023 Priorities
- To be a UK leader in underwriting renewable energy generation by end 2027;
- Already a leader in onshore wind, move into risks in the offshore field; and
- Net Zero Claims by 2030 - milestones and baseline to be confirmed.

Our 2022 climate highlights and looking ahead continued

Ambition

Taking steps today to plan our negative emissions

Initial £100 million budget to begin to create nature based carbon removals by 2030

Activities in 2022

- Launched first Aviva nature based carbon removal partnership.

2023 Priorities

- Launch four further Aviva nature based carbon removal partnerships in the British Isles, as well as similar projects in Canada.

Ambition

We pledge to continue arguing the case for an economic recovery driven by cutting carbon and creating new jobs, infrastructure and opportunities in a Net Zero economy

We want governments to go further and mandate companies to disclose action plans which align their business strategies to science-based climate goals, including short- and medium-term milestones

Activities in 2022

- Contributed to many of the key financial-sector initiatives launched at and ahead of COP27, including the GFANZ Framework for Financial Institution Net-Zero Transition Planning, a Call to Action to G20 governments, and the UK Transition Plan Taskforce standard for private-sector climate-transition plans;
- Published joint papers with WWF on climate change, biodiversity and other issues of shared interests; and
- Chaired the Women in Finance Climate Action Group, and with GenderSmart and the 2X Collaborative, call for urgent action to improve gender equality when designing, providing and accessing climate finance.

2023 Priorities

- Material number of policy position papers released (no specific target, but to include two joint white papers each year on climate/biodiversity); and
- Government and industry recognition (e.g. Aviva colleagues chairing and attending major sustainability bodies).

In this section we set out how Aviva plc is consistent with the TCFD requirements

Aviva plc TCFD compliance summary

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table below directs to the relevant section where the 11 TCFD recommendations are covered in this report for Aviva plc. Whilst we have complied with the 11 recommendations, we continue to work towards expanding the scope of our metrics and targets, developing the methodology of our climate scenario analysis and enhancing our disclosure in this area. In addition to the TCFD Final Report, we have also considered the TCFD Annex (issued October 2021).

TCFD pillars	TCFD recommended disclosures	Section the disclosures are included in
Governance Disclose the organisation's governance around climate-related issues and opportunities.	a. Describe the Board's oversight of climate-related risks and opportunities.	• Governance - Board Oversight, management's roles and responsibilities (see page 16).
	b. Describe management's role in assessing and managing climate-related risks and opportunities.	• Governance - Board Oversight, management's roles and responsibilities (see page 16).
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's business, 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.	• Our climate strategy, risks and opportunities (see page 23).
	b. Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	• Our climate strategy, risks and opportunities (see page 23). • Our strategic focus (see page 29).
	c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	• Our climate VAR measure (see page 27).
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.	• Risk management (see page 55) - refer to 'Our process for identifying and assessing climate-related risks'.
	b. Describe the organisation's processes for managing climate-related risks.	• Risk management (see page 55) - refer to 'Our process to manage climate-related risks'.
	c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	• Risk management (see page 55) - refer to 'Our process to manage climate-related risks'.
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 metrics to assess climate-related risks and opportunities (see page 61).
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas emissions (GHG), and the related risks.	• Decarbonising our investment portfolio (see page 33). • Decarbonising our operations and supply chain (see page 49). • Our metrics to assess climate-related risks and opportunities (see page 61).
	c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	• Our 2022 climate highlights and looking ahead (see page 7). • Our metrics to assess climate-related risks and opportunities. (see page 61).

Governance for climate risk is embedded in Aviva's governance framework

Governance

Governance

Our objective is to embed the consideration of climate change throughout our organisation.

Aviva has a strong system of governance, with effective and robust controls. This governance is proportionate to the nature, scale and complexity of the operations across our businesses. It allows the Boards, management committees and senior management to integrate climate-related risks and opportunities into our strategy, decision making and business processes.

Our climate and sustainability governance structure as well as roles and responsibilities are summarised in our Annual Report and Accounts and are detailed in this section.

Board and Committees climate-related experience

The Aviva plc Board has a range of climate change related experience, as set out in the Aviva plc Annual Report and Accounts 2022. 17% of the Board are classified as having current, direct and deep executive experience, or being a Director with recognised industry expertise in this area, and an additional 8% of the Board are classified as being a listed Director with more than 3 years experience within this area. In addition the Customer and Sustainability Committee is chaired by Shonaid Jemmett-Page, who has broad sustainability experience, including her role as Chair of Greencoat UK Wind plc. The impact of climate change is also considered by the Audit and Risk Committees, and is embedded into our reward structures.

Local Boards, Executive and Risk Committees

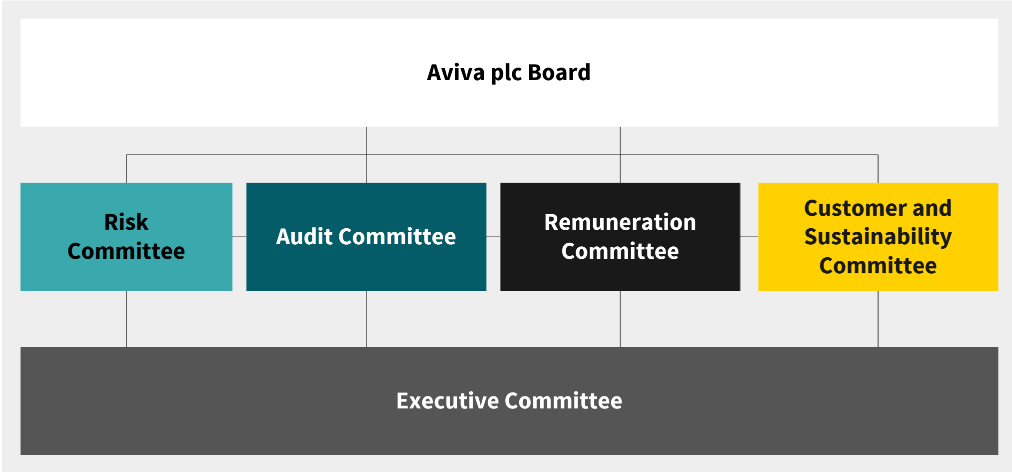
The Local Boards, Executive and Risk Committees have the same responsibilities as Group and are supported by relevant functions (for example investment, risk, underwriting and capital management) to embed Aviva's ambition to become Net Zero by 2040.

Climate and Sustainability governance structure

In 2022, we have evolved our climate and sustainability governance structure - see Figure 1. This reflects the continued progression and importance of climate reporting, and is aligned to Aviva's sustainability ambitions.

The previous Customer, Conduct and Reputation Committee was refocused to become the Customer and Sustainability Committee, chaired by Shonaid Jemmett-Page, with a direct reporting pathway to the Board. Conduct matters are now considered by the Risk Committee, and there is a clear mapping of responsibilities related to sustainability and climate change between the Customer and Sustainability Committee, the Audit Committee and the Risk Committee.

Figure 1: Aviva's climate governance structure



In 2022, the Aviva Sustainability Ambition Steering Committee continued to operate as the executive level forum for sustainability challenges and opportunities, with representation from leadership across the business units and group.

> "We integrate climate into our risk appetite framework, define our climate risk preference and incorporate climate risks into our business plans, to facilitate risk-based decision-making."
>
> **Stephen Gould**
> Interim Group Chief Risk Officer
> (subject to regulatory approval)

Governance continued

Committees	Roles and responsibilities	Activity during 2022 and early 2023
Board	The Board provides leadership of Aviva within a framework of prudent and effective controls which enables risks (including climate-related risks and opportunities) to be assessed and managed.	The Board approved Aviva's Sustainability Report and Climate-related Financial Disclosure Report. During 2022 the Board reviewed the second phase of the Bank of England Climate Biennial Exploratory Scenario (CBES) exercise, and approved the climate-related risk appetite. The Board also approved the establishment of the Customer and Sustainability Committee, as detailed below. In November, the Board was presented with an update on 2022 progress on climate action and 2023 priorities.
Risk Committee	This Committee assists the Board in its oversight of risks, including climate-related risks and opportunities, by assessing the effectiveness of our risk management framework, strategy, risk appetite, risk profile and compliance with prudential regulatory requirements, including transition, litigation and physical risk and other relevant sustainability risks.	The Committee met six times in 2022 to review, manage and monitor all aspects of risk management; climate-related risks were discussed in detail in two of those meetings. During the year, the Committee recommended the climate risk appetite to the Board for approval and monitored progress made in meeting our ambitions. In February 2022, a joint session was held with what is now the Customer and Sustainability Committee, to review the approach to governance and monitoring across asset classes and how they support climate risk appetite metrics. The Committee discussed the outputs from the PRA Climate Biennial Exploratory Scenario (CBES) report published in May 2022.
Customer and Sustainability Committee	This Committee replaced the Customer, Conduct and Reputation Committee during 2022, and provides oversight of Aviva's Sustainability Ambition, ensuring alignment with Group's strategy and business plans. It also assists the Board Audit Committee in reviewing Aviva's plans on sustainability and climate action, including the setting, disclosing and achievement of goals.	During 2022, the Customer, Conduct and Reputation Committee was refocused and transitioned to become the Customer and Sustainability Committee, enabling more focussed discussion on sustainability matters. The Committee met five times in 2022 to oversee Aviva's Sustainability Ambition and sustainability and climate-related topics were discussed in each of those meetings. This Committee reviewed the development and progress of Aviva's Sustainability Ambition (including Climate Goals), non-financial reporting metrics, Aviva's approach and methodology in relation to Scope 3 emissions and Aviva's Climate Transition Plan. The Committee reviewed the content of the TCFD disclosures in preparation for this being voted on at the Annual General Meeting (AGM).
Audit Committee	The Committee oversees climate-related and non-financial reporting and external disclosures and oversees the adequacy and effectiveness of the systems of internal control over climate-related and non-financial reporting.	The Committee reviewed the Climate-related Financial Disclosure including TCFD and recommended its approval to the Board. The Committee agreed the scope of the external auditors' sustainability and climate reporting and assurance, and reviewed the accounting and regulatory changes covering sustainability and climate.
Remuneration Committee	This Committee assists the Board in its oversight of remuneration including consideration of climate metrics and goals as relevant.	In 2022, the Remuneration Committee considered the performance against climate-related metrics for the 2020-2022 Long Term Incentive Plan. The Committee also approved the metric definitions and ambitions for the Aviva plc 2023-2025 Long Term Incentive Plan, including metrics aligned to delivery of our Climate Transition Plan and diversity. The Committee monitored progress against our ambitions on a regular basis.
Group Executive Committee/ Sustainability Ambition Steering Committee	Together with the Board, this Committee sets our strategy, values and shapes our culture.	Aviva's Sustainability Ambition Steering Committee continued to drive and monitor the delivery of our plan and ambitions in 2022 and early 2023. This Steering Committee has delegated authority from the Group Executive Committee.

Governance continued

Our local Investment and Underwriting Committees considered as appropriate the management of climate-related risks and opportunities in our businesses. They ensured these are managed in line with our Sustainability Ambition, risk management framework, risk appetite, risk profile and compliance with local regulatory requirements. Aviva Investors is also embedding climate-related risks and opportunities. We seek to steer a course to Net Zero across investment teams in the company, the application of coordinated exclusions approach and the Climate Engagement Escalation Programme.

Our management's climate roles and responsibilities

The Group Chief Executive Officer (CEO) is accountable for:

- The development and execution of the Group strategy (including climate change plan) in line with policies and objectives agreed by the Board;
- The operational effectiveness and profitability of the Group;
- The leadership of the Group through executive directors and senior management team; and
- The compliance by the Group with legal, regulatory, corporate governance, social, ethical and environmental principles.

Our business CEOs are accountable for:

- Compliance with legal, regulatory, corporate governance, social, ethical and environmental principles; and
- Ensuring that climate is considered as part of the investment, underwriting, product design, pricing and claims processes.

In addition to the responsibilities of the CEOs, other directors and management teams across Aviva are responsible for managing those areas of the business which may affect or be affected by climate change. For example, the Group Chief Operating Officer (COO) is accountable for ensuring the execution of the 2030 Net Zero Operations and supply chain element of Aviva's Climate Ambition including the property, energy and IT decarbonisation, that procurement practices are in line with the SBTi and that our operations are in line with our specific climate targets.

From January 2022, Senior Manager Function accountability for sustainability is being apportioned and agreed at the Executive Committee. The CEOs are responsible for the implementation and oversight of the Aviva Group Sustainability Ambition, including management of sustainability and climate-related risks.

The CROs provide independent opinion and challenge of the business' management of risks including their approaches to risk identification, measuring risk impacts and advising the business on how best to manage and mitigate risk, including sustainability and climate-related risks. The CFOs advise the Board on the firm's financial exposure arising from sustainability and climate-related risks and maintain an appropriate approach to disclosure and regulatory reporting of these risks.

Within our functions we also have individual roles focused on climate-related risks and opportunities.

Internal Audit Review

In 2022 our Internal Audit team completed two risk-based reviews relating to Aviva's Sustainability Ambition (ASA), focusing on: (1) compliance with the Prudential Regulation Authority (PRA) Supervisory Statement SS3/19 reporting requirements1; and (2) the effectiveness of governance and plans to support the execution of ASA initiatives. This provided assurance that there had been significant progress in implementing the requirements of SS3/19 and agreeing business cases for key ASA initiatives.

1. SS3/19 refers to the Supervisory statement 'Enhancing banks' and insurers' approaches to managing the financial risks from climate change' and was published by the PRA in April 2019.

Remuneration

In 2021, Aviva plc's 2021-2023 Long Term Incentive Plan (LTIP) was approved at the AGM, with flexibility for up to 20% to be based on strategic measures. Since 2021, LTIP awards have included climate and Diversity, Equity and Inclusion performance metrics. LTIP awards granted in 2023, with a 2023-2025 performance period, will include one climate (7.5% weighting), one customer (7.5%) and two diversity and inclusion (each 2.5%) metrics. For LTIP awards granted in 2021, the climate metric measures the reduction in CO_2 intensity of shareholders' assets and, from 2022, this was expanded to include with-profit funds.

Aviva Investors was one of the first large asset managers to integrate ESG factors as part of the pay criteria across the firm, including for its investment desk heads. Through its Global Reward Framework, all investment employees should support responsible investment and integrate ESG into their investment processes. ESG metrics and research are embedded in the investment process and form part of the investment scorecard and annual risk attestation.

The Aviva Investors CIO and investment desk heads consider how investment employees demonstrate their commitment to ESG processes as part of the determination of performance and pay outcomes. In addition, in 2023 we expect all Aviva colleagues to include a specific sustainability-focused goal in their performance goal setting process.

Governance continued

Figure 2: Illustrative examples of Aviva's climate-related roles and responsibilities.

Actuarial function
This function is responsible for developing climate methodology, risk appetite and calibrations

Asset and liability management
This function ensures the ALM position is effectively managed and the Strategic Asset Allocation is in line with the business plan objectives

Asset management
This function incorporates environmental, social and governance considerations into investment management

Business planning
This function sets up the business plan in line with the strategy, climate transition plan and risk appetite and identifies mitigation actions

Brand and corporate affairs
This function develops our sustainability strategy, defines the climate action plan, influences the integration with the business, advocates for climate policy, and supports non-financial reporting and communications

Capital management
This function ensures climate considerations are part of the market/credit risks assessment and performs relevant scenario analysis

Claims
This function ensures climate considerations are incorporated into the claims process e.g. 'build back better' and work with customers to help them become more resilient

Compliance
This function ensures all relevant functions meet Aviva's standards and frameworks including climate-related risks and controls

Enterprise risk management
This function ensures climate considerations are part of our risk processes including: Risk opinion and ORSA

External reporting
This function produces the Climate-related Financial Disclosure in line with our customers' expectations and the regulatory requirements

Internal audit
This function assesses and reports on the effectiveness of the design and operation of the controls with respect to climate

Investment
This function ensures the end-to-end investment process factors climate considerations

Legal
This function ensures compliance with climate-related legal requirements

Operations (including IT, property and facilities)
These functions ensure our operational carbon emissions are in line with our ambitions, focusing on reducing our environmental impact through energy efficiency, clever use of technology, using renewable energy sources and minimising the carbon intensity of our car fleet

People
This function ensures we build the required skills and knowledge of our colleagues so we all understand how we can mitigate climate-related risks, grasp opportunities and support the delivery of our ambitions

Pricing/Product development
This function incorporates climate considerations in product pricing and development; to further develop climate conscious products and services, which reward customers for environmentally responsible actions, provide some element of adaptation/resilience or additional cover where possible for those customers at risk of extreme weather impacts

Procurement
This function ensures practices are in line with the Science-based targets initiatives

Reinsurance
This function incorporates climate change considerations in reinsurance arrangements

Sales and marketing
These functions incorporate climate change considerations into how our products are marketed to customers

Strategy
This function considers climate change in strategy development

Underwriting
This function incorporates climate change considerations e.g. ensure our underwriting activities support our goal to be a Net Zero Insurer by 2040

Climate training

Aviva has been building the skills of our Boards and our people with respect to climate considerations for a number of years, to ensure appropriate resources and expertise are developed to inform and manage the associated risks and create climate cultural awareness.

Board greenhouse gas (GHG) accounting training

36 of our Board members, including Group and subsidiary Boards, have had ESG related briefings and capability building. In May 2022, we provided climate change training to the Board, and to the relevant Group and local Committees. The training focused on an introduction to greenhouse gas (GHG) accounting: Scope 1, 2 and 3. This included measuring Scope 3 Category 15 (Investments), the financial implications of pursuing our Net Zero ambition for investments, and the role of finance in the production of climate and sustainability metrics. This equips our senior management to give appropriate direction and ensures challenge, guidance and support is given to the executives.

Mandatory climate training

Annually since 2021, as part of our Essential Learning training1, our employees have completed mandatory climate training to learn about its implications for our planet and our business. In 2022, 99.60% of our employees completed the climate training. We also continued to develop climate training available on request, to all Aviva employees, via Aviva University and provide access to United Nations Global Compact Academy learning. More in-depth training has also been deployed to those who hold direct responsibilities to identify, manage, measure and report climate-related risks and opportunities.

'ESG Know How' programme

In 2021, Aviva Investors developed our 'ESG Know How' programme. This training is designed to provide practical support and guidance to financial advisers to help them navigate the ESG landscape, understand the regulatory changes that may affect business and provide guidance on advising their clients about ESG. Paused in 2022 to make wholesale updates to reflect recent developments in the ESG field, we expect the improved programme to return in 2023.

1. For context, our Essential Learning consists of modules such as Business Ethics, Financial Crime, Health and Safety, Managing Risk and Data and Staying Safe Online. The Climate module covers regulatory requirements, Aviva's climate change plan and how Aviva is embedding this risk into our governance, risk management and reporting. The full definition is set out in the Aviva Reporting Criteria 2022.

Regulatory developments

There are a number of regulatory developments that we have identified that will impact our reporting in 2023 and beyond.

International Sustainability Standards Board

During 2022, the International Sustainability Standards Board (ISSB) has consulted on the exposure drafts for the first IFRS Sustainability and Climate Disclosure Standards.

Aviva actively engaged in the consultation period, responding directly to the ISSB and inputting to collective responses from the Association of British Insurers, the Institute of Chartered Accountants of England and Wales and the CFO Forum.

The implementation of the reporting standards will not be without challenge, including availability of data and limitations of methodology. Aviva supports the ISSB and the implementation of a global baseline for sustainability-related financial disclosure requirements.

Nature-related reporting

Aviva Investors is a supporting member of the Taskforce for Nature-related Financial Disclosure (TNFD) Forum which will enable organisations to report and act upon evolving nature-related risks and opportunities, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and towards nature-positive outcomes. The final recommendations for TNFD are expected in the second half of 2023. Under our biodiversity policy we committed to review and comment on the TNFD framework to ensure Aviva's views are represented and ensure we understand the application of the framework. Aviva will continue to develop nature-related reporting aligned to TNFD and in compliance with regulatory requirements. Further information on Aviva's approach to biodiversity reporting is included in the Appendix.

Sustainable disclosure requirements

The FCA published their consultation on Sustainability Disclosure Requirements (SDR) and Investment labels in late 2022. The new measures include investment product sustainability labels and restrictions on how terms like 'ESG', 'green' or 'sustainable' can be used. The requirements focus on asset managers and their UK-based funds.

It is expected the new rules will be published in the form of a Policy Statement by the end of the first half of 2023.

Green Taxonomy

The UK government is implementing a UK Green Taxonomy in order to define which economic activities count as environmentally sustainable. The taxonomy is expected to draw on the EU taxonomy and will be designed to be compatible with other international frameworks.

It is expected that Aviva will be required to report on the level of alignment of our activities with the taxonomy. The reporting detail including scope and timing requirements will be determined following consultation.

The UK's Green Technical Advisory Group (GTAG) published its advice on the development of the UK Green Taxonomy in October 2022 and advised, given government changes in 2022, to provide a longer timeframe to enable greater time for market consultation.

Transition Plan Taskforce

The UK Transition Plan Taskforce (TPT) was set up by the UK Government in April 2022 to develop the gold standard for private sector climate transition plans in the UK. The TPT will build on the work done by Glasgow Financial Alliance for Net Zero (GFANZ), TCFD and ISSB.

The TPT steering group is co-chaired by Amanda Blanc. We have representatives on the delivery group as well as the sandbox road testing workstream.

The TPT has published a consultation with a deadline of late February 2023 on the TPT disclosure framework, as well as implementation guidance. The final framework and guidance is due to be published by summer 2023, along with final sector guidance due by autumn/winter 2023.

We will review the final guidance when issued and look to publish an updated climate transition plan, after that.

Sustainability is one of Aviva’s four strategic priorities

Our climate strategy, risks and opportunities

The ways in which the insurance sector could be affected by the climate crisis are diverse and are interconnected with other sustainability issues. Our strategic response focuses on the transition, physical and litigation risk factors and related opportunities.

Risk materiality

The material climate-related impacts were described in the Prudential Regulation Authority (PRA) 2015 report 'The impact of climate change on the UK insurance sector' and are defined by Aviva as follows:

- **Transition risks** relate to the business impact resulting from the transition to a low carbon economy. This may entail extensive policy, legal, technology, and market changes designed to mitigate climate change. As a result, depending on the nature, speed and focus of these changes, transition risks may pose varying levels of financial and reputational risk to organisations.
- **Physical risks** relate to the business impact arising from acute, abrupt and disruptive impacts such as more frequent and intensive storms, extreme heat and cold, floods, droughts and fires, as well as chronic gradual impacts such as higher than average temperatures, rises in sea levels and the spread of vector-borne diseases. The risk includes the effects directly resulting from events, such as damage to property, and those that may arise indirectly through subsequent events, such as the disruption of global supply chains or resource scarcity.
- **Litigation risks** relate to the business impact that could arise from parties who have suffered loss and damage from climate change and seek to recover losses from others who they believe may have been responsible. Where such claims are successful, those parties against whom the claims are made may seek to pass on some or all of the cost to insurance firms under third-party contracts.

Risk horizons

The materiality and horizons over which climate-related risks and opportunities affect our business depend on the specific insurance products, geographies and investments being considered. For example, our general insurance business considers risks in the underwriting and pricing processes and in setting the reinsurance strategy based on a relatively short time horizon (one to three years). Aviva recognises that the increased severity and frequency of weather-related losses have the potential to negatively affect our profitability.

Consequently, large catastrophic losses are already explicitly considered in our economic capital modelling to ensure resilience to such catastrophic scenarios.

In contrast, when developing our new product strategy and updating Aviva's overall business plan, the impact of these risks and opportunities is considered over a medium time horizon (three to five years). And with respect to life and pensions, in areas such as setting premium rates and reserves for annuities in payment as well as our investment strategy to back those liabilities, the impact of these risks and opportunities needs to be considered over a much longer time horizon (five years plus).

Climate-related risks and opportunities for the business

In the following table, we have provided a summary description of the material climate-related risks and opportunities that we are or could become exposed to and the time horizons over which they could manifest. Further details on these and other risks and opportunities are provided throughout this report. We model the impacts of climate change on our business under different temperature pathways using our climate scenario analysis. The output of this modelling along with other analysis, research, data and metrics informs our strategic response to mitigate, transfer, accept or control our exposure to climate risks, which are expected to manifest in the short, medium and long-term.

Our exposure to climate risk is more severe under higher temperature pathways, meaning we need to lead by example and support a co-ordinated global response to the low-carbon transition to limit both ours, and humanity's, exposure to climate breakdown.

Transition opportunities to the low-carbon economy are expected to manifest in the short, medium and long-term, therefore it is vital to ensure we are equipped to respond to these opportunities, to provide long-term value to our shareholders.

We consider climate-related risks and opportunities for our asset manager, asset owner, savings and pensions provider roles together, in context of the underlying assets. We consider the climate-related risks and opportunities separately for our insurance business.

Our climate strategy, risks and opportunities continued

Climate-related impacts	Description for short to medium term risks / opportunities	Description for Medium to long term risks / opportunities
Risks	**As an Asset Manager, Asset Owner, Savings and Pension Provider:** • Reduction in returns from company investments in highly carbon-intensive companies and sectors, where those companies are not taking action to transition to a low carbon economy (short- to medium-term). • Reduction in returns from real assets that are not compatible with the transition to a low carbon economy (short- to medium-term).	**As an Asset Manager, Asset Owner, Savings and Pension Provider:** • Reduction in returns from company investments due to extreme weather events as well as chronic effects that could impact many different types of companies and sectors, especially those not taking sufficient action to build resilience and adapt to climate change (medium- to long-term). • Reduction in returns from real assets due to extreme weather events as well as chronic effects which present financial risks through loss of revenue from business interruption and/or increased capital costs to repair assets (medium- to long-term). • Reduction in returns from sovereign holdings where countries are exposed to the transition to a low carbon economy or physical effects of climate change and are not able to mitigate or adapt and build resilience to these (medium- to long-term). **As an Insurer:** • Disruption to the general insurance market, for example a move to electric and autonomous vehicles and sharing economy or changes in extreme weather that impact product design and demand as well as affordability of insurance products in some cases (medium- to long-term). • Disruption to the life insurance market as a result of potential changes in morbidity or mortality rates as a result of less air pollution due to the transition to a low carbon economy, or a reduction in healthcare spending and an increase in the prevalence of certain health conditions in higher temperature scenarios (medium- to long-term).
Opportunities	**As an Asset Manager, Asset Owner, Savings and Pension Provider:** • Enhanced returns on company investments aligned with the transition to a low carbon economy (short- to medium-term). • Enhanced returns on real assets aligned with the transition to a low carbon economy (short- to medium-term). **As an Insurer:** • Develop climate-conscious general insurance products and services that support the transition to a low carbon economy and reward customers for environmentally responsible actions and help to build resilience to climate change (short- to medium-term). • Develop climate-conscious savings and retirements products and services that enable and incentivise climate-positive behaviour from customers (short- to medium-term).	**As an Asset Manager, Asset Owner, Savings and Pension Provider:** • Enhanced returns on company investments which are resilient to the physical effects of climate change (medium- to long-term). • Enhanced returns on real assets which are resilient to the physical effects of climate change (medium- to long-term). • Enhanced returns from sovereign holdings where countries are committed to the transition to a low carbon economy and are resilient to physical effects of climate change (medium- to long-term).

Our climate metrics help us to manage the potential financial impact of climate-related risks and opportunities and these are set out in the Metrics and targets section.

Our climate strategy, risks and opportunities continued

Science-based targets (SBTs)

In 2022 we have achieved validation of our SBTs from the SBTi and these are set out below. Achieving validation is part of our climate roadmap, announced in March 2021 and our Climate Transition Plan announced in March 2022. We expect to publish our progress against these targets in our 2023 Climate-related Financial Disclosure report.

Note that these targets and coverage % include all in-scope external client assets managed under discretionary mandates.

Aviva science-based target	Key performance indicator identified
Aviva plc commits to reduce absolute Scope 1 and 2 greenhouse gas (GHG) emissions by 90% by 2030 from a 2019 base year	% reduction in absolute Scope 1 and 2 emissions from 2019 base year
Aviva plc commits to 70% of its suppliers by spend, covering purchased goods and services, setting SBTi validated targets by 2025	% of suppliers by spend covering purchased goods and services that have signed up to SBTs
Aviva plc commits to reduce its real estate investment portfolio GHG emissions 57% per square metre within its real estate by 2030 from a 2019 base year.	% reduction in real estate portfolio GHG emissions per square metre (m^2) from 2019 base year
Aviva plc commits to continue providing electricity generation project finance for only renewable electricity through to 2030	Number of non-renewable electricity generation project finance projects financed (baseline is nil)
Aviva plc commits to 33% of its corporate equity, bonds and loans portfolio by invested value setting SBTi validated targets by 2025	% coverage corporate equity, bonds and loans by SBTi approved companies (weighted average)

Net Zero Asset Owners Alliance (NZAOA) targets

Aviva has also set two sub-portfolio targets through the United Nations-convened NZAOA. These are outlined below along with the KPIs which are used to track them.

Net Zero Asset Owner Alliance-based target	Key performance indicator identified
25% reduction in real estate carbon intensity by 2025 from a 2019 base year	% reduction in direct real estate portfolio GHG emissions per square metre (m^2) from 2019 base year
25% reduction in weighted average carbon intensity for the listed equity and corporate bonds portfolio by 2025 from a 2019 base year	% reduction in listed equity and corporate credit weighted average carbon intensity (WACI) by revenue from 2019 base year

Additional links

> **SBTi validated targets for Aviva plc**

Our climate strategy, risks and opportunities continued

Embedding climate-related planning into the Aviva business planning process

Aviva Group, business units and control functions develop three year business plans, on an annual basis, to ensure our strategy is appropriately translated into operational and financial plans to secure delivery of our near-term ambitions and set the path towards our longer-term strategic goals.

In developing these plans, each area will consider the external market context, undertake rigorous prioritisation of initiatives, including understanding and evaluating commercial and financial implication and trade-offs, and assess key risks and opportunities.

Draft business unit and function plans go through a robust series of local and Group-level review and challenge, including Group/business unit CEO and CFO review sessions. The draft Aviva Group business plan is presented to the Aviva plc Board in November (generally) for review and challenge. The final Aviva Group business plan is presented for approval in December after addressing key challenges and actions from the Aviva plc Board. The Group business plan is used to set annual remuneration targets, financial and non-financial, for both the Group annual bonus plan and the executive long term incentive plan.

Inclusion of climate and non-financial areas in business plans

Climate planning was more formally embedded into the overall Aviva Group Business Planning process in 2020 (Plan 2021-23), along with a number of other strategically important non-financial areas (e.g. diversity, equity and inclusion, customer performance etc).

Guidance and aiming points to deliver the flightpath towards Aviva's climate strategy ambition across key metrics were developed and communicated to businesses working with the Group sustainability and risk teams. The latest planning round (2023-25), included a request to business units to look beyond the three to five years and provide further indications of the plans out to our 2030 climate ambition including the 60% reduction in carbon intensity of investments, and the Net Zero target for operations and supply chain.

We will continue to develop and enhance the process and approach going forward and align it to our Climate Transition Plan.

Our Climate Value at Risk measure

Scenario analysis is a key tool for helping to identify the potential impact of climate change on an organisation and its end to end value chain.

One of the inputs into our climate risk assessment process is the scenario analysis performed through our Climate Value-at-Risk (VaR) measure. This measure enables the potential financial impacts of future climate-related risks and opportunities to be assessed through different Intergovernmental Panel on Climate Change (IPCC) scenarios and in a blended aggregate scenario[1] as well as providing an indication of the resilience of our strategy.

In this section we outline how we have developed our Climate VaR metric, the data inputs, current calculation methodology and its continuing evolution.

We have been guided by experts

Climate impacts have the potential to affect insurers' balance sheets as well as the long-term business model. In order to address this challenge, Aviva has developed a Climate VaR measure to assess the financial exposure and resilience of our business and strategy to different climate scenarios.

To support the development of Climate VaR, an inter-disciplinary team has been created with representation from across the business and an expert panel has been set up to review and challenge the main assumptions made in the selection, development and modelling of the financial impacts across scenarios.

The panel includes internal experts as well as external experts: Dr Frank Venmans, Dr Joana Setzer and Dr Viktor Roezer from the Grantham Research Institute on Climate Change and the Environment at the London School of Economics; Dr Paul Pritchard, an Independent Sustainability Advisor; and Dr Julius Kob and Dr Katharina Dittrich from Warwick Business School.

Underpinned by science

The IPCC has identified potential future scenarios with respect to climate change[2]. Each scenario describes a potential trajectory for future levels of greenhouse gases and other air pollutants. Some of these can be mapped to likely temperature rises by 2100 and levels of economy-wide mitigations required:

- 1.5°C (aggressive mitigation);
- 2°C (strong mitigation);
- 3°C (some mitigation); and
- 4°C (no further mitigation).

The IPCC Global Warming of 1.5°C report, published in October 2018, highlights the need to take dramatic action now to keep warming below 1.5°C and the potential severe consequences, if this is not achieved.

A bespoke approach for our business

We calculate a Climate VaR for these four scenarios, reflecting the different emission projections and associated temperature rises. We also aggregate these outputs to determine the overall impact across all scenarios by assigning relative likelihoods to each scenario[3].

The climate-related transition and physical risks and opportunities modelled are tailored to the impacts we observe across our diverse range of asset classes and product offerings:

- Transition: covers the projected costs of policy action related to limiting greenhouse gas emissions and projected profits from green revenues arising from the development of new technologies and patents across the market. We also recognise there is a growing trend in climate-related litigation and have qualitatively assessed its potential exposure accordingly; and
- Physical: covers the financial impact from extreme weather (e.g. flood, wind storm and tropical cyclones) and chronic effects (e.g. heat and cold, heavy precipitation and snowfall or wind gusts), although we recognise that the most extreme physical effects will only be felt in the second half of the century.

The Appendix details our methodology on how risks and opportunities are calculated by asset class and product line.

Challenges with data and approach

Quantifying the impacts of climate change is an emerging practice, with inherent uncertainty in the approach taken as a range of scenarios are assessed.

It is challenging to obtain consistent asset data across our entire portfolio. As more consistent emissions data becomes accessible, this will improve our ability to accurately measure Climate VaR.

We leverage MSCI's methodology to assess the exposure to our credit, equity and real estate assets. To ensure we are covering other asset classes as well as our underwriting portfolios and the potential VaR from climate, we have used qualitative frameworks, such as the ClimateWise Infrastructure Framework, and quantitative tools to estimate the potential exposure and opportunity of other assets and liabilities. We continue to work with industry bodies to create industry-wide methodologies to drive consistency across the sector.

1. See Appendix for more details of our Climate VaR methodology and the MSCI model
2. The IPCC Sixth Assessment Report (AR6) provides an overview of the state of knowledge concerning the science of climate change
3. The Unconditional Probability Distribution of Future Emission and Temperatures; Frank Venmans and Ben Carr; November 2022. **https://www.lse.ac.uk/granthaminstitute/publication/the-unconditional-probability-distribution-of-future-emissions-and-temperatures/**

Our Climate Value at Risk measure continued

Our methodology is continuing to evolve

With methodologies and data becoming available, we continue to develop and broaden the scope of our work. We made several methodology improvements in 2022. In particular, we incorporated:

- A greater number of physical risk scenarios from MSCI covering different temperature levels of global warming;
- A wider range of climate transition scenarios, covering different integrated assessment models and emissions pathways; and
- An updated methodology for calculating VaR impacts for our sovereign holdings, utilising recent research[1] on sovereign bond downgrades under different emissions scenarios.

Further details of our Climate VaR methodology can be found in the Appendix.

Deepening Aviva's capabilities

We will continue to build upon the current methodology:

- Review the baseline against which impacts are assessed, as part of our ongoing preparation to disclose quantified Climate VaR impacts;
- Further enhance our physical risk modelling in order to improve perils covered and granularity of analysis; and
- When available, consider incorporating MSCI's new sovereign bond VaR methodology.

Climate VaR Findings

Aviva has been reporting on this metric since 2018. Figure 1 compares a plausible range of outcomes (5th to 95th percentile) from our Climate VaR analysis for the different scenarios considered. Aviva's strategy is resilient to climate-related risks and opportunities in all scenarios.

Similar to last year, in all scenarios the impact on insurance liabilities is more limited than on investment returns. However, there is potential for some impact on life and pensions business as a result of changes in mortality rates in different scenarios either from physical effects such as more extreme hot and cold weather or transition effects related to changes in pollution levels. The impact on general insurance liabilities is mitigated by the short-term nature of the business, the ability to re-price annually, and by our reinsurance programme. However, the physical effects of climate change will result in more risks and perils becoming either uninsurable or unaffordable over the longer term.

Figure 2a shows that, as to be expected, the proportion of transition risk reduces as we move to higher temperature pathways. Note that physical risk is present even in the transition scenarios.

Figure 2b shows the split of climate-related impacts to Aviva by exposure type; this is dominated by credit, equities and sovereign holdings.

4ºC insights:

Aviva is most exposed to the 4°C scenario where physical risk dominates, negatively impacting long-term investment returns on credit, equities, real estate and sovereign holdings.

1.5 - 2ºC insights:

Our results show there is a clear benefit in terms of keeping temperature rises well below 2°C.

Physical risk impacts are more limited in these scenarios, but there is still downside risk on long-term investment returns from carbon intensive sectors (for example utilities) as a result of transition policy actions. This is offset, partially, by revenues on new technologies from some sectors (for example automotives).

There is inherent uncertainty in the modelling as well as sensitivity to underlying methods and assumptions. It is also the case that many of the socio-ecological benefits and the reduced risk of reaching climate tipping points in a 1.5°C scenario are not captured in this analysis. Furthermore, maintaining an option on limiting warming to 1.5°C means targeting it now[2].

Figure 1: Aviva's Climate VaR output by scenario for shareholder funds as at 31/12/2022. Source: Aviva

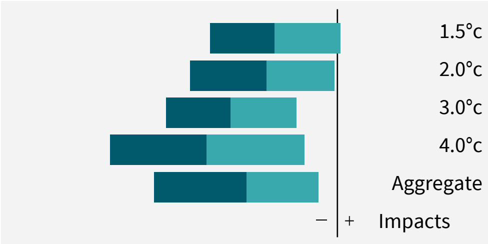


Figure 2a: Transition versus physical risk by scenario for Aviva's shareholder funds (credit, equities and real estate) as at 31/12/2022. Source: Aviva

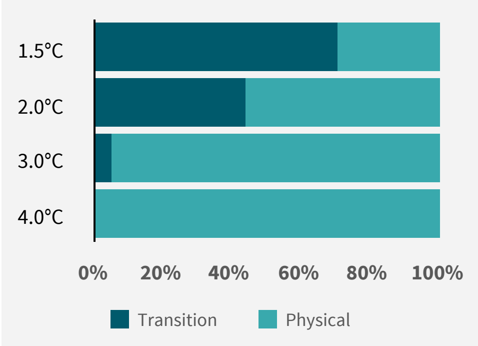


Figure 2b: Proportion of Climate VaR aggregated impacts split by exposure type for Aviva's shareholder funds as at 31/12/2022. Source: Aviva

Credit	24 %
Equities	28 %
Sovereign	23 %
Other (including real estate, infrastructure and insurance)	25 %

1. Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness; March 2021. **https://www.bennettinstitute.cam.ac.uk/publications/rising-temperatures-falling-ratings/**
2. "The Economics of 1.5°C Climate Change"

Our strategic focus

The findings from Climate VaR make it clear that we need to be strategic in our response, by managing our exposure to physical impacts and seizing the opportunities of contributing to the low carbon future. Our Climate Transition Plan is the roadmap to achieve this across our business. To deliver on our climate ambition, and reduce our exposure to climate-related risks, we focus on five key areas:

Accountability and leadership

We advocate for systemic change to the international financial architecture so we can collectively deliver on the goals of the Paris Agreement.

We collaborate across our industry through global alliances such as Glasgow Financial Alliance for Net Zero (GFANZ), United Nations backed Net Zero Asset Owner Alliance (NZAOA), United Nations backed Net Zero Insurance Alliance (NZIA), Net Zero Asset Managers initiative (NZAM) and ClimateWise.

In this section:

- Accountability and Leadership

Decarbonising our investment portfolio

Our ambition is to be Net Zero in our portfolio by 2040.

We have targeted the 30 largest global polluters in our Climate Engagement Escalation Programme.

We published our One Aviva ESG Investment Baseline Exclusion Policy and implemented an investment Stoplist for companies making more than 5% of revenues from thermal coal, and 10% of revenues from oil sands and Arctic drilling, and divested our existing holdings.

We have £8.2 billion of sustainable assets and aim for £6 billion investment by 2025 from beginning of 2020.

By 2025, we will invest £2.5 billion in low carbon and renewable energy infrastructure.

We have committed £10 billion of assets from our auto-enrolment default funds and other policyholder funds into lower carbon strategies.

In this section:

- Decarbonising our investment portfolio
- Integrating climate risks and opportunities into our investments
- Improving sustainability outcomes linked with sovereign debt

Insuring a Net Zero future

We have set our ambition to become a 'top 3' insurer in the London Market Renewable Energy Sector by 2022.

We have published our ESG Baseline Underwriting Statement which clearly defines the activities we exclude as an insurer including in respect of the highest emission fuels.

We have committed to making our claims management process Net Zero by 2030.

In this section:

- Offering climate conscious products
- Decarbonising our insurance portfolio

Decarbonising our operations and supply chain

We have committed to being Net Zero in our operations and supply chain by 2030.

We have committed to using 100% renewable electricity for all our offices by 2025.

We have committed to moving our global fleet of 1,540 vehicles to electric by 2025 via EV100. We have reduced the overall size of the fleet to 718 vehicles, and by 2022 44% of these vehicles were EVs.

In this section:

- Decarbonising our operations and supply chain

Embedding climate in our culture

Our staff pension scheme trustees aligned the scheme to be Net Zero by 2040.

ESG considerations have been incorporated into the decision-making process at Aviva throughout the business; in investments, underwriting, procurement, projects, planning, governance etc.

Our employees have volunteered and fundraised through the Aviva Foundation, Aviva Community Fund (ACF) and our partnership with the World Wide Fund for Nature (WWF).

In 2021, the UK business introduced an employee EV salary sacrifice scheme. Since then 230 employees have ordered vehicles and 112 employees have received them.

In this section:

- Embedding climate in our culture

Accountability and leadership

One way to manage the risks caused by the transition and physical risks of climate change is to drive and lead change.

We are committed to pushing for a better tomorrow

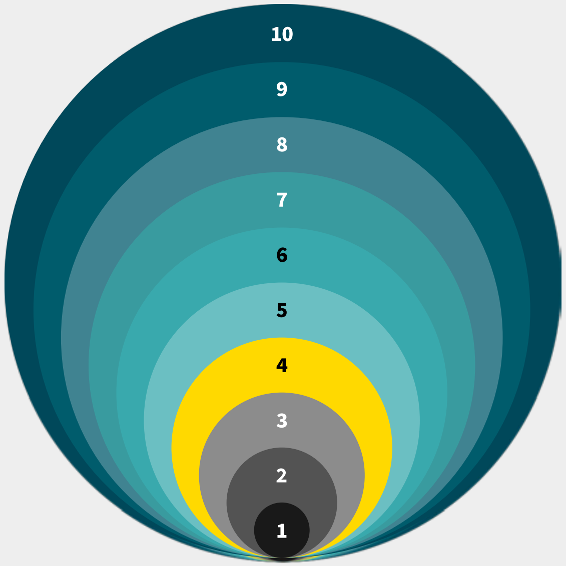
At Aviva, we are proud of our leadership role in society and acting out our values. We can control our own operations, but also have significant influence through the £352 billion in assets that we have stewardship over, alongside the innovations and customers we support via our insurance.

What are we doing to drive the required change?

The climate crisis is a collective problem that necessitates collective action in its solutions. For Aviva, this means we need to lead the way and bring our employees, industry peers, and communities on the journey with us. Some of the key actions include:

- We have an ambitious carbon reduction plan, with our internal operations and supply chain being Net Zero by 2030 (See section: Operational carbon emissions and supply chain);
- We have been leading the debate for decades (See timeline section: Our climate story); and
- We are driving cultural transformation within our organisation (See section: Embedding climate across our culture).

Figure 3: Our spheres of influence. Source: Aviva



10. **Planetary boundary —** We are advocating for planetary considerations within regulation and financial markets.
9. **Civil society —** Advocating for change will gather attention, civil society can demand more from governments and policy setters to implement change.
8. **International Financial Architecture (IFA) —** Advocate for systemic rewiring of the IFA to provide specific mandates to all regulators and standards setter to play their role in creating and stewarding an international financial transition plan for Net Zero.
7. **Sovereign debt —** We work with sovereigns to encourage participation in international alliances such as the Network of Central Banks and Supervisors for Greening the Financial System (NGFS).
6. **International Financial Institutions (IFIs) Issuers —** Aviva can partner with issuers to provide multilateral development funding for climate action projects.
5. **Real asset and infrastructure —** As an investor and insurer of infrastructure we can support green innovation as well as excluding fossil fuel projects from our investments and insurance boundaries.
4. **Investee and insured companies —** We can use our influence as shareholders to vote for climate action. As a major insurer we can choose which products we insure and influence our peers to follow suit.
3. **Influence with our peers —** Within the alliances we operate we can collaborate and seek to influence companies we invest in and policy decisions.
2. **Our business and its influence —** Aviva can influence our suppliers and use our purchasing power to demand change.
1. **Clients and end beneficiaries —** We provide insurance coverage to enable the use of green assets such as solar panels and electric vehicles. We can use exclusion lists and choose not to work with high-carbon emitters who are not transitioning.

Accountability and leadership continued

- Signed up to science-based target initiative SBTi for Scope 1 and 2, supply chain, and certain investment emissions (including credit and equities).
- Committed to an electric future by EV100, switching our company car fleet to electric vehicles and installing EV charge points by 2025.
- We have committed to improve biodiversity through our Terra Carte Pledge and financing for biodiversity.
- We set out here three activities we are particularly proud of:

A. Ownership

As a responsible investor, we have decided to take active ownership of our investment portfolios to achieve our Net Zero goal. There are differing views on this, but we believe that divestment would be an easy option and change little in the real world. We want to be an active owner and use our position in the market to push companies we invest in to commit to ambitious climate action – and drive the economic transition required.

B. Insurance to enable the transition

Insurance is a key pillar that the financial system is dependent on, giving Aviva significant influence on company behaviour and activity. In 2019, we made a bold commitment to exit the insurance of fossil fuel power generation assets and replaced this with a renewable insurance offering.

C. Influencing systemic change

Aviva takes its responsibility to influence systemic change, to nudge us all towards a just transition. We are doing this in many ways, from the innovative financial products we offer in the market, through using our voice in alliances such as the GFANZ, NZAOA, NZIA, IIGCC, Transition Pathway Initiative and Climate Action 100+.

Alliances	2022 Progress	Impact
Glasgow Financial Alliance for Net Zero (GFANZ)	We contributed to many of the key financial-sector initiatives launched at and ahead of COP27, including the GFANZ Framework for Financial Institution Net-Zero Transition Planning and a Call to Action to G20 governments.	GFANZ is working as an alliance across finance to turn commitments into action and to mobilise private capital by bringing together existing and new Net Zero finance initiatives.
Net Zero Asset Owner Alliance (NZAOA)	Aviva has contributed to the NZAOA's second progress report - 'Advancing Delivery on Decarbonisation Targets' and is represented as a co-lead of the Monitoring, Reporting and Verification working track as well as involvement is some further work streams.	Financial services can better tackle the challenges of transitioning to a low carbon economy, such as improving metric quality, by collaborating and aligning methodologies.
Net Zero Insurer Alliance (NZIA)	Aviva has contributed to the development of the NZIA target setting protocol. We were also one of the 16 members of the Partnership of Carbon Accounting Financials (PCAF) Insurance-Associated Emissions Working Group that developed the first-ever accounting standard to measure greenhouse gas emissions associated to insurance portfolios. The standard covers commercial lines and personal lines motor.	Incorporating the weighted carbon intensity into underwriting decisions will help insure the transition to a climate resilient, low carbon economy.
Net Zero Asset Managers' initiative (NZAM)	Aviva Investors reported its progress against its Net Zero ambition through the NZAM reporting framework, which in 2022 was embedded within the CDP reporting process.	Asset managers, in common with all financial market participants, have a key role in supporting the transition to a Net Zero economy. This includes undertaking advocacy for the enabling policy environment needed to make the transition possible, which is a key part of the NZAM commitment. Aviva Investors have used their influence to promote policy reform that will support the Net Zero transition, including advocating for reform of the international financial architecture to align with a just transition to Net Zero.
World Benchmarking Alliance (WBA)	In 2018, we launched the WBA, who publish free and transparent benchmarks ranking companies on contributions towards achieving the UN sustainable development goals (SDGs). In 2022, the WBA launched new benchmarks on nature, measuring the world's most influential companies on their efforts to protect our environment and its biodiversity; corporate human rights; transport, and the financial system. In this last benchmark the WBA rated Aviva second out of 400 financial services companies globally through the measurement areas of governance and strategy, respecting planetary boundaries, and adhering to societal conventions.	By devising SDG performance metrics, investors have the information they need to make sustainable investment decisions within certain industries. We expect capital to move towards sustainable business as the metric quality is improved.

Accountability and leadership continued

We were actively engaged with policy makers, business and industry at COP27, supporting the announcement to make the UK the first Net Zero financial centre and requirement for businesses to issue a climate transition plan – we published a joint report with the WWF earlier this year asking the chancellor to mandate Net Zero transition plans aligned with a 1.5°C future, demonstrating again how we advocate for real change.

Pioneering socially responsible investments

- In November 2022 Aviva completed an investment which will see it provide all senior debt financing towards the construction of the first school as part of the Welsh 21st Century Schools and Colleges Programme.
- The development of the Mynydd Isa campus in Flintshire is the first of its kind for a school in Wales under the country's Mutual Investment Model, as well as being just the second confirmed public-private partnership (PPP) transaction in the country. The campus will be an all-through school, providing improved access to first-class primary and secondary education for its pupils. The school is expected to be operational from Autumn 2024.
- A key pillar of the project is the heavy focus on sustainability with the aim of delivering a Net Zero carbon building. Both the construction and operational phases of work will provide apprenticeships to a number of young people as part of the programme.

It takes Aviva. This social infrastructure project embodies our values as a business; supporting the UK's growth and levelling up agenda, prioritising benefits and opportunities for the local community and incorporating sustainability-led thinking to drive the transition to a low carbon economy.

Climate Financial Risk Forum Scenario Analysis tool

At Aviva, we're keen to not only grow and evolve our own climate responsibilities and reporting, but to have a broader impact on the climate reporting landscape by paving the way for others, and influencing widespread change.

Aviva has led a cross-industry Scenario Analysis Working Group of the Prudential Regulation Authority and Financial Conduct Authority's Climate Financial Risk Forum, which provides practical guidance on how to use scenario analysis to assess climate-related financial risks to inform firms' strategy and business decisions. This working group has also externally shared a climate narrative tool. The tool is aimed at banks, asset managers and insurers of all sizes, and may be of interest to other institutions, such as pension schemes, as well as firms with operations outside of the UK. This tool can be accessed from the Climate Financial Risk Forum pages: **Climate Financial Risk Forum | Bank of England.**

Decarbonising our investment portfolio

The emissions from our shareholder and policyholder investments represent the largest proportion of our overall carbon footprint. This is where we are focusing our decarbonisation efforts, and seeking to drive the transition to a low carbon future.

The emissions from our investments are captured as part of Scope 3 category 15 reporting under the Greenhouse Gas (GHG) Protocol and are the most challenging area of emissions reporting due to lack of mature methodologies and availability and quality of emissions data. As the largest share of our total GHG emissions, we continue to focus on changes in this area whilst we further develop our reporting capability to support our disclosure.

As an asset owner, asset manager, and long-term savings and pensions provider, we are able to influence the global transition to lower carbon economies through our responsible investment.

Our assets span investments in international economies, real estate, infrastructure projects and companies around the globe. These investments help our customers save for their future.

We seek to align our investments with a pathway towards Net Zero and ensure consistency with the 1.5°C Paris ambition. The stark probability of the world reaching the 1.5°C threshold by 2030 means that we all have to double-down on our efforts. That's why we aim to drive the transition of all assets as early as possible and to Net Zero by 2040. This is a decade ahead of the Net Zero Asset Owners Alliance commitment of transitioning portfolios across all asset classes to Net Zero emissions by 2050 and most economies' Net Zero targets.

We recognise that this ambition is not easy, and therefore it is very important that we track our progress very closely. As part of our Climate Transition Plan, we outlined how we calculate our portfolio emissions and have set ambitions for how we will measure our portfolio transition.

Measuring decarbonisation success

Our ambition is to reduce the carbon intensity of our investments by 25% by 2025 and 60% by 2030 (from a 2019 baseline).

By the end of 2022, we had reduced the weighted average carbon intensity by revenue (refer to our climate reporting policies) of our credit and equity investments (shareholder and with-profits portfolio only) by 39% compared against a 2019 baseline.

We also provide a temperature alignment score to show our level of alignment to a 1.5°C global warming pathway. See note 9 - Temperature alignment.

SBTi and NZAOA developments

Aviva committed to the Science-based targets initiative (SBTi) and the Business Ambition for 1.5°C in March 2021. Our targets were validated by SBTi and publicly announced in 2022 - see 'Our climate strategy, risks and opportunities' section.

Our science-based targets cover not only our Scope 1 and Scope 2 (market based) GHG emissions but include specific targets over our suppliers as well as our investment portfolio (including credit and equities, electricity generation project finance and real estate), which is the most material category of emissions across our value chain.

Aviva has set two sub-portfolio targets through the UN-convened NZAOA. Further detail on how the targets are tracked is included in note 5.

Decarbonising our investment portfolio continued

We are involved in investments in three ways:

Asset owner

As an asset owner, we are the decision maker about where equity and real estate investments are made, though our ultimate influence over the target entity depends on the size of our investment.

Asset manager

As an asset manager, we will act as long-term stewards of our clients' assets, and will seek to decarbonise our assets and portfolios and align with a Net Zero pathway where possible.

Savings and pension provider

For long-term savings and pensions products, we are investing customers' money and they are the decision maker as to where their funds are invested. To assist our customers, we integrate consideration of long-term climate-related issues into the products and services we offer.

It takes a range of levers to decarbonise

The first three levers within our portfolio decarbonisation strategy focus on reducing our exposure to the most harmful practices through engagement, policy and risk management processes, with the final two levers focus on grasping the opportunities arising from transition.

To operationalise our Net Zero pledges, we will work with a full set of levers across five main areas:

- Active ownership: using our voice and vote to pressure companies and directors;
- Divesting where necessary and applying portfolio constraints for high carbon emitting sectors and individual names;
- Tilting investments towards cleaner sectors and the best companies within sectors;
- Financing the transition: grasping the opportunity of a low carbon economy; and
- Providing products and services for our customers and tools to interrogate their portfolio.

Active ownership

The 'Engagement First' philosophy of Aviva Investors promotes the relative merits of engagement over divestment as the more effective mechanism of delivering positive change and real outcomes for our clients and society.

Climate Engagement Escalation Programme (CEEP)

Aviva Investors' three-year Climate Engagement Escalation Programme (CEEP) is focused on the 30 most systemically important carbon emitters across our credit and equity portfolios that contribute approximately a third of all global emissions, considering their Scope 3 footprint.

Companies subject to CEEP have been given notice that if certain expectations regarding the management of climate change risk are not met within acceptable timeframes, then Aviva Investors will fully divest its holdings in those companies.

Phase 1 launched in January 2021 when letters were sent to all Board Chairs communicating our expectations of what constitutes a robust climate strategy and approach.

Below we provide an overview of our five key requests for change. We view these criteria as key to robust Net Zero aligned business strategies.

Summary of key expectations:

Climate ambitions: 2050 Net Zero Scope 3 targets for entirety of business operations, validated by SBTi.

Transition plans: Integrate de-carbonisation roadmap into corporate strategy, include near-term goals.

Management incentives: Effective Board oversight and meaningfully reflect climate targets in variable pay plans for senior leadership and wider business.

Climate disclosures: High quality TCFD disclosures including scenario analysis

Climate lobbying: Transparency over and Paris-alignment of all lobbying activities.

As of the time of writing, we have undertaken 213 engagements across the CEEP focus group. These engagements have spanned one-on-one meetings, conference calls, and participation in industry events and workshops.

While not yet convinced of any company's full Paris-alignment, we are pleased with the quality of conversations and range of progress observed across a challenging set of asks. Companies across geographies have been very receptive to our feedback and with 200 engagement 'wins' (i.e. where we have seen progress in behaviour in line with our requests for change) delivered, and their progress will continue to be kept under review.

22 companies (73 % of the total under the CEEP) have announced or strengthened their ambition to achieve Net Zero by 2050 or sooner. Encouragingly we have seen steps across the board to strengthen ESG governance structures at the board and management level and provide greater transparency over existing structures and processes, in alignment with TCFD recommendations.

In 2022 our dialogue has largely focused on gaining a clearer picture of the feasibility and implementation schedule of Net Zero transition plans, interrogating how targeted change will be delivered with laser-focus on expected action within the next decade. We have stressed the need for more granular transition plans linked to business fundamentals.

Decarbonising our investment portfolio continued

Given the increasing urgency of the climate crisis, we have also highlighted that aligning incentives and emissions reduction plans is a matter of urgency. Whilst 73% of companies have now linked their climate transition plans and remuneration incentives, current remuneration packages are not enough to incentivise ambitious and rapid transition of business profiles. Climate-related pay is often not based on straightforward, quantifiable emissions reduction targets that are material and stretching to the business.

We have also interrogated lacklustre activity to ensure that the associations, alliances and coalitions of which the companies are members conduct their climate change lobbying in line with 1.5°C.

In 2023, we will continue to use this programme, in tandem with our broader engagement initiatives at Aviva Investors, to drive change with poorer performers. Where progress falls short of our expectations, we will take appropriate escalation action to amplify pressure.

1. Point of No Returns 2021 report, published by ShareAction in February 2023.

In 2022, we have coordinated with various investor and stakeholder networks and partnerships and attended company AGMs to drive public accountability and scrutiny of company practices. For instance, in May 2022 we delivered a public statement of issues at BP's AGM, on behalf of the shareholders and shareholder representatives co-leading engagement with the company under Climate Action 100+. We have also taken voting action at company AGMs. During the 2022 proxy season, we sanctioned 18 companies for failing to meet key measures of climate ambition and risk management (60% of the total).

Aviva Investors has come third out of 77 asset managers globally in the new ShareAction ranking of the world's largest asset managers on responsible investment[1].

We have also begun expanding the scope of CEEP - shifting focus from the supply side of energy to the demand side, engaging with companies in key 'hard to abate' sectors where solutions need to be found. This includes heavy duty transport, e.g. aviation, shipping and long haul trucking , chemicals, steel and cement. The path to Net Zero is complicated and requires a nuanced, pragmatic, approach that involves both the supply-side and demand-side of energy, where the vast majority of real-world emissions take place.

Supporting biodiversity

Biodiversity, and more specifically deforestation, plays a critical role in achieving our climate ambitions. This year, as signatories to the Financial Sector Deforestation Action, we have carried out a deforestation risk assessment of our portfolio. We are also signatories to the Finance for Biodiversity Pledge, and will complete a wider biodiversity risk assessment in 2023. The results will inform our updated deforestation and biodiversity engagement and voting policies.

In February 2022, Aviva Investors formally embedded our assessment of corporate commitments to, and disclosures on, managing biodiversity-related impacts and dependencies into our voting policy.

We now vote against targeted management resolutions at companies with significant exposure to commodity-driven deforestation risk over their lack of robust policies and targets on reducing deforestation. In particular, the poorest performers identified in Global Canopy's Forest 500 ranking of companies exposed to forest-risk commodities including beef and leather, soy, palm oil, timber and pulp and paper across their operations and supply chain. Agricultural conversion for these commodities drives over two-thirds of tropical deforestation.

To date we have voted against 75 companies and their progress will continue to be kept under review. These names may be the most exposed to tropical deforestation risk, but this also means they have the greatest influence in the forest-risk commodity supply chains they are involved in. If they act on deforestation and associated human rights abuses, they have the greatest potential to drive change.

In 2022, we voted in favour of 19 biodiversity-related shareholder resolutions, to encourage companies to take steps to address biodiversity impacts arising from their operations. For example, at an American meat processing company, we supported a shareholder proposal to improve the company's metrics and targets on plastic packaging. We believe this is necessary to allow shareholders to better assess the company's management of associated financial, environmental, and reputational risks. Several of the company's peers had made commitments to reduce overall use of plastic and materials in product packaging. However the company did not disclose the amount of plastic packaging it uses and had no quantitative target for reducing its use of plastic. Also, the company scored an F in As You Sow's 2020 Plastic Pollution ranking. While the resolution did not achieve a majority vote, the company has reduced the use of single-use plastics and increased the amount of post-consumer recycled content in its packaging to 38%.

Decarbonising our investment portfolio continued

Overview of engagement and voting:

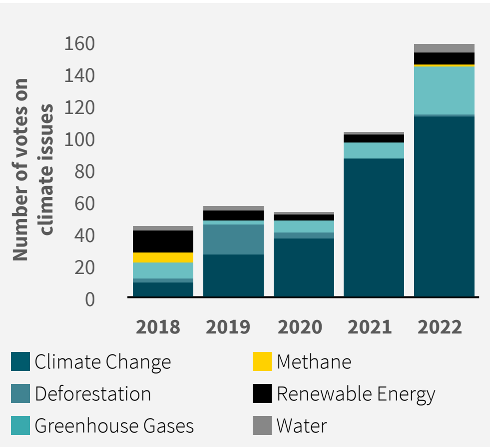
Figure 3a: Overview of engagement held either individually or collaboratively on climate change-related issues from 2018 to 2022

Source: Aviva Investors

Year	1-on-1	Collaboration
2018	74	17
2019	65	8
2020	118	53
2021	214	53
2022	276	69

Figure 3b: Active voting on resolutions related to climate issues from 2018 to 2022

Source: Aviva Investors



Overall engagement on climate issues has continued to increase, with 276 individual engagements in 2022, an increase of 29% from 2021.

The increase is in part through the climate engagement escalation programme, as well as ongoing engagement with businesses we lend to (via the debt markets). We have a particular focus on in-depth engagement with companies strategically exposed to climate-related risks due to their significant exposure to transition risks. As highlighted in Figure 3a, we also engage with companies collaboratively (member of Climate Action 100+, Institutional Investors Group on Climate Change, Transition Pathway Initiative etc.).

In addition to our direct engagements via our engagement escalation programme covered in more detail above, we are continuing to use our influence as an asset owner to engage with investee companies on climate-related matters. In Figure 3b, we have provided a snapshot of the voting on climate and environmental issues from 2018 onwards. Aviva Investors voted on 159 resolutions in 2022 related to climate and environmental matters. This is a 53% increase from 2021, as companies respond to reporting requirements such as the TCFD and recognise the importance of engaging with their shareholders on environmental topics. Aviva does not always vote in favour of a company's climate strategy, instead regularly pushing for more stringent decarbonisation measures. We are becoming increasingly vocal when a company's climate change strategy does not align with Aviva's decarbonisation trajectory and values. We continue to stay engaged with, and monitor, shareholder voting on the wider environmental agenda through our biodiversity related voting policy.

Divesting where necessary

We believe that the highest-emission fuels should not be part of a low carbon future, and our Aviva Group ESG Investment Baseline Investment Exclusion Policy reflects this. As such, where companies make more than 5% of their revenue from thermal coal mining or power generation or more than 10% of their revenue from unconventional fossil fuel extraction[1] and have not signed up for science-based targets (SBTs)[2], they will not be invested in.

Further, in line with the Powering Past Coal Alliance (PPCA) Finance Principles, we commit to avoiding exposure to equity and debt instruments of companies that plan to generate electricity from unabated coal beyond the PPCA timeframe.

Aviva's exposure to thermal coal mining and power generation companies as well as unconventional fossil fuel companies[1] on our Stoplist at the end of 2022 is negligible.

1. The unconventional fossil fuel extraction is limited to companies involved in Arctic Oil and Oil Sands
2. Thermal coal mining and unconventional fuel extraction companies have 18 months from submission to have their SBTs validated, otherwise we will divest and add them to the Stoplist

Our role as an active shareholder

Many companies are still compensating senior executives in ways that foster short-termism at the expense of long-term sustainability. To drive the transition to a sustainable future, incentive schemes need to be innovative, tying sustainability performance to executive compensation and in turn weaving sustainability into the fabric of companies' practices.

Aviva Investors participated in an investor initiative led by the Institutional Investors Group on Climate Change (IIGCC) which involved sending letters to the CEOs of the world's largest banks outlining our expectations for climate change.

In March, we were pleased to see that a large financial institution revealed, along with the publication of its 2021 Sustainability Report and its Climate Report, that it had strengthened the link between ESG and compensation. Additionally, the institution provided more detail on its climate roadmap which will support its Net Zero ambitions.

Additional links

> **Aviva Investors' approach to responsible investment: Voting Policy**
> **Financial Sector Deforestation Action**
> **Finance for Biodiversity Pledge**

Integrating climate risks and opportunities into our investments

Consideration of climate change and its interlinkages with other sustainability issues is a key component of our ESG integration approach, which has four key pillars.

1 Research	2 Connectivity	3 Portfolio construction	4 Evaluate and monitor
Data Inputs	Collaboration	Investment decisions informed by ESG	Quarterly portfolio reviews
ESG team research	'Seat at the table' in key forums	SFDR screens	Case studies
ESG considerations evidenced in research notes	Active ownership	Forward-looking expectations	Risk oversight

Research: our approach is systematic.

Connectivity: ESG is embedded in our investment process and tailored for individual strategies.

Portfolio construction: our approach generates investment actionable insights for Aviva Investors' actively managed funds.

Evaluate and monitor: ESG integration has demonstrable impact on investment outcomes.

1. Research

Quantitative inputs

Data is a critical starting point to ensure that we have the broadest possible base level coverage of issues relating to climate change as regards the issuers in the market. We have selected several best-in-class providers of climate data and analytics. We recognise the weaknesses that are inherent within climate data, including the fact that it is static and backward looking, as well as issues related to quality and coverage. With these in mind, we view data only as a starting point for our analysis.

We combine what we regard as both core and enhanced climate data into our investment process. Core data includes our proprietary corporate score and ESG sovereign monitor scores. We use our proprietary ESG corporate tool to assess the relative importance of ESG factors for the companies within each sector to identify where the ESG characteristics of a company may result in outperformance. The resulting scores help identify potential sustainability risks and opportunities for the companies in our investment universe.

We have developed exclusion lists to assess climate-related risk exposure. We enhanced our baseline exclusion policy during 2022, adding thermal coal and unconventional fossil fuels. We also began excluding companies that we do not consider to be aligned with the standards of the UN Global Compact.

Our proprietary corporate scoring system results in a summary ESG score assigned at the corporate issuer level. The external inputs are industry specific and range from granular ESG performance metrics (e.g. waste intensity) to summary level scores assigned by external data providers. The internal inputs include numeric representations of our voting activities. The inputs are combined using coefficients we have identified to maximise the relationship with financial market returns into a single score ranging from 0 to 10 that is normalised on an industry basis.

Our proprietary sovereign monitor focuses on the three pillars of environmental, social and governance factors. The environmental pillar encompasses overall environmental performance and natural hazards. Scores are between 0 and 10, with scores below 2.5 excluded from the investment universe and those between 2.5 and 4 can trigger a "deep dive" assessment if other exception criteria are not met.

We are continually looking to enrich the output of our proprietary scores. For example, for our corporate and sovereign scores we have adjusted the model to ensure that the final score corporates are assigned has an increased weighting towards climate. This is partly because we believe that climate change is the biggest systemic risk facing the market and partly because it is a critical priority for our clients. Another development to our proprietary corporate score has been concerning the way the model captures our internal qualitative views regarding momentum.

Our T (transition)-Risk Model constitutes a top-down climate risk exposure map for individual sub-industries, combined with a company's climate risk management performance score, derived from the company's CDP score. This model determines if transition risk management is commensurate to risk exposure. Investment teams have access to the T-Risk Model data on their investment dashboards.

We also have a range of dashboards that provide data and analytics related to our Net Zero model (entailing proprietary forward-looking carbon intensity estimation) and Principal Adverse Impact indicators.

Integrating climate risks and opportunities into our investments continued

This core data is the baseline used as a starting point by all investment professionals. Our enhanced data allows us to address specific questions, such as FTSE Green Revenue data, which is used to assess the contribution that individual corporates are currently generating from "green" sources. SDG alignment data assists portfolio managers in understanding the contribution that individual companies are making to specific SDGs. Beyond Ratings allows us to contextualise the output of our ESG sovereign monitor.

Qualitative overlay

Data is the starting point. Next comes the qualitative overlay. Here, the various ESG teams provide key insights under the form of corporate research, thematic research, etc. and most importantly, our investment teams integrate material E, S and G issues within their bottom-up fundamental analysis. This includes climate change risks and opportunities. This is best described by way of case studies. A good example of the importance of a qualitative overlay is Accor, the French hotelier. When evaluating the company, we found that Accor had very poor ESG scores, particularly with regards to climate, relative to peers. On scrutinizing the actual practices of the company, we identified two things. First, that the data was accurate, and that the business did have a near-term climate risk associated with it.

However, second, our qualitative overlay was able to consider Accor's forward-looking targets, which were very ambitious and backed up by a series of action plans that should allow the company to deliver. Our positive momentum view on the company meant that we remained reasonably positive on the name and continued to hold it within our funds.

Another example concerns Antero Resources, which again had a low overall score, with climate-related issues a key driver.

Again, our qualitative analysis gave us an indication of where the data was likely heading. When we engaged with the company, this finding was substantiated. We concluded that the historical disclosures had not caught up with the company's current initiatives. As a result, we bought the company's bonds and held them through the subsequent rating agency upgrade cycle.

Thematic research

Over the course of 2022 we moved to a model whereby the ESG corporate research team conducts in-depth thematic research, with stock-specific analysis being done by the equity and credit teams (members of whom have often been covering certain companies for decades), with the support of the ESG team.

The ESG corporate research team is able to produce research that addresses live topics, often with forward-looking conclusions that are relevant to companies. In 2022, the ESG sector analysts produced sector decarbonization reports, which identify technological developments, key risks, and potential long-term pathways. These are used to analyse which individual names are better positioned for the years ahead, as well as engagement questions.

A good example of such a note was on electric vehicles (EVs). The note analysed cost reductions, infrastructure developments and the important issue of ensuring a just transition. On the latter point, EVs require significantly less manual intervention from the workforce compared to internal combustion engines. VW has been lauded for committing €50 billion in capital expenditure to electrify their fleet. Now one in four EVs sold within Europe are from the Volkswagen stable. However, the former CEO of VW flagged that the company had 30,000 excess employees in Germany alone. His handling of this issue led to him losing his job. This issue is going to be of critical importance as auto producers increase electrification of their fleets. In Europe 6% of the entire workforce is directly or indirectly connected to the auto sector. This is good example of political and social constraints preventing progress on decarbonisation, demonstrating that technological developments are not the only hurdles that must be cleared.

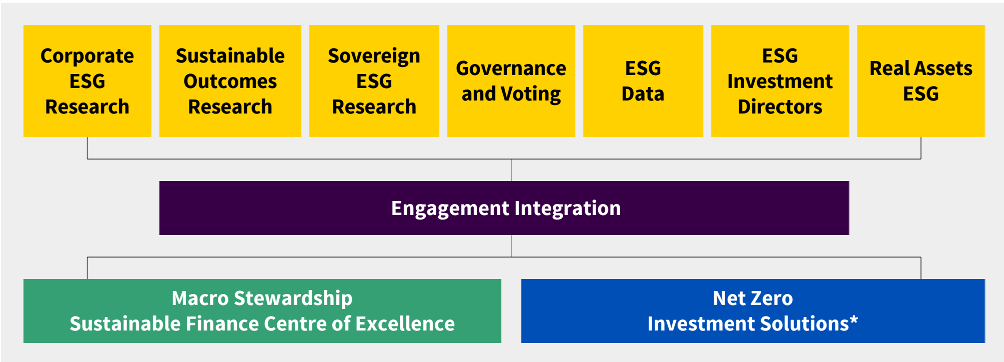
Integrating climate risks and opportunities into our investments continued

2. Connectivity

Collaborative research

The figure below shows a range of teams with ESG expertise across Aviva Investors. We believe that for ESG integration to be effective, there needs to be extensive collaboration between ESG-focused teams and the wider investment teams across the firm. For this reason, many individuals from the teams shown are effectively integrated into the asset class-specific desks. This is facilitated by multiple forums which enable the effective transfer of views between these teams and the equity, credit, multi-asset and real assets teams.

We also have quarterly thematic meetings which bring in a range of external experts on key matters.



* Investment Solutions Team undertakes a range of tasks, including working towards achieving Aviva's Net Zero ambitions – team is not totally dedicated to ESG, unlike other teams shown

The aim is to help our portfolio managers exploit ESG market inefficiencies wherever possible to enhance investment returns. This collaboration also facilitates achievement of our ambition to be active and responsible stewards of capital across all asset classes and funds, ensuring that we use our voting and engagement influence effectively.

An example of this process in action is our work on UK housing associations. This is an area with generally very poor ESG data availability. For regulatory reasons, these organisations are obliged to transition their stock of buildings to a minimum energy efficiency rating.

Our ESG specialist worked in collaboration with the relevant credit analyst to look at the universe of c. 25 names in depth. An analysis was carried out of their housing stock and the likely cost of upgrading, with comparison made to available capital expenditure budgets. The resulting model is a key filtering mechanism for all future investments we make in UK housing associations.

Collaborative engagement

Engagement is a vital part of our investment process across asset classes. We use our influence through engagement and voting to promote sustainable business practices, gain insight and reduce investment risk. Engagement routinely takes the form of meetings or calls with board members or senior sustainability executives. We set out clear objectives for engagement and follow up where appropriate.

Engagement outcomes are registered in our database, reflected in our voting and fed into our proprietary ESG scoring tools (see above). For active holdings, engagement is undertaken in close collaboration with the investment teams who often lead on engagement meetings. The key conclusions from company engagements are fed back to the broader investment team through various forums, including update meetings and written company, industry and thematic notes. The figure on this page shows how we bring together qualitative and quantitative data alongside recent developments to build a view of which companies we should engage with.

Effective engagement is resource-intensive and prioritisation is key. We use quantitative tools and sector-specific research to help identify the areas of greatest concern and overlay considerations, such as the size of our holding, thematic priorities, AGM-related priorities and event-triggered engagement. We draw up engagement plans annually, with progress reviewed and assessed quarterly.

Integrating climate risks and opportunities into our investments continued

Clear communication of asks

Multi-pronged company engagement

Galvanise broader stakeholder pressure

Voting action

Requisition shareholder resolutions

Timebound divestment for unresponsive firms

5 Climate asks:

1. Set 2050 Net Zero Scope 3 emissions ambitions for entirety of business operations.
2. Integrate climate roadmaps into corporate strategy, including near-term transition targets.
3. Evidence effective board oversight and alignment of incentives.
4. High quality TCFD-aligned disclosures.
5. Transparency over and Paris-alignment of all lobbying activities.

Climate Engagement Sovereign Programme

At the start of 2021, for the first time, Aviva Investors' CEO set out annual sovereign engagement priorities in a letter to finance ministers and central bank governors from over twenty countries in which material sovereign investments were held.

In a crucial year for climate policy, all three priorities centred on climate change. The letters were tailored and actionable, making the case for membership of and engagement in the Coalition of Finance Ministers for Climate Action, the Network for Greening the Financial System (NGFS) and for active engagement in the preparation of ambitious, updated national climate plans (Nationally Determined Contributions; NDCs).

In our 2022 priorities, we built on our initial climate asks and broadened our focus to include the intertwined issues of human and business rights and biodiversity. Amongst recipients from over thirty sovereigns, we received positive responses from G7, G20 and BRICS countries.

Beyond written exchanges, our ESG and investment teams follow up on relevant issues at every opportunity, raising them at investor roadshows and through outreach with individual issuers. A relevant example is our climate engagements with Australia, where the finance minister decided to join the Coalition of Finance Ministers for Climate Action in October 2022.

Engagement in real assets

We believe being active owners of real assets through engagement with our stakeholders is critical to creating positive environmental and social outcomes for our clients and society. We believe engagement in real assets can be defined as structured interaction on environmental and social issues with our customers, including borrowers and occupiers, suppliers and the communities we operate in. This engagement can be carried out through the transaction process or through ongoing asset management. In private debt asset classes, we actively engage in transactions through creating covenants and incentives that mandate or encourage positive environmental and social impacts.

In 2020 we announced our goal to originate £1 billion in sustainable transition real estate debt over the next four years, supported by the launch of our proprietary sustainable transition loans framework. The framework seeks out sustainable real estate loan investment opportunities in line with the UN Sustainable Development Goals, focusing on key sustainability targets such as energy efficiency and green initiatives, including on-site renewables. We also embed measurable ESG targets into our lending programme, setting out specific requirements for real estate borrowers to adhere to, with the aim of reducing carbon emissions from buildings, as we continue to support the transition to a low carbon economy. In May 2022, following astounding reaction and engagement from borrowers, we surpassed that goal - 3 years ahead of schedule and just 18 months after launch.

3. Portfolio construction

Research and connectivity flow into our third pillar, which is focused on how portfolio managers integrate ESG within their investment decisions, i.e. stock selection and portfolio construction. Again, this is best brought to life via case studies.

The equity team and ESG team collaborated to identify that changing weather patterns have altered breeding patterns of pests, impacting the periods of infestations in buildings in Europe and North America. Rentokil has material revenue exposure to pest control, making it relevant to climate change adaptation. Our equity team built exposure across their global funds, including our Climate Transition funds.

An example from the sovereign space is Paraguay, where there has been an extreme drought for several years, which we expect to continue. The drought has had serious impacts, such as reducing key soy exports and, due to a reliance on hydroelectric power, creating issues with electricity generation. As a result, inflation levels have risen and GDP growth is slowing. This physical risk has resulted in not adding to our investments in the country's sovereign debt.

Integrating climate risks and opportunities into our investments continued

4. Evaluate and monitor

Our ESG team holds quarterly investment reviews with portfolio managers to illuminate the ESG properties of funds, ensure ESG views are reflected in positions, and provide the basis for challenge. As an example, a recent quarterly portfolio review with our global sovereign debt team resulted in an action to review underweight positions on green bonds. Following that review, the investment team decided to invest in the UK and German benchmark green bonds, taking an overall overweight green bond position across the fund.

This year, we also started monitoring portfolio emissions as part of our quarterly reviews. We evaluate a range of portfolio level ESG data, which include for example, emissions intensity and proportion of issuers with an SBTi approved target. Portfolio managers are therefore able to better understand the main contributors to their portfolio's carbon footprint and interrogate its direction of travel. We have begun integrating these insights to help us prioritise our engagement activity.

Macro stewardship

Macro stewardship refers to engaging with regulators, governments, and other entities to change "the rules of the game" in favour of those that are providing solutions to sustainability problems or supporting the transition to a sustainable future. We take seriously our duty to act in the best interests of clients and the integrity of the market. In our position as market participants, it is incumbent on us to look ahead to identify potential market-wide and systemic risks and seek to mitigate these risks through engagement. This involves calling out risks and supporting policymakers to bring about the necessary policy changes to transform our financial system, enabling it to serve the needs of the present without prejudicing those of generations to come.

We use our voice to raise awareness around the concept of 'market failures' that relate to risks in the system, in particular their distinction from 'market inefficiencies'. In recognising this distinction, we engage with policymakers to seek interventions to address market failures and correct them to put markets on a more sustainable footing that will transform the real economy. It is also how we issue a call to action to our peers to play their role. Our market reform agenda represents a natural progression from our integration and stewardship work. Where market failures, such as unpriced negative externalities, exist or where there are systemic or market stability risks, we must engage with policymakers to reform markets. Market participants cannot correct these issues alone. In effect, we identify long-term and market-wide risks through our research and exercising our rights and responsibilities over the assets we own, including engaging with corporates to address and mitigate such risks. We also use these risks to inform our market reform work to ensure our actions for change have practical application and are not created in a vacuum.

An example of our sustainable investment

With the help of the Aviva Investors infrastructure team, Aviva provided £400 million of financing in 2018 to help fund the construction of the Hornsea 1 wind farm.

Hornsea 1 is one of the largest offshore wind farms in the world, it powers over one million homes with green electricity.

It is located off the Yorkshire coast, spanning an area five times the size of the city of Hull. Its 7 MW (megawatt) wind turbines are each 190 metres tall.

Once niche, sustainable investment, like Hornsea 1 is now a growing market. As part of a balanced investment approach, increasingly financial return need not be sacrificed for the greater good.

Improving outcomes with sovereign debt

We are a long-term investor in sovereign debt across our fixed income portfolio and are particularly focused on improving the sustainability outcomes linked with sovereign debt.

We use our 'Monitoring of Sovereign Risk' metric using external data points to monitor the exposure of our sovereign holdings to climate change. Whilst we are not presently materially exposed to countries which are partially vulnerable to material physical climate risks, we need to be alert to changing circumstances.

Aviva's sovereign strategy is underpinned by our ambition for all countries to commit to and meet emission reduction targets, equipping companies, Finance Ministries, Central Banks and companies with the tools to decarbonise the global economy.

To enable this, we use our position and influence to drive the global decarbonisation movement by:

- Supporting emerging economies to adapt to climate change by building resilience to climate perils and support investments that enable a faster transition to a low carbon economy, through the provision of sovereign bonds; and
- Devising common methodologies to improve metric quality to aid transparency and comparability between jurisdictions.

An equitable global transition

At Aviva, we believe it is important to drive an equitable transition, leveraging our influence as a sovereign investor to close the gap between emerging and developing nations.

In 2021, we engaged with 31 countries (such as Ghana) to urge them to address climate-related risks, including through joining global coalitions of best practice and collaboration.

Following the success of our sovereign engagement strategy, in February 2022, we wrote to finance ministers and central banks of 37 countries highlighting our Climate Change and Biodiversity investment ambitions and asking for their active participation.

At the end of January 2023, we wrote to 49 country level finance ministers, and 48 central bank governors thanking them for their constructive response to the 2022 letter and sharing the three key priorities that will shape our stewardship activities as sovereign bondholders in 2023. Along with Protecting vulnerable people, the climate-related themes highlighted are:

Transitioning to a low-carbon and climate resilient economy – paying particular attention to:

- strengthening ambition in 2023 through revisiting the 2030 targets in their Nationally Determined Contributions (NDCs);
- aligning capital financial flows to support the adoption of the ISSB disclosures supporting reform of the international financial architecture; and
- mainstreaming climate action as finance ministries are crucial to ensuring climate is integrated into policymaking across the whole of government.

Reversing nature loss based on the Post 2020 Global Biodiversity Framework. Finance ministries should focus in particular on:

- Aligning financial flows such as subsidies and fiscal policies to the targets reversing nature loss and conservation, as well as providing finance for the creation of protected areas, and supporting companies to adopt management and reporting of dependencies; and
- Mainstreaming biodiversity action through integration within and across all levels of government.

We will follow up our letters with further engagement throughout the year.

Advocating with alliances

In terms of joint engagement with Governments, Aviva currently co-leads the public policy advocacy workstreams of the NZAOA and GFANZ to develop methodologies and reporting requirements.

NZAOA:

We have defined our sovereign debt strategy in line with our Net Zero ambition, and actively work with the NZAOA to ensure consistency in approaches to sovereign debt across our industry.

The NZAOA has highlighted the challenge with metric quality for sovereign debt. However, we have seen positive engagement from some nations, without reliance on high quality data, demonstrating that positive outcomes can be achieved through direct engagement, while we push for metric quality to be continually improved.

We await the NZAOA's sovereign bond report which is yet to be published. We intend to mirror the recommendations in our future strategy.

GFANZ:

A strategic opportunity to promote Net Zero financial policy frameworks arises when countries are issuing new debt or refinancing existing debt. At this point, GFANZ members could use the conversations with the Debt Management Offices and their representatives in either central banks or finance ministries to promote Net Zero financial system policy development. To facilitate this, as Aviva, we will offer to help GFANZ develop a systematic approach to sovereign engagement on sustainability issues, building on the policy calls outlined above.

Improving outcomes with sovereign debt continued

Empowering our customers by improving the transparency of investments is something we are passionate about. We seek to do this with products, tools and service offerings.

Investing in the low carbon transition

We developed the **Climate Transition range** to help investors to support the transition to a low carbon economy across all core asset classes.

- Climate Transition European Equity Fund;
- Climate Transition Global Equity Fund;
- Climate Transition Global Credit Fund; and
- Climate Transition Real Assets Fund.

The European and Global equities funds take a long-term, high-conviction investment approach, and target global companies that derive material revenues from goods and services that address climate change mitigation and adaptation. The funds also invest in companies that align their business models to a low carbon economy and exclude those companies with material exposure to fossil fuels.

The Climate Transition Real Assets Fund made its first investment in natural capital, announcing plans to deliver a significant woodland creation and peatland restoration scheme across 6,300 hectares of Scottish moorland in the Glen Dye area of West Aberdeenshire. In partnership with Par Equity, the Scottish-based forestry investment fund manager, and following detailed public and statutory consultation, applications will be made to undertake over 3,000 hectares of new tree planting, and 1,800 hectares of peatlands restoration.

Over the lifetime of the project, an estimated 1.4 million tonnes of carbon will be locked up.

In 2018, our online investment subsidiary **Wealthify** launched an ethical investment option, focused on five ethical plans. Interest from customers has grown steadily, with 23% of new accounts in 2022 selecting the ethical option. This now accounts for 23% of total assets under management for Wealthify and growing. As Wealthify continues its mission to make investing more accessible, 2022 saw the proportion of female investors in both ethical plans at 47% and original plans at 35%.

Natural Capital Transition Fund

In December 2021, we launched our first biodiversity-themed fund, the Aviva Investors Natural Capital Transition Global Equity Fund (NCTF), as part of our Sustainable Transition range.

The Fund has two equally important objectives, to support the transition towards a nature-positive economy, and long-term capital growth for our clients. The Fund invests in companies that are either providing products and services that can accelerate our transition to a nature-positive economy, or companies that are leading their sector in reducing their impacts on nature.

Key investment themes are sustainable land, sustainable oceans, the circular economy and climate change. The Fund aims to drive positive change in several ways. Firstly, by choosing which companies to invest in - we can support companies that are helping reduce human impacts on nature and enhance resilience. Secondly, we engage with every company in the Fund on biodiversity over a three year period, and where we see no significant progress, the companies will be divested from the Fund. This active engagement extends beyond companies to include governments and policy makers, with our macro reform strategy, whereby we engage to try to correct the market failures that are currently leading to the destruction of biodiversity.

Thematic Venture Capital Funds

In 2021, Aviva made a commitment to invest £50 million into venture capital funds focused on emerging technology that supports the transition to a more sustainable world.

Over the course of 2021 and 2022, Aviva invested in three sustainability focused funds, including the following:

1. EIP Frontier Deep Decarbonisation Fund

Investing in the key building blocks transforming the global economy towards Net Zero. Including: zero-carbon energy generation; energy storage breakthroughs; clean hydrogen and fuels; carbon capture; utilisation and removal; transportation electrification; materials/supply chain decarbonisation; industrial decarbonisation.

2. Clean Growth Fund

Focused on new technology platforms providing zero carbon services, products and experience. Including power, industry, waste, construction, and transport.

Improving outcomes with sovereign debt continued

ESG Retail Investments

In March, we opened up the Stewardship Fund range to ISA customers on our adviser and direct platforms. The Stewardship Funds aim to support companies that make a positive contribution to society, through their products and services and the way they provide them. The Funds avoid companies and sectors whose products or services cause unmitigated social and environmental harm.

ESG Profiler success

Throughout 2022, we continued to develop and enhance the valuable ESG Profiler tool with a number of iterative improvements based on user feedback and improvements in available data.

We provide the ESG Profiler tool on our adviser platform to support financial advisers when reviewing customers' investments from an ESG perspective. It improves the transparency of funds, enabling customers to understand if a fund meets their investment appetite and ESG objectives.

Enhancements in 2022 include:

- Increasing the number of ESG Preferences from six to nine, advisers are now able to explore customer holdings against Climate Change, Women in Leadership, Water Security, Waste, Deforestation, Human Rights, Recycling, Corporate Governance and Air Pollution.
- Adding the ability to understand exposure to controversial industries, allowing advisers to see if customer holdings are invested in fossil fuels, tobacco, gambling, adult entertainment, controversial weapons or alcohol.

ESG Profiler also produces a report based on client ESG preferences, such as the total carbon footprint within a product.

Workplace pensions

We help many people save for retirement through products we make available in the workplace through employers. Aviva's Working Lives Report 2022: The Big Squeeze has found four out of five (80%) employers and 65% of employees think it is important that pension funds are invested responsibly. Yet over half (55%) of employees do not know if their workplace pension fund is invested this way.

In 2022 we partnered with Bud (an open - banking provider) to help members of workplace pension schemes take control of their finances.

By giving our members free access to Bud's Money Insights Dashboard they get clear, easy- to-view information about their finances and help them make better decisions about their money.

Using the dashboard, members can understand the carbon footprint associated with their spending and receive actionable tips on how to reduce it.

We believe that pensions have a key role to play in tackling climate change. We intend to make it easy for our customers to make climate friendly choices and we will continue to focus on integrating ESG factors into our default funds and building stronger member ESG confidence.

Our pilot of an investor opinion tool with Fintech start-up Tumelo also continued throughout 2022, giving us learnings into how our workplace pension members can play an active part in the engagement and voting approach to investing.

Aligning to Net Zero pensions

As part of the Aviva Sustainability Ambition (ASA), we set out a goal to achieve 20% of new Wealth business being invested into sustainable impact or Net Zero aligned funds by the end of 2022.

Sustainable disclosure requirements and investment labels

Towards the end of 2022, the Financial Conduct Authority released a consultation paper seeking to introduce a package of measures aimed at clamping down on greenwashing. This includes sustainable investment labels, disclosure requirements and restrictions on the use of sustainability-related terms in product naming and marketing.

Aviva responded and welcomes the FCA efforts to create a sustainable funds regime in the UK that increases transparency on the sustainability profile of products and firms and reducing the risk of harm arising from greenwashing. We too believe in the importance of shoring up trust in sustainable investing, in protecting investors from the threat of greenwashing and in supporting investors to identify products that align to their preferences, including in relation to sustainability. Acting on the findings of these reviews helps to support the delivery of an approach that can continue to be fit for purpose for investors, as the market and broader policy environment evolve over time.

> **"Aviva has a 2040 Net Zero ambition. We want to help our customers too, in their ambitions to reduce carbon by harnessing the power of their investments. Rigorous, open and transparent ESG assessment is vital to this."**
>
> **Mike Hogg**
> Head of Platform Proposition, Aviva

Additional links

> **Understanding the power of your pension**

Offering climate conscious products

In the context of accelerating the transition to Net Zero for the whole economy, insurers play a unique role thanks to the nature of insurance contracts as enablers of the use of assets.

With our customers, we will continue to integrate climate change consideration at all stages of thinking about risk, understanding, prevention, reduction and protection through insurance and reinsurance, so that our solutions continue to be accessible and affordable.

To support the transition to a low carbon economy, we are developing products and services which reward customers for environmentally responsible actions across our global markets. We now offer a range of 34 different green and low carbon insurance propositions across our businesses.

Carbon footprinting of underwriting portfolios

To help drive this forward we have been working with the Boston Consulting Group to propose a possible underwriting attribution methodology which works across both personal and commercial insurance books of business, and at a client and asset level. The Partnership for Carbon Accounting Financials (PCAF) has published the first-ever global standard to measure greenhouse gas emissions associated to insurance portfolios ("insurance-associated emissions"). We were one of the 16 members of the PCAF Insurance-Associated Emissions Working Group that developed the standard. The standard covers commercial lines and personal lines motor. As a member of the UN convened Net Zero Insurance Alliance (NZIA), we will baseline and publish 2030 targets for our underwriting portfolios using the standard in 2023. Additionally we will work towards compliance with the newly released PCAF Global GHG Accounting and Reporting Standard for Insurance-Associated Emissions.

Personal lines

As insurers, we are able to influence customer behaviour through the coverage of products and services we provide, and we continue to develop climate-conscious products and services to incentivise climate-positive behaviours.

For personal motor customers we offer a number of propositions to increase the transition to more sustainable transport:

- In Canada, we offer bespoke electric vehicle (EV) insurance and, more widely, our partnership with Lyft makes it easier for customers to choose car share journeys;
- In the UK, we have responded to the increased demand for EVs by expanding our personal lines motor insurance cover for roadside breakdown, electrical surges and EV accessories. We currently insure one in nine Battery EV; and
- In the UK, we also launched Aviva Zero, our new motor proposition which offers carbon offsetting as standard. We've sold over c.51,000 policies and are targeting 1 million policies sold by 2025.

We forecast that we will have over 1 million EV customers by 2030. Our in-house motor accident repair centres, Solus, have already invested to ensure that 50% of their technicians are qualified to repair electric vehicles all in sites across the UK. By 2028 the aim is to have all Solus management vehicles and 90% of the courtesy fleet to be electric or hybrid cars.

For our domestic property insurance customers:

- In the UK, solar panels on residential roofs, air/ground source heat pumps and battery storage attract no additional premium; and
- In Canada, we offer endorsements to cover domestic solar panels and wind turbines.

> **"Insurers, as experts in risk management, have a key role to play in helping consumers, businesses and suppliers understand and take practical action in transitioning to Net Zero. This requires more than developing sustainable and low carbon insurance products and services, but providing valuable guidance on the appropriate steps to take for their specific circumstances and the choices available. Insurers also have a responsibility to lead by example in how they operate and in being transparent about how they are contributing to a low carbon economy."**
>
> **Adam Winslow**
> CEO, UK & Ireland General Insurance

Offering climate conscious products continued

Reducing the associated emissions from claims management

Management of our customer claims is one of our core business processes. The associated direct and indirect emissions, produced when we manage claims, are materially linked to the activities our suppliers need to perform to assess damages, repair them or provide replacements.

From a carbon footprint standpoint, our claims management process is considered as part of our supply chain. For this reason, the approach we will apply to our claims management process mirrors the one we have across our supply chain. In this context, the SBTi target we have set, Aviva plc commits that 70% of its suppliers by spend covering purchased goods and services, will have signed up to science-based targets by 2025, is in respect of both what we buy for ourselves as well as what we purchase as part of our claims fulfilment process.

For vehicle repairs, we use recycled parts where possible. This is especially true for older vehicles, or vehicles where parts may no longer be available and would otherwise have to be declared a total loss. Working with our customers, we will consider the use of non-safety-critical recycled parts in specific vehicle repairs. Safety-critical parts are always replaced with new.

When paying out claims, we have the opportunity and responsibility to reduce our environmental impact through repair and restoration where possible.

In the UK, our improved drying process after flood claims reduces the associated carbon emissions.

We review our claims procedures to make sure the actions we take have a lower impact on the environment, for example provision of energy efficient replacement goods or improving the efficiency of our processes.

Adaptation and resilience

As the frequency and intensity of extreme weather increases, we have, where possible, been working to reduce the impact on our customers' lives, livelihoods and build resilience to climate change.

In the UK and Canada, where appropriate, we work with customers to help them become more resilient e.g. offering coverage to install risk mitigation devices after a claim, and to 'build back better'.

In Canada, we were the first insurer to announce comprehensive water coverage on property policies. We sponsored a new code of practice for flood resilience, released in January 2020. The code covers all aspects of prevention and resilience to make properties more resilient to flood. We have also been working with Business in the Community supporting an online tool for small business resilience, 'Would you be ready?'.

We protect our customers from extreme weather through our insurance products and our low-carbon transition initiatives. However, we recognise that under a 1.5°C transition pathway we will experience changing weather trends compared to what is experienced today. As such, we want to be proactive in supporting adaptation initiatives to improve the resilience of our communities to extreme weather risks and ensure we can continue to provide affordable insurance.

In July 2021, we launched our first Building Future Communities report that has since been updated in February 2023. In the report, we call for urgent action to ensure that UK homes and businesses are protected from flood and extreme weather events caused by climate change. The report calls for three key steps that are urgently required by government, local authorities, developers, industry bodies and business to address the threats climate change poses to UK property, livelihoods and communities. The three steps are set out on the following page.

Commercial insurance

Ceasing to insure the most harmful assets

In line with our goal to have a Net Zero Insurance portfolio by 2040, we no longer offer insurance coverage to firms directly involved in fossil fuels, including:

- The construction of any coal-fired power stations;
- Power generation risks that generate power from coal;
- Any new fossil fuel mining or extraction projects;
- Companies where more than 5% of their revenues are directly generated from extracting fossil fuels using conventional methods; and
- Offshore oil and gas rigs and platforms.

We recognise that by exiting the market completely, we would create a void for less ethical insurers to provide coverage for these businesses, and we would not be able to influence their activities. Therefore, to support businesses transitioning away from coal and unconventional fossil fuels, we will continue to provide:

- Employee benefit insurances;
- Management Liability for these businesses;
- Construction/property coverages for their standalone Renewable Energy assets; and
- Underwriting for companies signed up to 1.5°C science-based targets.

Additional links

> **Building Stronger Communities Report**
> **Property Flood Resilience Code of Practice**

Offering climate conscious products continued

Our call for change	Details
1. Strengthen planning regulation to protect UK properties	• Government should make basic cost-effective climate resilience measures mandatory in all new-build properties, not just those in high-risk areas. • Planning policies should more rigorously direct new development away from current and future high-risk areas and require greater resilience for any properties built in high-risk areas. • Government should formalise the sign-off processes for development projects to make sure they meet the standards and planning specifications set out during the planning approval stage. • Housing and property developers should have final payments on new properties withheld until the correct property flood resilience and energy standards have been met. • Governments should introduce effective mechanisms to hold developers to account when new properties flood.
2. More collaboration and research across all stages of the building process to combine sustainability with safety	• New building regulations and codes must be aligned to the UK's Net Zero strategy and legally binding targets. Existing regulation should also be updated to deliver on these targets. • Government should develop a strategy to encourage the wide scale adoption of adaptation measures that also reduce emissions. This should set out the role for incentives, codes and regulation. • Government and industry should collaborate on a review of current certification standards with a view to ensuring the safety, sustainability and resilience credentials of building materials and construction in the future. In particular, the use of engineered timber now and in the future needs to be carefully supported. • Government and industry should collaborate on future skills development in the wider construction industry to ensure we can adapt the UK's housing stock for the future and benefit the UK economy.
3. Encourage and incentivise property resilience to aid recovery	• Targeted incentives should be introduced for climate-resilient retrofit of existing properties to protect from extreme weather, heatwaves, flooding and surface water, and to reduce energy consumption. • Government should consider the case for making property flood resilience materials/installation VAT-free to encourage much wider uptake. • Government should introduce an accessible database of all community-level resilience measures to better aid decision making for those seeking to purchase houses and improve resilience of their own properties. • Government should ensure there is a national approach to ensure that property is put back into a more resilient and sustainable state after flood. This could involve scaling up the Flood-Re Build Back Better scheme.

Decarbonising our insurance portfolio

We will continue to provide risk management support and guidance to assist our customers as they seek to reduce emissions and evolve their business practices to minimise the impact on the environment.

Transition to renewables

The insurance landscape will undergo significant changes in the next 30 years as the transition to a lower carbon economy unfolds.

Our transition away from fossil fuels is dependent on low carbon innovations and we have a role to play facilitating new technology through our insurance offerings. Renewable energy presents complex project risks through solar and wind infrastructure, leading us to expand the technical expertise in our team to ensure we are providing a risk-engineered approach to our product offering.

As an example of our transition to renewables, we are the lead insurer on the insurance placement for Golden Plains, a 750MW wind farm in Victoria, Australia.

Set to be Australia's largest when the second phase (600MW) is built. The project will generate over 4,000 GWh per annum of electricity, enough to power more than 765,000 homes and prevent more than 4 million tonnes of carbon dioxide from being emitted to the atmosphere each year.

Aviva is targeting the offshore wind insurance market and we have insured our first offshore wind risk.

As we look to the future opportunities for expanding our renewable insurance products, we are exploring insurance solutions to support the innovation of hydrogen and carbon capture infrastructure.

Re-energising underwriting

One of the biggest challenges in the fight against climate change is reducing society's reliance on fossil fuels. Four years ago, we pivoted away from underwriting £13.5 million gross written premiums (GWP) of fossil fuel power generation assets through the specialist London Market, only focusing on companies that have robust plans to transition away from fossil fuels to renewables. Over the same period, we have increased our underwriting of renewable energy projects to more than 200% of the size that the fossil fuel power generation book was, when we exited the market in 2019.

Achieving this has required a cultural transformation across the underwriting business, with appetite decisions not purely made on financial returns, but also considering the climate impact of those strategic decisions.

This change in policy has led to some challenging conversations such as whether it's appropriate to underwrite carbon capture, utilisation and storage infrastructure attached to a coal plant. Ultimately, providing any insurance coverage which prolongs the life of coal is inconsistent with Aviva's values and therefore in this case the opportunity was not pursued.

We have significantly grown our renewable energy account and now support insurances of more than 100GW of installed capacity across six continents. This exceeds the entire renewable capacity of the UK.

Aviva Canada's approach

Aviva Canada is enhancing its product suite to help our customers to address weather-driven extra expenses and business interruption risks by piloting our first parametric insurance product for the small and medium business customers in select industry segments. In a first phase we will be providing pricing indications and risk transfer options for risks faced by those companies because of either a lack, or an excess of precipitation for a defined period. Think of a rained out patio season for a restaurant or the extra cost to clear unusual snowfalls etc. A pilot of the parametric cover is now live with select brokers.

Over the next few months we will add a temperature component to the product, which will further enhance the application of this new product and its efficient approach for customers.

While businesses manage those risks today in their daily activities, the potential increase in frequency and severity due to the changes in our climate require providing our customers with the ability to put a price on these events. We believe that the option of transferring some of that risk will be crucial for many of them.

Aviva Canada has also launched an electric vehicle insurance product which includes an insurance discount of up to 10%, free towing to charging stations when the EV battery runs out of charge and a $CAD 2,000 subsidy for upgrading a gas-powered vehicle to an electric vehicle after a total loss (subject to certain conditions).

Electric vehicle charging points

We have launched one of the UK's first standalone insurance products covering electric vehicle (EV) charging points. Due to the rise in EV charge points we have responded to the demand from brokers for a specialist all risks policy. The product is aimed at customers including contractors, car park operators, local authorities, asset managers and forecourt operators, with cover applicable for everything from a single charger to an entire network.

Additional links

- **> Standalone cover for electric vehicle charging points**
- **> The Billion Dollar Man - Protecting People**
- **> Aviva enters growing offshore wind insurance market**
- **> Electric vehicle insurance in Canada**

Decarbonising our operations and supply chain

Aviva is reducing the environmental impact of its operations and supply chain.

Operations

In our operations we reduce the environmental impact in many ways, including through energy efficiency via clever use of technology and digital communications, using renewable energy sources and minimising the carbon intensity of our car fleet. Reducing our impact on the planet is not new for us, we've been doing it for over 20 years, and in 2006 we became the first major insurer to be carbon neutral. We aim to have **Net Zero operations by 2030** and are committed to **using 100% renewable electricity by 2025 (aligned to the RE100 commitment)**. We also have a strategy in motion to work with our partners to reach **Net Zero carbon in our supply chain by 2030**, supported with the adoption of the science-based targets.

Carbon neutral v Net Zero

Carbon neutral - The amount of carbon released is offset by reductions, avoided emissions or offsets.

Net Zero carbon emissions - Any amount which continues to be released is balanced by an equivalent amount being removed through carbon removals. Offsets, reductions or avoided emissions are not included.

Renewable energy and emission reductions

Having achieved our previous operational carbon reduction targets nine years early, and having disposed of a number of our businesses, we have set a new Net Zero by 2030 ambition: this is focused on a 90% reduction in Scope 1 and 2 emissions by 2030 from a 2019 baseline. As at the year end 2022, 100% of electricity used by our operations was from renewable resources, a 19% increase from 2021.

Clean energy

We have installed rooftop solar on the Norwich Island site this year, with further installation planned across our main UK sites in 2023. The contribution that onsite renewable electricity made has reduced in 2022, this was due to the disposal of our Horizon office in Norwich which had rooftop and carport solar arrays.

Our planning application for the Perth wind turbine was successful and we expect this to be erected by early 2024.

Data-driven abatement

We have implemented numerous innovative mechanisms to reduce emissions. We are currently working to further identify and abate the emissions across our estate that are more challenging to eliminate.

In 2022, we have piloted a pioneering demand led ventilation upgrade in our Norwich office, which we are expecting to roll-out to our core offices next year. We have also installed environmental sensors measuring CO_2, lighting, temperature and occupancy and have deployed a desktop power management solution across our UK estate.

This data has enabled us to reduce power demands across all buildings, resulting in lower energy usage, saving us costs and reducing our impact on the environment. We collected the silver green apple award in November 2022 at the Houses of Parliament for the collaboration between the Canadian team and Carbon Intelligence for our smart building optimisation programme. This uses a smart device which connects to the building management system and identifies any inefficiencies i.e. a valve may only be partially opening and closing.

Building blocks

In 2023, we will be occupying our new London office space, 80Fen. This new office was built in 2020 to the latest efficiency standards, has an EPC A rating and is rated BREEAM Excellent, the world's leading sustainability assessment.

When compared to St Helen's, our current office space built in 1968, 80Fen has green space on the roof, is not fully glazed - to minimise heat gain, and the air conditioning is controllable by floor area. The estimated carbon savings are 700 tonnes per year.

Car fleet

We have committed to moving our global vehicle fleet to electric (EV/PHEV) by 2025 via EV100. There are currently 718 cars in the fleet, 43.5% of the vehicles are EV/PHEV.

Our EV100 ambition is that all new vehicles will be PHEV or battery-powered electric vehicle (BEV) and we will be replacing the diesel/petrol vehicles if necessary, with either a PHEV or BEV.

In the UK, we have 76 electric vehicle charging points at seven office locations, giving us the ability to charge 152 vehicles. In 2023, we are targeting an additional 70+ charge points in Norwich, which is subject to a power supply upgrade to the premises.

Decarbonising our operations and supply chain continued

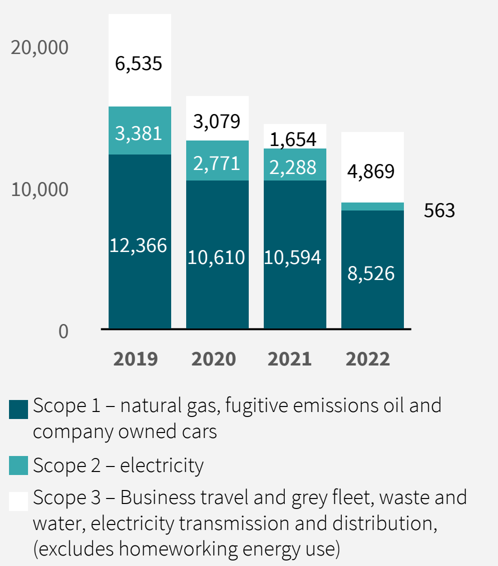
Accounting for homeworking

In 2021, we expanded our operational carbon emissions methodology to calculate the emissions produced per employee, which includes the emissions from homeworking to reflect our hybrid operating model. As this methodology is still nascent and is based on a number of assumptions we have not included these emissions in our operational carbon footprint table. However, we estimate this equates to 2,491 (2021: 3,051) tonnes of CO_2 equivalents (tCO_2e) for our core businesses. The reduction in emissions from homeworking are due to the increase in colleagues returning to the office. We believe these emissions to be Aviva's responsibility and have, therefore, purchased carbon avoidance offsets to account for them. In our Annual Report and Accounts, we have included an expanded table featuring our energy use and carbon emissions data to reflect the requirements of the UK Streamlined Energy and Carbon Reporting (SECR) framework.

Reducing our environmental footprint

Our UK business met our zero landfill target in 2015. Between 2019 and 2020 our workplaces were free of single-use plastic containers. However, due to COVID-19 we have had to reintroduce a limited amount for health and safety reasons. It remains a short-term challenge that we continue to address, along with other considerations in light of COVID-19, but we are looking for solutions to eliminate single-use plastic once again in 2023.

Figure 4: Absolute operational carbon emissions tCO_2e (market based)[1]. Source: Aviva.



1. Comparative periods have been re-presented on a consistent basis.

Improving offsetting transparency

Whilst we are ambitious in our renewable energy programme, there are still emissions across our value chain which we are currently unable to abate. Aviva has been carbon neutral in our business operations since 2006, through the purchase and retirement of carbon reduction credits from the voluntary carbon market. We are continuing to maintain the carbon neutrality of our operations through use of avoidance/ reduction credits (representing the carbon dioxide equivalent that is prevented from being emitted into the atmosphere) through to 2030.

Moving from carbon reduction credits to removal credits

With more companies considering how they treat their residual carbon emissions from their operations, the focus on carbon reduction credits and the type of credits employed has increased dramatically. To contain costs and ensure the continued robustness of our operational carbon neutrality status, we worked with carbon development partners to focus on the development of a Gold Standard cookstove project in the Bihar region of India. This project will deliver enough carbon avoidance credits to ensure our operations remain carbon neutral through to 2030. At that stage we will switch to using removal credits (representing the carbon removed from the atmosphere as the result of carbon removal projects).

Our work on our carbon removals plans has begun following the £100 million funding we announced in March 2021. We are beginning this work now as many nature-based solutions take time to absorb carbon from the air. We have explored the best interventions to remove carbon while providing other social and economic benefits to our communities, such as flood protection and resilience.

Initial carbon removal projects

Aviva Ireland announced in November that it has provided €5 million in funding to The Nature Trust, a not-for-profit company backed by Coillte and Forestry Partners, to help accelerate its native afforestation project. The funding will result in the planting of approximately 1.2 million native tree saplings, creating 400 hectares of new native woodlands across a number of sites throughout Ireland. The planting season for the new woodlands started in the winter of 2022 and will continue over the coming years.

The native woodlands created will provide carbon sequestration, removing and storing carbon dioxide from the air and so helping to address climate change. In addition to the carbon removal, it will enhance existing and degraded biodiversity and create new biodiverse habitats, as well as providing free access to all for improved wellbeing and recreational amenities.

Decarbonising our operations and supply chain continued

In February 2023, we announced a £38 million partnership with the Wildlife Trusts to help fund the creation of new temperate rainforests in the UK, the carbon sequestration will be one of the outcomes along with biodiversity enhancement, improved air quality, and other social and local economic benefits.

Operational supply chain

Following our bold ambition in March 2021 to reach Net Zero by 2040 and have a Net Zero supply chain by 2030, we have mobilised a Procurement work stream in Aviva's Operations Net Zero Programme and set about ensuring that our purchased goods and services (Scope 3 Category 1) are aligned to the low carbon economy transition.

We are increasingly looking to work with organisations that have a shared ambition to reduce our environmental impact globally, and particularly those that have enshrined this commitment through external benchmarks such as science-based targets. Our improvement activities focus on three areas to deliver our decarbonisation strategy: People, Partners and Processes. The following table sets out major achievements in these areas from this year and our priorities for next year.

	2022 Achievements	Priorities for 2023
People	Building awareness – engaging our teams regularly to increase their understanding of Group-wide ambitions that impact their roles and how we will be changing our ways of working. We have established channels for sharing the latest updates and also in collaborating on our own personal ESG changes and journeys.	We will be scheduling formal training on emerging best practice in sustainable sourcing, to augment regular learning sessions with internal and external ESG experts, as well as wide networking with peers to continue to grow our knowledge and capability. We have also begun building a knowledge library of useful resources for our commodity category managers to continually upskill in this key area.
Partners	We ran an ESG questionnaire with a range of functions at our top 40 emitting suppliers to establish our current supply chain ESG position and grow our understanding of supply chain data challenges. We have been proactively engaging our top 80% of suppliers (by spend) to understand their plans and strategies on ESG and collaborating with a specific few who have the greatest environmental impact. We have developed a new ESG schedule which will now apply to all new contracts on our standard terms. In November hosted a Net Zero Supplier Summit as a call-to-action across our supply chain with c.250 attendees. We are also compliant with an Aviva-wide organisation 'Stoplist' which sets out organisations, sectors and projects we will not invest in, underwrite, or engage as a supplier due to their ESG credentials.	We continue to review our key existing supplier contracts to ensure they have sufficiently strong ESG commitments that move towards our 2030 ambition. We are starting to consider excluding new suppliers based on their ESG credentials.
Processes	We have recently become a customer of Ecovadis, the leading ESG supplier ratings provider, to enhance our understanding of our supplier sustainability profile. We have already updated our supplier landing pages and RFP headers to reflect our much bolder ESG agenda and amended our onboarding processes to capture more information about suppliers' ESG status. We have also added ESG KPIs into our key management reporting within procurement.	We are implementing the Ecovadis service to integrate with our supplier systems so that we can use the information in supplier selection decisions and management processes with our existing suppliers in 2022. We will be dialling up the strength of the ESG criteria such as the application of weighting in our new supplier selection processes throughout 2022.

Additional links

> More details can be found on www.aviva.com/social-purpose.

Embedding climate in our culture

Our employees are the driving force behind everything we achieve as a business, which is why we are empowering our employees to take climate action with us.

Being in the insurance sector and seeing the impact of climate on our customers, it is imperative to Aviva that our employees understand the urgency of the climate crisis; and to integrate this into their work. This will ensure we can embed climate action across our organisation and protect our reputation as a climate leader.

To improve the knowledge and awareness of our employees, we have partnered with the WWF to provide learning experiences for our employees about climate science and climate solutions and to develop their skills around climate science communication.

Every job can go green

During 2022, 99.6% of our employees completed the training and are increasingly seeking to apply this learning to their area of the business from the risk surveyors to the workplace pension sales team.

To help empower our employees to take positive climate action within the business, we have deliberately taken steps to integrate climate considerations into the day-to-day decisions we all make, from insurance through to procurement. By doing so, we not only provide products and services that the world needs, but we also protect our brand and reputation as a climate leader.

And that is why we believe that as a climate leader we must, and do, weave climate risk management and action into our culture, through our systems and processes.

An example of this is through the dedicated work we have been doing this year to enhance the climate risk reporting and controls that are utilised across our Group and business unit functions, upskilling our workforce along the way and ensuring that climate is engrained in what we do.

In our annual personal goal setting process, all colleagues have been tasked with setting a Sustainability goal for 2023.

Community-led, climate focused fundraising

Throughout 2022, projects in the UK funded by our employees through the Aviva Community Fund (ACF) – Climate Fund were implemented.

The ACF launched a focused climate fund in late 2021 through the Crowdfunder platform. The Climate Fund was designed to boost funding for climate-related community projects through matching the donations the projects received from Aviva employees.

58 projects designed to help communities prevent or reduce the impacts of climate change raised £199k.

The impacts of these climate-related projects were felt in communities throughout the UK helping them become more climate ready and resilient.

Driving the cultural change at Aviva

The transformation required to respond to climate change demands a significant change in individual behaviour.

To help drive this transformation we launched our Electric Vehicle (EV) salary sacrifice leasing scheme to eligible UK employees in December 2021. We had 230 EV orders in the first 12 months of the Scheme. 112 vehicles were delivered by the end of December 2022; the challenge being the delay in supply of new vehicles being produced.

A concern of colleagues moving to EVs is having the appropriate places to charge their cars, therefore we are installing charging points in 10% of the parking bays across of our UK office car parks by 2025.

Last year we increased the options in our Cycle2work scheme to make bicycles/e-bikes more affordable for colleagues. In 2022, we introduced a 24 month option, alongside the existing 12 months, giving colleagues the ability to spread their cost over a longer period. Of the 188 new Cycle2work arrangements put in place from February 2022, 65% of those new arrangements have taken advantage of the new 24 month option.

Our employees recognise the imperative of climate action and we want to give them the tools to take action. We do this in many ways, including the following:

Embedding our climate action in our culture continued

The office	At home	Reward and performance	Benefits and recognition	Every job can go green!	Volunteering and giving
Reduce office waste UK: Recycles all IT equipment.	Understand their climate impact, usage of WWF my footprint App.	As pension providers, we understand how pensions play a key role in tackling climate change. Across all markets, our staff pension schemes have ESG fund options. In the UK, the default choice for the Aviva Staff Pension scheme solution has switched to ESG funds as we seek to align to the Group's Net Zero 2040 ambition.	Increasing the limits on the cycle to work scheme benefits across the UK (up to £4,000, 100% increase) and Ireland (up to € 1500, maximising the government allowance), to cover electric bikes.	At Aviva, to empower our employees to take positive climate action within the business, ESG considerations are integrated into our decision-making processes, from insurance to procurement decisions.	ACF's Climate community fund, provides £150,000 allocated by our employees to climate projects, with the option of using up to three days per year volunteering with these projects.
Educating our employees about energy usage, recycling and biodiversity.	Aviva Extras, our employee benefits scheme, helps our UK employees switch to renewable energy providers.	Senior management long-term incentive plan is directly linked to reductions in carbon intensity of our investment portfolio. The remuneration policy included the climate metric for the first time this year.	All our eligible employees have the options to lease an electric vehicle with significant tax savings in the UK, via our company car scheme.	The employee Climate customer Innovation fund empowers colleagues to bring their ideas for 'greening' our products and services to life. We had 35 entries in our latest challenge. The winner received an electric bike, and the top 20 ideas were taken through a two-week acceleration programme at the beginning of 2022.	The Aviva Foundation, our charitable grant providing Foundation, allows our employees to volunteer in their communities.
All our sites are now paperless.	Aviva Flex allows our employees to offset their personal emissions.			Our Voice of Aviva analysis shows 90% of employees taking personal sustainability actions at work and 60% taking actions within their core role.	
UK car sharing tool connecting over 400 employees in 180 active car sharing groups, and in Ireland we are part of the Taxsaver Commuter Ticket Scheme enabling colleagues to buy subsidised tickets for public transport.					
Expanding EV charging ports across our offices, 10% of standard parking spaces by 2025.					

Our approach to climate risk is embedded in our risk management framework

Risk management

A rigorous and consistent risk management framework is embedded across Aviva.

Aviva's risk management framework sets out how we identify, measure, monitor, manage and report on the risks to which our business is, or could be, exposed to (including climate-related risks).

Our process for identifying and assessing climate-related risks

We use our risk identification process to identify potential exposure to climate-related risks via the associated physical and transition transmission channels (for example new climate policies or increases in average temperatures). We then conduct exposure analysis to understand how these risks will impact our most material exposures.

We map emerging risks and trends on our emerging risk spectrum according to the nature and size of their impact to assess their materiality, which dictates the prioritisation for management action and reporting necessary. This is primarily a qualitative assessment informed by quantitative indicators.

Aviva considers climate change to be a significant risk to our strategy and business model and its impacts are already being felt. We are already taking the impact into account in our internal model for some risk drivers over a 1 year time horizon. We are also acting now through Aviva's Sustainability Ambition to mitigate and manage its impacts both today and in the future. Through these actions, we continue to build resilience to climate-related transition, physical and liability risks.

Our process for integrating climate-related risks into risk management

The key trends impacting our business, including climate-related and other sustainability risks change, are set out in our Risks and Risk Management section of the Strategic Report in our 2022 Annual Report and Accounts. The principal risks impacted by climate change are credit risk, market risk, general insurance risk and life insurance risk.

In 2019, we updated our risk policies (including our Risk Management Framework and our Own Risk and Solvency Assessment (ORSA) policies) and our business planning instructions to explicitly include climate-related and other sustainability risks.

In 2020, we updated our business standards to integrate climate-related risks across all risk and control management activities. We also defined our climate risk preferences (see table in this section) and incorporated climate metrics, ambitions and operating risk limits for the first time in our business plan, to facilitate risk-based decision making. In doing so, we have taken into consideration the fact that climate-related risks and opportunities do not always easily align with existing risk management processes.

In 2021, we published our Aviva's Sustainability Ambition and this has been reflected in our business plan. It has also been reflected in our risk management and risk appetite frameworks to ensure our climate risk appetite (supported by a dashboard of metrics) is aligned with our Sustainability Ambition, Senior Management Long-Term Incentive Plan and our external ambitions.

In 2022, we continued to build our climate risk capability and further integrate it into our risk management and risk appetite frameworks. We further developed guidance, metrics and targets, to support better understanding and monitoring as well as ensure climate-related risks and opportunities are embedded in our day-to-day decision making in line with our climate risk appetite.

Our process to manage climate-related risks

The following measures allow Aviva to identify, measure, monitor, manage and report on the climate-related risks to which our business is, or could be, exposed to.

Risk Appetite Statement

We have a very low appetite for climate-related risks which could have a material negative impact upon our balance sheet and business model as well as our customers and wider society. We actively seek to reduce our exposure over time to the downside risks arising from the transition to a low carbon economy. We seek to identify and support solutions that will drive a transition to a low-carbon, climate resilient economy. We seek to limit our net exposure to the more acute and chronic physical risks that will occur in the event the Paris Agreement target is not met[1]. We actively avoid material exposure to climate litigation risks.

Escalation process

The climate risk appetite, its metrics and associated thresholds are set by the Board. When the overall appetite is breached the Board is notified and the breach is discussed at the next sub-committee or Board meeting as relevant.

Frequency of review

We monitor our climate metrics against these thresholds and targets on a quarterly basis. Climate risk appetite monitoring is part of our internal reporting.

1 We note that physical risks will also occur even in the event the Paris Agreement target is met

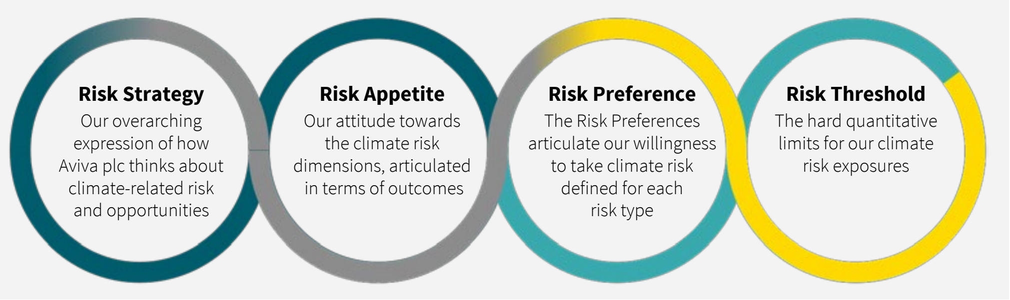
Risk management continued

Risk preferences

Risk type	Preference	Rationale
Transition risk	Avoid[1]	We seek to reduce the impact on our business that is likely to arise from the extensive policy, technology and market changes resulting from the transition to a low carbon economy. Depending on the nature, speed and focus of these changes, transition risks may pose varying levels of financial and reputational risks.
Physical risk	Accept[2]	We seek to limit, or where appropriate reduce, our investment and net underwriting exposure to the more acute and chronic physical effects of climate change, whilst recognising that we have capabilities to manage these risks, support adaptation and build resilience.
Litigation risk	Avoid	We are averse to climate litigation risk that could arise from parties who have suffered loss and damage from climate change and seek to recover losses from Aviva if they consider that investment or underwriting activities have contributed to that loss.

1. We want a small amount of this risk
2. We want a moderate amount of this risk

Figure 17: Key components within Aviva's Climate Risk Appetite. Source: Aviva



Climate Biennial Exploratory Scenario (CBES)

Aviva is one of ten major insurers in the UK market that participated in the Bank of England's CBES exercise.

The exercise tested the resilience of the insurance and banking industries to the physical and transition risks from climate change and examined the scale of adjustment needed in the coming decades for the system to remain resilient.

Aviva completed the Bank's three exploratory stress scenarios (two transition focused and one of rising temperatures) at a Group level, participating in the phases that ran through 2021 and early 2022.

Findings from the exercise were published in May 2022, noting particular findings in relation to insurers' climate risk management capabilities and exposures to climate-related risks, along with observations of best practice and next steps for continued progress in climate stress tests.

The key market-wide findings from the exercise and Aviva's progress are summarised below:

- Progress is being made by insurers with incorporating climate risk in to risk governance frameworks. At Aviva, climate risk has been a part of our risk framework for several years with impacts and considerations underpinning our day-to-day business decisions.
- Scenario analysis across the industry is still in its infancy and insurers are continuing to develop their models and approaches. For Aviva the exercise has been important in further developing the sophistication of our climate risk modelling and internal expertise, and we incorporated a number of learnings into our methodology throughout the process, such as incorporating relevant elements (e.g. more granular General Insurance physical risk modelling) into our Climate VaR in 2021.
- Projections suggest that overall costs will be lowest with early, well-managed action to reduce greenhouse gas emissions and so limit climate change. Our action to date puts us in a good position to limit the potential impact to our customers and shareholders.
- There is a recurrent theme of a lack of data availability on many key factors required to understand and manage climate risks. Aviva is working with third parties in the supply chain and the wider market to drive increased understanding of climate data requirements. Ultimately, a market-wide approach will be required to ensure consistent and reliable data is available across the value chain.

Aviva will work with the Bank of England to understand specific findings, areas of best practice and improvement areas for continued progress to be made.

Risk management continued

Topic	Bank of England Conclusion	Relevance for Aviva
Capability	The Bank's assessment is that UK banks and insurers still need to do much more to fully understand and manage their exposure to climate risks. In order to produce better estimates of climate risks in their portfolios, banks and insurers will need to prioritise investment in their climate risk assessment capabilities.	As part of our Aviva Sustainability Ambition (ASA) programme we are continuing to develop our methodologies and enhance our modelling capability to understand and manage climate risks. Ongoing improvement will help us remain industry leading.
Life Insurance impacts	The aggregate results show that, for life and general insurers, the No Additional Action (NAA) scenario would be likely to have a more significant impact than either of the transition scenarios. For life insurers, this was because forward-looking asset price impacts are greatest at the end of that scenario with an overall impact worth just over 15 % of total market value. In aggregate in the NAA scenario, around 90 % of the £200 billion total of life insurers' investment losses (worth 15 % of their total market value) is passed through to policyholders or absorbed by other features of the balance sheet.	Aviva's results were consistent in the overall shape with other insurers with the highest losses for the physical risk scenario. A material portion of the impacts were also offset either through the matching adjustment offset, deferred taxes or passed to the policyholder (via with-profits or unit linked products).
General Insurance impacts	UK and international general insurers, respectively, projected a rise in average annualised losses of around 50 % and 70 % by the end of the NAA scenario. Both banks and insurers noted that these risks could be in part mitigated by investment in flood defences, increasing flood resilience measures for properties, and encouraging flood-resilient repairs. They also noted their support for a continuation of a publicly supported UK flood reinsurance pool in such a scenario, and an extension to include properties built after 2009.	Overall general insurance impacts were relatively small but we saw similar sizes of increases to the gross AAL. Similarly we stressed the importance of government intervention and the continuation and/or extension of FloodRe.
Good practice	Good practice identified, including bespoke modelling for sectors with climate vulnerabilities, linking bond and equity of the same company, comparing alternative models for Tier 2 results.	Aviva's modelling was consistent with most of the areas of good practice called out by the Bank of England.

Our core TCFD metrics measure our climate performance

Our climate metrics

Climate reporting policies

Aviva plc (the Company), a public limited company incorporated and domiciled in the United Kingdom (UK), together with its subsidiaries (collectively, the 'Group' or 'Aviva') transacts life assurance and long-term savings business, fund management and most classes of general insurance and health business through its subsidiaries, joint ventures, associates and branches in the UK, Ireland, Canada and Asia.

The principal reporting policies adopted in the preparation of the climate metrics are set out below. These policies have been consistently applied to all years presented, unless otherwise stated. The metrics provided cover the 2022 financial year (1 January 2022 to 31 December 2022). Unless otherwise noted, the amounts shown in the Climate-related Financial Disclosure are in millions of pounds sterling (£m).

Comparatives

Comparative numbers included are consistent with our Climate-related Financial Disclosure 2021 except where methodology underpinning calculations has changed in which case the comparatives are re-presented on a consistent basis as the current year, and this is indicated in our disclosures. The comparatives reflect the emissions used at the previous reporting year.

In cases where a new data source has been used in the current period e.g. implied temperature rise data instead of portfolio warming data for credits and equities in the Temperature alignment metric, or additional asset data presented, then data related to 2021 has been obtained, and included in the comparatives calculations, using the data available at November 2022, unless stated otherwise. Note 1 sets out changes to comparatives.

Use of MSCI data

As outlined in more detail in the reporting policies below and criteria in note 14, we have used climate and other data from MSCI ESG Research LLC or its affiliates or information providers. Although Aviva's information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the 'ESG Parties'), obtain information (the 'Information') from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The Information may only be used for your internal use, may not be reproduced or re-disseminated in any form and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them.

None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

Consolidation principles

Subsidiaries are those entities over which the Group has control. The Group has invested in a number of specialised investment vehicles such as Open-ended Investment Companies (OEICs) and unit trusts. To the extent these funds are within the control of the Group (one factor being whether we have the ability to determine the investment strategy of the fund) we have considered our share of the underlying assets of these vehicles in the calculation of our metrics as relevant (subject to data availability).

Associates and joint ventures are entities over which the Group has significant influence but not control.

The definitions are consistent with that used in the Group's accounting policies, included in the IFRS Financial Statements. In addition, operational control as outlined by the Greenhouse Gas (GHG) protocol is considered.

Consolidation procedure

Data permitting, subsidiaries are added or removed from the climate metrics, as if the reporting boundary at 31 December of the financial year had been in place throughout that and the comparative periods. Associates and joint ventures are included as part of Financed emissions at our ownership share.

The metrics include the amount invested through our shareholder, with-profit and policyholder funds and as such external direct investments in the funds are not considered in our metrics.

Due to the developing nature of climate data and reporting, not all subsidiaries, investment vehicles, joint ventures and associates are included in the metrics reported at this time. Coverage percentage (i.e. how much of the total in-scope assets are measured) is provided.

Materiality

In general, assessing materiality requires thoughtful consideration not only of any applicable materiality guidance, but also of our purpose in assessing materiality and in communicating to our stakeholders. Our public disclosures, including our climate-related financial disclosures, include a range of topics that we believe are relevant to our businesses and that are of interest to investors and other stakeholders. For the purposes of complying with our annual and half-yearly disclosure obligations in the United Kingdom we apply materiality based on the applicable rules and regulations governing public reporting in the United Kingdom.

Climate reporting policies continued

In our climate-related financial disclosures, we have been guided by the same approach to materiality, to which we have applied additional consideration of short-term and longer-term time frames reflecting the time horizon of our climate goals, alongside broader considerations, including but not limited to, the nature of the disclosure, metric and the level of estimation involved.

These time frames are longer than those time frames customarily used in certain of our other disclosures, including our annual and interim financial reports submitted to the London Stock Exchange ("LSE") in the United Kingdom. This approach to materiality means that this report, and many of our climate-related financial disclosures, including with respect to climate-related risks and opportunities, include certain information that we have not included in our LSE filings. Statements made in this report and in our other disclosures use a greater number and level of assumptions and estimates than many of our LSE filings. These assumptions and estimates are subject to change, and, when coupled with the longer time frames used, make any assessment of materiality inherently uncertain.

For this reason we do not set quantitative thresholds against which to apply our materiality assessment. Instead we take a holistic view and apply a quantitative assessment to determining the information that is important in communicating our sustainability and climate strategic ambitions to stakeholders. In addition, our climate risk capabilities and Net Zero transition strategy and plan remain under development, and the data underlying these and market practice in relation to such disclosures will evolve over time. As a result, we expect that certain disclosures made in this report are likely to be amended, updated, recalculated and restated in the future.

Greenhouse gas emissions

The GHG Protocol establishes a comprehensive global standardised framework to measure and manage GHG emissions. This framework underpins the measurement of emissions in the TCFD metrics. GHG emissions used for the TCFD metrics are aligned to the GHG protocol. This includes the seven greenhouse gases covered by the United Nations Framework Convention on Climate Change (UNFCCC)/Kyoto Protocol, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

Reporting criteria

The reporting criteria for the metrics included in notes 3 to 9 are included in note 14 reporting criteria.

Independent assurance

AR Indicates that this data was subject to independent reasonable assurance by PricewaterhouseCoopers LLP ('PwC')

AL Indicates that this data was subject to independent limited assurance by PricewaterhouseCoopers LLP ('PwC')

The PwC report which was prepared under ISAE 3000 (Revised) and - where relevant - ISAE 3410 is available in the Independent Assurance section of this document.

Our metrics to assess climate-related risks and opportunities

We use the following core metrics to measure the potential financial impact of climate-related risks and opportunities on our business, as well as to monitor our alignment with our climate ambitions. We share metrics on a quarterly basis at a Group and business unit level; these metrics are used internally in various processes from monitoring risk appetite to business planning to measuring progress against our external climate plan. Whilst recognising the limitations of the metrics and tools used (e.g. scope of coverage, data availability and extended time horizons as well as the uncertainty associated with some of the underlying assumptions), we believe they are valuable in supporting our climate-related governance, strategy and risk management. We utilise internal data, as well as external data sources and providers, to produce the climate metrics. Further information on the reporting policies for each metric is included in the reporting criteria, see note 14.

Climate Metric	Overview	Physical/Transition Risk or Opportunity	Scope	External Data Provider (where relevant)	Note number
Operational carbon emissions	Measure the operational carbon emissions in tCO_2e.	Transition	Aviva group-wide subsidiaries	DEFRA, IEA	Note 4
Financed emissions	Attributed emissions and intensity data of our investments.	Transition	Shareholder, with-profit and policyholder	MSCI[1]	Note 5
Monitoring sovereign holdings	Measure our exposure to countries highly or moderately vulnerable to climate change and review sovereigns holdings with Notre Dame-Global Adaptation Initiative (ND-GAIN) country index scores below 50.	Physical and Transition	Shareholder, with-profit and policyholder	University of Notre Dame (ND-GAIN country index), World Bank, PRIMAP-hist	Note 6
Investment in sustainable assets	Measure Aviva's investment in assets and funds which meet the sustainability asset definition.	Opportunity	Shareholder, with-profit and policyholder	CBI, Bloomberg	Note 7
Weather-related losses	Actual weather-related losses versus expected losses by year and business unit (net of reinsurance) and weather impact on Aviva's Combined Operating Ratio (COR) (net of reinsurance).	Physical	General insurance business	N/A	Note 8
Temperature alignment	Measure the portfolio temperature pathways and alignment to Paris Agreement target.	Transition	Shareholder, with-profit and policyholder	MSCI[1], Climate Action Tracker	Note 9
Climate VaR[2]	Assess the potential business impacts of future climate-related risks and opportunities for different IPCC scenarios and in aggregate.	Physical and Transition	Shareholder (including shareholder component of with-profit funds)	MSCI[1], University of Notre Dame (ND-GAIN country index, CISL ClimateWise)	Strategy section, page 27

1. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission
2. See section Our climate VaR measure on for the reporting of our Climate VaR metric

The 2022 performance for the Climate Value-at-Risk is included in the Strategy section. The 2022 performance for the other climate metrics is set out in the following pages. We have also included an update on how we measure and track climate-related litigation risk in note 13.

Our metrics to assess climate-related risks and opportunities continued

Note 1 - Changes to metrics and comparative amounts

Metrics

In 2022 we have expanded the scope of metrics to include additional policyholder data. We have also considered the latest methodology published in 2022. As a result, the following metrics have been updated:

- Estimated financed emissions (note 5) - The weighted average carbon intensity metric for credit and equities shareholder assets, disclosed at 2021, is included in our Financed emissions note. The scope has been expanded to include policyholder data. Attributed emissions (being the Scope 1 and 2 indirect emissions from the investee companies) is now disclosed in addition to intensity.
- Monitoring sovereign holdings (note 6) - Sovereign absolute emissions and carbon intensity is additionally disclosed. The scope has been expanded to include policyholder data.
- Temperature alignment (note 9) - This metric replaces the previous portfolio warming potential metric. Implied Temperature Rise (ITR) approach has been used for our credit and equity investments. Direct real estate uses portfolio warming potential data.
- Investment in sustainable assets (note 7) is used instead of the previous investment in green assets. The updated definition has sub-categories: green, sustainability assets, transition funds and social bonds. In addition, policyholder assets meeting the definition have been included.

Comparatives

In 2022, the 2021 comparatives for the following are presented for the first time:

- Financed emissions (note 5) - absolute emissions for credit and equities; and
- Monitoring sovereign holdings (note 6) - intensity and absolute emissions for sovereigns.

In addition, metrics have been re-presented for updated methodology and inclusion of policyholder data, and this is set out below.

- Operational emissions (note 4) - In 2022 Aviva has prepared and submitted its Science-based targets, which were validated in December 2022. As a result of this work Aviva has reviewed the treatment of its China 50% joint venture and concluded that it does not have operational control as defined by the GHG Protocol Corporate Standard.
- For 2022 reporting the China joint venture has been reported according to the equity approach, thus Aviva's proportionate share of emissions have been removed from Scope 1, Scope 2 and Scope 3 operational emissions and reported as part of our Scope 3 category 15 investments Financed emissions. The 2021 comparatives have been re-presented on a consistent basis. As a result of this change total overseas market-based emissions have decreased by 6,160 tCO_2e (Scope 1: decrease of 446 tCO_2e, Scope 2: decrease of 3,352 tCO_2e, Scope 3: decrease of 2,362 tCO_2e). In addition, this change has decreased total location-based emissions by 6,446 tCO_2e (Scope 1: decrease of 446 tCO_2e, Scope 2: decrease of 3,638 tCO_2e, Scope 3: decrease of 2,362 tCO_2e). The total emissions for the UK and overseas and the corresponding intensity ratios have also been re-presented.
- Financed emissions (note 4) - credit and equities weighted average carbon intensity by revenue has been re-presented for the inclusion of policyholder equities and credit. We have also updated the comparatives to account for 100% of the investments held by Aviva India (after it become a subsidiary in 2022). This has changed the weighted average carbon intensity for credit and equities from 134 tCO_2e/\$m revenue presented in the Climate-related Financial Disclosure 2021 to 135 tCO_2e/\$m revenue.
- Investment in sustainable assets (note 7) - At 2021, Investment in green assets was £7.6 billion. The 2021 comparative has been re-presented to align with the updated definition and inclusion of policyholder data, resulting in £6.5 billion of investments in sustainable assets at 31 December 2021.

Note 2 - Exchange rates

The Group's principal overseas operations during the year were located within Canada and the eurozone. The investments of these operations have been translated at the year end rates. In addition, assets are converted into US dollar for Financed emissions and Sovereign intensity metrics. The rates used were as follows:

	2022	2021
Canada		
Average rate ($CAD1 equals)	**£0.62**	£0.58
Year end rate ($CAD1 equals)	**£0.61**	£0.58
Eurozone		
Average rate (€1 equals)	**£0.85**	£0.86
Year end rate (€1 equals)	**£0.89**	£0.84
United States		
Average rate ($1 equals)	**£0.81**	£0.72
Year end rate ($1 equals)	**£0.83**	£0.74

Our metrics to assess climate-related risks and opportunities continued

Note 3 - Scope 3 emissions reporting

Aviva is engaged with regulators, industry bodies, alliances and companies across multiple sectors to develop consistent and standardised frameworks and approaches to calculate Scope 3 emissions. Aviva does not engage in all activities linked to the categories as defined under Scope 3. Currently, Aviva is at varied degrees of maturity in terms of establishing methodologies and basis to calculate Scope 3 emissions across the 15 categories.

	Categories	Relevance to Aviva	2022 status	Section reference category included in
Upstream Activities	1. Purchased goods and services	Applicable	Not reported	This will be reported in 2023 in accordance with our SBTi targets.
	2. Capital goods	Applicable	Not applicable	Not applicable
	3. Fuel and energy related activities	Applicable	Reported	Note 4 - Operational emissions
	4. Upstream transportation and distribution	Not applicable	Not applicable	Not applicable
	5. Waste generated in operations	Applicable	Reported	Note 4 - Operational emissions
	6. Business travel	Applicable	Reported	Note 4 - Operational emissions
	7. Employee commuting	Applicable	Partial reporting	Note 4 - Operational emissions
	8. Upstream leased assets	Not applicable	Not applicable	Not applicable
Downstream Activities	9. Downstream transportation and distribution	Not applicable	Not applicable	Not applicable
	10. Processing of sold products	Not applicable	Not applicable	Not applicable
	11. Use of sold products	Not applicable	Not applicable	Not applicable
	12. End-of-life treatment of sold products	Not applicable	Not applicable	Not applicable
	13. Downstream leased assets	Not applicable	Not applicable	Not applicable
	14. Franchises	Not applicable	Not applicable	Not applicable
	15. Investments	Applicable	Reported[1]	Note 5 - Estimated financed emissions

tCO_2e shown in thousands	**Note**	**Scope 1 and 2**	**Scope 3**	**2022 Total**
Operational emissions	4	**16**	**5**	**21**
Financed emissions[1]	5	**—**	**7,010**	**7,010**
Total operational and financed emissions by Scope		**16**	**7,015**	**7,031**
Sovereign emissions	6	**—**	**7,597**	**7,597**

tCO_2e shown in thousands	Note	Scope 1 and 2	Scope 3	2021 Total
Operational emissions	4	20	2	22
Financed emissions[1,2]	5	—	8,548	8,548
Total operational and financed emissions by Scope		20	8,550	8,570
Sovereign emissions	6	—	9,228	9,228

1. Financed emissions include Scope 1 and Scope 2 of our investments in-scope. Scope 3 emissions will be reported when data and methodology permits. This is included under Scope 3 in the tables above as it relates to Scope 3 category 15.
2. Comparatives have been re-presented. See note 1 for details.

The tables set out our operational and financed emissions by Scope along with our sovereign emissions. Sovereign emissions are shown separately given the inherent double counting of these emissions with the financed emissions calculated in note 5. The operational emissions are included on a location basis and the financed emissions are included on a location basis where available, and where not, on a market basis.

Our metrics to assess climate-related risks and opportunities continued

Note 4 - Operational emissions

Aviva's reported environmental data follows the World Resources Institute and World Business Council on Sustainable Development's GHG Protocol Corporate Standard.

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

Aviva takes the operational control approach to operational emissions reporting. This means we account for 100% of emissions from operations over which we have operational control (Aviva plc and its subsidiaries).

Aviva's operational GHG emissions include Scope 1, 2 and selected Scope 3 emissions (excluding category 15, financed emissions).

As we do not have operational control over our joint venture based in China, emissions are excluded from operational emissions and have been included in Financed emissions.

The 2021 comparatives have been re-presented to be on a consistent basis and baseline. See 'Note 1 - Changes to metrics and comparative amounts'.

Operational GHG emissions are calculated with reference to the GHG Protocol.

Scope 1 – Operational emissions from owned sources. This includes natural gas, oil, company car mileage, and fugitive emissions (gases accidentally released into the atmosphere) from air-conditioning.

Scope 2 Location-Based – Operational emissions from non-owned sources (i.e., power plants) using an average emissions intensity for the grids on which energy consumption occurs. This includes purchased electricity, municipal heating, and cooling.

Scope 2 Market Based – Operational emissions where Aviva have contractual arrangements for renewable electricity, for example, through power purchase agreements, certified renewable energy through a supplier tariff, or the purchase of specific contractual instruments as relevant.

Scope 3 - Operational emissions from non-owned sources. These are: business travel (air, rail, grey fleet, and rental cars), water, electricity transmission and distribution, and landfill waste. See 'Note 3 - Scope 3 emissions reporting'.

Key estimates and assumptions

The consideration and materiality of Scope 3 categories requires judgement. We consider certain Scope 3 categories to not be applicable to Aviva, as we do not engage in these activities. Our reporting for each category is set out in note 3.

Operational data (energy, refrigeration gases, travel, water, waste etc) are converted to a carbon dioxide equivalent (CO_2e) using externally provided carbon conversion factors such as those provided by the UK government (BEIS) greenhouse gas reporting: conversion factors 2022 or the International Energy Agency (IEA) on an annual basis.

Targets

We aim to have Net Zero operations by 2030 and are committed to using 100% renewable electricity by 2025 (aligned to the RE100 commitment). We also have a strategy in motion to work with our partners to reach Net Zero in our supply chain by 2030, supported with the adoption of the science-based targets.

The table sets out our GHG emissions on an absolute CO_2e basis in accordance with the Streamlined Energy and Carbon Reporting (SECR) for our Group-wide operations. The 2019 baseline emissions and the 2021 comparatives have been re-presented, see note 1.

Analysis

Our operational carbon emissions associated with Scope 2 are now additionally reported using the market-based methodology of the GHG Protocol, and aligning with the science-based targets methodology.

Scope 2 market- based methodology allows companies to benefit from their actions in sourcing certified electricity generated from renewable sources, rather than simply taking the grid average carbon emissions for the country or region.

The Group's intensity ratios have also been changed from location-based intensity ratios to market-based intensity ratios reflecting the actions we take and how the Group reports.

Total market-based emissions have reduced as a result of our management actions for our occupied property in accordance with our climate strategy, and despite the increase in business travel as the world returns to a 'new' normal. We are reviewing our business travel policy in 2023.

Market-based emissions intensity ratios have changed due in part to management action around energy efficiency, and reduction in the property portfolio.

Our metrics to assess climate-related risks and opportunities continued

	2022 AR UK	2022 Overseas	2022 Total	2021 UK	2021 Re-presented Overseas[1]	2021 Total[1]
Emissions						
Scope 1 (tCO_2e)	**6,550**	**1,976**	**8,526**	8,870	1,724	10,594
Scope 2 (tCO_2e) - market-based	**—**	**563**	**563**	—	2,288	2,288
Scope 3 (tCO_2e)	**3,172**	**1,697**	**4,869**	1,072	582	1,654
Total market-based emissions (tCO_2e)	**9,722**	**4,236**	**13,958**	9,942	4,594	14,536
Carbon avoidance credits (tCO_2e)[2]	**(9,722)**	**(4,236)**	**(13,958)**	(9,942)	(4,594)	(14,536)
Total net market-based emissions (tCO_2e)	**—**	**—**	**—**	—	—	—
Intensity ratios (market-based)						
Scope 1 and 2 - market-based emissions (tCO_2e) / £ million GWP	**0.46**	**0.54**	**0.48**	0.58	0.97	0.66
Total market-based emissions (tCO_2e) / £ million GWP	**0.69**	**0.90**	**0.74**	0.65	1.11	0.75
Total market-based emissions (tCO_2e) / employee	**0.59**	**0.59**	**0.59**	0.64	0.60	0.63
Location-based emissions (tCO_2e)						
Scope 1 (tCO_2e)	**6,550**	**1,976**	**8,526**	8,870	1,724	10,594
Scope 2 (tCO_2e) - location-based	**5,024**	**2,813**	**7,837**	5,912	3,517	9,429
Total Scope 1 and 2 location-based (tCO_2e)	**11,574**	**4,789**	**16,363**	14,782	5,241	20,023
Scope 3 (tCO_2e)	**3,172**	**1,697**	**4,869**	1,072	582	1,654
Total location-based (tCO_2e)	**14,746**	**6,486**	**21,232**	15,854	5,823	21,677
Intensity ratios (location-based)						
Scope 1 and 2 - location-based emissions (tCO_2e) / £ million GWP	**0.82**	**1.01**	**0.86**	0.97	1.27	1.03
Total location-based emissions (tCO_2e) / £ million GWP	**1.04**	**1.37**	**1.12**	1.04	1.41	1.12
Total location-based emissions (tCO_2e) / employee	**0.89**	**0.91**	**0.90**	1.02	0.76	0.93
Energy consumption						
Energy consumption (MWh)	**57,233**	**14,537**	**71,770**	65,547	15,524	81,071

Notes:

Scope 1: Natural gas, fugitive emissions (leakage of gases from air conditioning and refrigeration systems), oil, and company-owned car

Scope 2: Electricity

Scope 3: Includes certain Scope 3 categories for business travel (category 6) and grey fleet (private cars used for business) (category 6), waste (category 5) and water

Location-based: A location-based method reflects the average emissions intensity of grids on which energy consumption occurs

Market-based: A market-based method reflects emissions from electricity that companies have purposefully chosen

In 2022 and 2021 we offset our residual carbon emissions from our Scope 2 market-based total as this takes account of the reduced emissions from our use of electricity from renewable sources. In 2020 and 2019 we offset Scope 2 location-based total. As at 1 March 2023, the 16,354 credits purchased in relation to the 2022 market-based emissions footprint were retired

Includes Scopes 1 and 2 energy MWh and fuel from company car use

1. The 2021 comparatives have been re-presented following review of the treatment of the 50% joint venture in China. See note 1.

2. All residual emissions have been offset

Our metrics to assess climate-related risks and opportunities continued

Note 5 - Estimated financed emissions

Financed emissions represent the carbon emissions of our investment portfolio (i.e. Aviva's emissions for Scope 3 category 15 from the GHG Protocol). We monitor the emissions of our investment portfolio for shareholder, with-profit funds and policyholder funds and our progress towards our climate ambitions. Our disclosure is for the largest of our classes of our investment portfolio, credit and equities.

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

An absolute emissions view of our credit and equity investments and intensity are presented. Further detail is provided in the climate reporting policies.

Carbon emissions

Scope 1 and Scope 2 location-based GHG emissions[1] are used for the investee entity based on data provided by MSCI. Where location-based emissions are not available, market-based emissions are used, where available.

Absolute emissions are calculated in tonnes of CO_2 equivalents (tCO_2e).

Attribution factors are used to attribute the greenhouse gas emissions as set out in the table.

Asset class	Attribution factor
Credit and equities	Listed companies - $m Aviva's proportional share (market value) / $m Enterprise Value Including Cash (EVIC)

Intensity measures

To calculate intensity, carbon emissions (numerator) are assessed with reference to the nature of the underlying asset (denominator) to determine an appropriate intensity measure. The denominator for the intensity calculations is based on the nature of the underlying assets.

We provide an economic carbon intensity. A limitation of this approach is measurement of the denominator which varies for listed versus private holdings. The proportional share for listed investments uses market value, whilst the proportional share for private holdings (debt and equity) uses book value. As such movements in intensity for listed holdings are impacted by market value movements.

The proportional share for listed investments uses market value, whilst the proportional share for private holdings (debt and equity) uses book value. As such movements in intensity for listed holdings are impacted by market value movements.

Key estimates and assumptions

We use reported emissions when those are available and if not, estimated emissions are included. The latest available emissions data has been used to prepare the 2022 metrics.

There are time lags with the availability of emissions data, that can be up to two years, and as such the latest emissions data may relate to earlier years.

Listed credit and equities

The estimates for listed companies are based on firstly taking into account historic data previously reported by the company if that is available or otherwise estimating based on an industry segment-specific model for over 1,000 industry segments as provided by MSCI[2].

In addition, for listed companies where reported or estimated emissions are not available, we have used an exposure-weighted carbon intensity score of the constituent companies that are part of the investee company's ultimate parent.

Further detail on the sources of information are provided in the climate reporting policies section. Sovereigns are covered in note 6.

Coverage

These metrics have been prepared for shareholder data and policyholder data. Not all organisations publish emissions data or have their emissions data estimated by emissions data providers. When reported or estimated emissions are not available, this reduces the coverage of the metrics.

The table provides the overall AUM covered by the in-scope asset classes as well as the data coverage %. AUM coverage % represents the value of the total in-scope assets for financed emissions divided by the total AUM (excluding external assets).

Data coverage % represents the percentage of the in-scope assets for which emissions data (either reported or estimated) is available.

Coverage	2022	2021
% of AUM coverage (including sovereigns and excluding. external assets)	**57%**	58%
% data coverage for credit and equities	**81%**	79%

Coverage for credit and equities has increased by 2% as a result of improvements in the coverage of issuers in the data provided by MSCI, which has resulted in 2% more of our investment data having emissions attributed. See note 11 for the reconciliation of the assets included in the Aviva plc AUM to the assets included in the climate metrics.

Metric Quality

A data quality score, based on the PCAF data quality score guidelines, has been calculated to indicate the level of estimation included in the data inputs.

A scale of 1 to 5 is used, with 1 corresponding to verified reported emissions and 5 using estimated emissions. The higher the level of estimation, the more likely that the actual emissions data, when known, would deviate from the estimate provided. The PCAF data quality score is included at an asset class level in this note.

Our metrics to assess climate-related risks and opportunities continued

Targets

As set out in our Climate Transition Plan, using 2019 as our baseline year, our ambition is to reduce the carbon intensity of our investments by 25% by 2025 and by 60% by 2030, and transition all assets to Net Zero by 2040.

This will cover shareholder and policyholder assets where we have control and data and the main asset classes of Aviva's core markets (credit, equities, direct real estate and sovereign debt). The scope of coverage will expand over time as data and methodologies become available.

Results

The following tables and figures set out the financed emission metrics.

Context

Credit and equities are the most significant asset class for Aviva, representing 43% of AUM managed on behalf of the Group's subsidiaries, excluding external assets.

Analysis

Absolute emissions

Figure 2 shows that the overall Scope 1 and Scope 2 absolute emissions, for credit and equities, have reduced by c1.5 million tCO_2e or 18% from 2021. This decrease is mainly as a result of the actions taken in line with our coal exclusions policy.

Table 1: Carbon intensity for credit and equities[2] AR Source: Aviva/ MSCI[3]

	2022	2021
Data quality score[4]	**2.2**	2.2
Absolute emissions tCO_2e (shown in millions)	**7.0**	8.5
Carbon intensity tCO_2e/$m revenue (WACI)[5]	**120**	135
Economic carbon intensity tCO_2e/$m proportional share (market value)	**58**	57

Figure 2: Scope 1 and 2 absolute financed greenhouse gas emissions (tCO_2e) for credit and equities for shareholder, with-profit and policyholder funds (excluding Sovereigns)[1] AR Source: Aviva/ MSCI[2]/CI

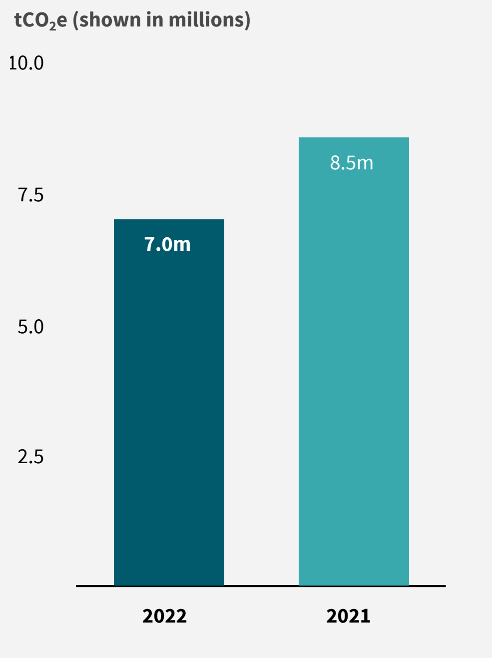
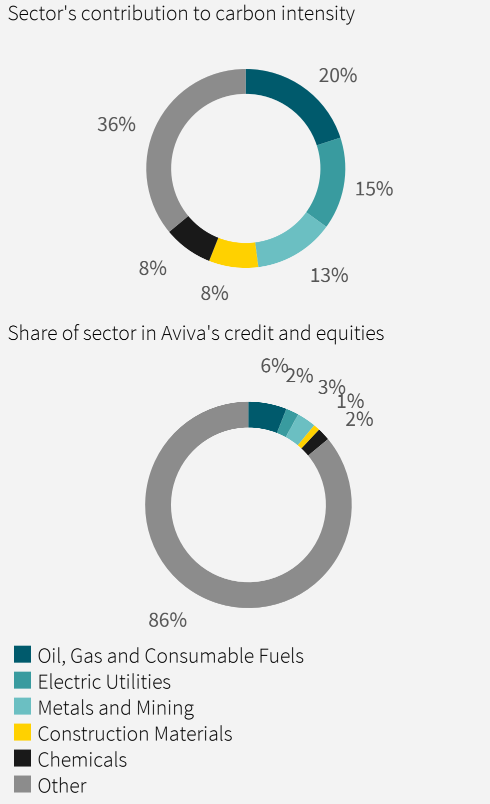


Table 3: WACI (tCO_2e/$m revenue) for credit and equities (shareholder and policyholder assets) by business[2] Source: Aviva/ MSCI[3]

Entity	2022	2021
Aviva total[5] AR	**120**	135
UK & Ireland Life	**116**	133
UK & Ireland General Insurance	**70**	84
Canada	**50**	46

Figure 4: Sector view of carbon intensity for credit and equities as at 31/12/2022 Source: Aviva/ MSCI[3]



Under the policy we divest from companies which make more than 5% of their revenue from thermal coal or otherwise companies making more than 10% of their revenue from unconventional fossil fuel extraction (which covers arctic drilling and oil sands) unless these companies have signed up for Science-based targets or the funding is for ring-fenced green project finance.

Intensity

Table 1 shows the carbon intensity of credit and equities.

Table 3 shows the WACI for credit and equities split by business. Our UK & Ireland life business represents the largest portion of absolute emissions and intensity. The reduction in WACI for Group and UK & Ireland Life is a result of attributed emissions as a result of actions taken in 2022 in line with our coal exclusions policy. The marginal increase in WACI in Canada from 46 tCO_2e/$m revenue to 50 tCO_2e/$m revenue is due to a shift from corporates to sovereigns and sale of existing corporate exposures which has impacted the intensity of the existing portfolio.

1. Indirect Scope 1 and Scope 2 emissions only. Indirect Scope 3 emissions are excluded at present due to data credibility and availability.
2. Independent reasonable assurance has been provided only over 2022 data marked with AR. PwC's assurance statement can be found on page 91.
3. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission.
4. The data quality score is a weighted average which is based on the proportional amount of our holdings and is presented for the first time in 2022. 1 represents the best score, while 5 represents the lowest score
5. The 2021 comparative for WACI for credit and equities has been re-presented from 134 tCO_2e/$m revenue, previously published, to 135 tCO_2e/$m revenue, as a result of the inclusion of policyholder data. See note 1 for more information.

Our metrics to assess climate-related risks and opportunities continued

WACI for credit and equity, for shareholder and with-profit funds for core markets was 96 tCO_2e/$m revenue for 2022, which is a 39% reduction compared to the 2019 baseline of 157 tCO_2e/$m revenue. The reduction includes the impact of actions taken in line with our coal exclusions policy.

Economic carbon intensity (ECI)

Despite the decrease in absolute emissions of 18% from 2021, ECI has increased by 2% from 57 tCO_2e/$m revenue in 2021 to 58 tCO_2e/$m revenue in 2022.

The movement in interest rates in the period was the most significant factor driving the increase, as our proportional share of credit and equities (used to calculate ECI) is based on market value. Group AUM decreased from £401 billion to £352 billion, with market movements making up £36 billion (or 13% of opening AUM).

Sector analysis

Sector analysis is provided for credit and equities in Figure 4. Figure 4 shows that carbon intensive sectors represent 14% of credit and equities and contribute 64% to the carbon intensity. The oil, gas and consumable fuels sector is the largest single contributor, representing 6% of the portfolio but contributing to 20% of the weighted average carbon intensity.

Data quality

The data quality scores indicate the level of estimation included in the data inputs. Credit and equities, has a score of 2 which indicates a high level of reported data, albeit not verified.

Looking Ahead

The key areas for development in 2023 and beyond are:

- Expand the disclosure to incorporate additional asset classes taking into account the latest methodology available.
- Inclusion of Scope 3 emissions of our investments (i.e. indirect Scope 3 emissions, in addition to Scope 1 and 2, of our Scope 3 category 15 investments), when data availability and robustness permits.

Note 6 - Monitoring sovereign holdings

Aviva monitors the physical climate risk in respect of our sovereign holdings using the University of Notre Dame Global Adaptation Initiative (ND-GAIN) country index[1]. We also have calculated emissions and intensity for sovereigns.

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

Sovereign holdings' exposure to climate-related risks

Aviva uses the University of Notre Dame's ND-GAIN country index to measure our sovereign holdings' exposure to climate-related risks. The ND-Gain country index measures a country's vulnerability to the physical effects of climate change and its readiness to adapt by considering economic governance and social readiness. A country is scored on the index between 0 and 100 (higher is better).

Sovereign intensity

We have also included a sovereign emissions intensity metric (greenhouse gas emissions by PPP-adjusted GDP) as set out in our Climate reporting policies. This metric measures a country's emission intensity on a PPP adjusted basis, with a lower score representing less emissions per PPP dollar.

GHG production emissions are based on data extracted PRIMAP-hist. PPP-adjusted GDP is based on data extracted from World Bank.

The approach and methodology for sovereign attributed emissions and intensity measure is set out below:

Asset class	Attribution factor
Listed sovereign debt	$m proportional share (market value) / $m Purchasing Power Parity (PPP)-adjusted Gross Domestic Product (GDP)
Private sovereign loans	$m proportional share (book value) / $m Purchasing Power Parity (PPP)-adjusted Gross Domestic Product (GDP)

The sovereign intensity calculation is set out below:

Asset class	Intensity metric
Sovereigns (including private sovereign loans)	Sovereign carbon intensity (SCI): tCO_2e/PPP adjusted GDP in $m)

Key estimates and assumptions

Sovereign holdings' exposure to climate-related risks

The ND-GAIN score are provided on a two-year time lag (i.e. 2020 index scores have been used for the purposes of this 2022 TCFD Report).

Coverage

Monitoring sovereign holdings metrics have been prepared with shareholder and policyholder data. External data inputs for 2021 emissions for new asset classes, was obtained in January 2023. The table below provides the coverage of AUM and for the AUM included, coverage calculated on an emissions basis.

	2022	2021
Data coverage % based on emissions	**99.8%**	99.8%

This metric covers sovereign bonds and loans only and sub-sovereigns and supra-nationals are currently excluded from scope. See note 11 for the Reconciliation of the assets included in the Aviva Group Statement of Financial Position to the Sovereigns covered by the monitoring sovereign holdings metric.

1. Refer to the University of Notre Dame's website here: **https://gain.nd.edu/our-work/country-index/**

Our metrics to assess climate-related risks and opportunities continued

Metric quality

A data quality score, based on the PCAF data quality score guidelines, has been calculated to indicate the level of estimation involved in the data inputs.

Results

The following table sets out sovereign intensity, absolute emissions and data quality score. This covers shareholder, with-profit and policyholder funds.

	AR **2022**	2021
Sovereign carbon intensity tCO_2e / $m PPP-adjusted GDP	**188**	165
Sovereign absolute emissions (tCO_2e)	**7.6**	9.2
PCAF data quality score (1-5)	**2.2**	2.2

Sovereign carbon intensity and absolute emissions have been calculated using the same emissions data for 2022 and 2021.

Sovereign intensity for 2022 is 188 tCO_2e / $m PPP-adjusted GDP with absolute emissions at 7.6 million tCO_2e. The intensity is higher compared to 2021, reflecting a higher portion of holdings in the US and less in the UK which has a lower intensity score compared to the US.

Data quality for sovereign intensity

Data inputs have been assigned a data quality score of 2.2 since the majority of our holdings are in countries which provide reported emissions data.

Sovereign holdings exposure to climate-related risks

Aviva is predominantly exposed to sovereigns from developed markets, with c.81% of Aviva's sovereign debt holding relating to six countries: United Kingdom 59%, United States 9%, Canada 6%, and Japan 4%, Germany 2% and China 2%.

The relative contribution is shown on the following graph based on the size of the circles for each country. Figure 5 shows that the United Kingdom and Germany have lower intensity and higher resilience to the physical effects of climate change and greater readiness to adapt to its effects, as measured by ND-GAIN.

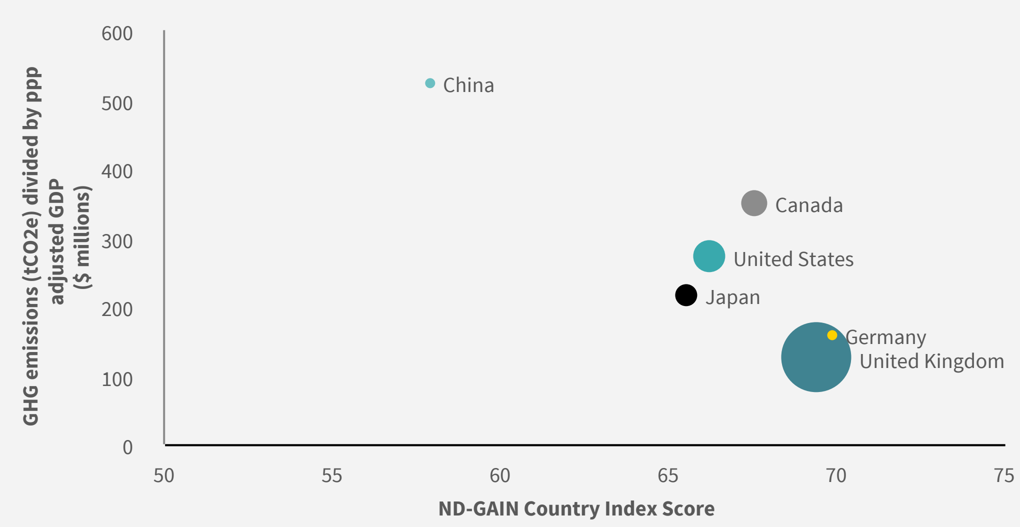
Canada is an outlier with regards to its sovereign emissions intensity score, despite its relatively high ND-GAIN country index score.

We have no significant sovereign bond exposure to countries highly vulnerable to the physical effects of climate change and our exposure to moderately exposed countries is captured as part of our risk management and monitoring of sovereign risk.

Our policy is to use the ND-GAIN country index to monitor holdings with a score of under 50. At 2022, this amounts to 7% of our overall sovereign exposure.

Figure 5: Sovereign holdings' exposure to climate-related risks (ND-GAIN country index scores and sovereign emission intensity for Aviva's top sovereign holdings in shareholder and policyholder funds as at 31/12/2022)[1] AR

Source: Aviva, ND-GAIN, World Bank and PRIMAP-hist



Legend (ND-Gain score, intensity tCO_2e / $m PPP-adjusted GDP, % contribution to sovereign value)

- United Kingdom (69; 126; 59%)
- Germany (70; 158; 2%)
- United States (66; 273; 9%)
- Japan (66; 217; 4%)
- China(58; 524; 2%)
- Canada (68; 350; 6%)

1. Independent reasonable assurance has been provided only over the 2022 ND-Gain score marked with AR. PwC's assurance statement can be found on page 91.

Our metrics to assess climate-related risks and opportunities continued

Note 7 - Investment in sustainable assets

We plan to increase our level of investment in the green economy as well as other social and sustainability assets to support our climate ambitions.

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

The previously reported investment in green assets metric has been renamed to investment in sustainable assets in the current year. This update reflects a strengthened sustainable asset definition which we have revised in the current year to align with the Climate Bonds Initiative (CBI) Taxonomy and Sector Criteria. The revised definition more clearly delineates the types of assets included in the metric, this includes green and sustainability assets as well as transition and other climate-related funds. These updates ensure that Aviva is in line with developments in climate reporting externally.

Under the new definition, assets are grouped in the following sub-categories, as defined in our reporting criteria (see note 14):

- Green - assets referencing an external science based assessment methodology for green credentials or tagged as green in the CBI green bond database;
- Sustainability - assets referencing an external science based assessment methodology or tagged as sustainability in the CBI social and sustainability bond database, including sustainability-linked debt; and
- Transition and climate-related funds - Aviva transition funds and certain climate-focused venture capital funds. The objectives and strategy of the fund are considered to determine inclusion in Investment in sustainable assets.

Comparatives

The 2021 comparative has been re-presented as £6.5 billion (previously reported as £7.6 billion) to align with the updated definition and inclusion of policyholder data.

Key estimates and assumptions

In forming our definition, green and sustainable have been assessed with reference to current external indicators of green and sustainable credentials.

Investment in sustainable assets is presented primarily on an origination basis (77% of the total). Bonds and real estate are presented on a market value basis.

For direct real estate investments where there are multiple units we only include the properties in the sustainable assets total if there are A rated EPCs or excellent or outstanding BREEAM certificates that cover most of the property area.

Coverage and context

Shareholder and policyholder assets are considered for inclusion in Investment in sustainable assets, where the definition is met. Third-party client investments by Aviva Investors are out of scope.

The market value (i.e. AUM) of our investment in sustainable assets is £7 billion (2021: £6.6 billion). This reflects the impact of interest rates on our fixed interest holdings.

Aviva has AUM of £352 billion at 2022 (2021: £401 billion), of which £289 billion (2021: £329 billion) relates to assets managed on behalf of the Group's subsidiaries. Assets included in our Investment in sustainable asset definition, on a market value basis, represent c.2% (2021: c.2%[1]) of assets managed on behalf of the Group's subsidiaries. This comparison provides an indication of relative size of Investment in sustainable assets (as defined in the reporting criteria in note 14).

Targets

As part of our Aviva Sustainability Ambition in 2021, we aim to originate an additional £6 billion in sustainable assets by 2025, from a 2019 baseline, including £1.5 billion of policyholder money into climate transition funds.

Since the end of 2019 (our baseline year), we have invested £5.1 billion in sustainable assets, of which £1.3 billion relates to policyholder money in climate transition funds.

Results

Figure 7: Investment in sustainable assets (£bn)[1,2] AR. Source: Aviva/CBI

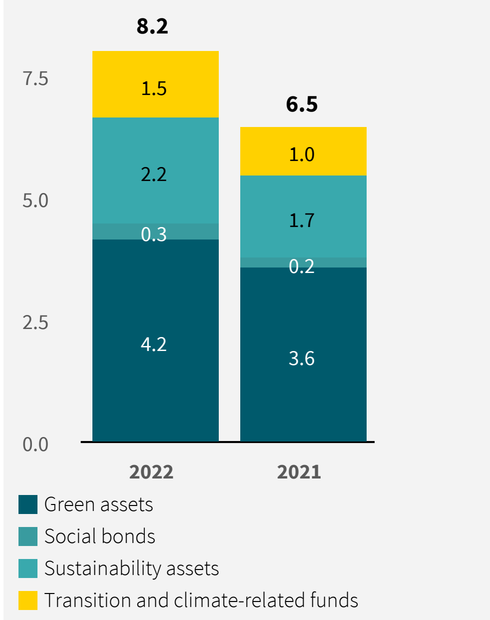


Table 8: Sustainable assets by business Source: Aviva/CBI

Amounts in £bn	2022	2021 Re-presented[1]
UK & Ireland Life	**7.7**	6.3
UK & Ireland General	**0.2**	0.2
Canada	**0.3**	0.0

1. The 2021 comparative has been re-presented for the inclusion of policyholder equities and updated definition.
2. Independent reasonable assurance has been provided only over 2022 data marked with AR. PwC's assurance statement can be found on page 91.

Our metrics to assess climate-related risks and opportunities continued

Analysis

Our investments in sustainable assets increased to £8.2 billion from £6.5 billion reflecting origination in the year of £1.7 billion:

- Green assets: Origination of infrastructure, including renewable electricity and transport, contributed £0.3 billion. Additional investment in green bonds contributed £0.3 billion;
- Sustainability assets: We have originated £0.4 billion in sustainability linked loans and £0.1 billion in infrastructure related transport deals; and
- Transition and climate-related funds: Additional subscriptions in 2022 in the transition and climate-related funds including investment of policyholder funds, amounted to £0.5 billion.

Looking ahead

We will continue to monitor our investment in sustainable assets in line with emerging best practice and disclosure standards. We will also keep our definition up to date in line with development of economy-wide definitions of green and sustainable assets, including through the UK Green Finance Roadmap, UK Green Taxonomy and Sustainability Labelling Regime.

Aviva also originates investments with broader sustainability credentials, in particular including social infrastructure (social housing, education, healthcare, and other affordable social infrastructure). In 2023 consideration will be made to the reporting of a broader investment in sustainable assets metric as part of our sustainability reporting.

Note 8 - Weather-related losses

Aviva is dedicated to helping our customers protect their properties against devastating floods. For many years, when settling property flood claims we have carried out cost neutral repairs[1]. We also support the Code of Practice for property flood resilience to (where appropriate) provide property owners with independent professional advice and reliable installation to increase confidence with their resilient flood repairs to reduce flood damage, speed up recovery and reoccupation. In addition, we have expertise within our in-house field claims teams to advise on property flood resilient measures as part of the repair process. Our Risk Management team provide advice and guidance to customers on the steps they can take to protect their premises to mitigate the impacts of flooding on their property and ensure our business customers have plans in place to enable them to continue to trade.

Aviva measures actual weather-related losses for our general insurance business against the expected losses (net of reinsurance) and the weather impacts on our financial key performance measure, the Combined Operating Ratio (COR).

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

This metric is applicable to Aviva General Insurance businesses in the UK, Ireland, and Canada. It has been reported by Aviva for a number of years through our COR reporting.

We recognise that weather-related events may become more frequent, severe, clustered and persistent. The speed of this change and the ability of society to adopt mitigation strategies may impact our ability to profitably provide products for our customers at affordable levels over the longer-term. We build the possibility of extreme weather events into our pricing to ensure it is adequate and monitor actual weather-related losses versus expected weather losses by business. Catastrophic event model results are supplemented by in-house disaster scenarios.

Looking across all of our property insurance portfolios, naturally there are areas at higher risk, which would see proportionate increases in premiums based on the risk. In those cases, we consider that the continued presence of industry-wide initiatives like FloodRe in the UK and development of risk mitigation techniques as well as public investment in flood defences would be vital in ensuring widespread access to insurance for all.

Our general insurance business exposure is limited by being predominantly in Northern Europe and Canada along with some world-wide exposure from our corporate underwriting (which is covered within our existing reinsurance programmes). We require our general insurance businesses to protect against all large, single catastrophe events by purchasing reinsurance in line with local regulatory requirements or, where none exist, to at least a 1-in-250-year event. The catastrophe reinsurance programmes limit Aviva's losses, depending on territory, from a relatively low retention level2 up to at least a 1-in-250-year event. Factors determining these decisions include capital efficiency, appetite for general insurance earnings volatility and reinsurance market competitiveness. Aviva Canada has Catastrophe reinsurance cover, protecting against climate-related perils as well as up to a 1-in-500 probable maximum loss level for Earthquake exposure, in line with regulatory requirements. In the medium to longer-term, there is potential for the premiums we need to charge to cover our risk exposure to increase in line with intensity and frequency of extreme weather.

1. 'Cost neutral repairs' are resilient repairs being built into the cost of reinstatement - e.g. using waterproof plasterboard, raising electric points.
2. The retention levels for UK and Group are £200 million on a per-occurrence basis and £350 million on an annual aggregate basis, retentions levels will be lower for localised events occurring outside of the UK.

Our metrics to assess climate-related risks and opportunities continued

Results and analysis

As can be seen in both figures 9 and 10, the actual weather-related losses in 2022 at the Group level are broadly in line with the expected weather-related losses, based on the long term average (LTA). The weather-related losses in UK & Ireland General Insurance were slightly worse than expected, this was offset by the weather-related losses in Canada being less than the expected amount.

In Figure 9, when the actual weather-related losses is equal to the LTA, the percentage is equal to 0%. Better than expected performance will result in a negative percentage and worse than expected performance will be a positive percentage.

In Figure 10, when the impact on COR is as expected, the percentage is equal to 0%. Better than expected performance will be a negative percentage (hence a reduction in COR) and worse than expected performance will be a positive percentage (hence an increase in COR).

Looking ahead

In 2023, Aviva will adopt IFRS 17 Insurance contracts. This will result in some changes to our COR metric, as all claims are discounted, but this is expected to have minimal impact on weather-related losses.

Figure 9: Actual weather-related losses versus expected losses[1] (by year and business unit, net of reinsurance). Source: Aviva.

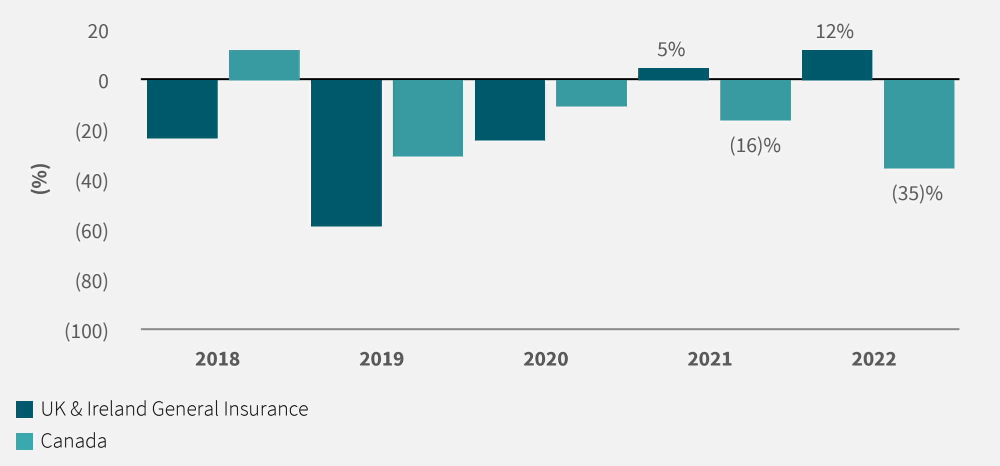
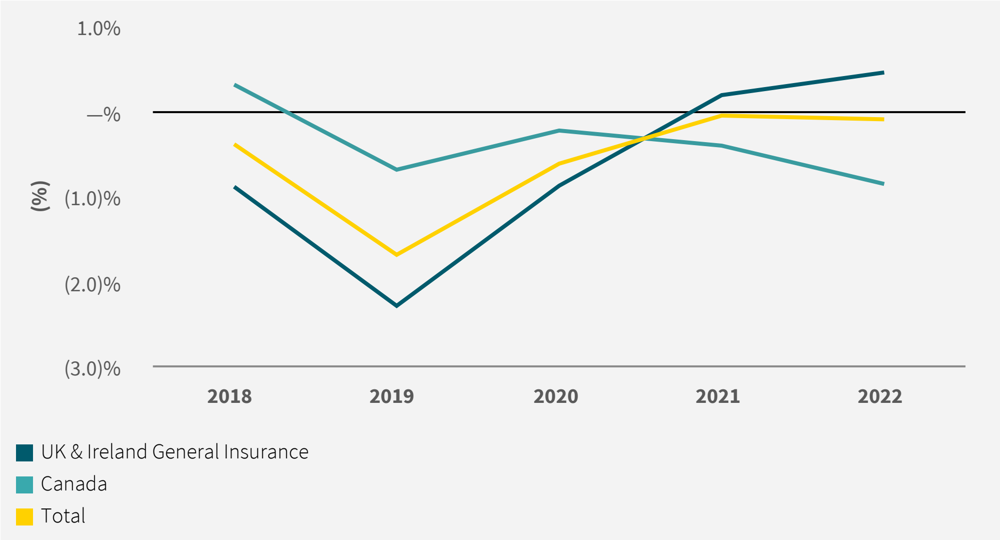


Figure 10: Weather impact on Aviva's Combined Operating Ratio (COR) (net of reinsurance). Source: Aviva.



Note 9 - Temperature alignment

Temperature alignment is used to assess our alignment with the Paris Agreement target of limiting global warming to well below 2°C, and preferably 1.5°C above pre-industrial levels.

The temperature alignment for Aviva is expressed in degrees Celsius (°C) and estimates the global implied temperature rise (in the year 2100 or later) if the whole economy had the same carbon budget over-/undershoot level as Aviva based on our investments held.

Reporting criteria

This note should be read in conjunction with the reporting policies and note 14 reporting criteria.

Approach and methodology

This metric has been updated and renamed in 2022 to Temperature Alignment, reflecting that two different measurement methods are used: Implied Temperature Rise (ITR) for companies and Portfolio Warming Potential (PWP, applied in 2021) for real estate. See note 1.

It is calculated based on the following inputs:

- MSCI analysis[2] is used to provide the Implied Temperature Rise (ITR) for our equity and corporate bonds.
- MSCI analysis[2] is used to provide the portfolio warming potential (PWP) score for property investments.

1 Independent reasonable assurance has been provided only over 2022 data marked with AR. PwC's assurance statement can be found on page 91.
2 Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.

Our metrics to assess climate-related risks and opportunities continued

- Temperature alignment for sovereigns is based on an analysis of individual governments' climate actions and how they compare against the Paris Agreement target, taking into account independent analysis conducted by organisations such as Climate Action Tracker[1].
- The temperature alignment for infrastructure assets is based on internal analysis.

ITR data

ITR data has been included rather than PWP, where available, as it is more closely aligned to the GFANZ recommendations[2]. ITR provides an alternative view to financed emissions.

ITR is based on the alignment of each company within the portfolio to the sectoral greenhouse gas emission intensity needed for each sector to make its contribution to reach the Paris Agreement target. The measure takes into account the projected emissions of our investments over the next five decades based on their emission track record, stated reduction targets and other data. Note that a company whose projected emissions are below budget can be said to 'undershoot', while those whose projected emissions exceed the budget 'overshoot'.

PWP data

PWP, captures emissions and a cooling potential element. This captures avoided emissions, based on low carbon patents and revenues, in addition to company reported decarbonisation targets that provide a forward-looking perspective.

Key estimates and assumptions

- Internal analysis is used for sovereigns and green infrastructure, as set out in our climate reporting policies. This requires an estimate of:
- The remaining global carbon budget, which is based on the IPCC Special Report published in January 2018 less emissions subsequent to that date.
- Transient Climate Response to Cumulative Emissions (TCRE) factor which was based on the IPCC 2013 The Physical Science Basis report. This represents the global temperature change driven by carbon emissions.
- Minimum warming 'locked in', which means the warming that is being driven by carbon already emitted, is estimated as 1.3°C. This represents a reasonable estimate of additional warming.

Coverage

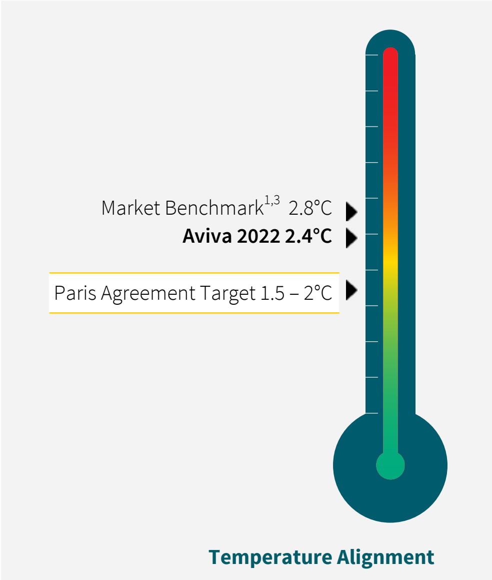
Temperature alignment covers Scope 1, Scope 2 and Scope 3 emissions for investments in shareholder and policyholder credit, equity, real estate, low carbon infrastructure and sovereigns.

	2022	2021
% of AUM coverage	**58%**	60%

See note 11 for the reconciliation of the assets included in the Aviva plc Statement of Financial Position to the assets covered by the climate metrics including temperature alignment.

Results

Figure 11: Aviva's temperature alignment (in °C) for shareholder, with-profit and policyholder funds as at 31/12/2022. Source: Aviva/ MSCI[3].



Analysis

Figure 11 shows that the temperature alignment projected for Aviva's shareholder and policyholder funds in scope of the metric is 2.4°C. The MSCI[3] market benchmark[4] based on a global diversified portfolio of equities is 2.8°C. Therefore Aviva's score is lower than the market benchmark. The ITR of the credit and equity investments amount to 2.1°C and 2.6°C respectively.

Looking ahead

When data is available, the assets included in Temperature alignment will be increased and further use of ITR, rather than PWP, data will be incorporated.

1. The Climate Action Tracker is an independent scientific analysis tracking government climate action since 2009, refer to **https://climateactiontracker.org/countries/uk/**
2. **https://assets.bbhub.io/company/sites/63/2022/09/Measuring-Portfolio-Alignment-Enhancement-Convergence-and-Adoption-November-2022.pdf**
3. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
4. MSCI All Country World Index (ACWI) Investable Market Index (IMI). This index captures entities across 23 Developed Markets and 24 Emerging Markets countries, with over 9,000 constituents.

Our metrics to assess climate-related risks and opportunities continued

Note 10 - Assets under management

Assets Under Management (AUM) represents all assets managed or administered by or on behalf of the Group's subsidiaries, including those assets managed by Aviva Investors and by third parties. AUM include assets that are reported within the Group's statement of financial position (which can be grouped into policyholder assets, participating fund assets and shareholder assets) and those assets belonging to external clients outside the Aviva Group which are therefore not included in the Group's statement of financial position (in some cases we do include external client assets on the statement of financial position such as where we control Open-ended Investment Companies (OEICs) and unit trusts and consolidate all assets even the externally owned interest in these vehicles). The classification between policyholder, participating and shareholder reflects the type of fund to which investment returns are credited, with both policyholders and shareholders having an interest in participating funds.

2022	Policyholder assets £m	Participating assets £m	Shareholder assets £m	External funds £m[3]	Total £m
Assets managed on behalf of the Group's subsidiaries					
Investment property	**3,853**	**1,742**	**304**	**—**	**5,899**
Loans	**643**	**1,840**	**27,164**	**—**	**29,647**
Fixed maturity securities	**36,967**	**19,930**	**46,879**	**—**	**103,776**
Equity securities	**77,560**	**7,538**	**692**	**—**	**85,790**
Other investments	**26,962**	**4,234**	**3,324**	**—**	**34,520**
Cash and cash equivalents	**8,141**	**3,643**	**10,721**	**—**	**22,505**
Other	**5,574**	**684**	**150**	**—**	**6,408**
	159,700	**39,611**	**89,234**	**—**	**288,545**
Assets managed on behalf of third parties[1]					
Aviva Investors	**—**	**—**	**—**	**37,834**	**37,834**
UK Platform[2]	**—**	**—**	**—**	**44,603**	**44,603**
Other	**—**	**—**	**—**	**677**	**677**
Less: third-party funds and UK Platform included in assets managed on behalf of Group's subsidiaries	**—**	**—**	**—**	**(19,511)**	**(19,511)**
	—	**—**	**—**	**63,603**	**63,603**
Total	**159,700**	**39,611**	**89,234**	**63,603**	**352,148**
Total %	**45.4%**	**11.2%**	**25.3%**	**18.1%**	**100.0%**
2021 Total	173,387	48,191	107,687	72,141	401,406
2021 Total %	43.2%	12.0%	26.8%	18.0%	100.0%

1. AUM managed on behalf of third parties cannot be directly reconciled to the financial statements.
2. UK Platform relates to the assets under management in the UK Wealth business.
3. Total assets managed on behalf of third parties in 2021 was £94,977 million less third-party funds and UK Platform included in assets managed on behalf of the Group's subsidiaries which amounted to £22,836 million.

Our metrics to assess climate-related risks and opportunities continued

Note 11 - Reconciliation of climate metrics to Assets Under Management

The table below sets out the asset classes which are in-scope for our climate metrics along with the AUM used in climate metrics compared to Group AUM set out in Note 10. We are not able to calculate reported or estimated emissions for all the assets below and so we disclose a data coverage % to reflect this.

			Indication of whether asset class is included in the climate metric			
Asset class	**31 December 2022 £bn**	31 December 2021 £bn	**Note 5 - Estimated financed emissions**	**Note 6 - Monitoring of sovereign holdings**	**Note 9 - Temperature alignment**	**CVaR[2]**
Corporate bonds ('Credit')	**51**	62	✓	N/A	✓	✓
Equity securities ('Equity')	**76**	83	✓	N/A	✓	✓
Government bonds ('Sovereign')	**38**	46	N/A	✓	✓	✓
Total assets under management for climate metrics	**165**	191				
Total assets managed on behalf of the Group's subsidiaries (note 10)	**289**	329				
Assets managed on behalf of third parties ('External assets')[1]	**64**	72				
Asset coverage % - assets managed on behalf of Group's subsidiaries	**57%**	58%				
Asset coverage % - total AUM	**47%**	48%				

1. External assets are not included in our climate metrics
2. CVaR's scope is limited to shareholder and the shareholder portion of with-profit funds. See section Our climate VaR measure on for the reporting of our Climate VaR metric for more details.

In addition Temperature alignment includes investment properties ('direct real estate') and green infrastructure project finance and PFI, and CVaR includes investment properties ('direct real estate'), infrastructure project finance and PFI, commercial mortgage loans and equity release mortgages.

Our metrics to assess climate-related risks and opportunities continued

Note 12 - Additional cross industry climate-related metrics

In October 2021, TCFD issued cross industry, climate-related metric categories for reporting. We have summarised below our disclosure for each of these categories.

- **GHG emissions** - See note 4 for operational emissions and note 5 for emissions for Scope 3, category 15 under our financed emissions metric.
- **Transition risks** - Aviva has low exposure to carbon intensive sectors, see note 5 for sector analysis for weighted average carbon intensity for credit and equities.
- **Physical risks** - Less than 1% of our mortgage loans by value are for properties in flood zones (2021: <1%).
- **Climate-related opportunities** - See note 7 for our Investment in sustainable assets. During the year we launched our new product Aviva Zero, and c.51,000 policies have been sold since its launch, up to 31 December 2022.
- **Capital deployment** - See note 7 for our Investment in sustainable assets.
- **Internal carbon prices** - We are in the process of establishing an internal carbon price with an aim to disclose in our 2023 reporting.
- **Remuneration** - See the Governance section for information on how climate goals are incorporated into the remuneration of our senior executives.

Note 13 - Litigation risks

Introduction

Climate-related litigation continues to be a growing trend. Globally, the cumulative number of climate change-related litigation cases has more than doubled since 2015. Climate change litigation continues to grow in importance each year as a way to influence policy decisions and corporate behaviour of governments and companies across multiple industries[1].

Methodology

Aviva undertakes litigation risk assessment with the support of in-house counsel. We believe Aviva is proactive in considering the potential impacts that could arise from climate-related litigation risk and we monitor our potential exposure to this risk alongside other climate-related risks. The two litigation trends, at present, that are most likely to affect Aviva are:

- Litigation actions that seek to force companies to increase their disclosure of the impact of climate change (physical and transition risks). This could extend to requiring additional disclosures relating to climate-related risks associated with the assets in which the company invests or projects and other companies that are directly, or indirectly, financed by the company.
- Litigation that targets asset owners, such as our insurance businesses or asset managers (e.g. Aviva Investors), in relation to the climate impact of their investments.

Historically, the majority of climate-related litigation risk cases to date have been brought in the US and the majority of these were unsuccessful cases that were primarily focused on public nuisance. Of the cases outside the US, the majority have been brought against governments, although there have also been a small number of cases against corporations. More recently, climate-related litigation has become more common across other jurisdictions, with the UK now only behind Australia in terms of the number of climate change litigation cases filed before the courts[1,2].

Aviva believes that the best mitigation against climate-related litigation risk is the robust governance, due diligence and disclosure framework that we have put in place around our exposures to climate change as set out in the Governance section of this report. Furthermore, Aviva's assessment is that the direct impact from any legal challenges, and any associated fines, continues to be low across our global portfolio.

Over the last two years, we have performed further reviews of climate-related litigation risk, extending the extensive work carried out in previous years[3], in the following key areas:

- Direct financial impacts arising from risks posed to Aviva via the underwriting of liability insurance products (i.e. where Aviva provides cover to customers who are themselves litigated against);
- Direct financial impacts arising from failure to apply regulatory requirements and/or disclosures; and
- Other potentially material financial impacts arising from direct litigation against Aviva.

1. Grantham Institute Global Trends in Climate Change Litigation: 2022 Snapshot **https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/**
2. **https://www.ngfs.net/sites/default/files/medias/documents/climate_related_litigation.pdf**
3. All litigation risk outputs and methodology decisions have been reviewed and challenged by a specially constituted expert panel with internal and external membership

Our metrics to assess climate-related risks and opportunities continued

Risks arising from liability insurance products

In relation to risks arising from the underwriting of liability insurance products, our assessment identified that the majority of climate-related litigation risk relates to the following products:

- Directors and Officers Liability Insurance;
- Public Liability Insurance;
- Financial Institutions Insurance;
- Professional Indemnity Insurance;
- Pensions Trustees Liability Insurance; and
- Environmental Liability Insurance.

The climate-related litigation risk associated with each of these products is considered to be low, due to a combination of policy wording restrictions, low exposures in high risk sectors and reinsurance arrangements being in place to mitigate any areas of potentially significant exposure.

Further, during 2021 and early 2022, Aviva participated in the Bank of England Climate Biennial Exploratory Scenario (CBES) exercise. As part of this exercise, we have carried out a detailed quantitative approach to assessing potential exposures to climate-related litigation risk in relation to the above products[1]. The results of this exercise confirmed the above assessment that our climate-related ligation risk is low.

Risks arising from failure to apply regulatory requirements/disclosures

There are several recent regulatory requirements relating to climate and ESG-related disclosures that impact Aviva (e.g. TCFD disclosures, the Non-Financial Reporting Directive (NFRD), UK and European Sustainable Disclosure Regulations, regulatory policy statements, etc.). Aviva complies with all current regulatory requirements that are relevant to our business and we regularly review any proposals to change these requirements, or to introduce new ones, to ensure that we remain compliant and adopt early where possible. As a result of the reviews performed and detailed work carried out in these areas, Aviva has assessed the current risk of a significant direct financial impact arising from failure to apply regulatory requirements relating to climate and ESG-related disclosures as low.

Risks arising from other sources of direct litigation against Aviva

In addition to the above specific areas, work has continued throughout 2022 to identify any other areas of potential sources of climate-related litigation risk that could result in direct litigation against Aviva. The main area identified from these reviews related to possible 'Greenwashing' type legal actions arising from the range of funds managed by Aviva Investors. Reviews have been carried out to assess the level of litigation risk that could arise either from funds that have a climate/ESG mandate or funds across our wider mainstream fund portfolio. In both cases, we consider the risk of direct climate-related litigation against Aviva to be low. We recognise that litigation risk continues to be a growing area of focus for companies and regulators and we will continue to monitor and review climate-related litigation risk in 2023.

1. All litigation risk outputs and methodology decisions have been reviewed and challenged by a specially constituted expert panel with internal and external membership

Our metrics to assess climate-related risks and opportunities continued

Note 14 - Reporting Criteria

The reporting criteria for each of the TCFD metrics is set out below:

Operational emissions

Operational Scope 1 emissions	
Definition	The total quantity of direct GHG emissions from our operations (Scope 1). Scope 1 covers operational emissions from owned sources. This includes natural gas, oil (diesel oil), company car mileage, and fugitive emissions from air-conditioning.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	CO_2e Tonnes (tCO_2e).
Calculation and reporting method	**Combustion of fuel** Natural gas and oil (diesel oil) are the two primary fuels which are used in our operations. Natural gas is used for heating and cooling our offices and oil (diesel oil) is primarily used in back-up generators. In the UK and Ireland, natural gas consumption data is provided directly from the supplier, except for a few small offices where data is provided by the landlord via a service charge. For other markets, including Canada, data is provided by landlords, including municipal heating and cooling. Where actual data is not available, usually for December measurements due to timing of reporting, data is extrapolated based upon historical consumption figures. Data on oil (diesel oil) usage in the UK, Ireland and India are provided by our service partners who undertake regular checks and provide consumption reports. **Company owned vehicles** Company car (yellow fleet) business mileage is calculated from the expenses system, fuel cards and invoices. The data received is then multiplied with the Department for Business, Energy and Industrial Strategy (BEIS) or International Energy Agency (IEA) emission factors to estimate carbon emissions from company owned vehicles. **Fugitive emissions** Fugitive emission data in the UK and Ireland are provided from supplier reports by our service partners who undertake regular checks of the air-conditioning units and measure for any leaks. In other markets, where available, this is provided by landlords.
Source	The Group's environmental system.

Our metrics to assess climate-related risks and opportunities continued

Operational emissions continued

Operational Scope 2 emissions	
Definition	The total quantity of indirect GHG emissions from purchased energy (Scope 2). Scope 2 emissions cover emissions generated from the electricity used in all the buildings the Group operates, as calculated by the location-based and market-based methodology. **Location based** Operational emissions from non-owned sources (i.e., power plants) using an average emissions intensity for the grids on which energy consumption occurs. This includes purchased electricity, municipal heating and cooling. **Market based** Operational emissions where we have contractual arrangements for renewable electricity, e.g. through our own on-site generation, certified renewable electricity through a supplier tariff or the separate purchase of renewable energy guarantees of origin (REGOs) or market equivalent, or consumed renewable heat or transport certified through a Government scheme.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e).
Calculation and reporting method	In the UK and Ireland, electricity purchased data is provided directly from the supplier, except for a few small offices where data is provided by the landlord via a service charge. For other businesses, including Canada, data is provided by landlords. In India, a small number of office electricity consumption, is extrapolated based upon the unit price of a kWh. Where actual data is not available, usually December's due to timing of reporting, data is extrapolated based upon historical consumption figures. **Location based reporting** As per Scope 2 guidance of GHG protocol, the total electricity purchased data is multiplied by the average grid factor from respective country's government database of electricity generation for the reporting period. **Market based reporting** Purchased electricity that we have purposely chosen which is classed as zero carbon, including on-site generation, green tariffs that can be matched to 100% renewable generation, or through purchasing of energy certificates (e.g. renewables obligation certificates (ROC)/REGOs/renewable energy certificates (REC) etc.).
Source	The Group's environmental system.

Our metrics to assess climate-related risks and opportunities continued

Operational emissions continued

Operational Scope 3 emissions	
Definition	The total quantity of indirect emissions (not included in Scope 1 and 2) that occur in the value chain including both upstream and downstream emissions (Scope 3). Scope 3 emissions cover operational emissions from business travel (air, rail, grey fleet, and rental cars), water, waste, electricity transmission and distribution, and homeworking.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview', except for home working. Scope 3 home working emissions are calculated for the Group's businesses only (UK, Ireland and Canada).
Units	Tonnes CO_2e (tCO_2e).
Calculation and reporting method	**Business travel** For business travel made via air, rail and hired cars the total distance travelled data is procured from corporate travel management providers on a quarterly basis. The distance travelled for business travel in privately owned vehicles is calculated from the Group's expense systems which reimburse colleagues on a cost per km travelled basis. Travel is measured or converted into kilometres (km). Air travel is calculated based upon class of service (first, business, economy) and appropriate emission factors are applied to each class. **Water and waste** The data on water consumption in the UK and Ireland is provided directly from our suppliers. In other businesses, data is provided by the landlords. The data on waste generation is provided by our service partners in the UK and Ireland, and by landlords in other locations. Water is measured in m^3, and waste is measured in metric tonnes. **Electricity transmission and distribution** Electricity transmission and distribution (T&D) is the energy it takes to transfer electricity from generator to end-user. It's measured in kWh and converted CO_2e. **Homeworking** Emissions from homeworking are estimated as per the methodology worked through from the EcoAct homeworking emissions whitepaper 2020. The data calculated through the methodology complements the Operational emissions: Protocol for three areas of consumption; 1) average regional emissions from office equipment and lighting, 2) emissions from heating, and 3) emissions from cooling (where geographically relevant). This is multiplied by the number of contracted hours where employees are not at an Aviva office location, and working weeks. This data is in respect of Aviva's businesses in the UK, Canada and Ireland only. Homeworking emissions are not currently within the scope of external assurance and are not reported within our Streamline Energy and Carbon Reporting table (SECR) but we count in our carbon totals and purchase carbon credits to offset.
Source	The Group's environmental system.

Our metrics to assess climate-related risks and opportunities continued

Operational emissions continued

% of CO_2e emissions from our operations offset annually/carbon offsets (tonnes - CO_2e)	
Definition	Operational CO_2e emissions offset from our operations through the purchase of Gold Standard, Voluntary Carbon Scheme, and Carbon Emission Reduction carbon credits from energy efficiency, clean water provision and renewable energy generation projects from the voluntary carbon market.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Percentage/Tonnes.
Calculation and reporting method	We purchase voluntary emission reductions certified to the Gold Standard, Verified Carbon Standard and Certified Emission Reduction Standard. The carbon credits are delivered from community-based energy efficiency, clean water provision and renewable energy generation projects in developing countries via the voluntary carbon market. Once issued and purchased, the credits are retired to the respective carbon registry, so they cannot be used or sold again. We choose projects which not only reduce the amount of carbon being produced, but also have a high social impact. Because Aviva sources carbon credits from International carbon reduction and offset alliance (ICROA) accredited companies, they come with a guarantee over the carbon saving. In our reporting, there is an estimation in the volume of credits required in the final period of the year. Therefore, our reporting of this metric may include offsets that have been purchased and that Aviva has committed to retire at the reporting date, by communication to the broker.
Source	The Group's environmental system.

Scope 1 and 2 - location-based emissions (tCO_2e)/ £m GWP	
Definition	GHG intensity calculated as total quantity of Scope 1 and 2 (location-based) emissions per £m gross written premiums (GWP).
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e) / £ million GWP.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1 and 2 (location-based) emissions divided by £m GWP. A location-based method reflects the average emissions intensity of grids on which energy consumption occurs. GWP is a financial measure disclosed in the Annual Report and Accounts. Data on Scope 1 and 2 (location-based) operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1 and 2 operational emissions.
Source	Emission data is sourced from the Group's environmental system. GWP is a financial measure disclosed in the Annual Report and Accounts.

Our metrics to assess climate-related risks and opportunities continued

Operational emissions continued

Total location-based emissions (tCO_2e)/ £m GWP	
Definition	GHG intensity calculated as total quantity of Scope 1, 2 (location-based) and operational Scope 3 emissions per £m GWP.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e) / £ million GWP.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1, 2 (location-based) and operational Scope 3 emissions is divided by £m GWP. A location-based method reflects the average emissions intensity of grids on which energy consumption occurs. GWP is a financial measure disclosed in the Annual Report and Accounts. Data on Scope 1 and 2 operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1 and 2 operational emissions.
Source	The Group's environmental system (Scope 1, 2 and operational Scope 3 emissions). GWP is a financial measure disclosed in the Annual Report and Accounts.

Total location-based emissions (tCO_2e)/ employee	
Definition	GHG intensity calculated as total quantity of emissions from Scope 1, Scope 2 (location-based), and Scope 3 operational GHG emissions per employee.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'. Employee is based on average headcount for the reporting period.
Units	Tonnes CO_2e (tCO_2e) / employees.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1, 2 (location-based) and Scope 3 operational emissions is divided by total number of employees. A location-based method reflects the average emissions intensity of grids on which energy consumption occurs. The number of employees is based on headcount as at 31 December of the reporting year as provided by our Group HR team. Scope 1, 2 and Scope 3 operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1, 2 and Scope 3 operational emissions.
Source	The Group's environmental system.

Scope 1 and 2 market-based emissions (tCO_2e)/ £m GWP	
Definition	GHG intensity calculated as total quantity of Scope 1 and 2 (market based) emissions per £m gross written premiums (GWP).
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e) / £ million GWP.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1 and 2 (market based) emissions divided by £m GWP. A market-based method reflects the average emissions intensity of grids on which energy consumption occurs. GWP is a financial measure disclosed in the Annual Report and Accounts. Data on Scope 1 and 2 (market based) operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1 and 2 operational emissions.
Source	The Group's environmental system. GWP is a financial measure disclosed in the Annual Report and Accounts.

Our metrics to assess climate-related risks and opportunities continued

Operational emissions continued

Total market-based emissions (tCO_2e)/ £m GWP	
Definition	GHG intensity calculated as total quantity of Scope 1, 2 (market based) and operational Scope 3 emissions per £m GWP.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e) / £ million GWP.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1, 2 (market based) and operational Scope 3 emissions is divided by £m GWP. A market-based method reflects the average emissions intensity of grids on which energy consumption occurs. GWP is a financial measure disclosed in the Annual Report and Accounts. Data on Scope 1 and 2 operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1 and 2 operational emissions.
Source	The Group's environmental system (Scope 1, 2 and operational Scope 3 emissions). GWP is a financial measure disclosed in the Annual Report and Accounts.

Total market-based emissions (tCO_2e)/ employee	
Definition	GHG intensity calculated as total quantity of emissions from Scope 1, Scope 2 (market based), and Scope 3 operational GHG emissions per employee.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'. Employee is based on average headcount for the reporting period.
Units	Tonnes CO_2e (tCO_2e) / employees.
Calculation and reporting method	This GHG intensity is calculated as: total quantity of Scope 1, 2 (market based) and Scope 3 operational emissions is divided by total number of employees. A market-based method reflects the average emissions intensity of grids on which energy consumption occurs. Employees number is based on headcount as at 31 December of the reporting year as provided by our Group HR team. Scope 1, 2 and Scope 3 operational emissions are calculated based on the method highlighted in the external reporting criteria provided for Scope 1, 2 and Scope 3 operational emissions.
Source	The Group's environmental system.

Operational carbon emissions – absolute	
Definition	Absolute CO_2e data includes emissions from our buildings, business travel, water and waste to landfill as generated during the year.
Scope	This is reported for the period 1 January – 31 December. We include emissions from Group entities over which we have operational control as outlined in the section 'Operational emissions: Overview'.
Units	Tonnes CO_2e (tCO_2e).
Calculation and reporting method	Data on Scope 1, 2 and 3 operational emissions are calculated based on the method highlighted in the metric description provided in the operational emissions summary of this report. The previous years' data is adjusted for comparison with the current reporting period's data considering any adjustments from structural changes or material changes to the emission factors.
Source	The Group's environmental system.

Our metrics to assess climate-related risks and opportunities continued

Financed emissions	
Definition	Our financed emissions metric covers the greenhouse gas emissions which Aviva finance through its investments under Scope 3 Category 15 of the GHG Protocol.
Scope	The emissions are based on the latest available reported data (and estimated data if no reported emissions are available) for a single calendar year. Lifetime emissions and avoided emissions are not currently included. Only Scope 1 and 2 emissions of the investee companies are measured. Scope 3 emissions will be reported once it is of sufficient quality. The emissions are based on the latest available reported data or estimated data (if we are not able to obtain reported data) in respect of Aviva plc and its subsidiaries, associates and joint ventures based on the Group's holding. For purposes of the sovereign emissions these cover only production emissions (for domestic consumption and export) and consumption emissions (domestically produced and imports) are not currently measured. Financed emissions for our shareholder, with-profit and policyholder funds are calculated currently for the following asset classes: 1. Credit (corporate bonds); 2. Equities; and 3. Sovereigns (including sovereign bonds and government loans) - covered as part of monitoring of sovereign holdings below.
Units	Greenhouse gas emissions are measured in tonnes CO_2 equivalent (tCO_2e). In addition, the carbon intensity calculations is as follows: 1. Economic carbon intensity (ECI): Attributed (finance) absolute greenhouse gas emissions (tCO_2e) divided by Aviva's in-scope assets in USD millions. 2. Weighted average carbon intensity (WACI) revenue: Weighted average of investee company carbon intensity by revenue, i.e. greenhouse gas emissions (tCO_2e) divided by revenue of investee company in USD millions, where the weight reflects investment weight in the portfolio. 3. Sovereign production emissions intensity: Refer to monitoring of sovereign holdings metric below.

Our metrics to assess climate-related risks and opportunities continued

Financed emissions	
Calculation and reporting method	The calculation methods used to calculate financed emissions are based on the 2nd edition of the Global GHG Accounting and Reporting Standard for the Financial Industry published by the Partnership for Carbon Accounting Financials (PCAF) on 19 December 2022. The sovereign financed emission methodology is covered by the monitoring of sovereign holdings metric below. The metric covers 2 different measurement bases: 1. Absolute emissions which measure the financed emissions for Aviva in metric tonnes (tCO_2e). When combined with operational GHG emissions, this provides an indication of the current measurable emissions for Aviva. The financed emissions are attributed by taking the outstanding amount (whether market value or loaned amount) in the investee entity as a portion of the total value of the entity or asset. In the case of a company this is the Enterprise Value including Cash (EVIC) if listed. We use Purchasing Power Parity adjusted Gross Domestic Product (PPP adjusted GDP) to attribute Sovereign emissions. 2. Economic carbon intensity which provides an overall intensity amount for the in-scope asset classes using their market or book value (depending on the asset type). 3. Intensity using the most relevant intensity measurement basis (e.g, companies using a weighted average revenue-based emission intensity). 4. Emissions for Sovereigns in both absolute and economic intensity are shown separately given the inherent double counting of these emissions (as the country wide GHG emissions would include company emissions). 5. Financed emissions only covers certain asset classes, for which calculation methodologies exist externally and emissions data is available and meet our required quality thresholds as outlined further above. Our approach to measuring emissions is to use the highest quality data in line with the PCAF standard - as part of the disclosure we provide a breakdown of the PCAF data quality score.
Source	The metric is based on both asset data which is collected from internal Aviva systems and emissions data which is collected from various sources which are outlined in more detail below. The reported emission data includes the following sources: • MSCI[1] for Credit and Equities. MSCI base the data on corporate sources (such as Annual reports, Corporate Social Responsibility reports and company websites), CDP (formerly Carbon Disclosure Project) as well as Government databases (when data is not available through direct corporate disclosures). See below for the sources used for estimated emissions: • MSCI[1] estimates for credit and equities. These are based on company sector listed company emissions only.

1. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission

Our metrics to assess climate-related risks and opportunities continued

Monitoring of sovereign holdings	
Definition	This metric covers our sovereign or government exposures and determines the ND-GAIN country index (physical risk) and sovereign emission intensity scores for those sovereigns (transition risk).
Scope	This metric covers sovereign loans and is limited to sovereign production emissions.
Units	ND-GAIN country index: measured on an index between 0 and 100, with 0 being the lowest score and 100 being the highest score. Sovereign Production Emissions: measured in tonnes CO_2 equivalent (tCO_2e). Sovereign Production Emissions Intensity: at asset level, greenhouse gas emissions (tCO_2e) divided by purchasing power parity (PPP) adjusted gross domestic product (GDP) in USD millions and at portfolio level, weighted average of sovereign production emissions intensity.
Calculation and reporting method	The sovereign emission intensity is based on the sovereign bond methodology published by Partnership for Carbon Accounting Financials, December 2022. See the financed emission section above for further details. The University of Notre Dame's Adaptation Initiative (ND-GAIN) country index measures a country's vulnerability and readiness to climate change. Our sovereign holdings with an ND-GAIN country index score below 50 are also measured - these are countries that are highly or moderately vulnerable to climate change. We plot the sovereign intensity and ND-GAIN country index for our most significant sovereign exposures. An overall sovereign absolute emission and intensity metric is also provided for the entire sovereign portfolio.
Source	The metric is based on both sovereign exposure data which is collected from internal Aviva systems and the following external sources: • University of Notre Dame (ND-GAIN country index measure); • World Bank (PPP Adjusted GDP); and • PRIMAP-hist[1] (Production GHG emissions).

1. PRIMAP historical emissions dataset (PRIMAP-hist), is a dataset which combines UNFCCC inventory data with several other published datasets to create a comprehensive set of greenhouse gas emission pathways

Investment in sustainable assets	
Definition	Our investment in sustainable assets is made up of four sub-categories: green assets, sustainability assets, social bonds and transition and climate-related funds. See the table below for more detail on the sustainable asset definition.
Scope	The investment in sustainable assets covers shareholder, participating/with-profit and policyholder funds. The scope does not include assets in external mandates which are managed by Aviva Investors.
Units	GBP (£) in billions.
Calculation and reporting method	The investment in sustainable assets is presented at the end of the reporting period and presents assets which are recognised on the IFRS consolidated statement of financial position which meet the sustainable asset definition. The main categories of assets include infrastructure and real estate assets (both direct and debt) as well as listed bonds and loans. In addition, the underlying assets under management (AUM) of funds which fall within the definition are also included. The investment amount is based on the origination value of investments recognised in the period to 31 December 2022 (with a comparative at 31 December 2021). Where origination value is not available, market values are used. To the extent market values are used they will include any movement in the market value in the period and as well as the impact of disposals/drawdowns. All sustainable assets excluding bonds and real estate are valued on an origination basis, bonds are valued on a market value basis. The comparative period amount has been prepared on a like-for-like basis with the current year based on the sustainable asset definition table further below.
Source	The metric is based on asset data collected from internal Aviva systems. In respect of bonds, data from the Climate Bonds Initiative (CBI) is used to determine whether the bonds are green, social or sustainability (including sustainability-linked) assets. In respect of real assets (direct and debt), the respective CBI methodologies for green bond screening, and social and sustainability bond screening will be used to determine if the assets are green, social or sustainability assets.

Our metrics to assess climate-related risks and opportunities continued

Sustainable asset definition - split by asset class:

Asset class	Green assets	Sustainability assets	Social bonds	Transition and climate-related funds
Infrastructure assets (direct and debt)	Energy, Transport, Water (including nature-related solutions), Waste, Land Use categories identified as eligible under CBI green bond database methodology (2022) – this includes green energy such as solar electricity, offshore and onshore wind.	Non-electrified passenger rail and ICE-powered urban public transport.		
Real estate (direct and debt)	Categories defined as eligible under CBI green bond database methodology (2022). This category includes properties with EPC ratings of A and above as well as BREEAM of excellent and outstanding.			
Bonds and loans	In CBI green bond database and benefits from an external review[3].	Tagged sustainability in CBI social and sustainability bond database (which includes sustainability and sustainability-linked bonds) and benefits from an external review[3]. Sustainability linked loans which meet the Sustainability-Linked Loan Principles (SLLP) from the Loan Market Association (LMA) and benefits from an external review[3].	Tagged social in CBI social and sustainability bond database and benefits from an external review[3].	
Funds				Climate transition funds[1]. Social transition fund. Natural capital transition fund. Climate/decarbonisation venture capital funds[2].

1. Climate transition funds include only Climate Transition European Equity Fund (CTEF), Climate Transition Global Equity Fund (CTGE), Climate Transition Global Credit Fund (CTGC) and Climate Transition Real Assets Fund (CTRA)
2. This includes the Clean Growth Fund (CGF), EIP Deep Decarbonization Frontier Fund LLP and Environmental Technologies Fund (ETF). These funds are not managed by Aviva Investors and hence we only recognise our direct investment.
3. An external review is an assessment carried out by an independent third party and includes third party assurance, second party opinions (SPOs), verification under the Climate Bonds certification and bond ratings by a rating agency. This assessment will consider the green, social or sustainability credentials of the issuance against an internationally recognised framework (such as the Green Bond Principles).

Our metrics to assess climate-related risks and opportunities continued

Weather-related losses	
Definition	Aviva's physical risk is measured through the weather-related loss metric. The impact of weather on our Combined Operating Ratio (COR) as well as the actual weather losses impact versus expected losses is calculated. COR is a financial measure of General Insurance (GI) underwriting profitability calculated as total underwriting costs (including claims) in our GI entities expressed as a percentage of net earned premiums. A COR below 100% indicates profitable underwriting. Weather events in the following business units are classed as catastrophe (CAT) events: • UK: flood, wind and storm surge, earthquakes and freeze; • Ireland: flood, wind and storm surge, flood and freeze; and • Canada: flood, windstorm, hail and wildfire.
Scope	This metric is only applicable to the General Insurance (GI) businesses in UK, Ireland and Canada. Weather-related losses in UK and Ireland include both attritional and CAT weather-related claims, while weather-related losses in Canada only considers CAT claims.
Units	Actual weather-related losses versus expected losses: percentage (%) Weather impact on Aviva's Combined Operating Ratio (COR): percentage (%)
Calculation and reporting method	The expectation for weather-related losses is based on the long-term average (LTA). The LTA takes into account the volume of business written and the reinsurance structure in place during the relevant accident year. Actual weather-related losses are based on paid, reported and incurred but not reported (IBNR) weather-related claims for the relevant accident year. The weather losses, both actual and expected, are presented net of the reinsurance programmes in place.
Source	The metric is based on actual and forecast claims and reinsurance data obtained from the financial consolidation system.

Our metrics to assess climate-related risks and opportunities continued

Temperature alignment	
Definition	The temperature alignment metric assesses Aviva's temperature alignment with the Paris Agreement target of limiting global warming to well below 2°C, preferably to 1.5°C above pre-industrial levels, in respect of our investments. Implied Temperature Rise (ITR), Portfolio Warming Potential (PWP) and internal analysis are used to calculate an overall temperature alignment score.
Scope	Temperature alignment is calculated for the following asset classes: • ITR: companies (credit and equities); • PWP: direct real estate only; and • Internal analysis: sovereigns and green infrastructure (only infrastructure debt (or direct investments) classified within the green asset sub-category per the sustainable asset metric).
Units	Degrees Celsius (°C).
Calculation and reporting method	The metric is calculated based on the following inputs: • ITR: This measure is used for our equities, corporate bonds and loans. ITR takes into account the investee companies' current emissions and reported emissions reduction targets, projecting an absolute emissions timeseries for each company until 2070 for Scopes 1, 2 and 3 emissions. The ITR measure has been used instead of the previously reported portfolio warming potential, as it is more closely aligned to the TCFD consultation recommendations specifically set out by the portfolio alignment team in their paper 'Measuring Portfolio Alignment'. This is based on the methodology published by MSCI in September 2022. • PWP: This measure is used only for our real estate portfolio. MSCI calculates the warming potential for a real estate property by assessing the property's carbon intensity against a warming curve valid for the property type and country in which the property is located it. ITR will be used instead of warming potential for real estate once the methodology is released, which is expected in during 2023. • Internal analysis: The temperature alignment score for our Sovereign exposure is based on an analysis of individual governments' actions and how they compare against the Paris Agreement target, taking into account independent analysis conducted by organisations such as Climate Action Tracker. A temperature score is applied to green infrastructure based on internal analysis. • All the above inputs are then aggregated based on proportional weighting in the overall portfolio to determine an overall temperature alignment score in degrees Celsius.
Source	The metric is based on asset data which is collected from internal Aviva systems as well as ITR and PWP data provided by MSCI[1]. In addition, data extracted from the Climate Action Tracker website is used to calculate the temperature alignment score for our sovereign exposure. The market benchmark data is based on MSCI All Country World Index (ACWI) Investable Market Index (IMI).

1. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission

Our metrics to assess climate-related risks and opportunities continued

Climate Value at Risk (Climate VaR)	
Definition	Aviva has developed a Climate VaR measure which enables assessment of the financial impacts of future climate-related risk and opportunities. The metric has been developed through an inter-disciplinary team which was created with representation from across the business. An expert panel reviews and challenges the main assumptions made in the selection, development and modelling of the financial impacts across scenarios.
Scope	Climate VaR is calculated for the following asset classes: • Equities; • Listed corporate bonds and private company debt; • Sovereigns; • Real estate (direct and commercial real estate mortgages); • Equity release mortgages and infrastructure; and • Insurance liabilities (both general insurance and life insurance) are also covered in the Climate VaR metric.
Units	The results of the outputs are only disclosed qualitatively at present given its current limitations which include scope and data availability as well as uncertainty associated with some of the underlying assumptions.
Calculation and reporting method	The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) provides an overview of the state of knowledge concerning the science of climate change. The Climate VaR assesses the potential business impacts of future climate-related risks and opportunities under four different IPCC scenarios. These have been mapped to specific likely temperature rises by 2100, as shown below: • SSP1-1.9 – mapped to a 1.5°C temperature rise (aggressive mitigation); • SSP1-2.6 – mapped to a 2°C temperature rise (strong mitigation); • SSP2-4.5 – mapped to a 3°C temperature rise (some mitigation); and • SSP3-7.0 – mapped to a 4°C temperature rise (no further mitigation). In addition, the above scenarios are aggregated to determine the overall impact across all scenarios. This is done by assigning relative likelihoods to each scenario. For each temperature scenario, a distribution of £ impacts is produced encompassing the in-scope year-end portfolio instruments and products, covering climate-related physical risk, transition risk and transition opportunities. A selection of percentiles from these distributions is ultimately output: the 5th, central estimate, and 95th percentiles.
Source	The metric is based on both asset and insurance liability data which is collected from internal Aviva systems as well as Climate VaR proportional impacts calculated and provided by MSCI[1] for bonds, equities, and real estate holdings. Data from the Cambridge Institute of Sustainable Leadership's (CISL) ClimateWise Transition Risk Framework is used to model transition risk exposures for infrastructure assets. Data from the University of Cambridge Bennett Institute for Public Policy[2] is used to model the physical risk exposures for sovereigns. We also leverage our existing catastrophe modelling capability to model the physical risk exposures for general insurance liabilities.

1. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission
2. **https://www.bennettinstitute.cam.ac.uk/wp-content/uploads/2020/12/Rising_Climate_Falling_Ratings_Working_Paper.pdf**

Independent Assurance Report to the Directors of Aviva plc on selected sustainability metrics

The Board of Directors of Aviva plc ("Aviva") engaged us to perform an assurance engagement in respect of selected sustainability metrics presented in Aviva's Annual Report and Accounts 2022, Sustainability Report 2022, Climate-related Financial Disclosure 2022 and ESG Datasheet 2022 for the year ended 31 December 2022 (together the "2022 reports").

Specifically, PwC was engaged to obtain:

- Reasonable assurance over the information identified in Table A below and marked with the symbol AR; and
- Limited assurance over the information identified in Table B below and marked with the symbol. AL

These are set out in the 'Subject Matter Information and Reporting Criteria' section below (together, the 'Subject Matter Information').

Our assurance conclusions do not extend to information in respect of earlier periods or to any other information included in, or linked from, the Report, including any images, audio files or videos.

Our conclusions

Our reasonable assurance opinion

In our opinion, the Subject Matter Information marked with the symbol AR in Aviva's 2022 reports for the year ended 31 December 2022 and set out in Table A below, has been prepared, in all material respects, in accordance with the Reporting Criteria referenced in the 'Subject Matter Information and Reporting Criteria' section below.

Our limited assurance conclusion

Based on the procedures we have performed, as described under the 'Summary of work performed' and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information marked with the symbol AL in Aviva's 2022 reports for the year ended 31 December 2022 and set out in Table B below, has not been prepared, in all material respects, in accordance with the Reporting Criteria set out on pages 4 to 45 of the Report and referenced in the 'Subject Matter Information and Reporting Criteria' section below.

Subject Matter Information and Reporting Criteria

The Subject Matter Information needs to be read and understood together with the Reporting Criteria, which Aviva is solely responsible for selecting and applying. The Subject Matter Information and the Reporting Criteria are as set out in Tables A and B in the appendix to this report.

Inherent limitations

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, evaluation and measurement techniques that can affect comparability between entities and over time.

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the underlying subject matter and the methods used for measuring or evaluating it. The precision of different measurement techniques may also vary.

In particular:

- For financed emissions calculations, it is generally acknowledged by most stakeholders globally, including regulators, that there are significant limitations in the availability and quality of GHG emissions data from third parties, resulting in reliance on estimated or proxy data. These limitations are reflected in the assigned data quality score; and
- Carbon offsets are subject to inherent limitations, including but not limited to the extent of social impact, the risk of double counting, lack of additionality, leakage, permanence, and uncertainties as to whether the expected reductions or removals will occur. This could impact the estimated reduction or removal of CO_2e assigned to those offsets.

The uncertainties and limitations are laid out in more detail in the Reporting Criteria.

Independent Assurance Report continued

Responsibilities of Aviva's directors

The directors of Aviva are responsible for:

- Determining appropriate reporting topics and selecting or establishing suitable criteria for measuring or evaluating the underlying subject matter;
- Ensuring that those criteria are relevant and appropriate to Aviva and the intended users of the 2022 reports;
- The preparation of the Subject Matter Information in accordance with the Reporting Criteria including designing, implementing and maintaining systems, processes and internal controls over the evaluation or measurement of the underlying subject matter to result in the Subject Matter Information, which is free from material misstatement, whether due to fraud or error; and
- Producing the 2022 reports, including underlying information and a statement of directors' responsibility, which provides complete, accurate, balanced reflection of Aviva's performance in this area and discloses, with supporting rationale, matters relevant to the intended users of the 2022 reports.

Our responsibilities

We are responsible for:

- Planning and performing the engagement to obtain limited or reasonable assurance, as applicable, about whether the Subject Matter Information is free from material misstatement, whether due to fraud or error;
- Forming independent conclusions, based on the evidence we have obtained; and
- Reporting our conclusions to the directors of Aviva.

Professional standards applied

We performed our engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information' and, in respect of the greenhouse gas emissions in accordance with International Standard on Assurance Engagements 3410 'Assurance engagements on greenhouse gas statements', issued by the International Auditing and Assurance Standards Board.

Our independence and quality control

We have complied with the Institute of Chartered Accountants in England and Wales Code of Ethics, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour, that are at least as demanding as the applicable provisions of the International Ethics Standards Board for Accountants International Code of Ethics for Professional Accountants (including International Independence Standards).

We apply International Standard on Quality Management (UK) 1 and accordingly 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.

Summary of work performed

We have performed an engagement including both reasonable and limited assurance. Depending on the level of assurance obtained, we are required to plan and perform our work to assess the risk of material misstatement in the Subject Matter Information (reasonable assurance) or to address the areas where we have identified that a material misstatement of the Subject Matter Information is likely to arise (limited assurance).

Limited assurance can cover a range of assurance from low (i.e. just above assurance that is likely to enhance the intended user's confidence about what has been assured to a degree that is clearly more than inconsequential) to just below reasonable assurance. Because the level of assurance in a limited assurance engagement varies in this way, we give more detail about the procedures performed, so that the intended users can understand the nature, timing and extent of procedures we performed as context for our conclusion. The procedures performed vary in nature and timing from, and are less in extent than, those performed for reasonable assurance. 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.

Independent Assurance Report continued

In performing our assurance procedures, which were based on our professional judgement, we performed the following:

- Considered the suitability in the circumstances of Aviva's use of the Reporting Criteria as the basis for preparing the Subject Matter Information;
- Obtained an understanding of Aviva's control environment, processes and systems relevant to the preparation of the Subject Matter Information including, as part of our reasonable assurance procedures only, evaluating the design of the controls relevant to the engagement, and, determining whether they have been implemented as described;
- Evaluated the appropriateness of measurement and evaluation methods, reporting policies used and estimates made by Aviva, noting that our limited assurance procedures did not involve testing the data on which the estimates are based or separately developing our own estimates against which to evaluate Aviva's estimates;
- Performed substantive testing on a selective basis of the Subject Matter information. As explained above the procedures performed to obtain limited assurance varied in nature and timing from, and were less in extent than, those performed to obtain reasonable assurance. Testing was performed at Aviva corporate head office level, with some testing undertaken in Canada, and involved agreeing data points to or from source information to check that the underlying subject matter had been appropriately evaluated or measured, recorded, collated and reported; and
- Evaluated the disclosures in, and overall presentation of the Subject Matter Information.

In addition, our assurance procedures specifically did not include the following:

- With regard to input data provided by third parties, we have not performed testing of sovereign climate risk data sourced from Notre Dame Global Adaptation Initiative (ND-GAIN). We have performed testing of actual emission intensity factors provided by MSCI, but have not performed testing of estimated emission intensity factors;
- With regard to carbon offsets, we have performed testing that offsets have been purchased and (where relevant) retired with reference to supporting documentation. We have not performed testing of the quality or validity of the underlying carbon offset; and
- With regard to market-based emissions, we did not obtain evidence to support the purchase and retirement of Renewable Energy Guarantees of Origin (REGO) certificates.

Other information

The other information comprises all of the information in the 2022 reports other than the Subject Matter Information and our assurance report. The directors are responsible for the other information. As explained above, our assurance conclusions do not extend to the other information and, accordingly, we do not express any form of assurance thereon. In connection with our assurance of the Subject Matter Information, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Subject Matter Information or our knowledge obtained during the assurance engagement, or otherwise appears to contain a material misstatement of fact. If we identify an apparent material inconsistency or material misstatement of fact, we are required to perform procedures to conclude whether there is a material misstatement of the Subject Matter Information or a material misstatement of the other information, and to take appropriate actions in the circumstances.

Use of our report

Our report, including our conclusions, has been prepared solely for the directors of Aviva in accordance with the agreement between us dated 20 September 2022 (the "agreement"). To the fullest extent permitted by law, we do not accept or assume responsibility or liability to anyone other than the Board of Directors and Aviva for our work or our report, except where terms are expressly agreed between us in writing.

PricewaterhouseCoopers LLP
Chartered Accountants

London
8 March 2023

Independent Assurance Report continued

Appendix - metrics subject to assurance

The Aviva Reporting Criteria 2022 are as published on the Aviva website **here**[1].

In tables with this appendix, the following acronyms are used

ARA - Aviva plc Annual Report and Accounts 2022

CRFD - Aviva Climate-related Financial Disclosure report 2022

SR - Aviva Sustainability Report 2022

Datasheet - Aviva ESG Datasheet 2022

Table A: Subject Matter Information subject to reasonable assurance

Subject Matter Information	Reported unit	Reported value	Location of reporting
Operational emissions			
Operational carbon emissions - Scope 1, 2 and 3 (market-based)	Tonnes CO_2e	13,958	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Operational carbon emissions - Scope 1, 2 and 3 (location-based)	Tonnes CO_2e	21,232	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Carbon offsets for which credits have been purchased and retired during the year	Tonnes CO_2e	13,958	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Intensity ratios			
Scope 1 and 2 - location-based emissions (tCO_2e)/ £m GWP	tonnes/£	0.86	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Total location-based emissions (tCO_2e)/ £m GWP	tonnes/£	1.12	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Total location-based emissions (tCO_2e)/ employee	tonnes/ headcount	0.9	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Scope 1 and 2 - market-based emissions (tCO_2e)/ £m GWP	tonnes/£	0.48	ARA - Our CRFD;CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Total market-based emissions (tCO_2e)/ £m GWP	tonnes/£	0.74	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Total market-based emissions (tCO_2e)/ employee	tonnes/ headcount	0.59	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Energy consumption			
Energy consumption (total energy used)	MWh	71,770	ARA - Our CRFD; CRFD - Note 4 - Operational carbon emissions; Datasheet - Climate action
Electricity used from renewable sources	%	100%	CRFD - Our 2022 climate highlights and looking ahead; Datasheet - Climate action

1. The maintenance and integrity of Aviva'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 or Reporting Criteria when presented on Aviva's website

Independent Assurance Report continued

Table A: Subject Matter Information subject to reasonable assurance

Subject Matter Information	Reported unit	Reported value	Location of reporting
Climate-related financial disclosures			
Financed Emission – intensity ratios – Credit & Equities (shareholder assets only)	tonnes/$m	96	ARA - Annual report on remuneration; CRFD - Note 5 - Financed emissions
Estimated financed emissions - Data quality score, carbon intensity and economic carbon intensity for the following asset classes:			
Credit & Equities (shareholder and policyholder assets)	Score	2.2	CRFD - Note 5 - Financed emissions
Credit & Equities (shareholder and policyholder assets)	tCO_2e/$m revenue (WACI)	120	CRFD - Note 5 - Financed emissions; Datasheet - Climate action
Credit & Equities (shareholder and policyholder assets)	tCO_2e/$m proportional share (market value)	58	CRFD - Note 5 - Financed emissions; Datasheet - Climate action
Credit & Equities (shareholder and policyholder assets)	Absolute financed greenhouse gas emissions (tCO_2e)m	7.0	CRFD - Note 5 - Financed emissions
Sovereign intensity and data quality score	tCO_2e/$m PPP-adjusted GDP	188	CRFD - Note 6 - Monitoring sovereign holdings
Sovereign absolute emissions	tCO_2e (millions)	7.6	CRFD - Note 6 - Monitoring sovereign holdings
Sovereign intensity and data quality score	Score	2.2	CRFD - Note 6 - Monitoring sovereign holdings
Weighted average carbon intensity (tCO_2e/$m revenue) of credit and equities in Aviva's shareholder and with-profit funds for UK, Ireland and Canada	tCO_2e/$m revenue (WACI)	96	CRFD - Note 5 - Financed emissions; Sustainability Report - At a glance; ARA - Annual Report on remuneration
Sovereign holdings exposure to climate-related risks (ND-GAIN)			
UK - ND-Gain Country index score	ND-Gain Score	69	CRFD - Note 6 - Monitoring sovereign holdings
United States - ND-Gain Country index score	ND-Gain Score	66	CRFD - Note 6 - Monitoring sovereign holdings
China - ND-Gain Country index score	ND-Gain Score	58	CRFD - Note 6 - Monitoring sovereign holdings
Germany - ND-Gain Country index score	ND-Gain Score	70	CRFD - Note 6 - Monitoring sovereign holdings
Japan - ND-Gain Country index score	ND-Gain Score	66	CRFD - Note 6 - Monitoring sovereign holdings
Canada - ND-Gain Country index score	ND-Gain Score	68	CRFD - Note 6 - Monitoring sovereign holdings
Investment in sustainable assets	£bn	8.2	CRFD - Note 7 - Investment in sustainable assets

Independent Assurance Report continued

Table A: Subject Matter Information subject to reasonable assurance

Subject Matter Information	Reported unit	Reported value	Location of reporting
Actual weather-related losses versus expected losses			
UK & Ireland General Insurance	%	12%	CRFD - Note 8 - Weather-related losses; Datasheet - Climate action
Canada	%	(35)%	CRFD - Note 8 - Weather-related losses; Datasheet - Climate action
Community investment			
Amount invested in UK infrastructure and real estate	£bn	6.9	ARA - Our strategy, Key performance indicators, Our business review Aviva Investors; Sustainability Report - At a glance; Datasheet - Stronger communities
Amount of community investment – including value of skills	£m	33.7	ARA - Our sustainability ambition; Datasheet - Stronger communities
Business ethics			
% of employees who confirm that they have read, understood and accepted the business ethics code	%	99.6%	ARA - Our sustainability ambition; Datasheet - Sustainable business
Employees			
Number of employees	FTE	24,364	ARA - Our people, Notes to consolidated financial statements (Note 9 Employee information)
Average number of employees in core markets	headcount	21,517	ARA - Our people
Diversity, equity & inclusion			
% women in senior leadership roles in UK, Ireland Canada	%	37.3%	ARA - Our strategy, Our people, Key Performance Indicators; Sustainability Report - At a glance; Datasheet - Sustainable business
% completion of internal diversity data	%	88.0%	Datasheet - Sustainable business
% women on Aviva Executive Committee	%	42.0%	ARA - Nomination and governance; Datasheet - Sustainable business
% of ethnically diverse employees in senior leadership roles in the UK	%	9.4%	ARA - Key Performance Indicators; Sustainability Report - At a glance; Datasheet - Sustainable business
Aviva plc board diversity: Gender (% female)	%	41.7%	ARA - Governance at a glance, nomination and governance Datasheet - Sustainable business
Aviva plc board diversity: ethnicity (%)	%	8.3%	ARA - Governance at a glance; Datasheet - Sustainable business
% of female employees at Aviva	%	51.8%	ARA - Our people; Datasheet - Sustainable business
Mean/median gender pay & bonus gap (UK)			
Mean Gender Pay Gap (UK)	%	24.3%	Datasheet - Sustainable business
Median Gender Pay Gap (UK)	%	25.1%	Datasheet - Sustainable business
Mean Gender Bonus Gap (UK)	%	50.9%	Datasheet - Sustainable business
Median Gender Bonus Gap (UK)	%	33.7%	Datasheet - Sustainable business

Independent Assurance Report continued

Table B: Subject Matter Information subject to limited assurance			
Subject Matter Information	**Reported unit**	**Reported value**	**Location of reporting**
Operational emissions			
% reduction in absolute scope 1 and 2 emissions from 2019 base year	%	43%	ARA - Our sustainability ambition; CRFD - Our 2022 climate highlights and looking ahead
Community investment			
% of group adjusted operating profit invested in communities (average per year 2020-2022)	%	2%	ARA - Chair's statement; Sustainability Report - At a glance; Datasheet - Stronger communities
Product coverage			
% of UK population saving or retiring with Aviva	%	14%	ARA - Our business review UK & Ireland life, Key Performance Indicators; Sustainability Report - At a glance
Customers			
Number of customers	Million	18.7	ARA - Our strategy, Key Performance Indicators, Our stakeholders; Sustainability Report - At a glance; Datasheet - Sustainable business
Number of customer complaints per 1000 policies in force (UK) Life/GI/ Health	Number per 1000 policies in force	2.32	Datasheet - Sustainable business
% of complaints resolved in 8 weeks (UK) Life/GI/Health	%	92%	Datasheet - Sustainable business
Transactional Net Promoter Score (TNPS)	point	40.5	ARA - Our strategy, Key Performance Indicators, Annual Report on remuneration
% of employees rate Aviva favourably on engagement index	%	86%	ARA - Our business model, Key Performance Indicators, Annual report on remuneration; Sustainability Report - At a glance; Datasheet - Sustainable business
% score for the statement "I can see a clear link between my work and Aviva's strategy"	%	82%	Datasheet - Sustainable business
% score for the statement "I have a clear understanding of Aviva's strategy"	%	83%	Datasheet - Sustainable business
% employees believe Aviva is a good corporate citizen	%	88%	Datasheet - Sustainable business
% score for the statement "I trust what the Executive Team say"	%	73%	Datasheet - Sustainable business

Appendix

Contents

Climate scenario analysis

In accordance with the recommendations of the TCFD, Aviva has developed a Climate VaR measure which enables scenario analysis to determine the potential business impacts of future climate-related risks and opportunities. This appendix sets out our approach.

Climate scenarios considered

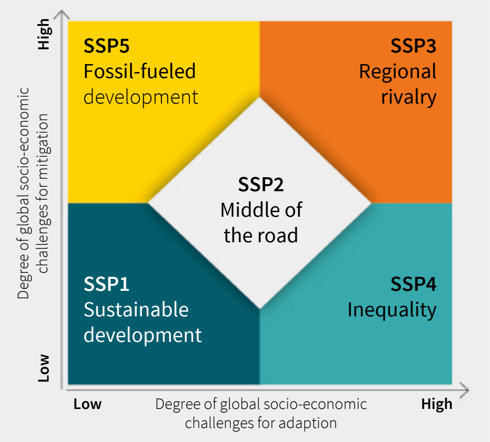
Aviva assesses the potential business impacts of future climate-related risks and opportunities under different IPCC scenarios and in aggregate[1]. The IPCC scenarios describe the effect on the energy balance of the global climate system due to changes in the composition of the atmosphere from sources like greenhouse gas emissions, other air pollutants[2] and changes in land use. The five IPCC scenarios identified in the IPCC Sixth Assessment Report (AR6) consider the impact of climate change at the end of the 21st century through different Shared Socioeconomic Pathways[3] (SSPs) which consider socio-economic characteristics including things such as population, economic growth, education, urbanisation and the rate of technological development. Figure 1 maps four of the IPCC scenarios to potential temperature rises by 2100 and the level of mitigation required. Figure 2 illustrates the five different SSPs.

Figure 1: Mapping for scenarios, potential temperature rises and levels of mitigations. Source: IPCC AR6 (2021).

Scenarios	Temperature rise	Description
SSP1-1.9	1.5°C	Aggressive mitigation
SSP1-2.6	2°C	Strong mitigation
SSP2-4.5	3°C	Some mitigation
SSP3-7.0	4°C	No further mitigation

Aggressive mitigation is the only scenario where it is extremely unlikely that the temperature change in 2100 will be more than 2°C.

Figure 2: Mitigation and adaptation challenges depicted by each SSP[4]



Development

Aviva developed this Climate VaR measure in conjunction with the UNEP FI investor pilot project, which developed models and scenario analysis tools to assess the potential impact on credit, equities and real estate from different scenarios in conjunction with MSCI[5].

MSCI calculates the impact of transition in different combinations of SSPs and temperature changes from a range of Integrated Assessment Models:

- the AIM/CGE model[6] from the Japanese National Institute for Environmental Studies (NIES)[7];
- the IMAGE model[8] (Integrated Model to Assess the Global Environment) developed in conjunction with the PBL Netherlands Environmental Assessment Agency in partnership with the University of Utrecht;
- the GCAM model[9] (Global Change Assessment Model) primarily developed by the Joint Global Change Research Institute (JGCRI) in the USA; and
- the REMIND model (Regional Model of Investment and Development) developed by Potsdam Institute for Climate Impact Research.

1. Aviva was awarded the Climate Risk Initiative of the Year 2020 by InsuranceERM. **https://www.insuranceerm.com/content/galleries/insuranceerm-annual-awards-2020-uk-and-europe-winners/climate-risk-initiative-of-the-year-aviva.html**
2. Fundamentals of Air Pollution (Fifth Edition); Daniel Vallero; 2014. **https://www.sciencedirect.com/book/9780124017337/fundamentals-of-air-pollution**
3. The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview; Keywan Riahi et al.; 2017. **https://www.sciencedirect.com/science/article/pii/S0959378016300681**
4. Source of figure 2: **https://www.mdpi.com/1660-4601/15/1/3**
5. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission.
6. The AIM/CGE model is a multi-regional, multi-sectoral, computable general equilibrium (CGE) model
7. The National Institute for Environmental Studies (NIES) is a Japanese research institute that undertakes a broad range of environmental research in an interdisciplinary and comprehensive manner
8. The IMAGE model is an ecological-environmental model
9. The GCAM model is a dynamic-recursive model

Climate scenario analysis continued

MSCI calculates both the expected physical impacts from different temperature scenarios as well as aggressive physical impacts based on a higher 95th percentile. Figures 3 and 4 show large dispersion under the different IPCC scenarios around the global surface temperature change relative to 1850-1900, and the global mean sea level change relative to 1900.

While the scenarios reflect current scientific research, there clearly remains significant uncertainty regarding future climate trajectories as well as political risk with respect to implementation of the Paris Agreement and Nationally Determined Contributions (NDCs)[1].

Time horizon modelled for different scenarios

Transition and physical risk are modelled consistently until the end of the 21st century. For physical risk, the longer time horizon is required to capture the worst physical impacts of climate change, as these are not likely to manifest themselves until the second half of the century. If a specific use case is based on a shorter time horizon (e.g. 15 years), the financial impacts can be assessed over this time horizon.

1. Intended Nationally Determined Contributions is a term used under the UN Framework Convention on Climate Change for reductions in greenhouse gas emissions that all countries that signed the UNFCCC were asked to publish in the lead-up to COP21

Figure 3: Global surface temperature change relative to 1850-1900 under different IPCC AR6 scenarios. Source: Based on IPCC AR6 (2021).

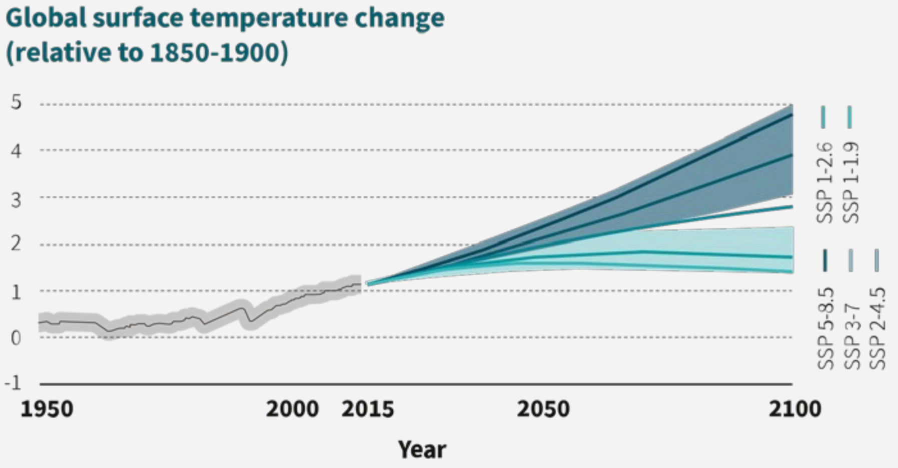
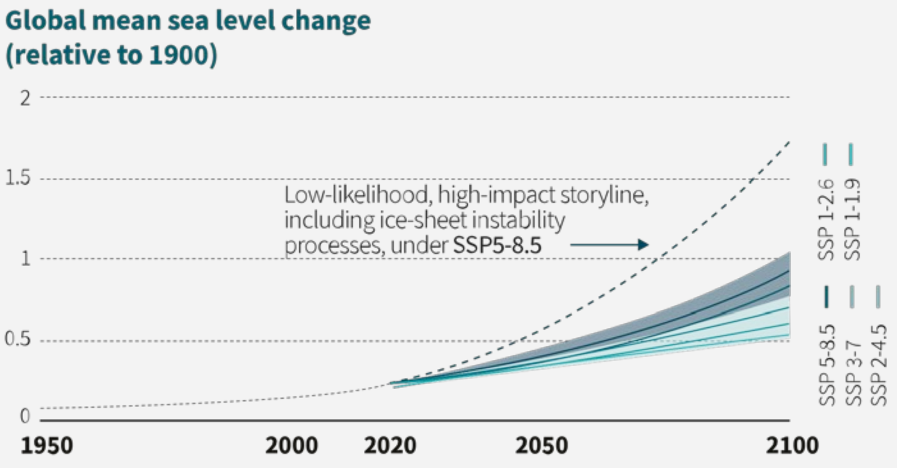


Figure 4: Global mean sea level change relative to 1900 under different IPCC AR6 scenarios. Source: Based on IPCC AR6 (2021).



Climate scenario analysis continued

Risks and opportunities covered

The modelling of transition and physical risks and opportunities specifically covers the projected costs of policy action related to limiting greenhouse gas emissions as well as projected acute weather impacts such as coastal and fluvial flooding and tropical cyclones, as well as chronic impacts from gradual changes in extreme heat and cold, heavy precipitation and snowfall or wind gusts. Regional sea level rise is an important input to the risk model and constitutes a key driver of coastal flooding impacts.

It is important to note that the changes in acute and chronic impacts can also have a positive as well as negative effect on individual companies or instruments (see figure 5).

Building Block Approach

To assess these risks and opportunities, a Building Block Approach has been adopted (see figure 6).

When assessing the impact of climate-related risks and opportunities associated with each scenario, different financial indicators need to be used and assumptions made.

To assess the impact on market value of investments and the impact on reserves or premiums, for example, the following assumptions need to be considered:

1. the extent to which asset valuations, reserves and premiums already take account of the climate-related risks and opportunities in each scenario;
2. the likely timing of future changes to asset valuations, where not all of these climate-related risks and opportunities are currently considered;
3. changes in our asset portfolio over time and the timing of such changes relative to the timing of any future market corrections to take account of these climate-related risks and opportunities;
4. the extent to which future costs can be passed on to customers and/or sales volumes could reduce or increase for specific lines of business;
5. the impact on reinsurance market capacity and pricing, as well as the creditworthiness of reinsurers, and the implications for our reinsurance strategy; and
6. the impact on tax as well as the Solvency II Matching Adjustment offset.

Figure 5: Risks and opportunities covered. Source: Based on MSCI[1].

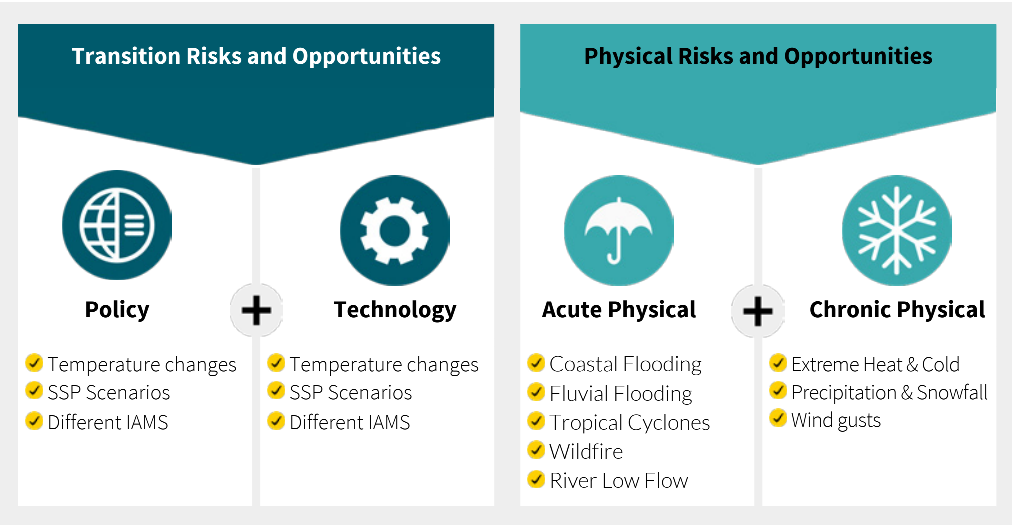
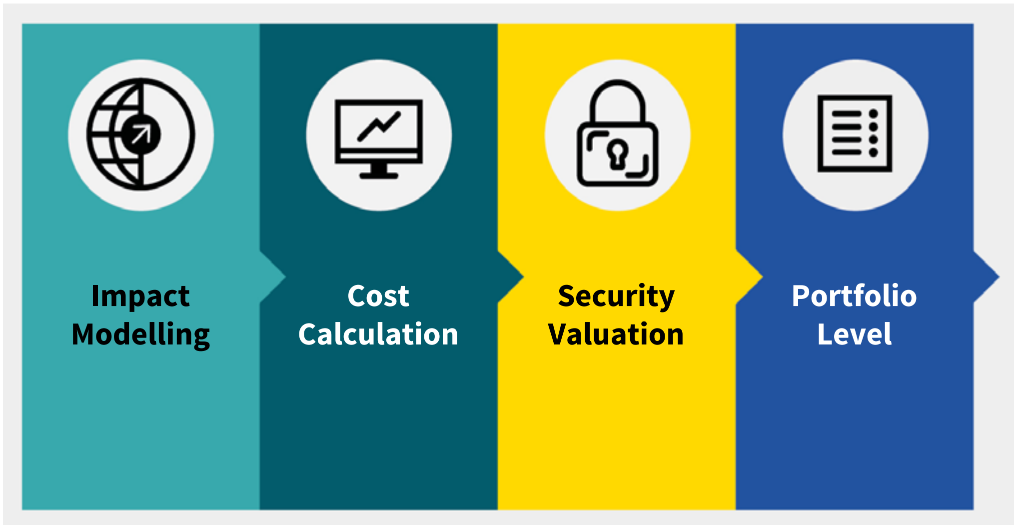


Figure 6: Building Block Approach. Source: Based on MSCI[1].



1. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.

Climate scenario analysis continued

Finally, to assess the overall impact of climate-related risks and opportunities across all scenarios, the relative likelihoods or probabilities of each scenario need to be assigned. To do this Aviva considered amongst other things the current scientific analysis of the likely trajectory of emissions[2] as well as policy commitments made by countries to reduce emissions (see figure 7).

Transition risks and opportunities

There are assumed to be no transition costs or opportunities in the 4°C scenario, where current emissions are presumed to continue to rise at the current rate.

The calculation of the financial impact of transition risks and opportunities covers both emission reduction prices (see figures 8, 9 and 10) and revenues from new technologies.

1. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
2. The Unconditional Probability Distribution of Future Emission and Temperatures; Frank Venmans and Ben Carr; November 2022. **https://www.lse.ac.uk/granthaminstitute/publication/the-unconditional-probability-distribution-of-future-emissions-and-temperatures/**

Figure 7: Most likely outcome based on where we are. Source: Aviva

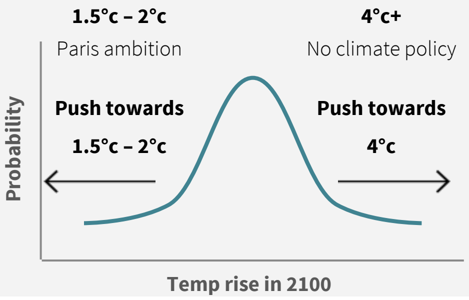


Figure 8: Global Annual Carbon Prices from the AIM/CGE Scenarios for the 2020 to 2100 Period Source: Huppmann et al (2018)

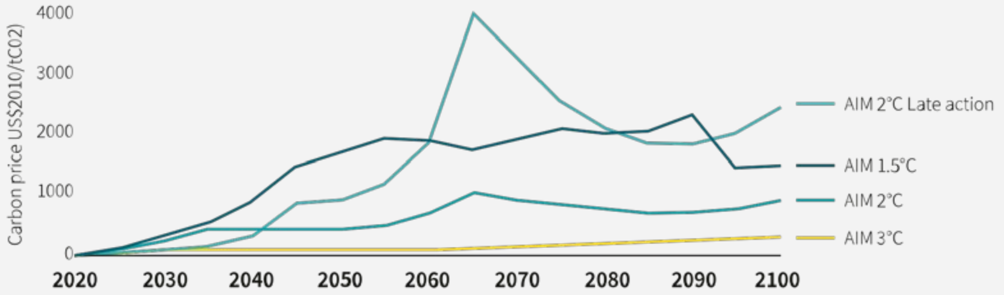


Figure 9: Global Annual Carbon Prices from the IMAGE and GCAM Models for the 2020 to 2100 Period Source: Huppmann et al (2018)

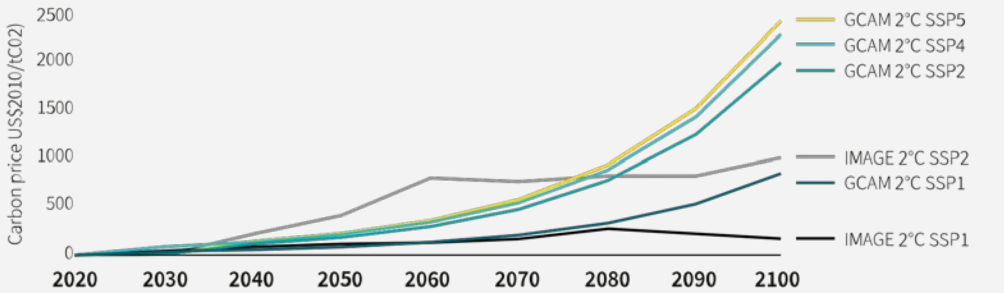
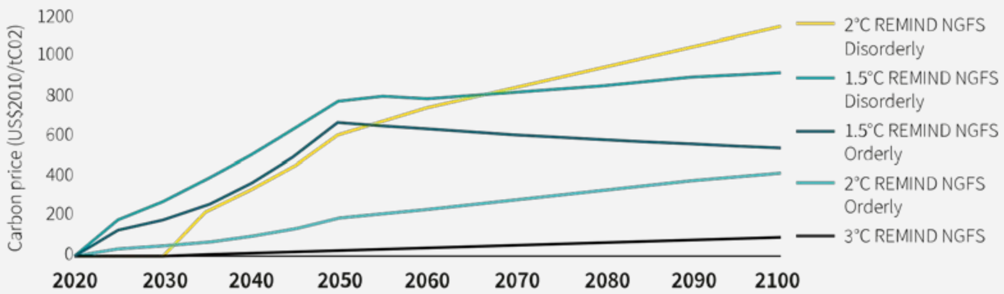


Figure 10: Global Annual Carbon Prices from the REMIND NGFS Scenarios for the 2020 to 2100 Period. Source: NGFS (2021)



Climate scenario analysis continued

Investments

The following high level methodology (see figure 11) is used to assess the potential downside risk from different transition scenarios on our investments.

For both credit and equities, the difference between the market value and the adjusted value after factoring in future climate change costs and/or revenues is measured (i.e. the impact relative to the prevailing emissions trajectory). To estimate the impact in a consistent way when a company has issued both shares and bonds, the Merton model[2] is used. This model enables the impact on a business as a whole to be translated into a change in value of its credit and equities. As both costs and opportunities are covered, the Climate VaR can be either negative or positive depending on the balance of future anticipated carbon-related costs and revenues for individual companies or instruments.

MSCI has also developed a methodology for estimating the transition exposure of property assets which we have used for both direct real estate and real estate-linked debt holdings. For infrastructure assets, Aviva has used the ClimateWise Transition Risk Framework to identify the key risk exposures across our portfolio of assets, taking into account how transition risks and opportunities vary by geography, sector and sub-sector to assess the potential impact in different climate scenarios.

Insurance liabilities

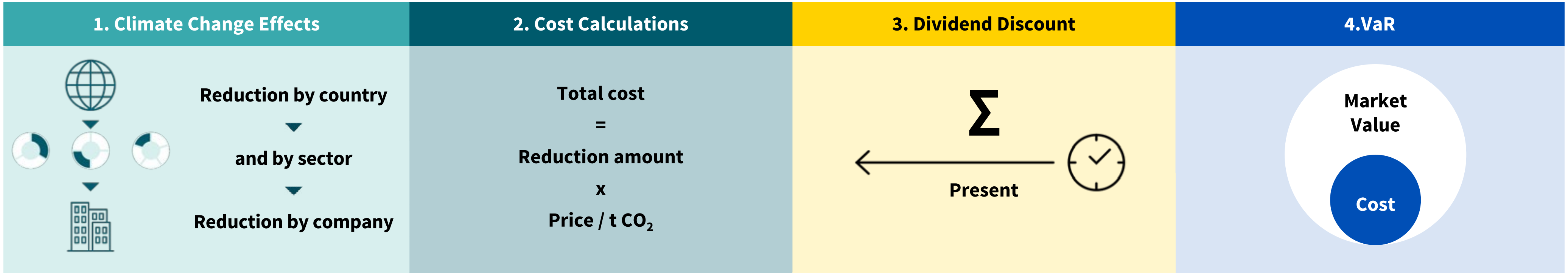
Aviva has assessed the impact on life insurance reserves from the potential reduction in mortality rates resulting from less air pollution in the aggressive and strong mitigation scenarios. This reflects an anticipated reduction in carbon emissions and an increase in electric vehicles replacing vehicles with internal combustion engines. For each transition scenario, there is potential for fewer deaths relating to air pollution.

Although we note that this is very much dependent on the fuel mix generating electrical power for the grid. While waste-to-energy plants have similar particulate outputs to gas-fired power stations, biomass plants such as wood pellet-fired facilities, for their many positives, produce significantly more particulates than gas-fired power stations, for example[3].

On the general insurance side, transition risks and opportunities may also arise. For example, the wider adoption of electric vehicles and the rise of car-sharing and automated cars might decrease the pool of vehicles to be insured, leading to a decrease in claims frequencies but also premiums. However, these effects have not been included to date. We plan to extend our modelling to cover general insurance transition risks and opportunities over time.

1. Certain information ©2022. MSCI ESG Research LLC. Reproduced by permission.
2. Analysts and investors utilise the Merton model to understand how capable a company is at meeting financial obligations, servicing its debt, and weighing the general possibility that it will go into credit default
3. Every breath we take: The lifelong impact of air pollution, Royal College of Physicians; Martin William et al.; 23rd February 2016. **https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution**

Figure 11: High level methodology overview. Source: Based on MSCI[1].



Climate scenario analysis continued

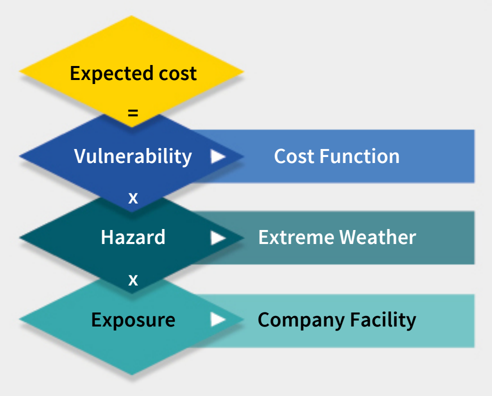
Physical risks and opportunities

The financial impact of physical risks and opportunities is based on an assessment, in each scenario, of the expected costs and the costs at a higher 95th percentile arising from hazards such as: extreme heat and cold, heavy precipitation and snow, coastal flooding, fluvial flooding, wind gusts, tropical cyclones, wildfire, and river low flow. We use the expected costs and the costs at a higher percentile to define a distribution of physical risk outcomes for each scenario and thus capture some of the more extreme potential physical effects of climate change. Indirect impacts of physical risk (e.g. lower economic growth, lower productivity and supply chain disruption) are also allowed for.

Investments

The physical risks on investments are generally going to be driven by the exposure of the facilities (buildings, plant, infrastructure) owned or used by the company that has issued the financial instrument, and the supply chain they rely on for producing their end product.

Figure 12: Impact modelling and expected cost estimate. Source: Based on MSCI[1].



The cost (in figure 12) is built up by mapping the facilities onto a world map, with measures that define the facility's exposure to different extreme weather hazards, and then combining this with a vulnerability function that converts the exposure and an assessment of the physical hazard impact in each scenario into an estimated monetary cost, per facility.

For both credit and equities, the difference between the market value and the adjusted value after factoring in aggregated facility costs and/or revenues is measured. The costs and/or revenues to a business are measured relative to an assessment of physical risks under current conditions as these are assumed to be already factored into the market value. This business impact is then translated into a change in the value of its credit and equities using the Merton model.

Aviva recognises that the current approach does not, for example, capture the impact on companies' supply chains nor necessarily demand for its products and services or potential mitigating impact of insurance. For example, in the case of a major car manufacturer, their real assets will mainly include their factories and machinery and possibly their dealerships.

Their supply chain will be broad, complex and potentially geographically diverse and if disrupted it could adversely impact companies' costs and/or revenues. We will continue to work internally and with external partners to develop best practice in this area.

For directly held real estate assets and real estate loans, we use the same approach described above. For directly held real estate the impact is carried directly against the property valuation. For real estate loans, we assess the physical climate change risk impact by running the stressed property value through our debt valuation models.

For sovereign holdings, the impact on the market value is measured by assessing how a sovereign's rating could change as a result of the occurrence of different extreme weather hazards in each scenario. The following climate-related factors may impact sovereign debt: exposure and vulnerability to climate change; readiness and adaptation; ability to raise money for mitigation and post-disaster repair; ability to raise money via taxation and debt; reliance on foreign aid and support of the International Monetary Fund and other supra-national bodies.

To assess a sovereign's vulnerability to climate change and readiness, recent research[2] from the University of Cambridge's Bennett Institute for Public Policy has been used. We note that the assessment of sovereign debt is difficult because sovereigns are exposed to climate change via several vectors:

- government buildings and government-owned infrastructure;
- cost of emergency relief to areas affected by climate-related disasters;
- aid and rebuilding costs; and
- the cost of acting as insurer of last resort.

So, findings from this research have been used to determine appropriate stresses to apply to different sovereign bonds in our modelling at this stage. We will continue to work internally and with external partners to develop best practice in this area.

1. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
2. Rising Temperatures, Falling Ratings: The Effect of Climate Change on Sovereign Creditworthiness; March 2021. **https://www.bennettinstitute.cam.ac.uk/publications/rising-temperatures-falling-ratings/**

Climate scenario analysis continued

Insurance liabilities

The Climate VaR for life insurance risks calculates the impact on reserves of a change in mortality rates as a result of the occurrence of different acute and chronic physical effects in each scenario based on a review of academic literature linking climate change to potential changes in mortality rates.[1,2,3,4] For higher temperature scenarios, where climate change has dramatically taken hold, the picture is complicated. For example, it is possible that both summers and winters will be warmer or that seasons will in fact be more extreme. The latter is more likely to have an adverse impact and for the UK could plausibly result from the Gulf Stream changing its path and missing the UK.

On the general insurance side, the Climate VaR calculates the impact on premiums as a result of the occurrence of different extreme weather hazards in each scenario. The impact on premiums is then used to determine the impact on our business, considering the impact on pricing, sales volumes and our reinsurance strategy. Our scope of physical risks covers different regions (UK and Canada) and various perils (flood, freeze, subsidence, wildfire, winter storm, hail and severe convective storm) noting that the precise list of perils is region-dependent.

We have worked with internal and external experts to consider how climate change could change the frequency and severity of UK flooding and leveraged our existing catastrophe modelling capability to assess the impact of this on premiums.

Aggregation of climate-related risks and opportunities

We aggregate all the component parts of our exposure to derive an aggregate view of the impact of climate-related risks and opportunities, using an approach that is motivated by our approach to modelling operational risk. This approach, which has been developed in conjunction with Elseware, a risk management and quantification expert consultancy, uses a Bayesian Network[5] methodology.

The attraction of this approach is that we can combine a set of beliefs, expert judgements, internal data and external data to assess the potential impact of these risks, on an aggregated basis. We can then determine an overall Climate VaR for each scenario (see figure 13).

The impact distributions of each climate scenario are then combined to give a fully aggregated result across all four scenarios. This final step of aggregation uses the assigned likelihood given to each scenario taking into consideration amongst other things the current scientific analysis of the likely trajectory of emissions as well as policy commitments made by countries to reduce emissions (see figure 14).

Figure 13: Aviva's aggregation process for each scenario.
Source: Aviva

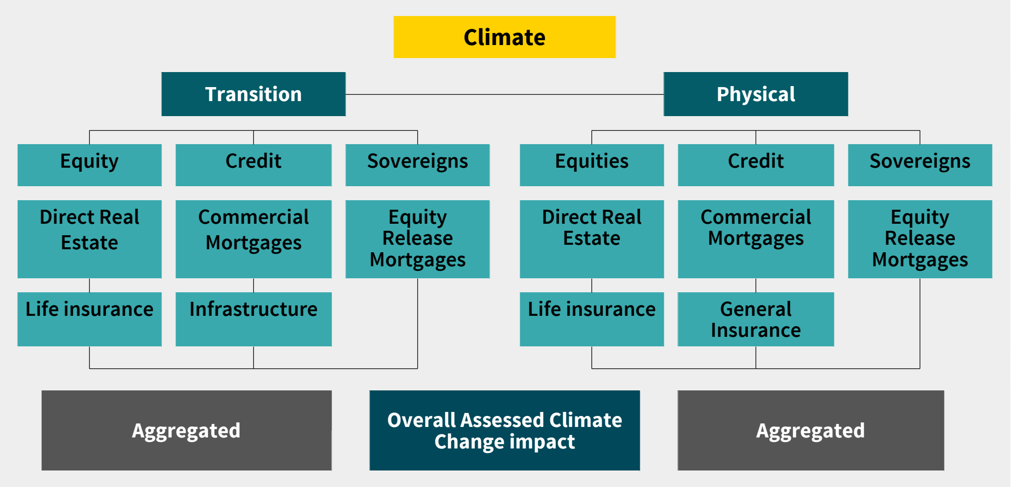
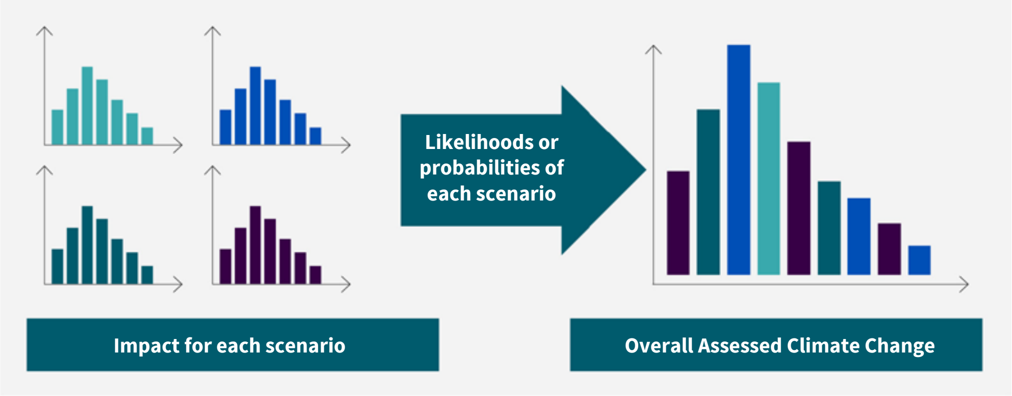


Figure 14: Overall assessed climate change impact.
Source: Aviva.



1. The Lancet Planetary Health, Volume 1, Issue 9, Projections of temperature-related excess mortality under climate change scenarios, Pages e360-e367; Antonio Gasparrini et al.; December 2017. https://www.sciencedirect.com/science/article/pii/S2542519617301560
2. Climate change effects on human health projections of temperature-related mortality for the UK during 2020s, 2050s and 2080s; Shakoor Hajat et al.; February 2014. https://jech.bmj.com/content/68/7/641
3. The Lancet Countdown on health benefits from the UK Climate Change Act: a modelling study for Great Britain, The Lancet; Jessica Elkin et al.; May 2018. https://www.thelancet.com/journals/lanpla/article/PIIS2542-5196(18)30067-6/fulltext
4. Hot and Bothered report, Club Vita, 4th July 2018. https://www.clubvita.co.uk/collaborative-research/hot-and-bothered
5. Probabilistic graphical model that represents a set of variables and their conditional dependencies via a directed acyclic graph

Our work on biodiversity

Going forward, we expect greater requirements for nature-related reporting. We have set out below Aviva's involvement in this area.

We aim to play our part in reversing the loss of nature by 2030; a goal that has been echoed by the G7, the UK Government and the recent Kunming-Montreal Global Biodiversity Framework (GBF). In May 2021, we signed the Finance for Biodiversity Pledge and joined the Terra Carta Initiative, to support our biodiversity goals To manage our biodiversity risks as a result of our impacts and dependencies we have committed to carry out an assessment of our investments (corporate bond, equity, sovereign and real asset portfolios), underwriting and operations to identify and prioritise key areas of impact and dependency including using relevant assessment tools as they become available. We expect to complete our first biodiversity impact assessment by the end of 2023.

In September 2021, Aviva published its first Biodiversity policy. In December 2022, Aviva published its first Biodiversity report[1], providing an update one year on from launching the Biodiversity policy.

Deforestation

In November 2021, we were one of thirty investors globally to sign a commitment to use our best efforts to eliminate agricultural commodity-driven deforestation from our portfolios by 2025. This new investor working group focuses on the implementation of the Financial Sector Commitment Letter on Eliminating Commodity-Driven Deforestation, known as the Financial Sector Deforestation Action (FSDA)[2]. The FSDA has identified priority companies and financial institutions to engage with on deforestation risk, using Global Canopy's Forest 500 list. We are leading engagements with 5 companies and 5 banks, as well as supporting additional engagements alongside other investors. Our expectations for these companies have been made public[3]. We completed our first deforestation risk assessment in 2022 and we hope to add more companies to our deforestation engagement strategy within Aviva Investors. Our results of our deforestation risk assessment can be found in our Biodiversity Report[1].

Future developments

We have made progress under several of our biodiversity goals one year on after publishing our Biodiversity Policy such as:

- Carry out a formal assessment of our portfolio for deforestation risk and to prioritise direct commodity-driven deforestation;
- Develop investment engagement programme with 40 companies on biodiversity;
- Vote against targeted management resolutions at the worst performing forest risk commodity companies in the Global Canopy Forest 500 ranking;
- Support shareholder resolutions asking management to assess, report on and reduce key impacts and dependencies on nature for high impact sectors;
- Undertake an assessment of species and habitats at our office site locations (and take actions to preserve and restore); and
- Invest a minimum of £50 million in afforestation and sustainably managed forest through our Climate Transition Real Assets strategies.

Further information can be found within our Biodiversity report[1].

UN Convention on Biological Diversity (COP15)

The purpose of the fifteenth Conference of the Parties to the UN Convention on Biological Diversity (CBD) was to finalise the Post-2020 Global Biodiversity Framework (GBF) which sets the implementation requirements of the Convention for the next decade. Aviva and Aviva Investors attended COP15 to launch and highlight our progress on biodiversity at several events and advocating the clear articulation of the role the finance sector in Goal D and Targets within the GBF. Aviva was one of three asset managers co-chairing the Finance for Biodiversity's Public Advocacy group, the key group representing finance at the negotiations. Aviva Group CEO Amanda Blanc was part of the formal CBD Finance Day events and support UK events and the CEO Aviva Canada Jason Storah was part of the CBD Business Day CEO Panel sessions.

Alongside launching our Biodiversity Report other key contributions were:

- Launched an Aviva-WWF paper[4] on Realigning the UK Finance Sector to a 1.5 degree pathway;
- Speaking at a variety of events on Aviva's policy on biodiversity, biodiversity measurement and the need for Target 14 and 15 to include the private sector;
- Being part of the Finance for Biodiversity Foundation Delegation to COP15 and participating in the negotiations through that; and
- Engaging with Parties to advance our policy aims.

The final text of the historic Montreal-Kunming Global Biodiversity Framework was agreed in Montreal and consists of four goals and 23 targets and with the vision: "By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for people". We were encourage to see representation from the private and financial sectors, with 1,500 business and financials attending. We were glad to be part of the landmark agreement, and highlighting the importance the private sector has in towards reversing global biodiversity loss by 2030.

1. https://www.aviva.com/sustainability/reporting/
2. https://racetozero.unfccc.int/wp-content/uploads/2021/11/DFF-Commitment-Letter-.pdf
3. https://racetozero.unfccc.int/system/nature-and-tackling-deforestation/
4. https://www.aviva.com/sustainability/communities/aviva-and-wwf-joint-reports/

Aviva Entity Level Climate-related Financial Disclosure

Contents

Foreword

The following appendix brings together our disclosure in accordance with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) for five entities in scope of FCA's PS 21/24 Enhancing climate-related disclosures by asset managers, life insurers and FCA-regulated pension providers. We have set out how we have complied in the Entity level reporting - TCFD compliance summary. The Entity level reports were approved on 8 March 2023.

The entity reports reference content included in the Aviva plc Climate-related Financial Disclosure 2022 and links are provided for these references.

A glossary explaining key terms used in this report is available on: www.aviva.com/climate-goals-glossary

Entity level reporting - TCFD compliance summary

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table below directs to the relevant section where the 11 TCFD recommendations are covered in this report for Aviva Life & Pensions UK Limited, Aviva Pension Trustees UK Limited, Aviva Administration Limited, Aviva Investors Global Services Limited and Aviva Investors UK Fund Services Limited. Whilst we have complied with the 11 recommendations, we continue to work towards expanding the scope of our metrics and targets, developing the methodology of our climate scenario analysis and enhancing our disclosure in this area. In addition to the TCFD Final Report, we have also considered the TCFD Annex (issued October 2021).

The subsidiaries approach to the management of climate-related risk and opportunities is consistent with the approach taken for the Aviva plc and therefore compliance with the TCFD recommendations for each of the legal entities in-scope is achieved through reference to content in the Group section of the Aviva plc Climate-related Financial Disclosure 2022 report and is supplemented by entity specific content in this appendix.

<table>
<tr><th rowspan="2">TCFD pillars</th><th rowspan="2">TCFD recommended disclosures</th><th colspan="5">Section the disclosures are included in</th></tr>
<tr><th>Aviva Life & Pensions UK Limited</th><th>Aviva Pension Trustees UK Limited</th><th>Aviva Administration Limited</th><th>Aviva Investors Global Services Limited</th><th>Aviva Investors UK Fund Services Limited</th></tr>
<tr><td rowspan="2">Governance
Disclose the organisation’s governance around climate-related issues and opportunities.</td><td>a. Describe the board’s oversight of climate-related risks and opportunities.</td><td colspan="3">• Asset owner entities - Governance (see page 110)</td><td colspan="2">• Asset Manager entities - Governance (see page 116)</td></tr>
<tr><td>b. Describe management’s role in assessing and managing climate-related risks and opportunities.</td><td colspan="3">• Group - Our management’s climate roles and responsibilities (see page 18)
• Asset owner entities - Governance (see page 110)</td><td colspan="2">• Group - Our management’s climate roles and responsibilities (see page 18)
• Asset Manager entities - Governance (see page 116)</td></tr>
<tr><td rowspan="3">Strategy
Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation’s business, strategy and financial planning where such information is material.</td><td>a. Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long-term.</td><td colspan="3">• Group - Our climate strategy, risks and opportunities (see page 23)
• Asset owner entities - Strategy (see page 111)</td><td colspan="2">• Group TCFD - Our climate strategy, risks and opportunities (see page 23)
• Asset Manager entities - Strategy (see page 127)</td></tr>
<tr><td>b. Describe the impact of climate-related risks and opportunities on the organisation’s businesses, strategy, and financial planning.</td><td colspan="3">• Group - Our climate strategy, risks and opportunities (see page 23)
• Group - Our strategic focus (see page 29)
• Asset owner entities - Strategy (see page 111)</td><td colspan="2">• Group - Our climate strategy, risks and opportunities (see page 23)
• Group TCFD - Our strategic focus (see page 29)
• Asset Manager entities - Strategy (see page 117)</td></tr>
<tr><td>c. Describe the resilience of the organisation’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</td><td colspan="3">• Group - Our climate VAR measure (see page 27)
• Asset owner entities - Strategy (see page 111)
• UKLAP - Context (see page 113)
• UKPTL - Context (see page 115)
• AAL - Context (see page 115)</td><td colspan="2">• Group - Our climate VAR measure (see page 27)
• Asset Manager entities - Strategy (see page 117)</td></tr>
</table>

Entity level reporting continued

TCFD pillars	TCFD recommended disclosures	Section the disclosures are included in				
		Aviva Life & Pensions UK Limited	Aviva Pension Trustees UK Limited	Aviva Administration Limited	Aviva Investors Global Services Limited	Aviva Investors UK Fund Services Limited
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.	• Group - Our process for identifying and assessing climate-related risks (see page 55) • Asset owner entities - Risk Management (see page 112)			• Group - Our process for identifying and assessing climate-related risks (see page 55) • Asset Manager entities - Risk management (see page 118)	
	b. Describe the organisation's processes for managing climate-related risks.	• Group - Our process to manage climate-related risks (see page 55) • Asset owner entities - Risk Management (see page 112)			• Group - Our process to manage climate-related risks (see page 55) • Asset Manager entities - Risk management (see page 118)	
	c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	• Group - Our process to integrate climate-related risks into risk management (see page 55) • UK Life Risk Management (see page 112)			• Group - Our process to integrate climate-related risks into risk management (see page 55) • Asset Manager entities - Risk management (see page 118)	
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.	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• Aviva Investors Global Services Limited - Metrics and targets (see page 119)	• Aviva Investors UK Fund Services Limited - Metrics and targets (see page 121)
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• Aviva Investors Global Services Limited - Metrics and targets (see page 119)	• Aviva Investors UK Fund Services Limited - Metrics and targets (see page 121)
	c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• UKLAP metrics (see page 113)	• Aviva Investors Global Services Limited - Metrics and targets (see page 119)	• Aviva Investors UK Fund Services Limited - Metrics and targets (see page 121)

These reports should be read in conjunction with the Cautionary statements included on page 122.

Asset owner entities

Asset owner entities in-scope of PS 21/24

Aviva's Life and Pensions business in the UK is written through subsidiaries of Aviva Life Holdings UK Limited (UKLH), subsequently referred to as UK Life.

UKLH is a holding company and therefore is not an FCA regulated financial services company. The following three legal entities, and subsidiaries of UKLH, which are registered FCA Life Insurers and/or Pension providers are required by the FCA to provide entity Level Climate-related (TCFD) disclosure:

- Aviva Life & Pensions UK Limited (UKLAP);
- Aviva Pension Trustees UK Limited (UKPTL); and
- Aviva Administration Limited (AAL).

The following sections on governance, strategy and risk management set out the structures and processes that are in place at a UK Life level to take climate-related risk and opportunities into consideration. AAL and UKPTL, as subsidiaries, defer to UKLH for any such considerations. UKLH governance is merged with UKLAP, as it consists of the same non-executive members and UKLAP is both the main product holding company and statutory reporting entity for the UK Life business.

Governance

UK Life's approach to climate-related governance is consistent with Aviva Group's governance as described in the Group's Governance section on page 16. The UK Life Boards, Executive and Risk Committees have the same responsibilities as Group and are supported by the Group's functions.

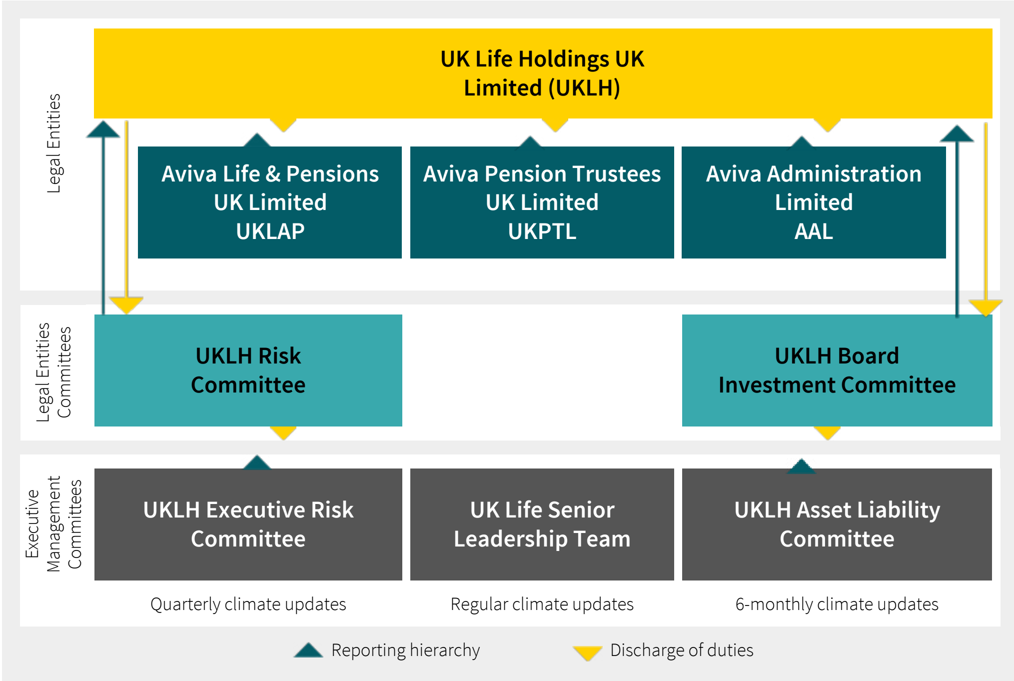
The Boards are also focused on the wider social context within which our businesses operate, including those issues related to climate change.

Recognising climate change presents risk and opportunities for customers, communities and business, the Group is signed up to the United Nations-convened Net Zero Asset Owner Alliance (NZAOA).

Sustainability, including climate, is considered by the UKLH Executive Risk Committee (ERC) on a bi-monthly basis as part of Risk reporting and on a quarterly basis as part of specific climate reporting

The ERC receives information about the current risk profile, covering the different risk types (including climate change), the position against tolerance and an explanation of the development of the profile. Periodic Stress and Scenario Testing exercises are carried out, which include climate considerations. These are also reported to the Asset Liability Committee (ALCo) and the UK Life Board committees.

Figure 1: Governance Structure



Asset owner entities continued

In addition, ALCo receives a six-monthly climate update. Where appropriate, additional reporting is taken from the ERC or ALCo to the Board Investment Committee (BIC). If required, this reporting continues to the Risk Committee and the UKLH Board, as appropriate (see figure 1).

The Chief Executive Officer (CEO) and Chief Financial Officer (CFO) of UKLH (with oversight of subsidiary legal entities) hold the regulatory accountability for managing climate risk within UK Life as part of the Senior Manager Function. In addition, the UK Life Chief Risk Officer (CRO) provides opinion and challenge on how this is is managed. This is reflected in the respective Statement of Responsibilities which sets out the tasks within a firm which that respective person will be responsible for managing in performing the function.

The CEO of UK Life (and UKLAP) delegates responsibility for managing climate-related risk and opportunities through their reasonable steps documentation. This is a document which stipulates how the senior manager in question discharges responsibility to other functions and/or people to fulfil regulatory duties, but maintaining oversight. Responsibility for delivery of all climate and sustainability ambition and strategy related activity sat with the CEO in 2022, but has been delegated to the UK Life Chief Investments Officer (CIO) from January 2023. The CIO directly reports into the CEO and is a core Senior Leadership Team (SLT) member. In addition, UK Life Managing Directors (MDs) and the Chief Operating Officers (COOs) are required to consider climate and sustainability strategy, risk management and climate-related impacts on their respective operations (including supply chain and underwriting).

The UK Life SLT meets at least 11 times per year. The SLT has supported the CEO of UK Life in the review and approval of the UK Life Business Strategy on Climate and Aviva Sustainability Ambition (ASA). The UK Life CEO is a member of the Group's ASA steering committee.

In addition, the UK Life SLT receives a monthly UK Life Management Information performance summary, which includes climate, and this is also made available to the Non-Executive Directors on the Board committees.

The UKLH Board met five times during 2022 with additional meetings held ad-hoc as required. Sustainability was raised as a topic of discussion at six of these Board meetings. Five UKLH Risk Committees were held in 2022 and climate risk presented at three of these meetings.

Strategy

One of UK Life's key strategic priorities is delivering on our ambition to be a climate champion by leading the UK's financial services industry in sustainability and environmental, social, and governance (ESG) considerations. As an asset holder, UK Life has a fiduciary duty to invest all our assets in a responsible way and for policyholder funds to continue to invest in line with policyholders' expectations of us. Where UK Life has investment decision-making power for our shareholder assets and policyholder assets, we are embedding our stewardship and climate ambitions into the investment strategy and day-to-day investment management. An overview of the UK Life business strategy is included in the Aviva plc Annual Report and Accounts 2022, Our business review: UK & Ireland Life.

As stated in our Group Strategy disclosure (see Our climate strategy, risks and opportunities section on page 23), the materiality and time horizons over which climate-related risks and opportunities affect our business is dependent on the specific insurance products and investments being considered. UK Life needs to employ a blended view of the climate outlook based on product type and the product demographics.

For UK Life, there are several types of investors who have a short-term time horizon (one to three years) from those saving for their annual holiday, to retirees considering their retirement options. These customers may benefit from the introduction of climate-related disclosure and the improvements in quantification of climate risks and opportunities. They are likely to have a low exposure to physical and litigation risk and are relatively more exposed to transition risk (for our definition of risk types see Our climate strategy, risks and opportunities section on page 23).

Asset owner entities continued

The business plan for UK Life is aligned to Aviva Group's Business Plan and considers the impact of climate-related risks and opportunities over a medium-term time horizon (three to five years). The profile of customers within UK Life included in this time horizon range from those saving for a house deposit, to customers approaching retirement and seeking to protect their capital investment. While the physical and litigation risk remains low, these investments are more likely to have to navigate transition risk.

The long-term time horizon (five years+) applies to UK Life's long-term savers and pension customers. For this group, climate considerations will be more apparent as the UK government, financial services and Aviva work towards Net Zero ambitions. This will lead to an increase in exposure to transitional, physical and litigation risk, with the potential for physical risks to become more dominant. Additionally, indirect litigation risks, including regulatory fines, may have an impact on investment returns.

For UK Life, in collaboration with Aviva Investors, the decarbonisation of our investment portfolio is a key focus of the long-term strategic activity (see the Decarbonising our investment portfolio section page 33). Specific activity has included:

- The launching of a suite of climate funds across asset classes in 2020, which invest in companies generating revenue from goods and services addressing climate change, and those aligning their business to a low carbon world;
- Total investment in sustainable assets for UK & Ireland Life at the end of 2022 was £7.7 billion (refer to note 7); and
- Divesting shareholder assets from companies making more than 5% of their revenue from thermal coal or more than 10% of their revenue from unconventional fossil fuel extraction (limited to companies involved in Arctic Oil and Oil Sands), unless they have signed up to the science-based targets initiative (SBTi).

Risk Management

UK Life's approach to risk management is consistent with Aviva Group's risk management framework as described in the Group's Risk Management section on page 55. In alignment to Group, UK Life has a very low appetite for climate-related risks which could have a material negative impact upon our balance sheet and business model as well as our customers and wider society. UK Life actively seeks to reduce our exposure over time to the downside risks arising from the transition to a low carbon economy. We also seek to identify and support solutions that will drive a transition to a low-carbon, climate resilient economy and to limit our net exposure to the more acute and chronic physical risks that will occur in the event the Paris Agreement target is not met.[1] We actively avoid material exposure to climate litigation risks.

The Group Business Standards mandate the minimum requirements which must be met in UK Life, with inclusion of climate-related risk and opportunity management. Its impact is considered in emerging risk spectrums and risk assessments and how it will impact the risks in future as set out in the strategy section.

Each quarter, the UK Life CRO reports on the risk appetite and performance against that appetite, to the UKLH ERC.

Metrics and targets

UK Life uses climate-related metrics to monitor climate-related risks and opportunities, consistent with those used for the Group. These are monitored on a quarterly basis through executive-level performance reporting. As a Group, Aviva is actively working to improve coverage of climate metrics and associated methodologies as this new financial discipline matures. Targets are set at a Group level.

1. We note that physical risks will also occur even in the event the Paris Agreement target is met

Asset owner entities continued

Aviva Life & Pensions UK Limited (UKLAP)

Context

UKLAP is the main product holding company and statutory reporting entity for the UK Life business. UKLAP has both non-profit and with-profit funds and offers a range of propositions to individual and corporate customers covering their savings, retirement, insurance and protection needs.

UKLAP has relationships with advisory firms, who they provide with a wide range of support, including expert insight around the key area of ESG. As an example, in 2021 they launched an ESG profiling tool, letting advised clients see how their portfolio performs against key ESG metrics.

UKLAP products are underpinned by Aviva Investors' expertise in multi-asset and ESG investing.

UKLAP's key focus areas include helping customers provide for a more comfortable retirement by supporting them with investment, drawdown, and secure income from annuities. It also helps customers to protect themselves and their families financially against death or illness and supplies services to the corporate marketplace by offering pensions, protection, and bulk annuity propositions to both large and small companies.

UKLAP has access to customers across the UK through a distribution network, with a growing Digital Direct offering for sales and service, strong relationships with independent financial advisors, brokers, employee benefit consultants, banks and single ties with some of the largest estate agencies in the country.

Equity release mortgages are not products in-scope of PS 21/24 and as such are not included in the UKLAP metrics presented.

TCFD compliance

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table on pages 108 and 109 sets out the reporting in accordance with each of these recommendations for UKLAP. The UKLAP entity report references in information provided for Group and for asset owners, as set out in the compliance summary.

Metrics

UKLAP's entity level metrics are aligned to the Group's climate reporting policies and reporting criteria set out in note 14. Furthermore, the estimates and judgements outlined in note 5 - Financed emissions, note 7 - Monitoring of sovereign holdings and note 9 - Temperature alignment are also relevant for UKLAP. Note 5 also includes information in relation to data quality using the Partnership of Carbon Accounting Financials (PCAF) data scoring.

The UKLAP metrics are a subset of the Group metrics. As the main product holding company and statutory reporting entity for the UK Life business, UKLAP reporting also covers Aviva Administration Limited and Aviva Pension Trustees UK Limited[1].

The following table sets out the assets which are in-scope of the climate metrics compared to the Assets Under Management on the UKLAP IFRS statement of financial position.

£bn	2022	2021
Assets Under Management for which emissions are calculated	141	165
AUM on IFRS statement of financial position	236	270
% Coverage of AUM	60%	61%

The coverage of the AUM on the IFRS statement of financial position will be increased when additional asset classes such as private debt to companies, infrastructure, real estate and equity release mortgages are included in the climate metrics. Of the 60% AUM where climate metrics are available 78% relates to policyholder and participating (customer funds) in-scope AUM.

The key areas for development in our external reporting in 2023 and beyond are:

- Expand the disclosure to incorporate additional asset classes taking into account the latest methodology available.
- Inclusion of Scope 3 emissions of our investments (i.e indirect Scope 3 emissions, in addition to the Scope 1 and 2, of our Scope 3 category 15 investments, when data availability and robustness permits).

Asset owner entities continued

Figure 1: UKLAP metrics

Climate Metrics	Unit of measurement	2022 Data coverage %	2022 Amount	2021 Data coverage %	2021 Amount
Absolute financed GHG emissions[2]	tCO_2e (indirect Scope 1 and 2) - shown in millions	**82%**	**6.7m**	80%	8.2m
Economic Carbon Intensity (ECI)[3]	tCO_2e / $million invested	**82%**	**58**	80%	57
Weighted Average Carbon Intensity by Revenue (WACI)[4]	tCO_2e / $million Revenue	**93%**	**115**	92%	133
Sovereign absolute GHG emissions	tCO_2e (production level only) - shown in millions	**100%**	**5.6m**	100%	7.3m
Sovereign carbon Intensity	tCO_2e / $million PPP adjusted GDP	**100%**	**175**	100%	163

Figure 2: UKLAP's Climate Value at Risk (CVaR) output by scenario for shareholder funds as at 31/12/2022. Source: Aviva/MSCI[5]

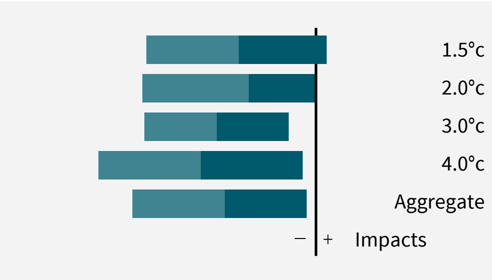
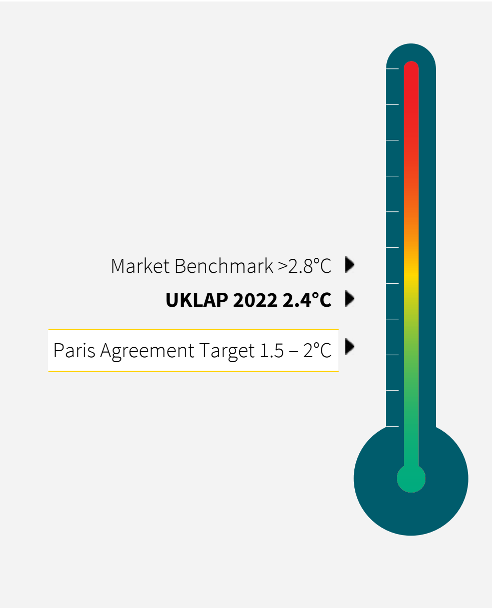


Figure 3: UKLAP's temperature alignment (in °C) for shareholder, with-profit and policyholder funds as at 31/12/2022. Source: Aviva/ MSCI[5,6,7].



Analysis of metrics

- Absolute emissions have decreased by 19% since 2021, mainly as a result of the actions taken in line with our coal exclusions policy.
- Economic carbon intensity has increased from 57 tCO_2e/$m invested to 58$tCO_2e$/$m invested related to lower market values of our investments at 31 December 2022 compared to 31 December 2021.
- Weighted average carbon intensity by revenue has decreased from 133 tCO_2e/$m Revenue to 115 tCO_2e/$m Revenue, mainly as a result of the actions taken in line with our coal exclusions policy.
- Sovereigns absolute emissions have decreased by 23%, whilst carbon intensity has increased from 163 tCO_2e / PPP adjusted GDP to 175 tCO_2e/PPP adjusted GDP. The increase in intensity is due to lower investment in the UK and more in the US, which has higher emission intensity. Absolute emissions are lower due to reduction in investment in sovereign debt.
- Figure 2 shows Climate VaR output by scenario and compares a plausible range of outcomes (5th to 95th percentile) from our CVaR analysis for the different scenarios considered. Aviva's strategy is resilient to climate-related risks and opportunities in all scenarios.
- Figure 3 shows the temperature alignment projected for shareholder and policyholder funds in scope of the metric is 2.4°C. The MSCI[5] market benchmark[6] based on a global diversified portfolio of equities is 2.8°C.

Compliance Statement

This Aviva Life & Pensions UK Limited report should be read in conjunction with the information provided on pages 108 to 112.

The disclosures for Aviva Life & Pensions UK Limited, including any third party or group disclosures cross-referenced complies with the requirements under the FCA's Policy Statement PS21/24.

Doug Brown,
Chief Executive Officer
Aviva Life & Pensions UK limited
8 March 2023

1. Aviva International Insurance Limited (AIIL) reinsures a percentage of UKLAP assets. However, AIIL neither manages, nor administers assets in relation to TCFD in-scope business and as such does not need to produce a TCFD entity report.
   In addition, Life Insurance Company of India (LICI) policyholder assets are included in the UKLAP assets, as LICI scheme members invest in Aviva Insured funds (by means of the reassurance arrangement between LICI and Aviva). LICI scheme member investments make up <0.01% of the UKLAP assets and are included in the overall UKLAP climate metrics. For these entities, refer to the UKLAP entity report.
2. Absolute financed emissions relate to Scope 3 category 15 emissions and exclude sovereign GHG emissions which are included separately in the table.
3. Also referred to as carbon footprint. GHG emissions normalised by market value of the portfolio (as outlined in note 5). ECI covers credit and equities and excludes sovereigns which are calculated separately.
4. Weighted average carbon intensity by revenue covers credit and equities.
5. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
6. MSCI All Country World Index (ACWI) Investable Market Index (IMI)
7. Data coverage % for temperature alignment in 2022 is 86%.

Asset owner entities continued

Aviva Pension Trustees UK Limited (UKPTL)

Context

UKPTL acts as a trustee and scheme administrator to Aviva Personal Pension Scheme and Aviva Free Standing Additional Voluntary Contribution pension schemes written by Aviva Life & Pensions UK Limited (UKLAP).

UKPTL offers Self Invested Personal Pension (SIPP) products distributed through three platforms:

- The Advisor Platform, which provides platform technology to Independent Financial Advisers;
- The Aviva Online Investment Service, which is a direct-to-consumer platform; and
- The My Money platform which provides platform technology to corporate businesses.

In 2021 UKLAP launched an ESG profiling tool on the advisor platform they provide insurance-based investment products for and where UKPTL operates the SIPPs. In addition, Aviva Financial Advice which launched in November 2016, provides both pension accumulation and decumulation advice to existing customers. This service supports business growth across a number of Aviva products, including those written by UKPTL.

TCFD compliance

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table on pages 108 and 109 sets out the reporting in accordance with each of these recommendations for UKPTL. The UKPTL entity report references in information provided for Group and for asset owners, as set out in the compliance summary.

UKPTL Board

The Board of UKPTL met five times during 2022. Climate-related risk and opportunities were not discussed at this level, UKPTL as a subsidiary defers to UKLAP for any such considerations.

Metrics

Separate metrics are not presented for UKPTL. As the main product holding company and statutory reporting entity for the UK Life business, UKLAP reporting also covers UKPTL. See the Metrics and targets section of the UKLAP report, on page 113.

Compliance Statement

This Aviva Pension Trustees UK Limited report should be read in conjunction with the information provided for on pages 108 to 112 and the metrics included on page 113.

The disclosures for Aviva Pension Trustees UK Limited, including any third party or group disclosures cross-referenced complies with the requirements under the FCA's Policy Statement PS21/24.

Doug Brown,
Chief Executive Officer
Aviva Life & Pensions UK Limited
8 March 2023

Aviva Administration Limited (AAL)

Context

AAL is managed as part of Aviva's UK Life business and carries out the in-house advisory service under the brand of Aviva Financial Advice (AFA). Through AFA we offer advice to customers who do not have a relationship with a financial advisor, including providing awareness and education around the key area of ESG.

TCFD compliance

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table on pages 108 and 109 sets out the reporting in accordance with each of these recommendations for AAL. The AAL entity report references in information provided for Group and for asset owners, as set out in the compliance summary.

AAL Board

The Board of AAL met three times during 2022. Climate-related risk and opportunities were not discussed at this level, AAL as a subsidiary defers to UKLAP for any such considerations.

Metrics

Separate metrics are not presented for AAL. As the main product holding company and statutory reporting entity for the UK Life business, UKLAP reporting also covers AAL. See the Metrics and targets section of the UKLAP report, on page 113.

Compliance Statement

This Aviva Administration Limited report should be read in conjunction with the information provided on pages 108 to 112 and the metrics included on page 113.

The disclosures for Aviva Administration Limited, including any third party or group disclosures cross-referenced complies with the requirements under the FCA's Policy Statement PS21/24.

Doug Brown,
Chair Aviva Administration Limited
8 March 2023

Asset Manager entities

Asset Manager entities in-scope of PS 21/24

The following asset manager entities are in-scope:

Aviva Investors Global Services Limited (AIGSL); and Aviva Investors UK Fund Services Limited (AIUKFSL).

Aviva Investors Holdings Limited (AIHL) is the holding company for Aviva Investors Group and heads up the UK Regulatory Group, including AIGSL and AIUKFSL as regulated entities. As such, the AIHL Board exercises oversight (directly or through the AIHL Risk, AIHL Audit, AIHL Remuneration and AIHL Nomination committees (the Board Committees)) over the operation of its subsidiaries including both AIGSL and AIUKFSL.

AIGSL provides investment management services and related advisory services to various subsidiaries of the Aviva Group including to AIUKFSL and external clients, including retail funds, pension funds and other institutional investors.

AIUKFSL is the Authorised Corporate Director of Aviva Investors' open ended investment company (OEIC) funds and is also the Alternative Investment Fund Manager for a range of real estate funds.

The following sections on governance, strategy and risk management set out the structures and processes in place to take climate-related risk and opportunities into consideration. The reporting of metrics and targets included in the separate entity TCFD reports for those entities, are included later in this section.

Governance

Aviva Investors has a strong system of governance, with effective and robust controls. This governance is proportionate to the nature, scale and complexity of the operations across our global asset management businesses units. It allows the Aviva Investors boards, the Aviva Investors board committees, Aviva Investors' management committees and senior management to integrate climate-related risks and opportunities into Aviva Investors' strategy, decision making and business processes.

Aviva Investors' climate governance structure as well as roles and responsibilities are summarised in the table below.

In addition to the meetings detailed below, the board of AIGSL met six times during 2022. Sustainability and climate were discussed at four of these meetings. The board specifically oversees the progress Aviva Investors is making in meeting Aviva's Sustainability Ambitions and oversees the management of Aviva Investors' sustainable products including the climate transition range of funds.

Aviva Investors' integration of Environment, Social and Governance (ESG) factors into pay criteria across the firm are set out on page 18.

Committees	Roles and Responsibilities	Activity During 2022
Aviva Investors Holdings Limited Board	The board provides leadership of Aviva Investors within a framework of prudent and effective controls which enables risks (including climate-related risks and opportunities) to be assessed and managed.	The board had a deep dive on the progress Aviva Investors was making in Net Zero investment. This included how Aviva Investors measured the Carbon Intensity of the portfolios under its management and the plans to reduce this to meet Aviva's Sustainability Ambitions.
Aviva Investors Risk committee	This Committee assists the AIHL Board in its oversight of risks, including climate-related risks and opportunities, by assessing the effectiveness of Aviva Investors' risk management framework, strategy, risk appetite, risk profile and compliance with prudential regulatory requirements, including transition, litigation and physical risk and other relevant sustainability risks.	On a quarterly basis the Committee reviews the status of risk appetites, risk tolerances and updates on Key Risk Indicators including those relating to Climate Risk. It also made recommendations to the board of AIGSL and AIHL on Aviva Investors' statement in relation to climate change and sustainability.

Asset Manager entities continued

Senior management's climate roles and responsibilities

The AIGSL Chief Executive Officer (CEO) is accountable for implementation and oversight of the Aviva Group climate and sustainability ambition and agenda in AIGSL, including management of sustainability including climate risks.

The AIGSL Chief Finance Officer (CFO) is accountable for advising the board on the firm's financial exposure arising from climate risks and maintaining an appropriate approach to disclosure and regulatory reporting of climate risks.

The AIGSL Chief Risk Officer (CRO) is accountable for providing independent opinion and challenge of the business' management of risks including their approaches to risk identification, measuring risk impacts and advising the business on how best to manage and mitigate risk, including sustainability (and climate) risks.

Strategy

As an asset manager Aviva Investors will act as long term steward to our client assets, and will seek to decarbonise our assets and portfolios to align with a Net Zero pathway where possible.

It is Aviva Investors' ambition to become a Net Zero emissions asset manager by 2040. This will cover all assets[1] that we manage on behalf of Aviva. Third-party clients will be invited to express a preference as to whether they would like the Aviva climate ambition to apply to their portfolios. Investors in collective investment funds will be consulted in line with regulatory requirements. We are members of the Net Zero Asset Managers initiative and the Glasgow Financial Alliance for Net Zero (GFANZ).

How Aviva Investors is managing Aviva's portfolios decarbonisation strategy is described on page 33. This does not mean all assets in our portfolios today will be aligned with Net Zero. Nor does it mean that we will cease to invest in assets that are currently associated with significant emissions. Rather, it means that over time we will aim to evolve our portfolios to align with this long-term goal.

Our ambition to become a Net Zero asset manager by 2040, including our membership of the Net Zero Asset Managers initiative, does not guarantee that decarbonisation targets will be achieved, and is undertaken on a reasonable efforts basis.

In the absence of explicit additional client instruction on decarbonisation targets, the existing investment objective(s) of the funds are the basis on which the fund manager is held to account. Our Net Zero ambition means that we will continue to seek to deliver those objectives whilst also decarbonising portfolios, except where they conflict.

In practice reasonable efforts means:

Integration - Deploying tools and processes to enable us to understand climate risk exposure and opportunities to accelerate decarbonisation.

- Climate analytics to enable assessment of issuer and portfolio level emissions, identifying significant contributors and lower carbon alternatives.
- Forward-looking data models to enable assessment of future emissions trajectory and determine alignment with climate ambition.
- Research on sector and national decarbonisation pathways including policy and technological dependencies.
- Research on climate investment opportunities including new technologies, solutions providers and leaders in transition.

Engagement - Catalysing decarbonisation of companies, portfolios and economies.

- Engagement with companies and Governments to develop validated Net Zero climate strategies and accelerate decarbonisation plans.
- Engagement with borrowers, developers and occupiers to deliver sustainability-linked financing and leasing in real assets.
- Promote systematic overhaul of global financial architecture to drive flow of public and private capital to support decarbonisation of economies.
- Advocate policy environment for internalisation of cost of carbon - 'Emitter Pays Principle' is central to aligning climate considerations in fundamental market valuations.

The Aviva Investors climate-related risks and opportunities are integrated into the investment process via research and data, engagement, portfolio construction and quarterly reviews as outlined on page 37.

How Aviva embed climate into the business planning process is outlined on page 26.

1. Scope of Aviva's ambition will be core markets, all main asset classes (credit, equities, direct real estate, and sovereigns when methodology developed; including both active and passive funds), and shareholder assets and those policyholder assets where we have decision making control and we have carbon emissions data.

Asset Manager entities continued

Risk management

Aviva's risk management framework is outlined in the Group Risk Management section.

Climate change is considered as part of Business, Strategic and Operational risks to ensure climate change strategy, approach and activities are in line with public policy, regulation, legal developments and evolving social views.

Climate change activity for Aviva Investors manifests in the following areas:

a. Investment and asset management;

b. Engagement and voting;

c. Product development;

d. Client take-on and engagement; and

e. Supplier selection and oversight.

Within Aviva Investors, ESG-specific controls are in place to perform ongoing oversight and compliance, which contributes to, and supports, the investment functions in the delivery of a strong first-line risk and controls management and governance.

ESG factors have the potential to cause harm to our clients by reducing the value of their investments or by creating stranded assets. Inefficient allocation of capital to companies with high external costs, such as those engaged in highly polluting or socially disruptive activities, can lower asset values over time, reducing returns to investors. Conversely, companies that follow good governance practices, consider social factors or their impact on society, and take steps to prevent or reduce environmental issues, could increase returns to investors.

In order to assess material ESG risks, Aviva Investors has developed a proprietary corporate scoring system, ESG Elements, which assigns an ESG score at the corporate issuer level. The aggregated ESG Elements score for a portfolio is used to highlight where further understanding of the drivers behind specific ESG risk factors may be necessary.

Together with the MSCI ESG scores, this forms the basis of second-line ESG risk oversight. These scores assist in discussions with Portfolio Managers about aspects of the ESG risk profiles of portfolios which, due to flagging, might have become necessary to explore.

In addition, acute and chronic physical climate risks have the potential to disrupt Aviva Investors' operations or those of its third-party providers, resulting in business disruption and increased costs to resume business activities.

Aviva Investors have committed to developing appropriate quantitative monitoring measurements in 2023 to track its progress in its climate-change goals, ambitions and responsibilities.

Real Assets

For Real Assets, we assess both transitional and physical climate risks for asset classes where we directly own and control the asset, including real estate equity, real estate long income, and infrastructure equity.

We do not currently measure climate risk exposure in infrastructure debt, real estate debt or structured debt asset classes. Where analysis is performed this includes:

a. Climate transition risk, or the risk of policy, legal, technology, and market changes related to climate change which may pose varying levels of financial risk to our clients' assets.

b. Climate physical risk: event driven (acute) or longer-term shifts (chronic) in climate patterns which have financial implications for our clients' assets.

Understanding climate risk in our origination process is achieved through undertaking a Net Zero due diligence audit which assesses an asset in line with our 2040 Net Zero pathway and determines how the asset will be managed in order to mitigate transitional risks. Climate physical risk is assessed using the MSCI Climate Value-at-Risk platform, which determines the level of risk to an asset or location. Where buildings are shown to have high levels of climate risk, the transaction undergoes additional due diligence, with the outcome informing the investment decision.

In addition to assessing climate risk in each transaction, the Real Assets team work closely with MSCI, undertaking forward-looking assessments of climate risks for each portfolio on a quarterly basis, which covers the flood modelling and the chronic climate-related risks such as sea-level rise and heatwaves.

Climate risk appetite

We have a very low appetite for climate-related risks which could have a material negative impact upon our balance sheet and business model as well as our customers and wider society. We actively seek to reduce our exposure over time to the downside risks arising from the transition to a low carbon economy. We seek to identify and support solutions that will drive a transition to a low-carbon, climate resilient economy. We seek to limit our net exposure to the more acute and chronic physical risks that will occur in the event the Paris Agreement target is not met[1]. We actively avoid material exposure to climate litigation risks.

It is our strategic goal for 2023 to continue to deepen our understanding of climate strategy and change as well as the implementation and embedding thereof across our business activities. We expect our qualitative risk appetite statements to expand as our understanding of climate strategy and change expands over the coming year.

Training

Our employees complete mandatory training as part of Aviva's Essential Learning Training. This includes specific training on climate risk and opportunity. Training programmes continue to be developed in collaboration with Aviva Group and internally for Aviva Investors.

1. We note that physical risks will also occur even in the event the Paris Agreement target is met

Asset Manager entities continued

Aviva Investors Global Services Limited

Context

Aviva Investors Global Services Limited (AIGSL) is the main statutory entity of Aviva Investors.

TCFD compliance

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table on pages 108 and 109 sets out the reporting in accordance with each of these recommendations for AIGSL. The AIGSL report references information provided for Group and for asset managers, as set out in the compliance summary.

Metrics

Metrics have been prepared for £120 billion (2021: £147 billion) of the corporate and sovereign Assets Under Management of AIGSL. AIGSL's entity level metrics are aligned to the Group's climate reporting policies and reporting criteria set out in note 14. Furthermore, the estimates and judgements outlined in note 5 - Financed emissions, note 7 - Monitoring of sovereign holdings and note 9 - Temperature alignment are also relevant for AIGSL. Note 5 also includes information in relation to data quality for the Group using the Partnership of Carbon Accounting Financials (PCAF) data scoring. The below subset of the Group metrics are prepared for AIGSL as the key metrics for monitoring and reporting against the Group's climate ambitions.

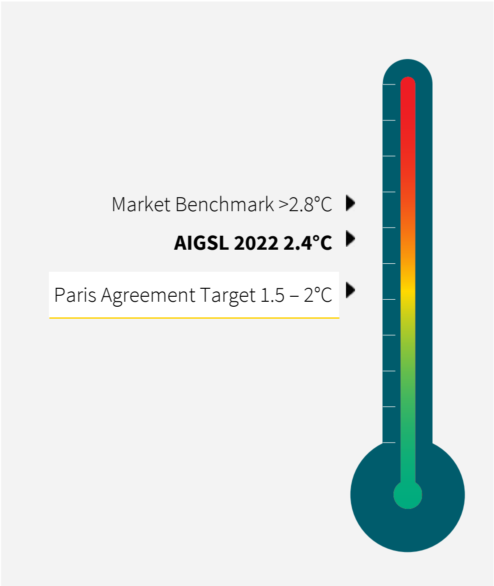
Analysis of metrics

- Absolute emissions have decreased by 20% since 2021, mainly as a result of the actions taken in line with our coal exclusions policy.
- Economic carbon intensity has decreased from 58 tCO_2e/\$m invested to 56 tCO_2e/\$m invested, driven by the reduction in absolute emissions and overall lower intensity of the companies invested in. This was partially offset by the reduction in the exposure amounts, which was impacted by lower market values across equities and corporates.
- Weighted average carbon intensity by revenue has decreased from 143 tCO_2e/\$m revenue to 118 tCO_2e/\$m revenue, mainly as a result of the actions taken in line with our coal exclusions policy.
- Sovereign absolute emissions have decreased by 34%, whilst sovereign carbon intensity has increased from 164 tCO_2e/PPP adjusted GDP to 184tCO_2e/PPP adjusted GDP. The increase in intensity reflects less investment in the UK and more in the US which has higher emission intensity, whilst absolute emissions are lower due to a reduction in investment in sovereign debt.
- Figure 1 shows the temperature alignment projected for in-scope funds is 2.4°C. The MSCI[1] market benchmark[2] based on a global diversified portfolio of equities is 2.8°C.

		2022		2021	
Climate Metric	**Unit of measurement**	**Coverage**	**Amount**	Coverage	Amount
Absolute emissions - Scope 3	tCO_2e[1] - shown in millions	**83%**	**5.0m**	80%	6.3m
Economic Carbon Intensity (ECI)	tCO_2e / \$million invested[2]	**83%**	**56**	80%	58
Weighted Average Carbon Intensity by Revenue (WACI-R)	tCO_2e / \$m Revenue	**95%**	**118**	94 %	143
Sovereign absolute GHG emissions	tCO_2e - shown in millions	**100%**	**6.8m**	100%	10.3m
Sovereign Carbon Intensity	tCO_2e / \$million PPP adjusted GDP	**100%**	**184**	100%	164

1. Absolute financed emissions relate to Scope 3 category 15 emissions of AIGSL and exclude sovereign GHG emissions which are included separately in the table
2. Also referred to as carbon footprint. GHG emissions normalised by market value of the portfolio (as outlined in note 5).

Figure 1: AIGSL's temperature alignment[3] (in °C) as at 31/12/2022. Source: Aviva/MSCI[1,2].



1. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
2. MSCI All Country World Index (ACWI) Investable Market Index (IMI)
3. Data coverage % for temperature alignment in 2022 is 87%

Compliance statement

This Aviva Investors Global Services Limited report should be read in conjunction with the information provided on pages 108, 109 and 116 to 118.

The disclosures for Aviva Investors Global Services Limited, including any third party or group disclosures cross-referenced, complies with the requirements under the FCA's Policy Statement PS21/24.

Tom Howard,
Chief Financial Officer
Aviva Investors Global Services Limited
8 March 2023

Asset Manager entities continued

Aviva Investors UK Fund Services Limited

Context

Aviva Investors UK Fund Services Limited (AIUKFSL) provides fund management services.

TCFD compliance

The TCFD outlines 11 recommendations for organisations to include in their climate reporting. The table on pages 108 and 109 sets out the reporting in accordance with each of these recommendations for AIUKFSL. The AIUKFSL report references information provided for Aviva Group and for asset managers, as set out in the compliance summary.

Governance

AIUKFSL has an independent governance structure to Aviva Investors. It allows the AIUKFSL Board, management committee and senior management to integrate climate-related risks and opportunities into its strategy, decision making and business processes.

In addition to the meetings of the Aviva Investors' committees as set out in the Asset Manager entities' Governance section, the Board of AIUKFSL met 11 times during 2022 and early 2023 and discussed climate risk at least five times during the year.

Strategy

AIUKFSL adopts the same high level strategy to manage climate risks and opportunities from an asset management perspective as set out above for Aviva Investors more broadly.

Other climate risks, such as operational risks and those risks associated with AIUKFSL's own carbon footprint are managed in accordance with Group policies.

Separately, AIUKFSL manages those climate risks that arise as a result of the investment management activity undertaken on its behalf. These risks are managed as part of the strategy adopted when appointing and delegating the asset management of the Funds it is responsible for to Aviva Investors Global Services Limited and third-party investment managers as set out below within the Risk Management section.

Climate opportunities are built into AIUKFSL's strategy through designing and distributing investment fund products with specific climate-related strategies, and adopting the wider Aviva Investors baseline exclusion policy to limit exposure to the most harmful types of activity.

Appointment of asset managers

The primary asset manager for AIUKFSL is AIGSL, see page 119.

AIUKFSL appoints third parties as asset managers for a number of products. Third party managers are required to demonstrate that effective Climate, ESG and responsible investment policies are in place and climate risk management is embedded into the investment process.

Risk Management

In assessing ESG integration of external managers, AIUKFSL seek both qualitative and quantitative evidence of application through the lens of the established 7P research process. The aim is to judge the efficacy of the approach relative to expected criteria, peers and industry trends. This is done through direct interaction with investment managers, quantitative portfolio analysis and review of periodic sustainability-related reporting. Specific to climate, AIUKFSL where applicable challenges managers on their positions and the implications of both chronic and transition risks to the portfolio. AIUKFSL actively encourage asset managers to engage with corporate management to improve climate-specific disclosure.

Committees	Roles and Responsibilities	Activity During 2022
AIUKFSL Board	The Board provides leadership for Aviva Investors UK management company responsibilities within a framework of prudent and effective controls which enables risks (including climate-related risks and opportunities) to be assessed and managed.	During the year, the AIUKFSL Board approved a new Equity Core Fund range, which aimed to deliver a higher ESG score and lower carbon intensity than the benchmark. The Board also adopted an enhanced ESG Baseline Exclusion Policy, applied to all in-scope funds.

Asset Manager entities continued

Aviva Investors UK Fund Services Limited

Metrics and targets

Metrics have been prepared for £63 billion (2021: £75 billion) of the Corporate and Sovereign Assets Under Management of AIUKFSL. AIUKFSL's entity level metrics and targets are aligned to the Group's climate reporting policies and reporting criteria set out in note 14. Furthermore, the estimates and judgements outlined in note 5 - financed emissions, note 7 - monitoring of sovereign holdings and note 9 - temperature alignment are also relevant for AIUKFSL. Note 5 also includes information in relation to data quality for the Group using the Partnership of Carbon Accounting Financials (PCAF) data scoring. The below subset of the group metrics are prepared for AIUKFSL as the key metrics for monitoring and reporting against the Group's climate ambitions.

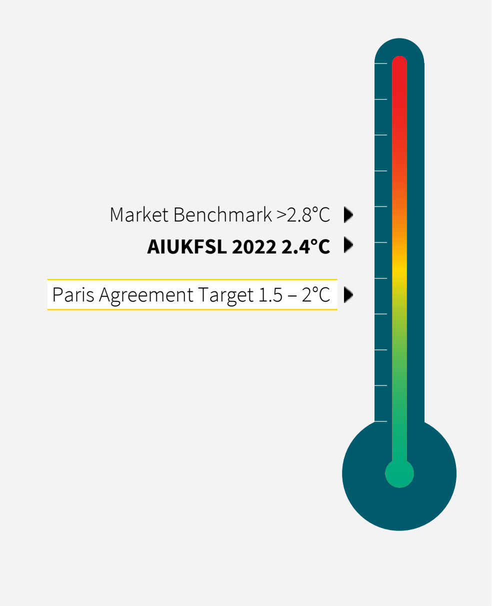
Analysis of metrics

- Absolute emissions have decreased by 20% since 2021, mainly as a result of the actions taken in line with our coal exclusions policy.
- Economic carbon intensity has increased from 52 tCO_2e/\$m invested to 56 tCO_2e/\$m invested reflecting lower market values of investments at 31 December 2022 compared to 31 December 2021.
- Weighted average carbon intensity by revenue for credit and equities has decreased from 123 tCO_2e/\$m revenue to 110 tCO_2e/\$m revenue, mainly as a result of the actions taken in line with our coal exclusions policy.
- Sovereign absolute emissions have decreased by 16%, whilst sovereign carbon intensity has increased from 155 tCO_2e/PPP adjusted GDP to 160 tCO_2e/PPP adjusted GDP. The increase in intensity reflects less investment in the UK and more in the US which has higher emission intensity, whilst absolute emissions are lower due to a reduction in investment in sovereign debt.
- Figure 1 shows the temperature alignment projected for in-scope funds is 2.4°C. The MSCI[1] market benchmark[2] based on a global diversified portfolio of equities is 2.8°C.

Climate Metric	Unit of measurement	Coverage 2022	Amount 2022	Coverage 2021	Amount 2021
Absolute emissions - Scope 3	tCO_2e[1] - shown in millions	**92%**	**3.5m**	93%	4.4m
Economic Carbon Intensity (ECI)	tCO_2e / \$million invested[2]	**92%**	**56**	93%	52
Weighted Average Carbon Intensity by Revenue (WACI-R)	tCO_2e / \$million Revenue	**97%**	**110**	97%	123
Sovereign absolute GHG emissions	tCO_2e - shown in millions	**100%**	**1.2m**	100%	1.4m
Sovereign Carbon Intensity	tCO_2e / \$million PPP adjusted GDP	**100%**	**160**	100%	155

1. Absolute financed emissions relate to Scope 3 category 15 emissions of AIUKFSL and exclude sovereign GHG emissions which are included separately in the table
2. Also referred to as carbon footprint. GHG emissions normalised by market value of the portfolio (as outlined in note 5).

Figure 1: AIUKFSL's temperature alignment[3] (in °C) as at 31/12/2022. Source: Aviva/MSCI[1,2].



1. Certain information ©2022 MSCI ESG Research LLC. Reproduced by permission.
2. MSCI All Country World Index (ACWI) Investable Market Index (IMI)
3. Data coverage % for temperature alignment in 2022 is 92%.

Compliance statement

This AIUKFSL report should be read in conjunction with the information provided on pages 118, 119 and 116 to 137.

The disclosures for Aviva Investors UK Fund Services Limited, including any third party or group disclosures cross-referenced, complies with the requirements under the FCA's Policy Statement PS21/24.

Jane Adamson,
Chief Financial Officer
Aviva Investors UK Fund Services Limited
8 March 2023

Cautionary Statements

Climate-related cautionary statement

Climate metrics

The climate metrics, projections, forecasts and other forward-looking statements used in this document should be treated with special caution, in particular as they are more uncertain than, for example, historical financial information, and given the wider uncertainty around the evolution and impact of climate change.

Climate metrics include:

- Estimates of historical emissions and historical climate change; and
- Forward-looking climate metrics, such as ambitions, targets, climate scenarios and climate projections and forecasts.

Our understanding of climate change and its impact continue to evolve. Accordingly, both historical and forward-looking climate metrics are inherently uncertain and, therefore, less decision-useful than metrics based on historical financial statements. Below we provide a non-exhaustive list of some of the challenges associated with using climate metrics in more detail.

1. Methodologies for estimating and calculating GHG emissions or emissions intensities and other climate-metrics vary widely

There is a lack of standardisation and comparability with many diverging frameworks and methodologies for calculating climate metrics.

In particular:

- Some methodologies use company-specific historical emissions data while others result in estimation of emissions based on sectoral or geographical data or averages. Of those that incorporate emissions ambitions and targets, there are different criteria for the types of ambitions and targets that can and cannot be used.
- Methodologies vary in their use of Scope 1, Scope 2, and/or Scope 3 GHG emissions. Some use only Scope 1 data, while others use Scope 1 and 2, and yet others take Scope 1, 2, and 3 GHG emissions into account.
- Certain methodologies take cumulative historical GHG emissions into account while others incorporate point-in-time assessments of emissions intensity.

There is a risk that climate metrics may result in over or under estimations.

2. Climate metrics are complex and require making extensive judgements and assumptions

Climate metrics and data are based on underlying assumptions made about climate change policies, technologies and other matters that are uncertain or not yet known. Any material change in these variables may cause the assumptions, and therefore, the climate metrics and data based on those assumptions, to be incorrect.

In particular:

- Temperature scenarios generally include a set of assumptions that incorporate existing or planned global or regional policies, or business-as-usual sociodemographic projection, and projections for technological progress (including negative emissions and sequestration technologies), none of which may happen as contemplated.
- Some assumptions attempt to compensate for existing data gaps, such as past emissions trends or comparable and reliable company specific ambitions and targets. These assumptions may prove to be incorrect and not accurately represent the actual data.

Design issues specific to financed emissions raise challenges, particularly around allocating emissions to the wide range of invested assets and financed activities. Financed emissions from owning one percent of a company might include one percent of that company's emissions; a portfolio can rapidly double count if aggregate financed emissions include each underlying company's own Scope 3 upstream and downstream emissions. The calculation becomes significantly more complex with other activities, such as when a financial institution serves as a counterparty or is one of multiple underwriters of a financing.

There is a risk that the judgement exercised, or the estimates or assumptions used, may subsequently turn out to be incorrect.

3. There is a lack of accurate, verifiable, reliable, consistent and comparable climate-related data

Climate-related risks and opportunities and their potential impacts and related metrics depend on access to accurate, verifiable, reliable, consistent and comparable climate-related data. The insurance industry, like other sectors, is grappling with data availability and quality.

In particular:

- Climate-related data may not be generally available from counterparties or customers or, if available, it is generally variable in terms of quality and, therefore, may not be accurate, verifiable, reliable, consistent or comparable.
- Companies may rely on aggregated information based on high-level sector data developed by third parties that may be prepared in an inconsistent way using different methodologies, interpretations or assumptions.
- Data is less readily available for some invested asset types and there may also be data gaps, particularly for private companies, that are filled using "proxy" or other data, such as sectoral average, again developed in different ways.
- There is no-single, global, cross-sector data provider that adequately and consistently covers the needed scope for data to analyse emissions and assess physical and transactional risks across operations and investment portfolios.

Cautionary Statements continued

- While regulators and standard-setters mandate additional disclosure of verified climate-related data by companies across sectors, there are potential gaps between needed and available data.
- The availability of climate, industrial classification, energy use and efficiency data, including information used as a proxy for that data (e.g. EPC rating) depends on a variety of public, private and civic sector sources. Historically, climate data was largely environmental and weather data was produced by government agencies. However, the challenge is finding the relevant sources, if they exist, and then validating, cleaning and standardising the data in an accessible form or format.

Further development of reporting standards, scientific understanding of climate change and global and regional laws could materially impact the metrics, ambitions and targets contained within this report and may mean that subsequent reports do not allow a reader to compare metrics, ambitions and targets on a like for like basis. Certain disclosures are likely to be amended, updated, recalculated and restated in future reports.

There are many uncertainties, assumptions, judgements, opinions, estimates, forecasts and non-historic data surrounding the climate metrics, data, models and scenarios used to create them; and the measurement technologies, analytical methodologies and services that support them remain in an early stage. Accordingly, the quality and interoperability of these models, technologies and methodologies is also at a relatively early stage. Significant data gaps in sectors, sub-sectors and across invested asset classes are impeding not only climate risk management, but also the development of mitigation and adoption of strategies, as well as aspects of operations and credit risk and investment analysis that depend on data-informed processes.

In summary, the information in this report is subject to significant uncertainties and risks which may result in the group being unable to achieve the current plans, expectations, estimates, ambitions, targets or projections. Some of the information in this document has been or may have been obtained from public and other sources and Aviva has not independently verified it. Aviva makes no representation or warranty regarding its completeness, accuracy, fitness for a particular purpose or non-infringement of such information.

Other forward-looking statements

This document should be read in conjunction with the other documents distributed by Aviva through The Regulatory News Service (RNS). This document contains, and we may make, other verbal or written 'forward-looking statements' with respect to certain of Aviva's plans and current goals and expectations relating to its future financial condition, performance, results, strategic initiatives and objectives. Forward-looking statements include, without limitation, projections, estimates, commitments, plans, approaches, ambitions and targets (including, without limitation, ESG commitments, ambitions, goals and targets). Statements containing the words 'believes', 'intends', 'expects', 'projects', 'plans', 'will', 'seeks', 'aims', 'may', 'could', 'outlook', 'objective', 'predict', 'likely', 'target', 'goal', 'guidance', 'trends', 'future', 'estimates', 'potential' and 'anticipates', and words of similar meaning, are forward-looking. By their nature, all forward-looking statements involve risk and uncertainty. Accordingly, there are or will be important factors that could cause actual results to differ materially from those indicated in these statements.

Factors that could cause actual results to differ materially from those described in these statements include (but are not limited to):

- regulatory measures addressing climate change and broader sustainability-related issues; and
- the development of standards and interpretations, including evolving requirements and practices in ESG reporting; and the ability of the Group, together with governments and other stakeholders to measure, manage, and mitigate the impacts of climate change and broader sustainability-related issues effectively.

A detailed description of other relevant factors is contained within Aviva's most recent annual report available on its website at **http://aviva.com/reports**.

Due to such uncertainties and risks, readers are cautioned not to place undue reliance on such forward-looking statements. Forward-looking statements in this report are current only as of the date on which such statements are made and we do not undertake to update our forward-looking statements except as required by applicable law and do not provide any representation, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statements will actually occur.

The information in this document is unaudited, except for those metrics indicted with an AR or AL symbol, indicating reasonable assurance or limited assurance, respectively. This report has been prepared for, and only for, the members of the Company, as a body, and no other persons. The Company, its directors, employees, agents or advisers do not accept or assume responsibility to any other person to whom this document is shown or into whose hands it may come, and any such responsibility or liability is expressly disclaimed. Aviva plc is a company registered in England No. 2468686.

Registered office:
St Helen's
1 Undershaft
London
EC3P 3DQ

If you have any questions, please contact
crteam@aviva.com

Aviva plc
St Helen's, 1 Undershaft
London EC3P 3DQ
+44 (0)20 7283 2000
www.aviva.com
Registered in England
Number 2468686

Search for Aviva plc on: