Pension Protection Fund

2022/23

Climate Change Report

Best UK Pension Fund (joint winner) – IPE Awards, December 2022

About the PPF

Protecting people's futures

Our purpose is to protect the future of millions of people throughout the UK who belong to defined benefit (DB) pension schemes. Should a scheme fail, we're ready to help.

We do this by charging pension schemes a levy, investing levies and other capital sustainably, then paying the members of schemes we protect as required.

Our work has a real impact on people's lives. So whatever we do, we strive to do it well, with integrity and our members' futures in mind.

The PPF in numbers

as at 31 March 2023

9.6 million
DB scheme members protected

5,000+
DB pension scheme protected

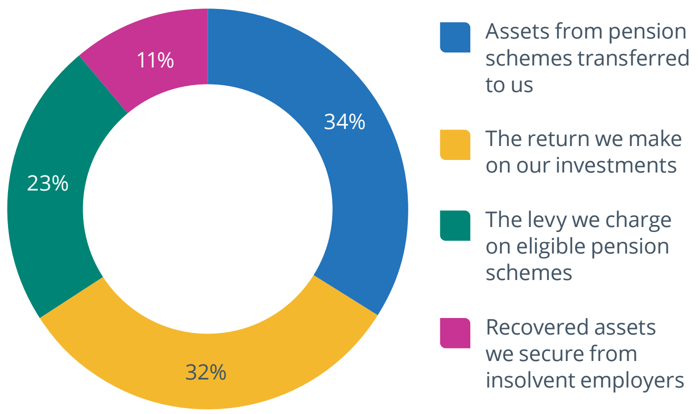
295,528
PPF members in payment or deferred

£32.5 billion
of assets under management

How we are funded

When an employer becomes insolvent and its pension scheme cannot afford to pay the pensions promised, we compensate scheme members for the pensions they have lost. We raise the money we need to pay PPF benefits and the meet the cost of running the PPF in four ways:

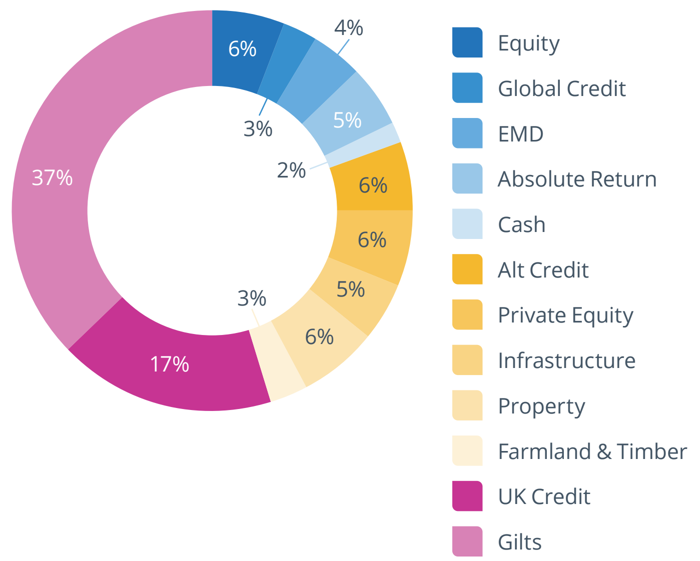
Split of funding sources



How we are invested

We hold £32.5 billion in our investment portfolio (31 March 2023). This amount is managed in a broadly 50/50 split by internal and external investment teams. We invest across both public and private markets in the UK and globally, seeking to capture both capital growth and reliable income generation to meet pension commitments.

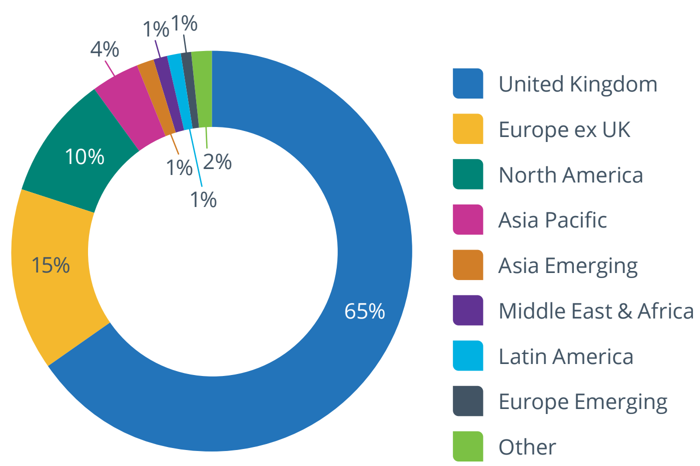
Split of asset allocation



The PPF portfolio is currently managed to achieve two long-term objectives

- Grow assets at an annualised rate of cash + 1.5 per cent over the long term
- Allocate a risk budget to assets in our investment universe as efficiently as possible, while ensuring that the interest rate and inflation risks within our liabilities are fully hedged through our Liability Driven Investment (LDI) strategy

Split of geographical breakdown



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Introduction from our Chair

Kate Jones
Chair
Pension Protection Fund

Our work at the PPF has a real impact on people's lives. We believe embedding sustainability in all of our activities and decisions will benefit our members, levy payers, employees and our local communities alike.

We were very proud to be named Best UK Pension Fund as a joint winner at the IPE Awards in December 2022. The judges highlighted the PPF's 'steady performance, with Environmental, Social and Governance at the heart of our investment strategy'. This win recognises our efforts to be a leading responsible investor and the progress we have made to improve access to ESG-related data, advance ESG practices among our external managers and support opportunities to deploy capital for positive social and environmental impact.

We have always been guided by the principle that investing responsibly is critical to ensuring sustainable returns for our stakeholders. For this reason, responsible investment has remained central to how we manage our investment portfolio. We also believe that placing sustainability at the heart of our activities is key to mitigating some of the material ESG risks we face as an organisation.

One of the four priorities of our Strategic Plan is 'Making a difference'. As a public body, we're in a unique position. We want to share what we're learning with others, and we want to catalyse the growth of a more sustainable pensions industry. Our ambition is to make a difference using our influence in the pensions industry and in our local communities.

As part of this, we have developed a holistic sustainability strategy that builds on our established responsible investment strategy, our Diversity and Inclusion strategy, and our Community Impact plan. We've drawn upon our organisational values, the Five Capitals framework for sustainability, and an assessment of our material ESG risks, to identify four key sustainability goals:

- Demonstrating excellence in responsible investment
- Ensuring effective stakeholder engagement with integrity and respect
- Championing collaboration and leading by example
- Being accountable for minimising our own environmental impacts.

We have set ourselves high standards on climate change and responsible investment. Our target is to reach Net Zero for our operations by 2035 or sooner. For our investments, we seek to contribute to the global transition to Net Zero through our portfolio and engagement activities.

The integrity of our commitments matters a great deal to us. Our sustainability goals will be reflected in every part of life at the PPF, from investment decisions and engaging with our stakeholders, through to recruitment and the selection of our suppliers. We are proud to share our update for this year.

Key achievements

Addressing the risks and opportunities arising from climate change is key to our responsible investment and organisational goals.

Utilising a sustainability lens has enhanced our decision-making by providing us with an alternative way of considering risks and benefits that we may face, whether in relation to our investment portfolio or within our own operations.

Governance and accountability	Created a new steering group to govern and oversee our new Sustainability Strategy **See page 07**	Provided ongoing training and education to upskill our Board, Executive Committee and Investment team **See page 09**	Enhanced our voting guidelines with additional expectations for companies' climate strategy and management **See page 09, Appendix F**	Maintained our signatory status under the FRC's UK Stewardship Code 2020	**Created clear commitment to and oversight of action to reduce climate-related risks on behalf of our members**
Strategy and risk management	Introduced our new Sustainability Strategy – two key goals are focused on integrating climate-related risks into the strategy (our investments and our operations) **See page 11**	Demonstrated continued progress on our Paris Portfolio Alignment assessments, increasing our Fund's exposure to Aligned assets and reducing the allocation to Not Aligned **See page 13**	Created a new Climate Watchlist to address the companies contributing to over 70 per cent of our material financed emissions **See page 16**	CIO Asset Owner Industry Innovation Awards 2022: Winner for Efforts in ESG and IPE Best UK Pension Fund; Joint Winners	**Acted to manage exposure to climate risks across our portfolios and our business to safeguard our members' future financial wellbeing**
Engagement and collaboration	Began embedding our sustainability considerations across the organisation, led by our six sustainability working groups **See page 11**	Collaborated with our external consultant to enhance our Real Estate portfolio's alignment methodology **See page 32**	Developing targeted engagement action plans for each company on the Climate Watchlist **See page 16**	Successfully engaged with a number of our holdings to encourage CDP disclosure, as part of the CDP Non-Disclosure Campaign **See page 17**	**Continued to support and encourage industry best practice to protect the long-term interests of our members**
Disclosure	Further evolved sustainability reporting on our operational impacts, including Scope 2 market-based emissions to reflect 100 per cent renewable electricity use **See page 35 and our 2022/23 Annual Report & Accounts**	Obtained valuable ESG and climate disclosures from our Private Markets managers participating in the eFront ESG Outreach pilot project **See page 18**	Expanded our financed emissions reporting to include Scope 3 emissions and EM sovereign emissions **See pages 23–24**	Paris Alignment Awards 2022: Shortlisted for Best Climate Change Member Communication and Best Climate Change Policy Statement	**Shared as deep an insight as possible into our exposure to climate change within our investments and our operations to provide transparency for our stakeholders**

Overview: Make every investment transparent **and accountable**

The past 18 months have been challenging for everyone in the industry, with the onset of the war in Ukraine, the LDI crisis in Autumn 2022 and persistent high inflation. Among all of this, ESG and climate change remains at the core of our approach and strategy.

I've always firmly believed in understanding our risks, and doing so using evidence-based data. In last year's Climate Change report, we introduced the Paris Portfolio Alignment Project that we initiated in partnership with Dutch consultancy Ortec Finance. We've been spending considerable time gathering climate assessments across every asset class in the Fund so we can see how the Fund's position aligns to Net Zero and the Paris Agreement, and we've continually evolved this to reflect new methodologies and changes in our portfolios. This has been helping us improve our understanding of ESG data and make more informed decisions about the portfolio, especially in our unlisted investments where pre-investment due diligence is even more critical. We're encouraged to see the progress already made on the Fund's alignment since 2020, as more companies have committed to setting science-based targets and have started to share their transition plans with investors.

Gathering this additional data has been crucial to us. However, the sheer speed of change surrounding ESG continues to keep us on our toes and is one of the reasons I use a lot of data internally, through our portfolio management systems, so that we can directly monitor our portfolios on a real-time basis.

That's also why we're so supportive of innovations looking to streamline ESG reporting, such as eFront's ESG Outreach project where the pilot has already delivered actual emissions data for a number of our portfolio companies. The sooner we can use our day-to-day systems to access emissions data for our private markets holdings, the more confidence we can have in making investment decisions informed by our portfolio alignment positioning.

In December 2022, I was honoured to receive the CIO Asset Owner Industry Innovation Award for Efforts in ESG. This award recognises asset owners driving change within their allocation approaches and enhancing institutional fund performance. I and the whole PPF investment team will continue to look to lead on best practice in understanding the climate risks of every investment we hold both now and in the future.

Barry Kenneth
Chief Investment Officer

Putting sustainability into action

Setting new standards in responsible investing, leading by example and sharing our learnings to help others are at the heart of the PPF's values.

We've seen significant progress in our fund managers' ESG practices, as evidenced by the growth over the last few years in the number of our external managers who have become PRI signatories (90 per cent in 2022).

Collaborating with partners and others in the industry is fundamental to our responsible investment strategy and we will continue to help define best practice.

We will continue to push ourselves to further the sustainability of our investments, as well as minimising our environmental impacts in order to achieve our target of reaching Net Zero for our operations by 2035 or sooner.

Oliver Morley
Chief Executive

Our progress **at a glance**

Achieving more high-quality disclosure from issuers

96%
of Credit portfolio and **90%** of UK Credit portfolio holdings assigned carbon data

2021/22: 89%/80%

37%
of portfolio companies in eFront's ESG Outreach pilot for Private Markets providing carbon data – with 50%+ being actual (not estimated) data

84%
of portfolio companies on our Climate Watchlist reported to CDP in 2022

Deepening climate management beyond listed equities

55%+
of Fund's total net asset value covered by carbon footprint metrics

2021/22: 55%

95%
of Fund assessed for alignment with the Paris Agreement

30%
reduction in the weighted average carbon intensity and **22%** reduction in absolute financed emissions of UK Credit portfolio over the year

2021/22: 3%/15%

Driving better alignment with the goals of the Paris Agreement

8%
reduction in the Fund's Implied Temperature Rise (ITR)

Measured from 2020 baseline

7%
increase in the amount of the Fund categorised as 'Aligned' with Net Zero

Measured from 2020 baseline

51%
of companies in UK Credit portfolio and **43%** in Equity portfolio committed to or approved targets with SBTi

2021/22: 27%/32%

Being accountable for our own organisational emissions

100%
of electricity supply for our offices backed by renewable UK sources

Since October 2019

34%
reduction in our Scope 2 location-based emissions

Measured from 2019/20 baseline

59%
reduction in energy consumption from our data centres

Measured from 2021/22

Governance and accountability

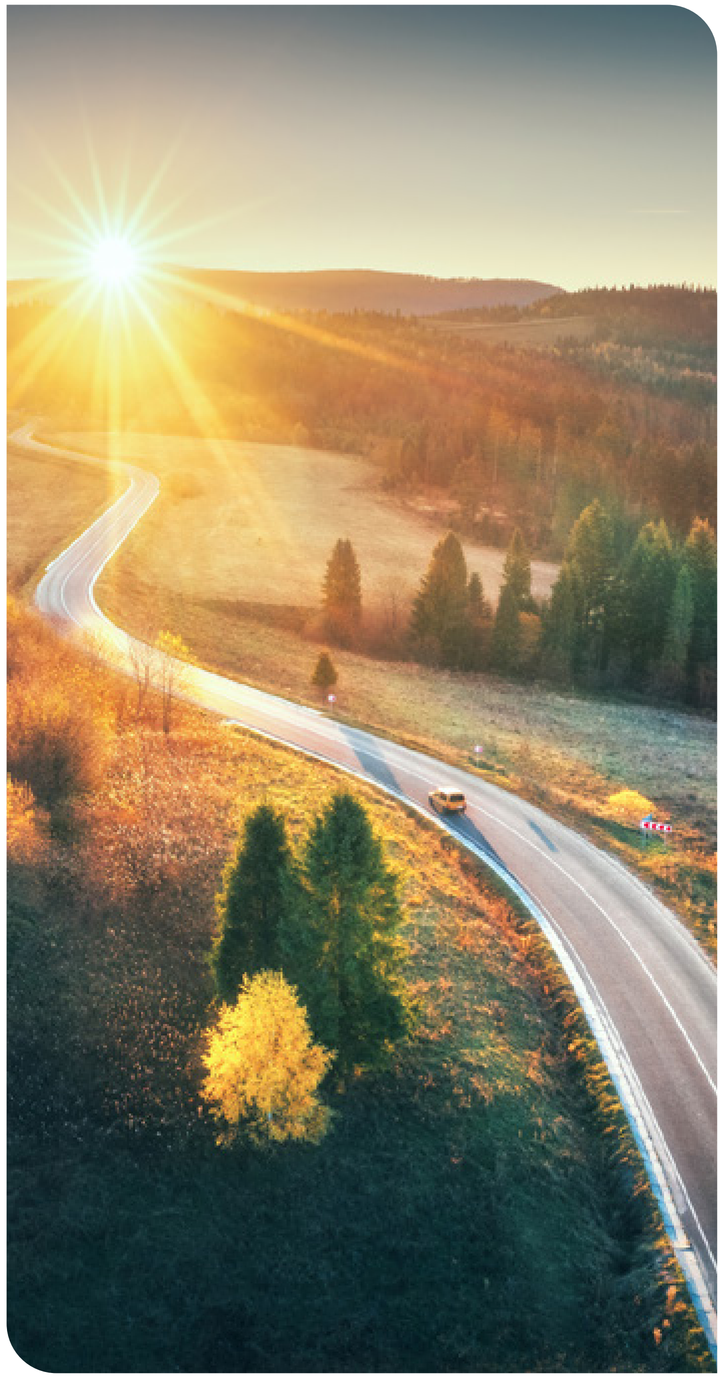
Strong governance with clear oversight, responsibility and accountability is key to delivering on our climate strategy as well as our broader investment and organisational goals.

This year we have strengthened oversight by engaging with our Board to deepen its understanding of climate and sustainability issues and their importance to the PPF. We have also helped to broaden the PPF's sustainability strategy by encouraging other departments to adopt climate considerations.

Our governance-related activities during the year

	Function	Roles & responsibilities	Climate-related activity in 2022/23
1	PPF Board	Highest governing body with oversight for responsible investing (RI) and stewardship activities (including climate-related)	Continued our focus on sustainability and climate knowledge through Board training sessions
			Discussed sustainability and climate activities and progress taking place at two meetings, plus a deep dive on the results of our Paris Portfolio Alignment Project
			Board provided steer on the development of the PPF Sustainability Strategy ahead of final approval in June 2023
			Creation of a Sustainability Strategy Group (SSG) with a number of non-executive and executive director members (see new Function line below)
2	Investment Committee	Responsible for developing and maintaining the PPF's RI and stewardship principles and policies (including climate-related ones)	Reviewed the Climate Change Policy and Stewardship Policy and approved the 2023 voting guidelines enhancements
			RI and climate-related activities and progress continued to be a specific agenda item at every IC meeting
3	NEW OVERSIGHT Sustainability Strategy Group	To provide strategic input and steer and define what success looks like as we develop the PPF Sustainability Strategy	Formed during the year and chaired by the Head of ESG & Sustainability. Members include three NEDs, representatives from the Executive Committee and senior managers
			Agreed terms of reference, relevant milestones to measure and report on progress, and provide high-level Board oversight
			Six internal working groups established to develop and lead implementation of the PPF Sustainability Strategy
			Risk & Strategy Working Group formed under the SSG with the oversight to manage climate-related risks at an enterprise level including overall risk management within the PPF
4	Investment Team	Led by the CIO, responsible for ensuring adherence to the RI framework, stewardship principles and associated policies across all asset classes whether internally or externally managed	Climate-related risks in the portfolio reported to our CIO and Head of Investment Strategy through monthly dashboards
			ESG and climate assessments continued to be incorporated into all investment due diligence and manager monitoring processes
			Teach-ins held with in-house portfolio managers and the ESG team to continue enhancing our understanding and integration of climate-related factors
			Ongoing validation of the Paris Portfolio Alignment Project results by in-house portfolio managers and ESG team (some asset classes reassessed to reflect portfolio changes)
			PPF shortlisted for the Paris Aligned – Best Climate Change Member Communication and Paris Aligned – Best Climate Change Policy Statement Awards by Pensions for Purpose 2022

GOVERNANCE AND ACCOUNTABILITY CONTINUED



Our governance-related activities during the year continued

	Function	Roles & responsibilities	Climate-related activity in 2022/23
5	EXPANDED REMIT ESG & Sustainability Team	Part of the Investment Team, helping to oversee implementation of the RI framework, monitor investments for ESG risks and opportunities, engage with portfolio managers, external managers and our stewardship services provider	Provided updates at the daily Investment Team meetings on ESG issues and trends throughout the year Remit expanded to include delivery of the PPF's organisational Sustainability Strategy, and renamed the ESG & Sustainability Team Stewardship Manager recruited to focus on the Stewardship strategy and activities, including Net Zero stewardship, and to build on existing oversight mechanisms A Sustainability Analyst also hired this year to help develop and implement the new Sustainability Strategy Updated our voting guidelines for the 2023 voting season, in particular setting higher expectations from companies on climate-related issues (see Appendix F) Finalised our Climate Watchlist of around 80 companies in our public markets portfolios that will receive more targeted engagement around climate transition
6	Asset Managers and Stewardship Services Provider* * EOS at Federated Hermes (EOS).	Follows the PPF's RI framework and stewardship policy, undertakes ESG integration and issuer engagement then reports transparently and accordingly	**Asset Managers:** Oversight of our external managers continued through their ESG and climate reporting to us (requested quarterly from our liquid markets managers and annually from private markets managers) Encouraged a number of private markets managers to disclose core ESG and climate data through the new eFront ESG Outreach pilot project Where pooled funds are not included in the EOS service, we continued to hold quarterly manager meetings, requesting bespoke ESG reporting in advance **Stewardship Services Provider:** Last year's action to consolidate several external managers onto the EOS voting and engagement platform has enabled increased oversight and continuity in our stewardship activities this year Engaged with EOS on policy updates and service provision, participated in group feedback sessions and meetings to ensure robust oversight The PPF retained the ability to review individual meetings and submit vote instructions on all voting platforms, amending individual votes where we see fit

GOVERNANCE AND ACCOUNTABILITY CONTINUED

Climate and sustainability training

A key governance aim this year was to build internal knowledge and understanding at the PPF of sustainability, and especially climate, issues through training and education.

Two external speakers were invited to speak to the PPF Board about their experience and insights, followed by a panel discussion and Q&A. One speaker gave an overview from a non-financial services perspective and the other focused on how a listed asset manager is approaching sustainability and its commitment to supporting Net Zero.

A Board strategy away-day included deep-dive interactive workshops covering ESG materiality assessments, Net Zero target setting, and communicating sustainability issues to all stakeholders.

Upskilling of the Investment team on climate has continued throughout the year. The ESG team presented the results of the Paris Portfolio Alignment Project, including baseline and subsequent progress. Executive Committee and Board members were also invited to attend.

Enhancing voting guidelines and oversight

In order to measurably track and encourage progress on climate action, we use the Transition Pathway Initiative's Management Quality assessment of companies (TPIMQ). We are also informed by the Climate Action 100+ Net Zero Company Benchmark and guided in our voting by industry initiatives around Net Zero alignment for both asset owners and our asset managers.

For 2023 voting decisions, we increased the TPIMQ score thresholds for climate-related voting guidelines, particularly for:

- European and Australian companies in specific sectors (coal, oil, gas, utilities and autos)
- Climate Action 100+ Net Zero Benchmark constituents where companies have no medium-term targets in place
- Companies expanding coal-fired infrastructure or that have significant dependence on coal without a sufficiently ambitious timeline and strategy for coal phase-out
- For deforestation, companies that score low on the Forest 500 rankings.

See Appendix F for our full voting guidelines policy update.

In-house additional review process

For UK and other European companies, we now review any shareholder proposals related to climate change internally. Shareholder meetings at companies on our Climate Watchlist are also reviewed internally by the ESG & Sustainability Team. Both steps will allow additional analysis around the progress being made against our internally-set targets. A vote against management may be necessary if we consider there has been inadequate progress on climate strategy and management.

Sustainability Strategy accountability

This year saw the publication of the PPF Sustainability Strategy, another critical development to help ensure the Fund's longevity, enable us to lead by example and catalyse the growth of a more sustainable pensions industry.

The Sustainability Strategy is a result of collaborative efforts, starting at PPF Board level and cascading down to internal Sustainability Working Groups. We have established a clear line of leadership and accountability for developing, delivering and evaluating the strategy.

This gives the PPF Board ultimate oversight with the authority to approve and amend the strategy as deemed necessary. As detailed in the panel on page 07, a Sustainability Strategy Group (SSG) has been created to steer development of the strategy and define what success looks like.

Board ESG credentials

The composition of the PPF Board has always been crucial in stewarding value creation while also managing ESG risks. We have a Board member with particular ESG expertise, who is also one of the members of our Sustainability Strategy Group. The PPF Board is proactive and regularly updated by the ESG & Sustainability Team on the latest developments and thinking in ESG, sustainability and climate risk management.

Next steps

Further training will include improving carbon literacy for PPF employees more widely, and a deep dive on offsetting carbon emissions.

We will define more interim targets for the Sustainability Strategy and move into an implementation phase.

Our approach to Responsible Investment (RI) and stewardship

Our RI framework puts our core beliefs into practice:

RI Framework

Governance & accountability	Strategic direction & policy	Risk management	Metrics & transparency

Priorities

Climate Change	Stewardship	Reporting
Climate & sustainability policies & strategies	Engaging with fund managers	Internal ESG dashboards
Climate stewardship	Engaging with issuers	Investment Committee & Board reporting
Climate risk assessments & sustainability reporting	Voting of shares	External RI reporting
Climate opportunities	Collaborative engagement & public policy	External climate reporting

Strategy and risk management

The year saw us continue to advance how we identify, quantify and manage climate-related risks and opportunities that could affect our investments, business plans or strategy.

We also took greater account of our own operations through the development of our Sustainability Strategy which seeks to reduce the environmental impact of our day-to-day activities.

At the end of the year, our Investment portfolio was restructured and our strategic asset allocation changed (see 'Restructuring our investment approach' below). As a result, our exposure to corporate bonds and some private markets has increased, which we are now reflecting in our climate strategy and focus areas. Compared to listed equities, these assets can present added challenges, including a lower level of issuer disclosure and a greater consideration of default risk. There are also implications for our stewardship activities and approach, such as access to company management.

Considering the impact of climate on our strategy and resilience

We are aware that our greatest exposure to climate risks comes through our investments which is why that has been the focus of our TCFD reporting to date. However, we have now moved to thinking about our own operations and supply chain in order to hold ourselves and our suppliers/ business partners to the same standards as our investments.

To assess climate-related impacts on our investment strategy and our planning, we use a wide range of metrics and techniques. We look to use the most advanced and relevant tools available to provide the most accurate and helpful analysis.

Over the year, we have been reviewing our baseline assessments of alignment with a 1.5°C or Net Zero scenario, embedding our analysis into our investment considerations from the bottom up, particularly when considering a medium-to-long term investment horizon.

Climate and our investments

Climate-related risks (and opportunities) can have different likelihoods or magnitude of impact on our investment portfolio, depending on the asset class. The principal risks and opportunities we assess are:

Short term: up to 5 years | **Medium term: 5 to 10 years** | **Long term: 10 years+**

Short to medium term

Transition risks – Actions to accelerate transition to a net zero economy – such as carbon taxes or increased carbon pricing – may affect company earnings in the short to medium term.

Medium to long term

Technology risks – A company's ability or inability to adopt technology-based climate solutions can be either a positive or a negative for earnings in the medium to long-term.

Physical risks – Climate change and resultant hazards such as flooding, wildfires and other extreme weather events present the risk of physical damage to assets such as infrastructure, property and agricultural land in certain locations. We expect physical risks to become more apparent in the longer term, but the world is already starting to see their impact.

Any timeframe

Opportunities – Action to mitigate or adapt to climate change presents opportunities in certain asset classes – e.g., sustainable forestry assets to sequester carbon, man-made carbon capture technology, or Net Zero buildings that can command higher rent premiums.

Restructuring our investment approach

Following a funding strategy review and a shift in market dynamics, the PPF now separates the funding requirements for current members from those of future claims. To align with these separate funding requirements (and meet their required returns) we have established a new investment framework that splits our investment portfolio into two:

- **Matching portfolio:** Aims to provide a fully funded annuity portfolio for current members. This contains Government Bonds, Derivatives, Cash and UK Credit. It also uses a limited amount of leverage to manage interest-rate and inflation risks, which is expected to diminish over time.
- **Growth portfolio:** Aims to protect and build up our claims reserves, and also fund the purchase of physical assets. It holds Listed Equity, Emerging Markets Debt, Investment Grade Credit, Absolute Return, Private Equity, Real Estate, Alternative Credit, Infrastructure and Timberland/Farmland/Agriculture.

Most of the strategic risk budget has been allocated to the Growth portfolio with a much smaller risk allocation to the Matching portfolio.

Changes to strategic asset allocation (SAA)

Our strategic asset allocation was also revised this year to reflect additional risk considerations and minimise the risk of reserves eroding over the medium term. Main SAA changes were:

- **An increase** in Short Dated Credit, UK Credit, Private Equity and Infrastructure.
- **A decrease** in Listed Equity, Emerging Market Debt, Absolute Return and Government Bonds.

STRATEGY AND RISK MANAGEMENT CONTINUED

Putting sustainability at the heart of our strategy and culture

In July 2023, we published our Sustainability Strategy to reflect our commitment to making a difference by operating in a sustainable way and ensure the PPF's longevity. Our ultimate ambition is to catalyse the growth of a more sustainable pensions industry.

The strategy recognises various short, medium, long-term climate and sustainability-related risks and opportunities that need to be accounted for in both our investments and our operations/procurement. Drawing up this strategy should enable us to mitigate those risks, create long-term value for our business, stay ahead of evolving regulatory sustainability requirements, and help us transition to Net Zero by 2035 or sooner. We want to operate in a manner that is consistent with the Paris Agreement[1] by minimising our own environmental impacts. In this way, we aim to protect our assets, our members' futures, the pensions industry and the world around us.

Embedding climate risk management into our Sustainability Strategy

Utilising a sustainability lens enhances our decision-making by providing us with an alternative way to consider the climate risks (and opportunities) that we may face, which can be incorporated into our enterprise-wide Risk Management Framework. Our Sustainability Goals relating to our RI approach and our operations reflect the purposes of TCFD and align with its recommendations. We look to report regularly on our progress towards demonstrating excellence in responsible investment and accountability in minimising our own environmental impacts (see more in the Metrics and Targets section).

Oversight of the strategy

As detailed in the previous Governance and Accountability section, we have established a clear line of leadership and accountability for delivering the Sustainability Strategy – starting at Board level and cascading down to our Sustainability Strategy Group and Sustainability Working Groups, and finally the creation of our Sustainability Community to nurture engagement among all PPF employees (see panel overleaf).

Sustainability Strategy Group

A dedicated Sustainability Strategy Group was established in 2022 to drive the development and implementation of our Sustainability Strategy.

Our six internal working groups have identified priority areas (e.g., organisational emissions, climate risk management, diversity & inclusion, employee engagement & community impact, responsible investment and sustainable procurement) that are material to the PPF's business. These groups will ensure we embed sustainability in every decision-making process.

Considering the external risks

The external risks posed to the PPF, our members, levy payers and employees by the climate emergency could be significant. Our approach to such risks is to recognise that our ability to manage or reduce them may be limited but we can monitor them and assess their potential impact on us. We are committed to playing our part in the areas we can directly control and seeking to use our influence to encourage others in the pensions industry to do the same.

Four Sustainability Goals

We leveraged well-known sustainability frameworks (SASB Materiality Map[2] for Asset Management/Insurance and the Forum for the Future's Five-Capitals Model framework[3]) and overlaid our own ICARE values to determine four key sustainability goals that the strategy will enable us to deliver.

Our four Sustainability Goals

Demonstrating excellence in responsible investment
- Looking after our assets

Financial Capital

Ensuring effective stakeholder engagement with integrity and respect
- Community impact
- Employee and stakeholder engagement

Human & Social Capital

Championing collaboration and leading by example
- Diversity & inclusion
- Business ethics

Social Capital

Being accountable for minimising our own environmental impacts
- Operations
- Supply chain

Natural & Manufactured Capital

We also considered the UN Sustainable Development Goals (SDGs) and were able to map seven SDGs under the four key goals:

1 The Paris Agreement aims to keep the increase in the average global temperature to well below 2°C above pre-industrial levels and pursue efforts to restrict the temperature increase to 1.5°C above pre-industrial levels.

2 Asset Management & Custody Activities and Insurance. Accessed 15/08/2023 via https://sasb.org/standards/download/.

3 The Five Capitals Model helps organisations create a vision of what sustainability looks like for their own operations, products, and services by providing a framework for understanding sustainability in terms of the economic idea of wealth creation or 'capital'. The five capitals are Natural, Human, Social, Manufactured and Financial Capital.

STRATEGY AND RISK MANAGEMENT CONTINUED

Our Sustainability Community

To support our Sustainability Goal 'Ensuring effective stakeholder engagement with integrity and respect', we established a Sustainability Community networking hub on the PPF's intranet this year. Open to all PPF employees, the Hub aims to inspire and educate on the values and importance of sustainability both in the PPF and the broader community. PPF employees are encouraged to share their ideas and suggestions to minimise their environmental impacts.

Employees are able to post their thoughts on various significant days – such as World Environment Day and Earth Day – and receive/share tips on making a positive environmental impact (e.g., using reusable coffee cups, sharing experience of installing solar panels or buying an electric vehicle.)

Next steps

We will develop a Climate Change Adaptation Plan, which will assess the potential impact of physical risks of climate change on our operations and our resilience to these risks (long term as well as acute).

We have started to carry out climate-change stress tests in our Long-Term Risk Model, which we use to model potential future scenarios for our liabilities, including stress-testing the impact on the PPF's own balance sheet.

STRATEGY AND RISK MANAGEMENT CONTINUED

CASE STUDY

Progressing our Paris Portfolio Alignment Project

Last year we reported on our innovative project to assess the implied temperature rise (ITR) of our portfolio relative to the goals of the 2015 Paris Agreement. Subsequent analysis has helped us become better informed about our position and how different parts of our portfolio might be contributing to climate change.

Initiated in early 2021, the Paris Portfolio Alignment Project aims to help us:

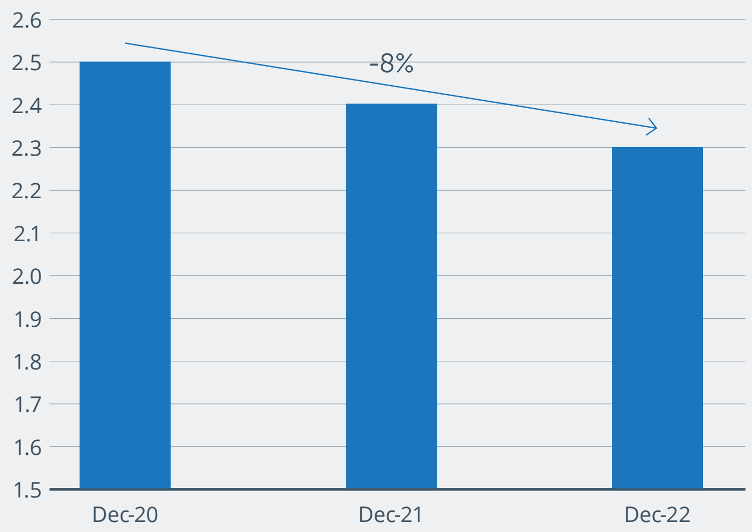
- Understand where – if business were to continue as usual – our investment portfolio stands from a bottom-up perspective in terms of alignment with the Paris Agreement
- Develop methodologies for filling gaps in asset classes – especially among private companies – and try-and-test the emerging methodologies
- Assess ITR contributions by all asset classes in order to identify specific companies/assets that are misaligned
- Develop engagement strategies for the largest contributors to climate change to improve their alignment, or consider escalation options, while still focusing on meeting our investment objectives.

Progress on the PPF ITR score

We reported the high-level ITR findings of the 2020 baseline assessment in our 2021/22 report, which showed the Fund was on a 2.5°C global warming trajectory.

Our December 2022 update indicates the Fund's ITR score has reduced to 2.3°C (see chart), driven largely by improvements in our Equities, Corporate Credit and Real Estate books.

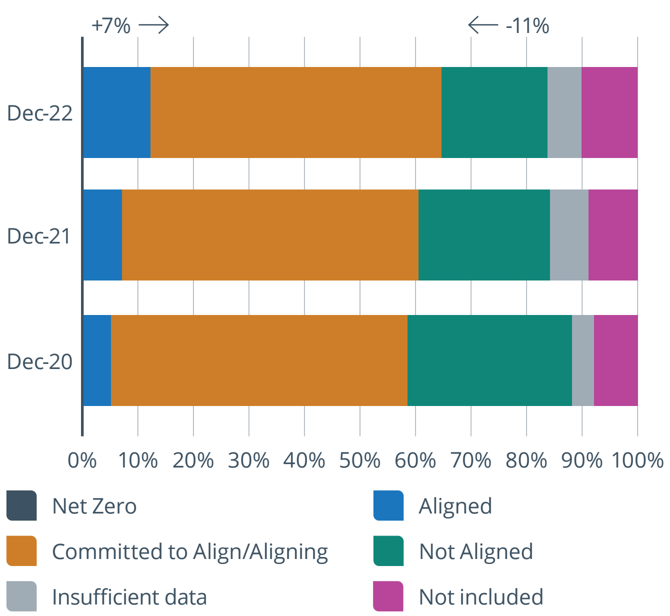
ITR for PPF portfolio 2020–2022



Categorising assets by alignment

The ITR score is useful in allowing us to aggregate the different asset classes to give an overall Fund assessment, but it is more limited in understanding the progress of alignment. Therefore, we have spent a lot of time further classifying the portfolio (by asset class) into alignment categories, informed largely by the IIGCC's Net Zero Investment Framework.

PPF Fund Paris Alignment



How we have categorised our alignment assessments:

Net Zero: Assets already achieving net zero emissions

Aligned: Assets with ITR score of 1.5°C or lower; assets with carbon performance aligned with their sector Net Zero pathway

Committed to align/aligning: Assets with ITR score between 1.5 and 2°C; companies with approved SBTi target or target set; countries with a Net Zero commitment or NDCs 'almost sufficient'

Not aligned: Assets with ITR score over 2°C and no SBTi target

Insufficient data: Assets that we are unable to model

Not included: Assets or asset classes considered out-of-scope for the project

Note: The PPF ESG team's in-house assessments based on Ortec 2020 and 2021 results, MSCI ITR 2022 analysis, SBTi approved targets and countries' targets. Alignment categories are leveraged from the IIGCC Net Zero Investment Framework.

Work continued throughout this year to refresh our assessments in the Equity, Credit and Real Estate asset classes that saw turnover or allocation changes. We can now track how our portfolio alignment has progressed across a number of time periods, and we have already seen good progress. For example, we have seen the percentage of the Fund categorised as 'Not Aligned' decline by 11 per cent while the percentage classified as 'Aligned' increased by 7 per cent between December 2020 and 2022.

The main driver for the declining allocation to 'Not Aligned' is down to the exponential success of the Science-Based Targets initiative (SBTi), which has nudged many companies up to the 'Committed to Align' bucket. In 2020, there were 918 companies signed up to the SBTi, of which 495 had approved targets. By May 2023, this had grown to 5,309 companies. See more in Metrics and Targets.

Strengthening our decarbonisation approach

The Paris Portfolio Alignment Project has enabled us to set a more confident direction for decarbonising our portfolio than if we had only set a top-down target – for example feeding into the creation of our Climate Watchlist (see page 16). It has also allowed us to contribute directly to advancing the measurement and management of climate risk using a Paris alignment lens, and identified where we and our peers need to push for improvements in alignment data and reporting.

Next steps

Each desk within our Investment team has designated areas of focus for the next year to drive further improvement in alignment with the goals of the Paris Agreement. In summary:

- **For Liquids Markets** where data availability and coverage of ITR/SBTi is greater, action is centred around our new Climate Watchlist of companies requiring targeted engagement on climate transition
- **For Private Markets**, the alignment project has emphasised the need for portfolio company disclosure so we can start validating proxies and replace them with real data. See more about how we are progressing this on page 18.

STRATEGY AND RISK MANAGEMENT CONTINUED

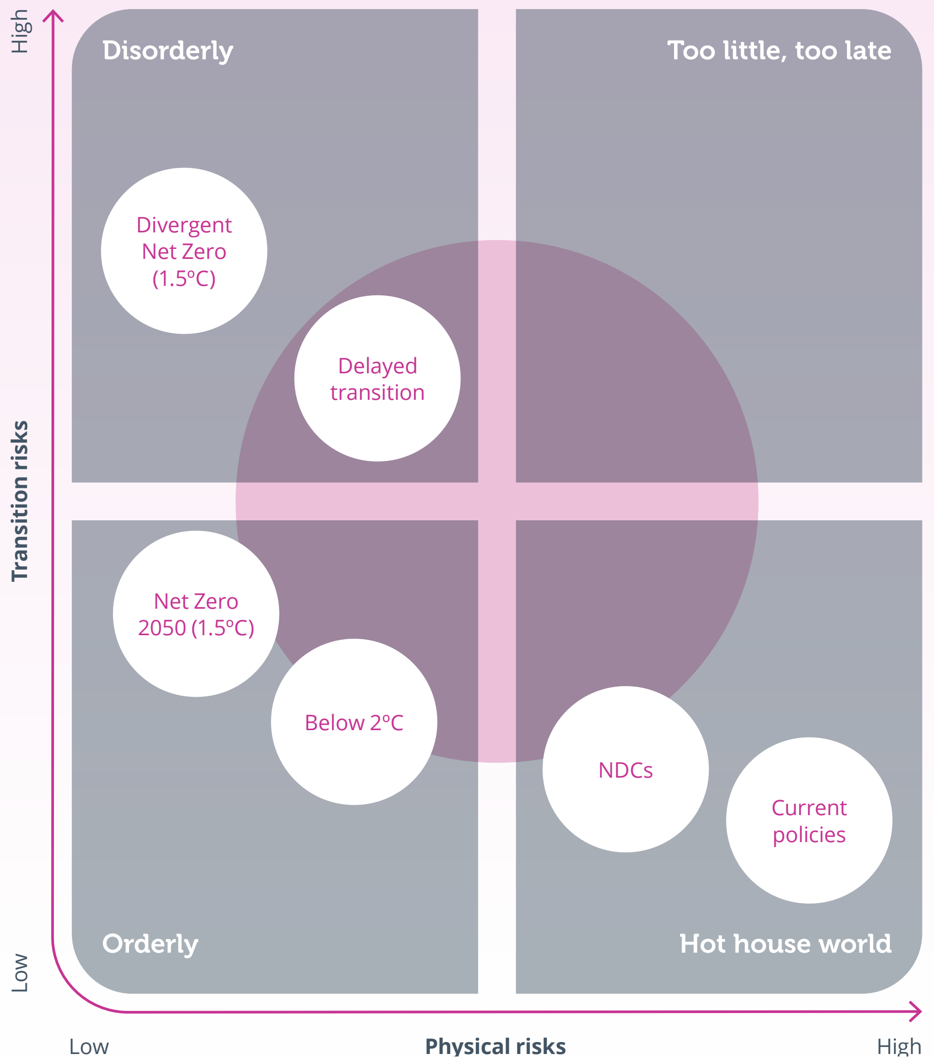
How we assess the risks and opportunities

Our climate transition scenarios

When stress-testing the Climate Value at Risk (Climate VaR) of our portfolios, we take into account a number of climate transition scenarios that align with those developed by the Network for Greening the Financial System (NGFS):

Our scenario category	Equivalent NGFS scenario
1.5 degrees orderly	Net Zero 2050 (1.5°C)
1.5 degrees disorderly	Divergent Net Zero (1.5°C)
2 degrees orderly	Below 2°C
2 degrees disorderly	Delayed transition
Hot house world	Current policies

NGFS scenarios framework



Progress on Climate scenario analysis

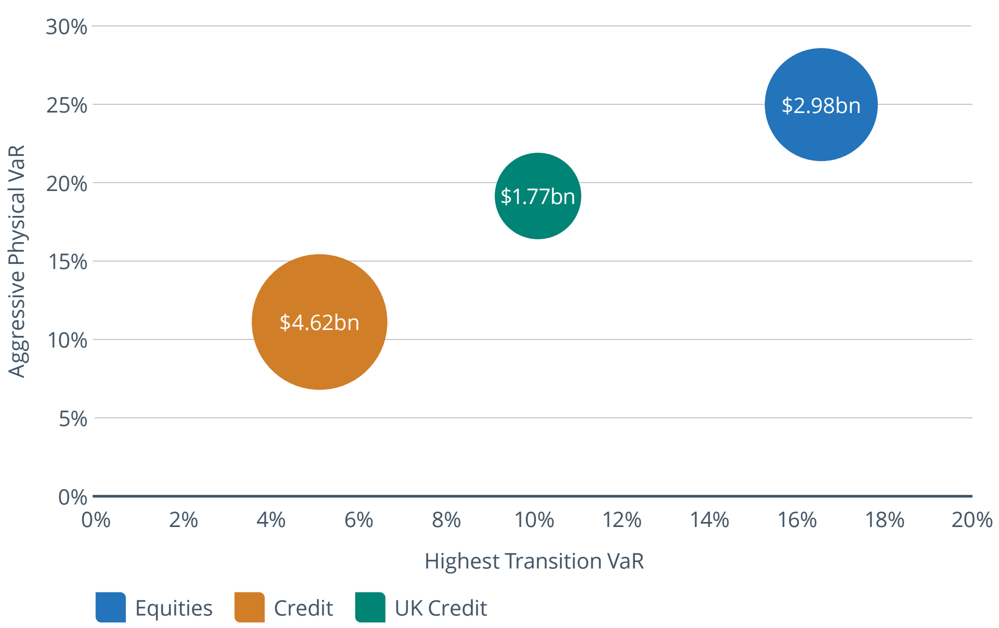
Our external data provider, MSCI, has updated its overall Climate Value At Risk (VaR) models by incorporating a number of improvements. This does mean that we cannot directly compare this year's results with last year's due to the significant number of enhancements:

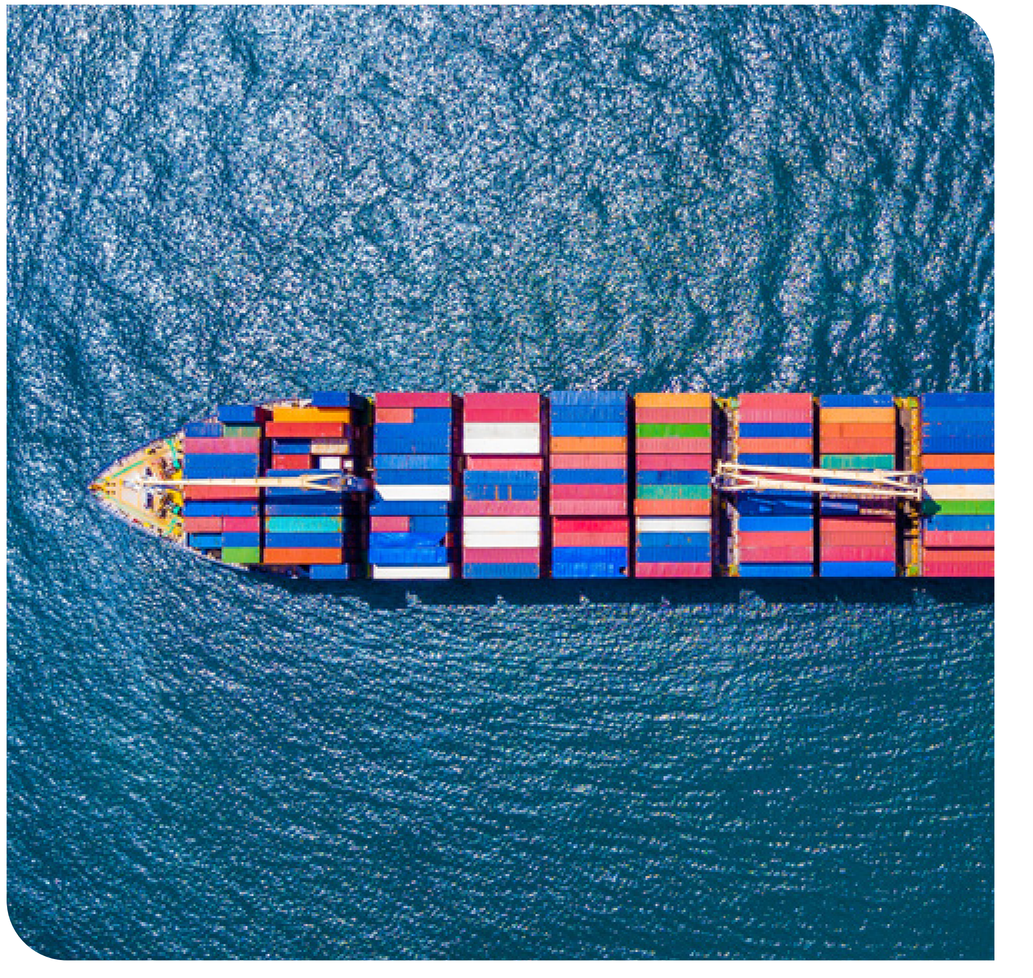
- **Improvements in physical risk analysis:** Physical risk analysis has been expanded. Specifically, MSCI now includes two new datasets, Regional Company Exposure to Physical Hazards and Regional Physical Hazard Metrics, which aligns with TCFD recommendations.
- **Reduction in the Transition Climate VaR time horizon from 2100 to 2050**: This is a welcome change given the global focus on achieving Net Zero by 2050.
- **Refinement of assumptions for the Technology Opportunity model:** Calculations of low-carbon revenues for each company have been enhanced and the projected electricity generation fuel mix now reflects each climate transition scenario. (Previously, the projected electricity generation fuel mix was based on IEA data that was aligned with a specific temperature but was not scenario specific, i.e. ignored whether the transition would be orderly or disorderly.)

The chart below shows the impact of the worst transition risk scenario and the worst physical risk impact on each of our Liquids portfolios. For all three portfolios, it is the same scenarios that are the most disruptive i.e., 1.5 degrees disorderly/Divergent Net Zero combined with aggressive physical risk impacts. The Credit and UK Credit portfolios are found to demonstrate more resilience to both physical and transition risks than the Equities portfolio, based on the VaR outputs.

See our detailed Climate VaR results in the Metrics & Targets section.

Climate VaR quick overview relative to our portfolios





Enhancements to external manager ESG reporting

There have been no significant changes to our quarterly ESG reporting template for our Liquids managers which is now very comprehensive and has led to an improvement in the quality of reporting, especially on climate risks. We continue to look to improve the depth and comparability of ESG reporting among our external managers, with progress on the reporting of alternative assets:

- **Real Estate:** Our annual reporting template seeks to encourage standardisation and requires managers to include energy ratings and performance certificates.
- **Farmland and Timberland:** We started asking for additional data in 2020 to enable more accurate and standardised alignment and carbon sequestration assessments, although this is still a work in progress while managers use different sequestration methodologies.
- **Private Markets:** The eFront ESG Outreach Project has expanded coverage this year to include all Private Markets. One caveat is that the current questionnaire does not differentiate between companies and real assets, which we raised with the Outreach team.

STRATEGY AND RISK MANAGEMENT CONTINUED

Summary of our processes and tools for assessing climate risks across asset classes

The table, right, summarises the progress made over the year to measure our climate-related risks in each asset class, through a range of tools and metrics.

This year we have indicated the percentage of the PPF portfolio that can currently be assessed per metric.

METRIC/PORTFOLIO COVERAGE	ASSET CLASSES COVERED	WHAT IS MEASURED
Carbon emissions **55%** of total PPF portfolio value covered	Equities, Credit, UK Credit, Sovereign Debt	**Absolute carbon emissions** apportioned (using EVIC) to PPF's holdings *(tonnes CO_2e)*
		Relative carbon intensity apportioned (using EVIC) to PPF's holdings, normalised by amount invested *(tonnes CO_2e/USDm)*
		Weighted average carbon intensity of PPF's holdings, normalised by revenues (corporates) or PPP-GDP (sovereign), *(tonnes CO_2e/USDm)*
	Real Assets	Work in progress
Climate Value-at-Risk (Climate VaR) **55%** of total PPF portfolio value covered	Equities, Credit, UK Credit	**Transition risks –** policy risk costs, technology opportunities *(% of Enterprise Value)*
		Physical risks *(% of Enterprise Value)*
	Sovereign Debt	**Climate VaR metrics –** work in progress
Portfolio alignment **95%** of total PPF portfolio value covered	All asset classes	• % of portfolio companies committed to the **Science Based Targets initiative (SBTi)** or other science-based targets • **Implied Temperature Rise**, expressed in °C (by 2100)
Sustainability exposure* **63%** of total PPF portfolio value covered * See our classification of 'sustainable' investments on page 33.	Equities	Green revenues/exposure to companies classified as low-carbon solutions
	Credit (sovereign & corporate)	Green Bonds, Social Bonds, Sustainability Bonds and Sustainability Linked Bonds
	Real Estate	High Quality Standard Certification/High Energy Rating
	Private Assets (work in progress)	Renewable Energy, Forestry, assets classified as green opportunities by internal/external manager

STRATEGY AND RISK MANAGEMENT CONTINUED

How we manage the risks identified

Considering the positioning of our portfolios

The move to our climate-aware equity benchmark, as reported in our Climate Change Report 2022, has been instrumental in enabling us to improve our Equity portfolio's emission profile.

Our Equity passive mandates closely track this benchmark. Additionally, we use the information reported to us by our managers in our quarterly ESG templates to review any material risks highlighted by them and compare these against our own internal monitoring. This has allowed us to have much more constructive discussions in our manager review meetings, so we can understand their investment theses and potentially challenge them on their assumptions where necessary.

The stewardship sections of our manager reporting template also provide us with more detail on how our managers are engaging with issuers or policymakers, and highlight progress made, or specific escalations taken.

Stewardship and engagement

We engage extensively with all our external managers to encourage ongoing improvement in their approaches to managing climate risks and ensure they continue to meet our standards in this area. Our stewardship services provider EOS prioritises climate risk and opportunity management in its engagement with issuers, which feeds into voting recommendations at company AGMs.

During the year, we continued to reflect the Institutional Investors Group on Climate Change (IIGCC)'s Net Zero Stewardship Toolkit in our own stewardship processes around climate risks. The toolkit aims to raise the bar for investor climate stewardship by providing a systematic framework to help investors prioritise high-impact engagement while systematically ensuring they have measures in place to hold laggard companies to account.

Establishing our voting guidelines on climate change

As mentioned in the previous section, we updated our voting guidelines during the year to integrate various climate measures into our wider voting strategy. This includes specifying some of the key escalation situations where we will consider voting against management on issues including climate change.

We are reviewing all companies on our Climate Watchlist held by our external managers to ensure voting continuity where appropriate. The Climate Action 100+ initiative (see page 17) highlights resolutions of interest to members, alerting us to key proposals to take into consideration during the voting season. We leverage this list of resolutions as part of our oversight process.

CASE STUDY

Creating our Climate Watchlist

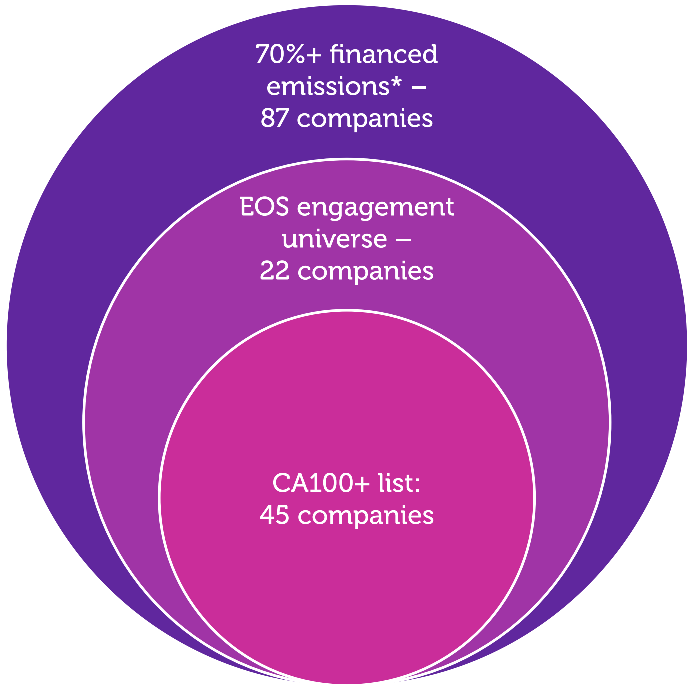
This year, in line with the IIGCC's Net Zero Stewardship Toolkit's guidelines, we identified our Climate Watchlist: 87 companies in material sectors that collectively are responsible for over 70 per cent of the financed Scope 1 and 2 emissions associated with our public markets investments.

Of these 87 companies – which are predominantly based in the US and Asia-Pacific – we are already engaging with 45 through the Climate Action 100+ (CA100+) investor initiative. A further 22 are targeted for engagement by EOS, our Stewardship Services Provider. We are now identifying the best options for engaging with the remainder, whether directly or through collaborations.

Our Net Zero engagement process

1. Undertake portfolio alignment analysis, set alignment goals and develop a stewardship prioritisation framework
2. Set Net Zero alignment criteria, alignment levels and time bound engagement objectives
3. Develop an engagement strategy for priority companies
4. Achieve asset owner and manager alignment, engagement and transparency
5. Establish a baseline engagement and voting policy, and escalation approach

Breakdown of Climate Watchlist engagement



* Using Scope 1+2 emissions.

In addition to engagement, we have recently formalised an escalation strategy for the Climate Watchlist that can be deployed when engagements are either failing or progressing too slowly. Financed emissions analysis of the PPF portfolio will be undertaken at least annually to ensure our Climate Watchlist always holds the most relevant names.

Our annual Responsible Investment report provides more detail on the stewardship activities and progress of EOS, our fund managers and any direct or collaborative engagements we have carried out. This includes activities related to climate issues.

> "The creation of our Climate Watchlist is a significant achievement, enabling us to hone in on the companies that will have a real impact on emissions reductions of the portfolio."

Daniel Jarman
Stewardship Manager

STRATEGY AND RISK MANAGEMENT CONTINUED

Industry collaboration

We continue to participate in valuable climate-focused memberships and networks, such as the IIGCC and the ongoing Climate Action 100+ initiative.

This year, the IIGCC launched a new Net Zero Engagement Initiative (NZEI) to scale and accelerate climate-related corporate engagement. The new initiative aims to help investors align more of their investment portfolio with the goals of the Paris Agreement by extended focus beyond the companies on the Climate Action 100+ list. We are leveraging the NZEI initiative to further align collective engagement with our Climate Watchlist, which has emerged from our own Paris Portfolio Alignment Project. We are leading direct engagement with one of the NZEI companies as part of the initiative.

The following three case studies highlight the progress made over the year for the key industry collaborations we're involved with.

> "75 per cent of targeted companies in the CA100+ have made Net Zero commitments (52 per cent in 2021)."

CASE STUDY

Climate Action 100+

The PPF is a signatory to Climate Action 100+, the largest-ever investor engagement initiative on climate change, involving around 700 investors who collectively hold half of the world's assets under management. Climate Action 100+ puts pressure on the world's largest greenhouse gas emitters, which together account for approximately 80 per cent of global industrial emissions. 58 per cent of our financed emissions are attributed to Climate Action 100+ companies.

A 2022 progress update found that, of 166 companies covered by the initiative:

- 92 per cent have some level of board oversight of material climate-related issues
- 75 per cent of targeted companies have made Net Zero commitments (52 per cent in 2021)
- 91 per cent now report in line with TCFD recommendations (72 per cent in 2021).

Examples of recent progress seen in companies include:

Eneos Holdings: The Japanese petroleum and metals company announced in May 2022 its plan to reduce Scope 1 and 2 emissions by 46 per cent by 2030 compared to 2013 and expand its Net Zero ambition to cover Scope 3 emissions (Net Zero by 2050).

Origin Energy: The Australian energy company made progress on climate disclosures and commitments during the year, including the closure of its coal-fired power stations seven years earlier than previously announced and the inclusion of Scope 3 emissions in its long-term plans.

Enel: The second-largest power company in the world, based in Italy, became the first company globally to fulfil all its disclosure obligations on the Climate Action 100+ Net Zero Company Benchmark.

Although the success of this initiative has been encouraging, there is a long way until companies achieve high-level performance across all indicators assessed by Climate Action 100+. Lots more work needs to be done as the initiative moves into its second phase this year.

CASE STUDY

Supporting CDP

We continue to work closely with CDP, the global environmental disclosure organisation, on two campaigns to encourage comprehensive and robust corporate disclosure on climate and environmental issues.

Non-Disclosure Campaign:
Again this year, we supported CDP's annual campaign to engage with major companies that have failed to respond to its climate change, forestry and/or water security questionnaires.

We elected to lead direct outreach efforts with eight companies in our portfolios. Three companies submitted responses as a result of this, directly benefiting the coverage of reported emissions within our portfolios. For the names that declined to respond in 2022, we have re-elected to lead direct engagement again with these companies in the 2023 campaign.

We have also used the lack of disclosure to inform our voting decisions at these specific companies, for example if a shareholder resolution has been filed to request this, or voting against the audit committee in more extreme circumstances.

The 2022 CDP Non-Disclosure Campaign was fruitful overall, with companies engaged in the campaign 2.3 times more likely to disclose than those that weren't.

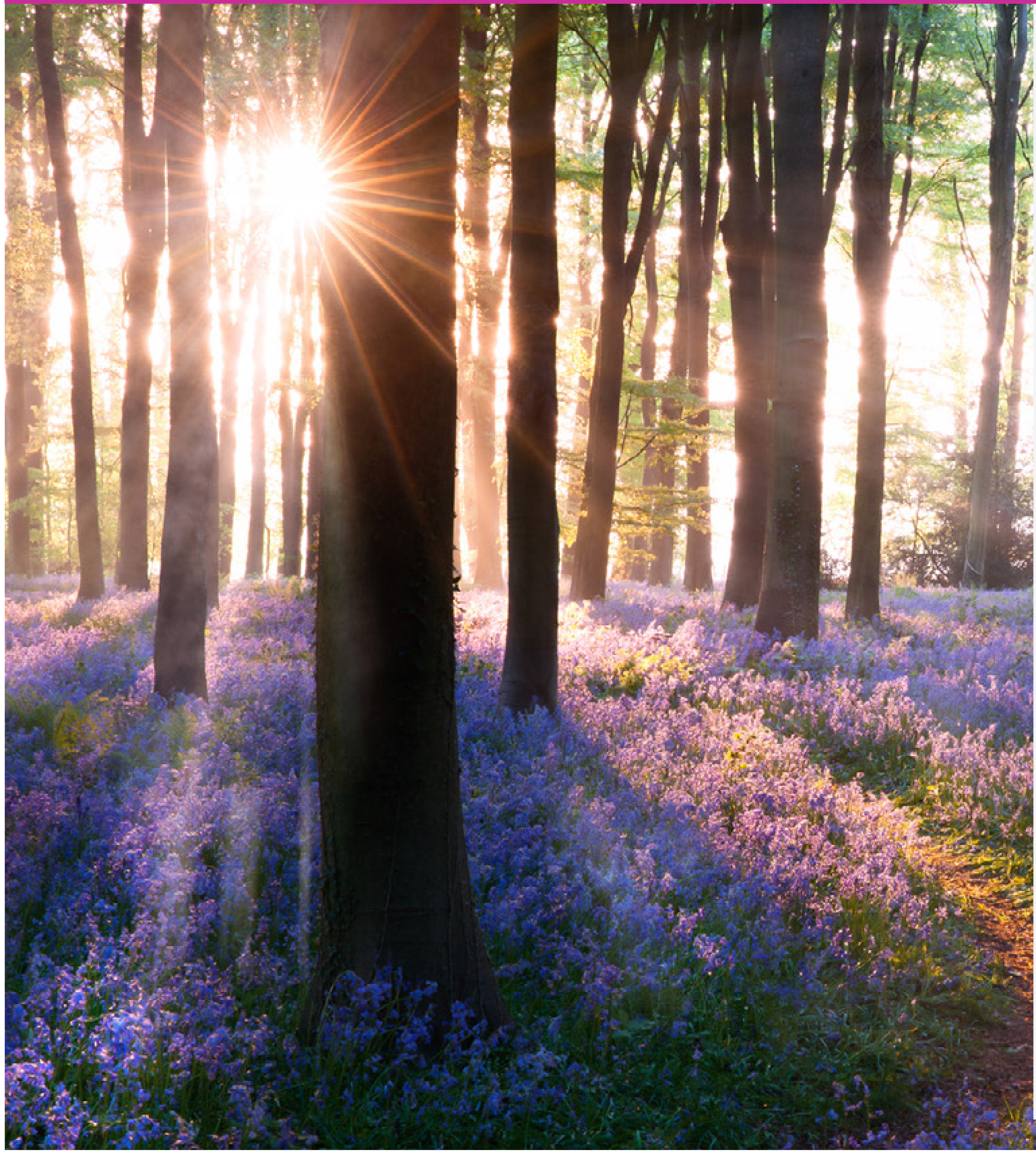
Science-Based Targets (SBT) Campaign:
The CDP Science-Based Targets (SBT) Campaign was launched in October 2022, attracting support from 318 financial institutions and multinational firms, including the PPF, representing \$37 trillion in assets and spending. The campaign called on over 1,060 of the world's highest-impact businesses to set emissions goals in line with the Paris Agreement.

Last year's 2022–2023 campaign resulted in 77 targeted companies, as of end-May 2023, joining the ranks of 5,100+ companies committed to using science-based targets to align their business with the Paris Agreement. They represent 0.2 gigatonnes in CO_2e emissions and \$2.9 billion in market cap, which is respectively 3 per cent and 12 per cent of the 2022 CDP corporate database.

Read more about the PPF's own exposure to companies using science-based targets on page 30.

STRATEGY AND RISK MANAGEMENT CONTINUED

CASE STUDY



eFront
ESG Outreach project

We have been closely involved in an ESG outreach project led by one of our data solution providers eFront (part of BlackRock) to address the lack of ESG and climate-related data and reporting from private companies.

We joined the eFront ESG Outreach pilot project as a limited partner (LP) in late-2021, working with a selection of private equity and credit general partners (GPs) managing funds with vintage years from 2015 to collect relevant ESG and climate metrics on underlying portfolio companies.

We anticipate this initiative will go a long way to improving the process for private market data collection, especially among smaller managers that haven't yet built out their own reporting functionality. The ultimate aim is to open the product up to over 2,500 private market managers, reaching over 70,000 private companies.

With our encouragement, 60 per cent of our own managers that were contacted in the pilot phase reported portfolio company data – four times higher than the overall response rate.

In terms of emissions data reported for the PPF funds in the pilot:

- 37 per cent of our portfolio companies reported GHG emissions data, of which just over half was actual rather than estimated data
- The frequency of Scope 1 and 2 emissions disclosure was much higher than Scope 3; only 25 per cent of companies reported on Scope 3 whether actual or estimated (similar to public markets)
- eFront was also able to offer LPs the option to fill some data gaps with higher-level sector estimates; as a result, emissions data (whether actual or estimated) was available for just over 90 per cent of our portfolio companies in the funds that responded to the pilot.

Next steps

The 2023 update has been significantly expanded across the eFront platform and increased eightfold for PPF's GPs. As part of the broader roll-out this year, it has been recognised that more education is needed among GPs to raise awareness of the regulation that LPs face in different jurisdictions and the timeframes for reporting.

Metrics and **targets**

For another year, we can report advancement in the breadth of climate-related disclosure across asset classes, including new metrics to report on our portfolio's alignment with Paris Agreement temperature targets.

Corporates' disclosure rates and data quality

Good quality disclosure ensures that our analysis of climate-related risks is as valuable and decision-useful as possible. We measure whether carbon emissions are reported by portfolio companies themselves, or if they need to be estimated by our ESG data provider, or are classified as not covered at all. We also look at the split between reported and estimated carbon emissions data but on a weighted by emissions basis (rather than just weighted by market value).

This year's assessment of reported emissions for our **Equity** holdings fell by around 5 per cent back to 2020 levels. This is primarily because of companies that had not reported their most recent emissions or provided insufficiently complete emissions data, so our external provider had to apply estimates.

However, the overall percentage of reported data based on the contribution from carbon emissions has remained stable since last year, with 83 per cent of the companies most responsible for the portfolio's footprint providing disclosure.

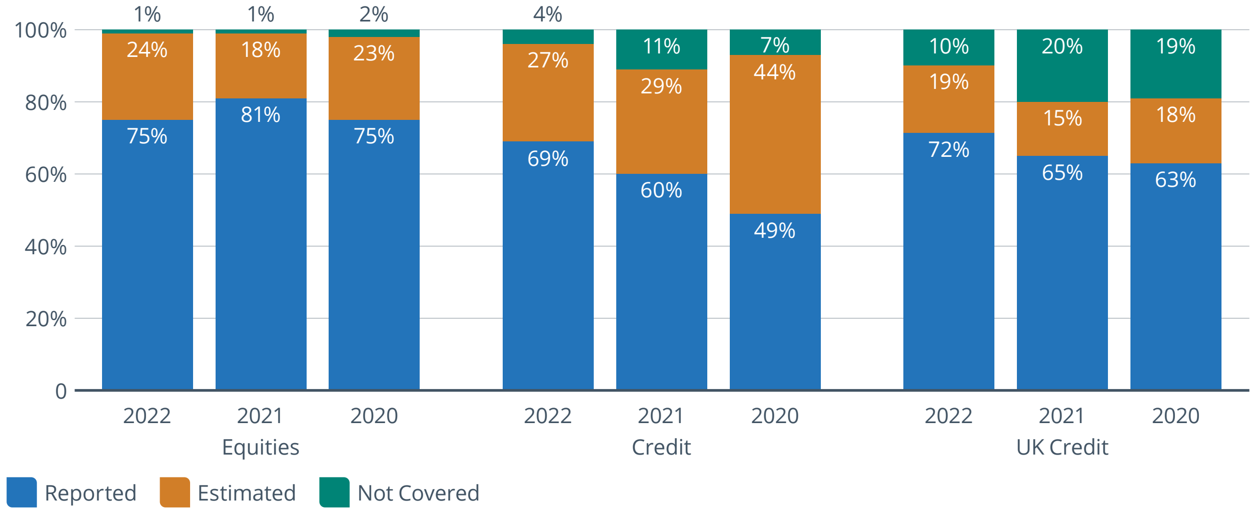
Additionally, a few of the new Equity positions added to the portfolio during the year have a 'lower' quality of emissions reporting than the positions being sold.

More positively, less than 1 per cent of our Equity holdings by market value have no coverage at all – an all-time low.

The reported carbon emissions by market value for global **Credit and UK Credit** continue to show year-on-year improvements, hitting 69 per cent and 72 per cent respectively. For the Credit book, this is due to higher-quality emissions reporting for existing positions, and new positions in the portfolios having better quality disclosure than sold positions.

We are pleased to see a year-on-year halving in the percentage of UK Credit assets by market value that are not covered, from 20 per cent to 10 per cent, helped by our data provider increasing its coverage of fixed income issuers. However, we can also see a fall in the percentage of reported data for UK Credit based on the contribution from carbon emissions, which is something we will be monitoring.

Year-on-year comparison of carbon emissions disclosure rates (by market value)



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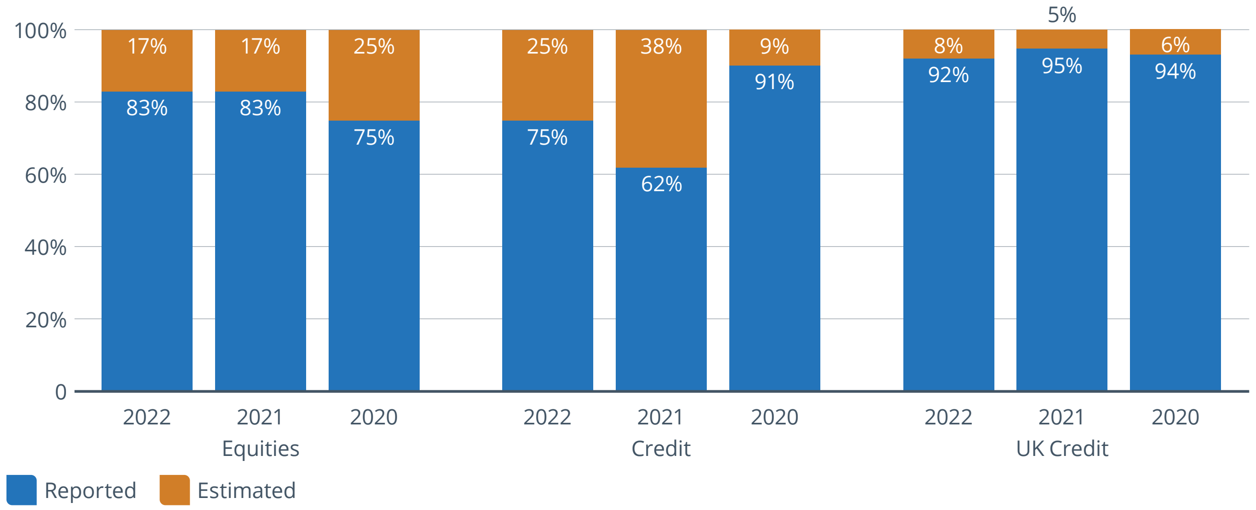
Year-on-year comparison of contributions to total carbon emissions by source of data



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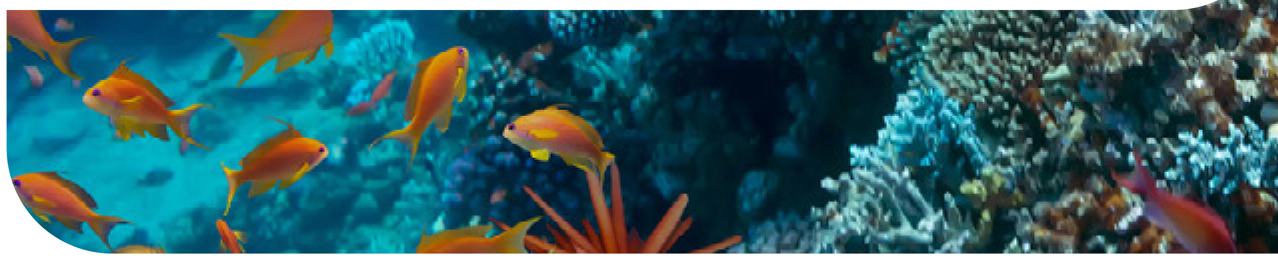
Some figures may add up to more than 100% due to rounding.

"The increased reporting on carbon emissions by fixed income issuers is a welcome result, giving us more comprehensive data points."



METRICS AND TARGETS CONTINUED

Asset class coverage

The diversity of asset classes that we are invested in can make it challenging to report our financed emissions for the whole of our portfolio. We continue to footprint Public Equity and Corporate Credit for the third year and UK Sovereign Debt for the second year. We have also added initial assessments for Emerging Market Sovereign Debt for the first time.

Our more recently added assessments for UK Sovereign Debt and EM Sovereign Debt both achieve 100 per cent coverage thanks to good country-level coverage by our data provider, although this asset class faces a more significant lagged data problem. This does mean that the carbon footprints for these portfolios are another year behind that of our corporate-based portfolios. This is another reason why we have chosen not to aggregate our corporate and sovereign emissions data.

Methods for covering the outstanding instrument types that we have to consider out-of-scope in public markets are still not widely available. In particular, we still cannot assess: Derivatives (e.g., CDS and futures), certain funds with no portfolio look-through, and true Cash positions. We also exclude short positions. However, we have been able to include lookthrough-based assessments for the Equity ETFs (within the Equity passive book) and Municipals (within the Credit book) this year.

As mentioned previously, getting coverage of companies in the Private Markets space has long been a significant challenge. However, we are now starting to see some emissions data materialising through the eFront ESG Outreach project for a selection of our private markets funds. Other initiatives such as the ESG Data Convergence Initiative (EDCI) have also seen strong fund participation over the past year, and eFront fully captures the EDCI metrics to allow GPs and portfolio companies to report to both frameworks in a standardised way.

Next steps

We are doing our best to achieve maximum emissions coverage for the public books, and it is an explicit part of our engagement strategy for our Climate Watchlist. The coverage achieved so far is reasonable but of course there is still room for improvement. We also continue to explore ways to meaningfully cover the remaining instrument types within our Liquids portfolios.

84% of companies in our new Climate Watchlist reported in the 2022 CDP annual disclosure questionnaire

METRICS AND TARGETS CONTINUED

Absolute carbon emissions

Again this year, we measured the total Scope 1 and Scope 2 carbon emissions associated with our liquid investments in global equity ('Equities'), global investment grade and emerging market credit ('Credit') and the publicly-traded sterling credit sleeve within our internally-managed UK hybrid assets ('UK Credit'). Collectively, this accounts for $9.4 billion of our overall assets under management – around a quarter of our overall AUM. This year, we have also started reporting Scope 3 emissions, although we are not aggregating them with our Scope 1+2 emissions. Page 24 has more detail on this.

See Appendix D for more detail on the formulas used for our calculations. UK and EM Sovereign Debt portfolios are excluded from the absolute carbon emissions table; we report relative intensities only for sovereigns (in the next section) as we feel comparing country-level absolute emissions alongside corporate emissions is counterintuitive.

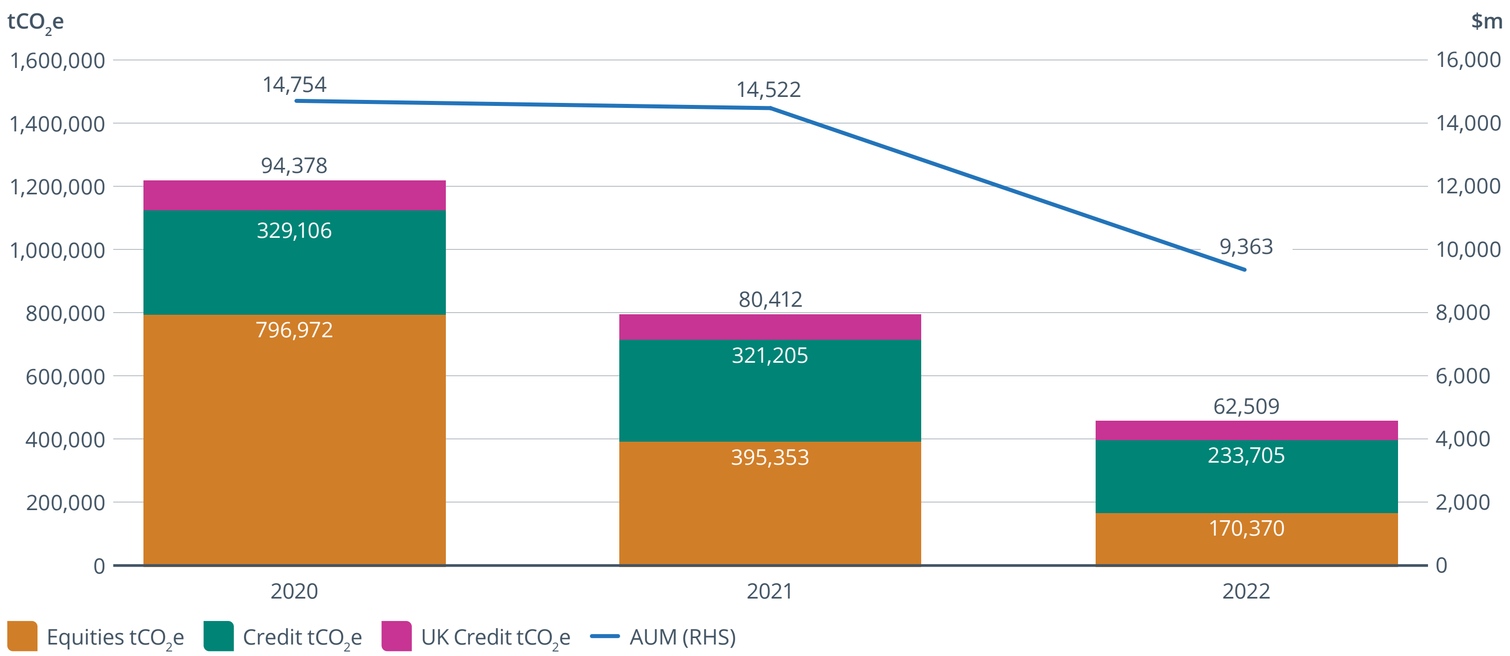
Our total absolute financed emissions in this portion of our portfolio have reduced by around 40 per cent over the year, and by 62 per cent since Dec 2020. More specifically, Equities reduced by 57 per cent, Credit by 27 per cent and UK Credit by 22 per cent since 2021.

Our total financed emissions in tonnes for 2022 for listed equity and credit holdings

	Scope 1+2 emissions (tonnes CO_2e)	Scope 3 emissions (tonnes CO_2e)		PPF AUM assessed ($m)	Scope 1+2 carbon data coverage*
		Scope 3 – upstream	Scope 3 – downstream		
Equities	170,370	455,226	1,149,779	2,977	99%
Credit	233,705	391,542	1,271,796	4,617	82%
UK Credit	62,509	122,909	191,880	1,769	77%
Total financed emissions	**466,584**	**969,677**	**2,613,455**	**9,363**	86%

* This metric shows the percentage coverage of holdings that have either reported or estimated emissions data and an available figure for Enterprise Value Including Cash (EVIC). EVIC is essential for apportioning absolute financed emissions, but is not always available for fixed income holdings. Certain information ©2023 MSCI ESG Research LLC. Reproduced by permission; no further distribution.

Year-on-year change in our Scope 1+2 total financed emissions for listed equity and credit



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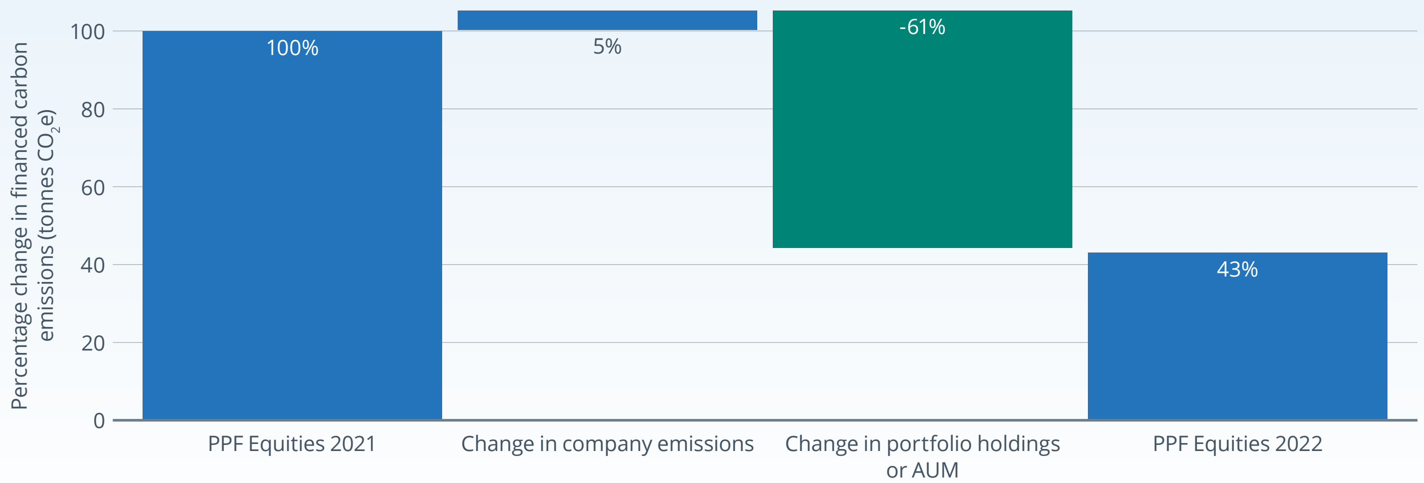
Reasons for fall in Equities' absolute emissions

It's important to note that absolute emissions for Equities have fallen largely because of reductions in the portfolio's value, due principally to asset allocation changes during the year (see page 10 for SAA changes). The next section looks at the year-on-year changes in emissions on a relative basis, which allows for more comparable year-on-year analysis.

Like last year, we have delved deeper into the drivers causing the 57 per cent reduction in total absolute financed emissions in the Equities portfolio. Changes in the portfolio holdings accounted for a 61 per cent reduction, yet we actually saw a 5 per cent increase in company emissions year-on-year. This is most likely driven by the reopening of many industries after two years of production declines due to Covid-related lockdowns. This is disappointing to see, although not surprising, and it indicates a strong need to continue engaging with companies to encourage more transition-planning and for science-based emissions targets to be set. This is why the CDP SBT campaign is so critical.

Causes of change in PPF Equities financed carbon emissions between 2021 and 2022 (tCO_2e)



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> Our total financed emissions for listed equity and credit reduced by -41 per cent from last year.

METRICS AND TARGETS CONTINUED

Relative carbon intensity

We continue to use three key metrics to assess the relative emissions-based intensity of our portfolios, giving us a fuller picture and allowing us to measure different asset classes and different sizes of portfolio on a like-for-like basis. See Appendix D for an explanation of each of these metrics.

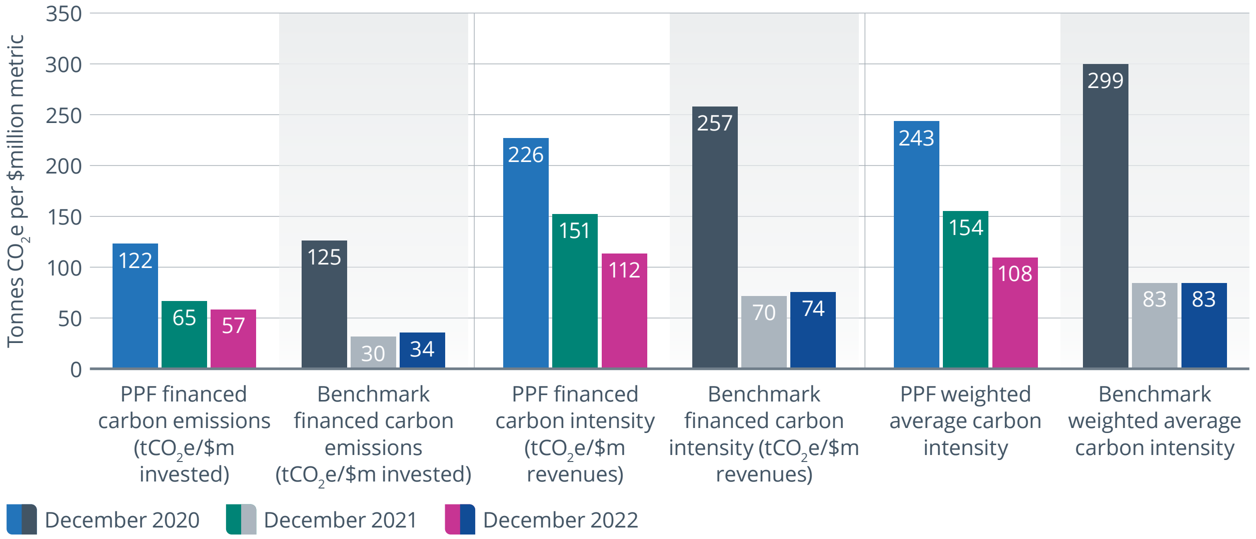
Including UK and EM Sovereign Debt emissions in our relative carbon intensities analysis means we can now analyse $21 billion or 55 per cent of the total PPF portfolio in this way.

Equities portfolio: carbon intensity metrics

The December 2022 carbon footprint analysis for listed Equities shows ongoing progress, with all three metrics seeing a year-on-year fall. The two intensity metrics dependent on company revenues show higher year-on-year reductions, which implies that the portfolio is more exposed to companies operating more efficiently this year (i.e. a lower ratio of emissions per unit of revenue generated).

However, the Equities Book still has higher relative emission intensity than its benchmark. This is mainly due to our Active Equities book, whose carbon intensity levels are roughly twice the level of the climate-aware equity index we introduced last year. As mentioned earlier, we have internally evaluated our Equities book and the companies accounting for the majority of material high impact financed emissions are now on our Climate Watchlist of companies requiring more intensive engagement.

PPF Equities carbon metrics



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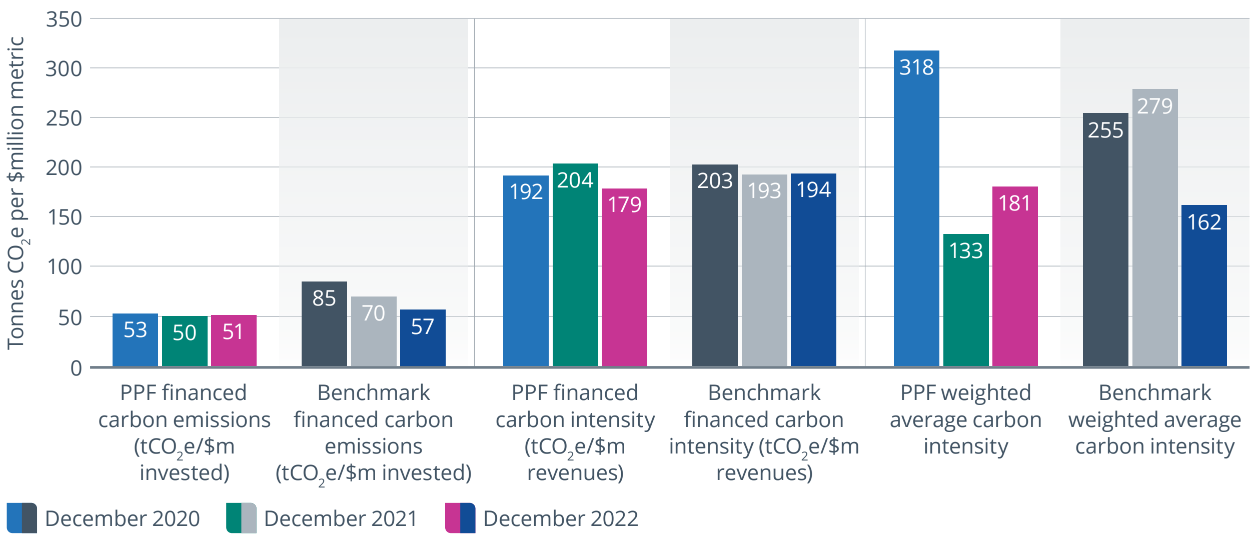
Credit portfolio: carbon intensity metrics

Financed carbon emissions per $m invested for our global Credit book remained broadly the same as last year and financed carbon intensity has reduced. However, the weighted average carbon intensity (WACI) has increased this year, although is still lower than for 2020. Deeper analysis shows the externally-managed Credit book is mostly driving this, which we are looking to address through our Climate Watchlist – fifty companies contributing around a third of our external Credit emissions are on our Climate Watchlist. EOS, our external stewardship manager, and our external managers are engaging with these names on our behalf. We also ask our external Credit managers for specific climate engagement reporting to ensure maximum oversight of what is driving our financed emissions metrics.

PPF Credit carbon metrics



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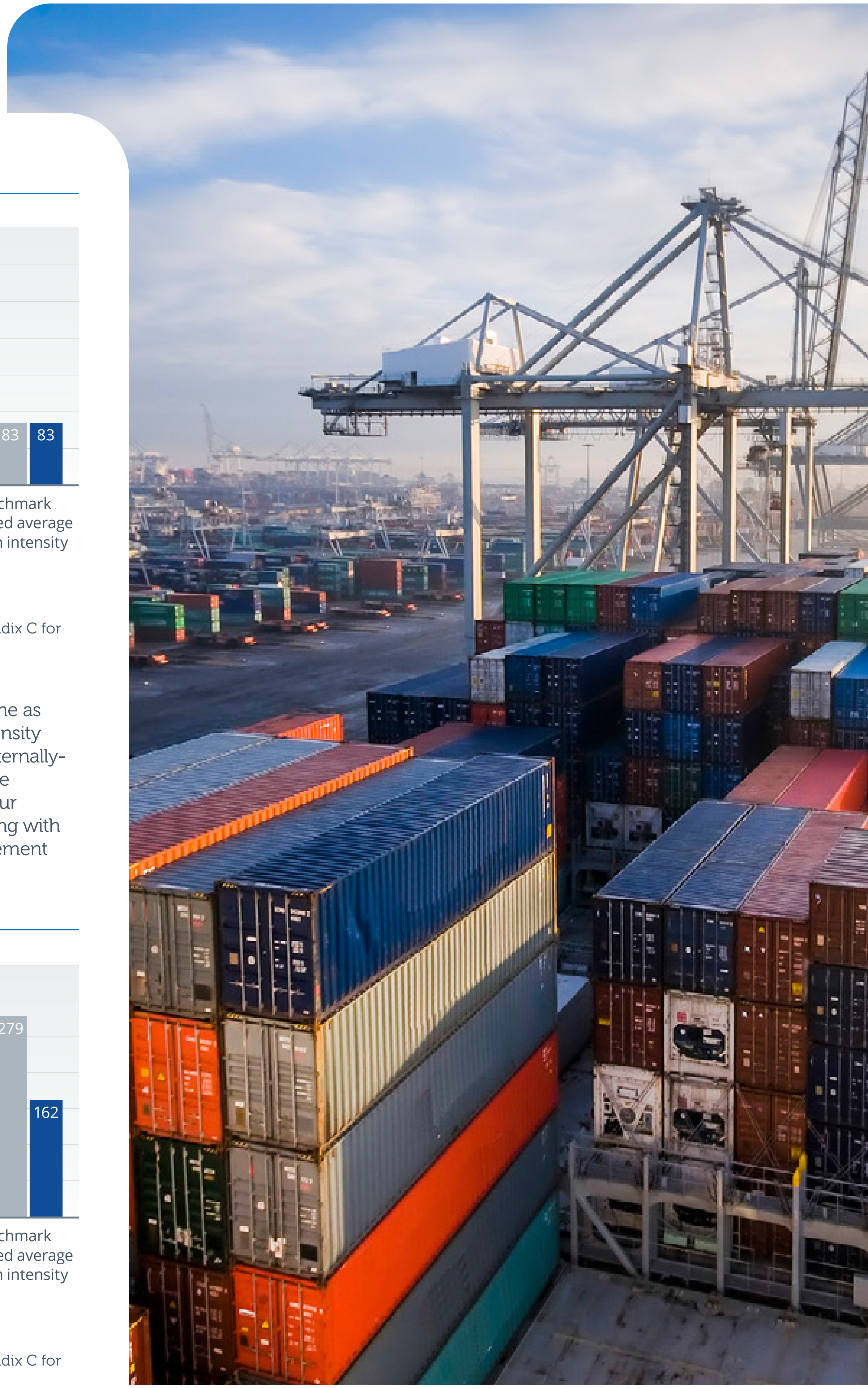
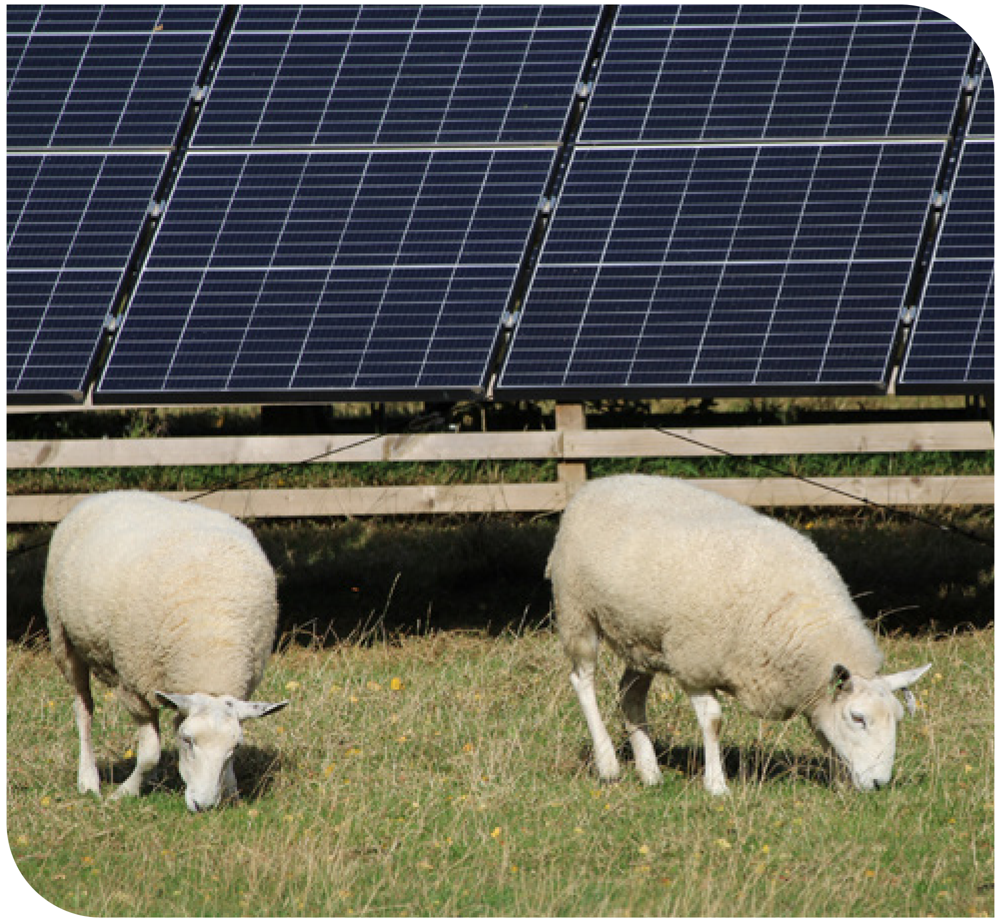


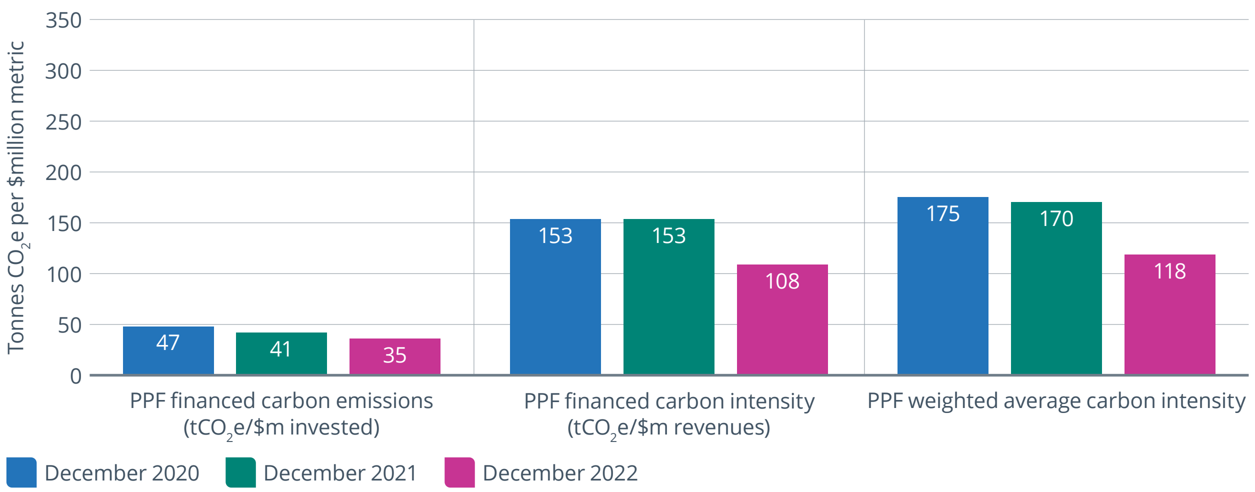
METRICS AND TARGETS CONTINUED



UK Credit portfolio: carbon intensity metrics

We are pleased to see a reduction in all the relative metrics of our internally-managed UK Credit Book this year, particularly the 30 per cent improvement in weighted average carbon intensity (WACI). Interestingly, our bought vs sold positions this year have roughly the same contribution to WACI (49 vs 48). Forty-two per cent of the UK Credit book is in new positions, and for existing positions 34 per cent saw a reduction in carbon intensity, 13 per cent saw an increase and 3 per cent were unchanged.

PPF UK Credit carbon metrics



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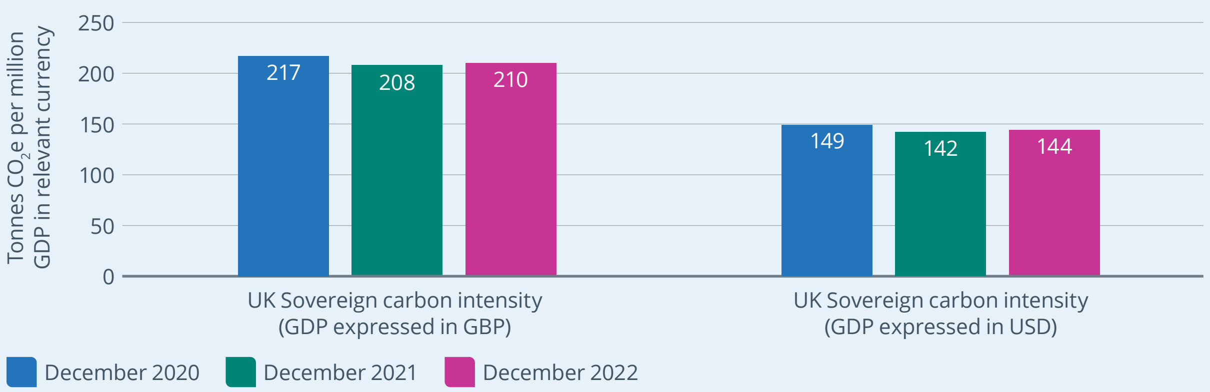
Assessing our UK Gilts exposure

The carbon intensity of our UK Gilts portfolio has marginally increased year on year. But this is due to a lower GDP (denominator) rather than higher emissions. In fact, absolute emissions have fallen year on year (from 452 to 409 million tonnes CO_2e, or 10 per cent).

We follow the PCAF ([Partnership for Carbon Accounting Financials]) methodology for sovereign debt for our UK Gilts' carbon footprints, which recommends reporting of production emissions. This year we revised our methodology to exclude land-use, land-use change and Forestry (LULUCF), as now recommended by PCAF to avoid distorting results. Hence we have also restated last year's results. However, for the UK, this revised approach results in only a minimal change to the intensity metric.

PPF UK Sovereign holdings: carbon intensity estimate



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> We are pleased to see a reduction in all the relative metrics of our UK Credit Book this year, particularly the 30 per cent improvement in financed carbon emissions per $m invested.

Emerging Markets

This year we have made a first attempt to assess the relative carbon intensity of our sovereign bonds in emerging markets, now that our data provider is able to assess 100 per cent of our holdings for carbon emissions within our EM Sovereign Bonds allocation.

As the table below shows, the greenhouse gas intensity of our EM Sovereign portfolio is lower than the benchmark. This book is mostly allocated to Emerging Markets sovereign issuers but there is currently a percentage of the book allocated to US treasuries for risk-management purposes. Our EM Benchmark is 25 per cent in JP Morgan GBI-EM, 25 per cent in JP Morgan EMBI and 50 per cent in a hypothetical cash position. To calculate the benchmark's footprint, we have excluded this hypothetical cash (as mentioned earlier, pure cash is out-of-scope) but we appreciate that this might overstate the emissions of the benchmark relative to the portfolio.

PPF EM Sovereign holdings: carbon intensity estimate

	EM Sovereign Bond Portfolio	EM Sovereign Bond Benchmark
Carbon intensity (tonnes CO_2e per $m)	512	784
Coverage	100%	100%

Note: Based on Production-based emissions (Territorial Approach) from EDGAR and GDP data from World Bank – World Development Indicators

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METRICS AND TARGETS CONTINUED

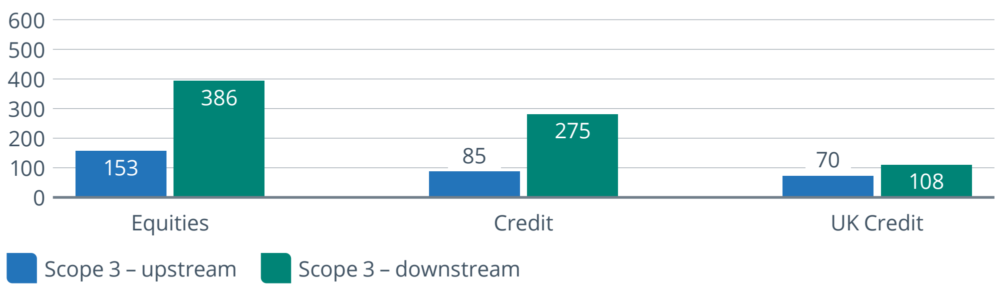
Scope 3 emissions

For the first time this year, we are reporting Scope 3 emissions, as led by the Climate Change (Governance and Reporting) statutory guidance for Occupational Pension Schemes from the Department for Work & Pensions (DWP). We have opted to focus our analysis on relative-only metrics as we feel absolute carbon emissions might be misleading for two reasons: first, Scope 3 emissions are almost entirely estimated, plus there is considerable double-counting across the scopes once Scope 3 is incorporated.

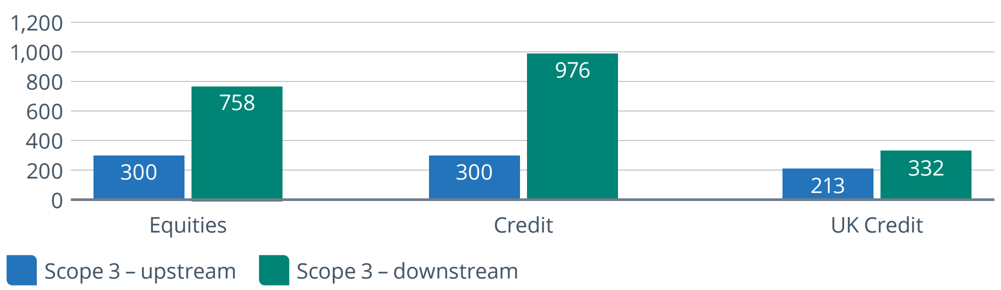
Our Scope 3 emissions are estimated, however the majority have a Quality Score of 2 from the PCAF – see chart right (a PCAF Score of 1 presents the lowest data uncertainty and a score of 5 the highest uncertainty).

Few companies are currently reporting their Scope 3 emissions and where they do, they rarely cover all Scope 3 emissions categories. MSCI provides estimated Scope 3 emissions as a default, which equates to a PCAF Score of 4. Where possible MSCI will use a more sophisticated model which will lead to a PCAF Score of 2.

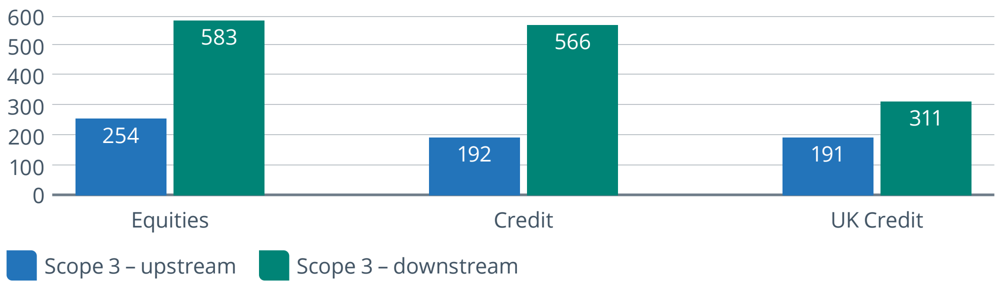
PPF Scope 3 emissions – financed carbon emissions (tCO_2e/$m invested)



PPF Scope 3 emissions – financed carbon intensity (tCO_2e/$m revenues)



PPF Scope 3 emissions – weighted average carbon intensity



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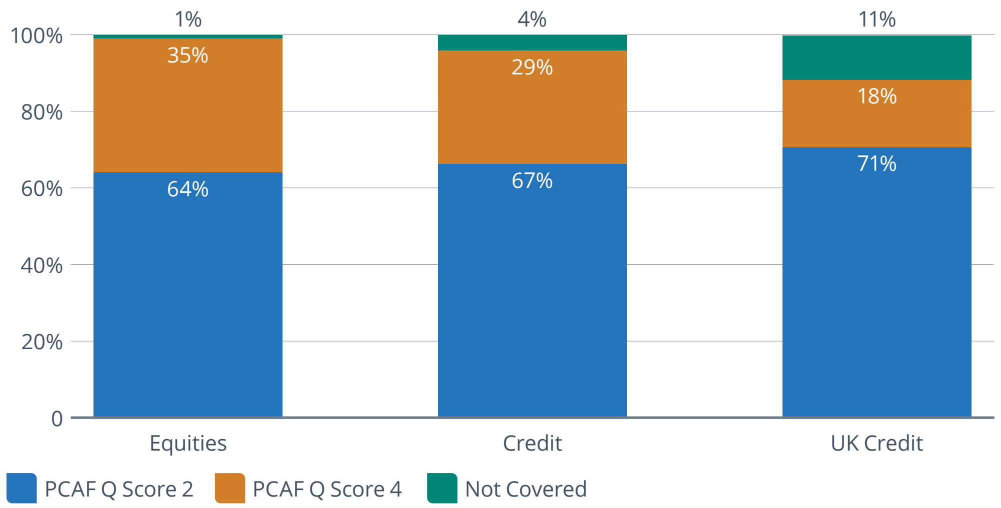
PPF Scope 3 emissions – PCAF Quality Score breakdown



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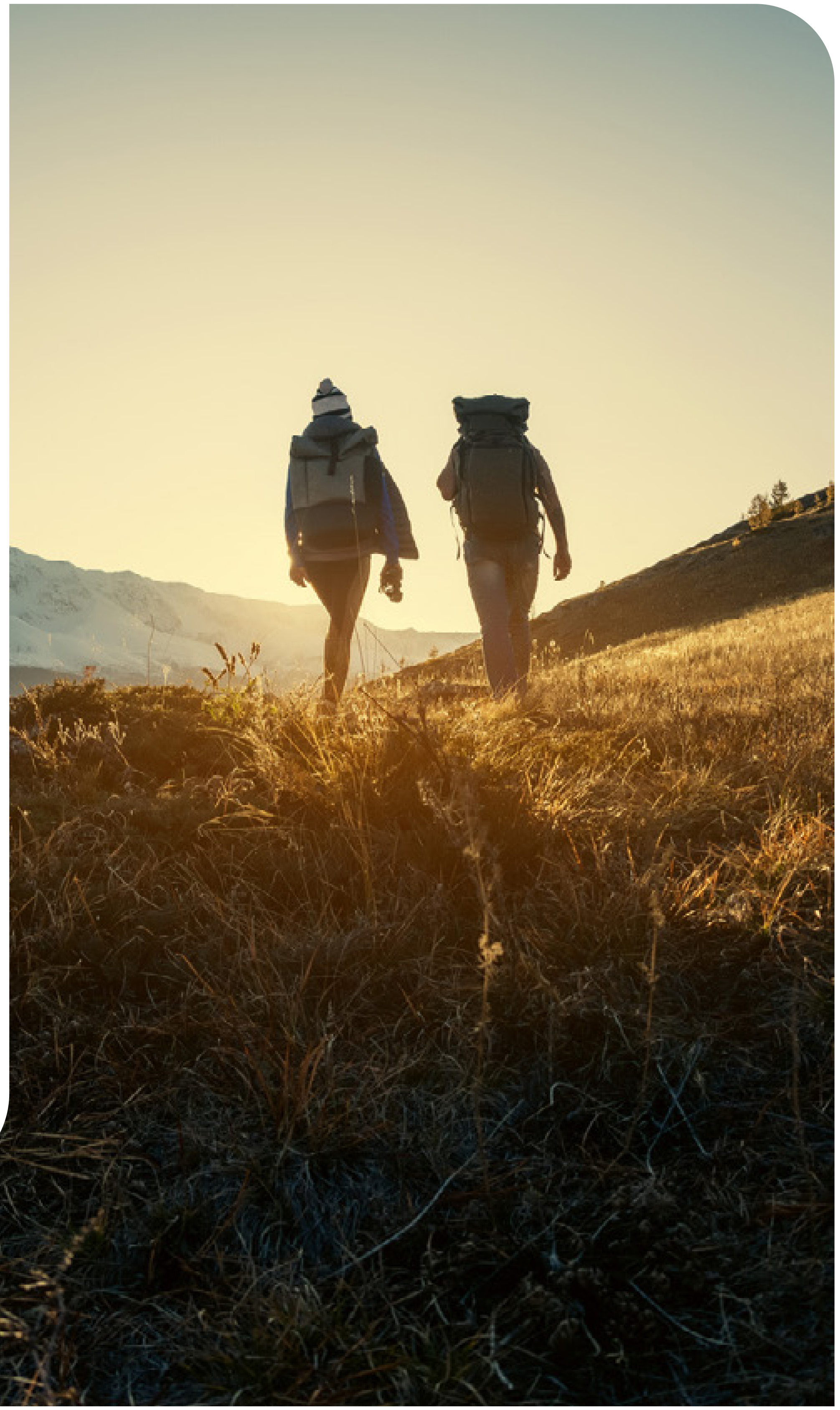
Note: Under the Scope 3 Emissions footprint quality score set by Partnership for Carbon Accounting Financials (PCAF) Score 1 = lowest data uncertainty and Score 5 = highest data uncertainty. This quality scope is valid for data in 'Carbon emissions – Scope 3 Intensity (t/USD million EVIC) for footprint calculation.' This is based on estimated Scope 3 emissions using MSCI's proprietary model. MSCI always defaults to a PCAF quality score of 4, although some sub-models use more sophisticated estimation approaches.

Scope 3 emissions by sector

Whilst results shown left aggregate Scope 3 emissions across all sectors, we recognise that a few sectors tend to be responsible for a large proportion of Scope 3 emissions, particularly in relation to downstream 'in-use' emissions. We have therefore further analysed downstream emissions at a sector level for each of the three portfolios.

Key findings are:

- **Equities:** Energy contributes by far the most to Scope 3 downstream emissions (41 per cent), followed by Industrials (25 per cent), with Materials and Consumer Discretionary contributing roughly 12 per cent each
- **Credit:** Energy contributes the most to Scope 3 downstream emissions (27 per cent) followed by Industrials (26 per cent) and Transportation (14 per cent)
- **UK Credit:** Industrials contribute the most to Scope 3 downstream emissions (42 per cent), followed by Utilities (27 per cent) and Transportation (14 per cent).



METRICS AND TARGETS CONTINUED

High-carbon impact sectors

In line with TCFD recommendations, we pay particular attention to our investment exposure to sectors that have a higher contribution to global carbon emissions. Guided by these recommendations, we focus on Utilities, Materials and Energy.

Equities: High-carbon impact sectors contributed marginally less to emissions in our Equities portfolios than last year (67 per cent vs 73 per cent).

Materials and Utilities decreased their contribution (18 per cent vs 31 per cent, 8 per cent vs 19 per cent). However, the contribution from Energy increased substantially (41 per cent vs 23 per cent). From a risk management perspective, we have identified that 72 per cent of the Energy sector emissions are associated with companies in our Climate Watchlist, where targeted actions are being incorporated into our dedicated engagement plans for these companies.

Credit: Overall in our Credit book, high-carbon impact sectors contributed more to overall emissions than last year (56 per cent vs 34 per cent in 2021).

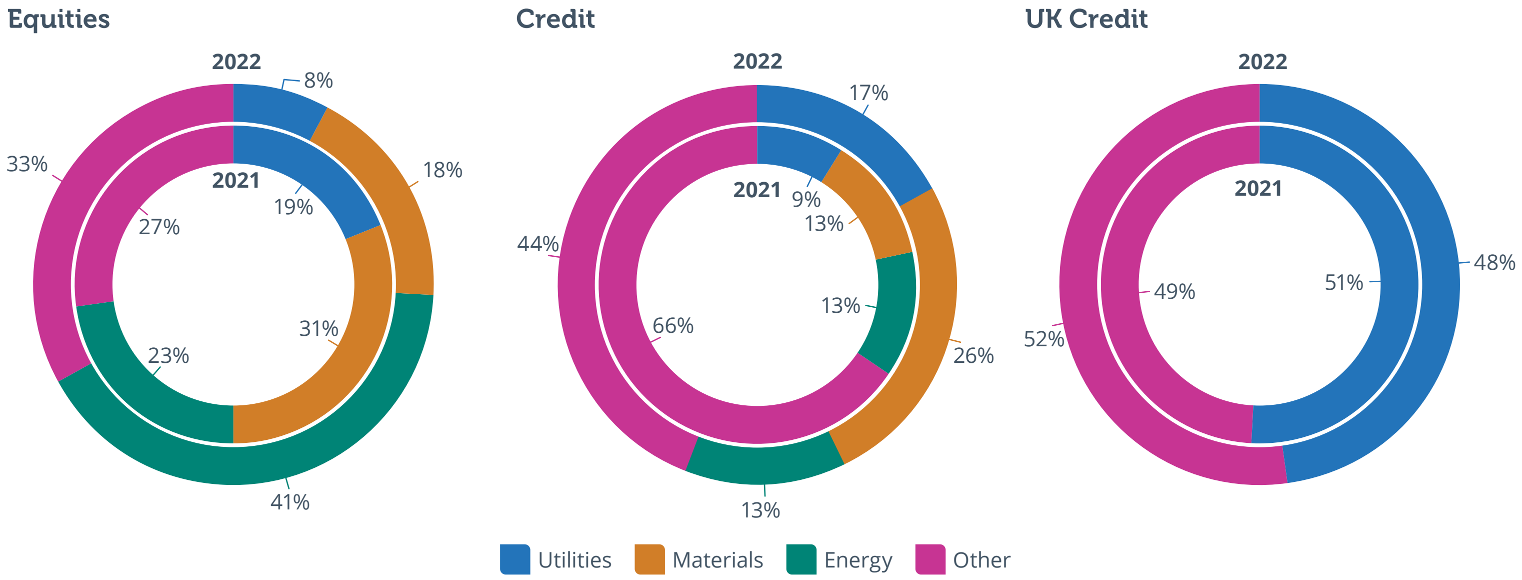
This is mainly due to an increased contribution by Utilities (17 per cent vs 9 per cent), which has seen an increase both in emissions and asset allocation. Materials also increased by contribution, with one company contributing to over a third of the sector's emissions. This company is now part of our Climate Watchlist so will receive enhanced attention from us going forward. We have also seen a change in sector classification for a couple of our credit holdings, for example where the issuance has been re-classified from Financials to Materials.

UK Credit: Within our UK Credit portfolio, the only exposure to high-carbon impact sectors comes from Utilities. Despite a slight increase in portfolio allocation to the Utilities sector from last year, we have seen a reduction in the emissions associated with this sector. This is largely due to the companies that we hold reducing their emissions from the previous year.

Next steps

We continue to engage with companies in these three sectors – both directly and through external managers or investor collaborations – to encourage a transition to lower-carbon activities, especially those companies on our Climate Watchlist.

Contribution to overall portfolio carbon emissions by high-impact sectors



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METRICS AND TARGETS CONTINUED

Forward-looking scenario analysis

To manage our exposure to climate-related risks effectively, we also deploy a number of forward-looking tools to assess how our portfolios might be affected by climate change in the future. These are covered in turn over the next four sub-sections.

1. MSCI Climate Value-at-Risk

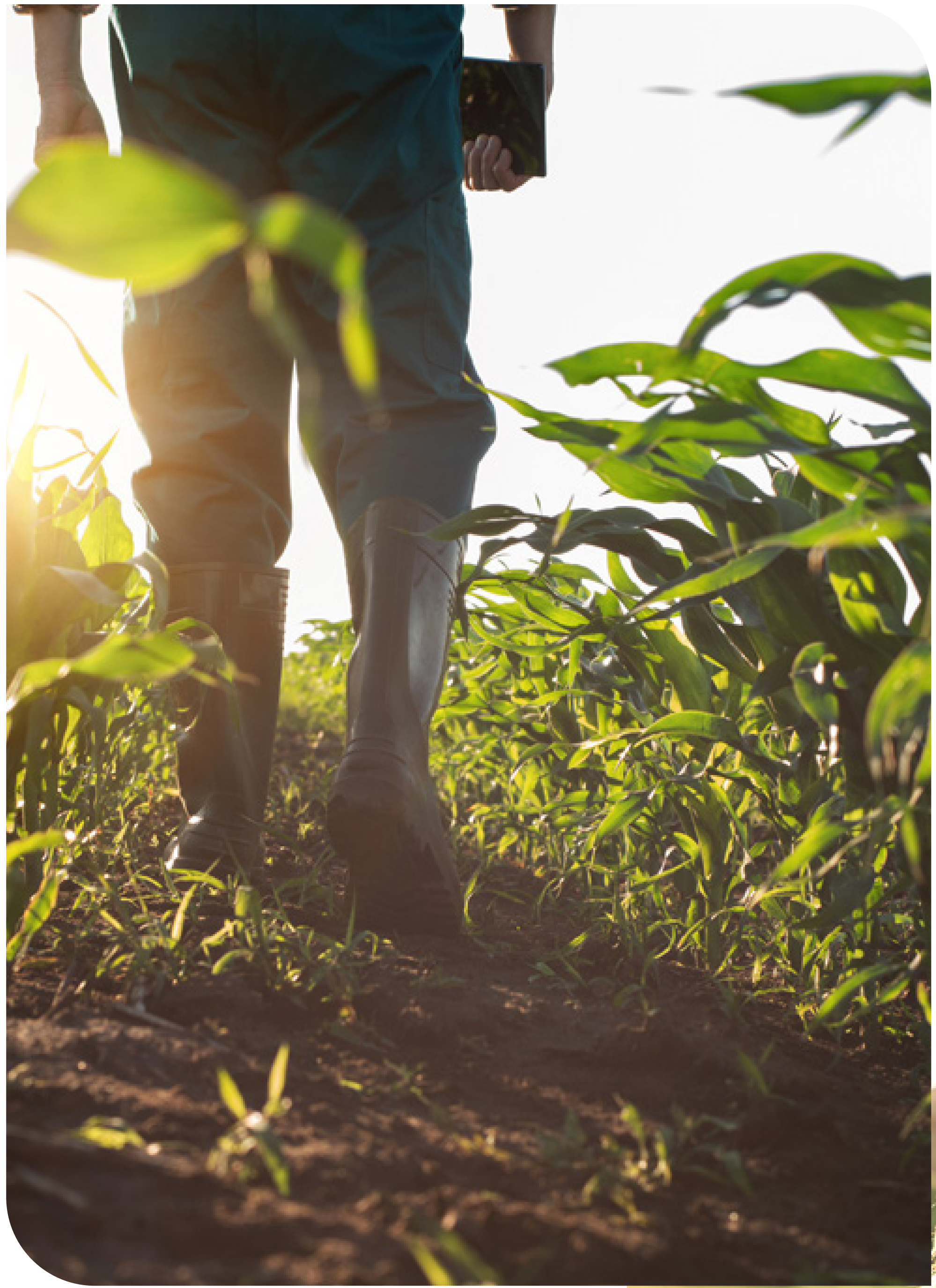
As an asset owner, it is important to stress-test our portfolio and see how its value might be impacted in a range of scenarios and circumstances. To explore the impact of climate in our portfolio we extensively analyse one aggregate metric: Climate Value-at-Risk ('Climate VaR' or 'CVaR'). Climate VaR comprises 'Transition VaR' (comprising Policy VaR and Technology Opportunities) and 'Physical VaR', which we extrapolate in our analysis.

As detailed on page 14, MSCI has updated its CVaR models by introducing several enhancements to improve accuracy and reflect more realistic and plausible scenarios. The updated models reflect more amplified results than the previous model did, especially for a 1.5°C Orderly scenario. However, this means that year-on-year analysis is no longer directly comparable.

Transition VaR

When stress-testing the Climate VaR of our portfolios, we look at five potential climate transition scenarios that align with those developed by the Network for Greening the Financial System (NGFS), as described earlier. We choose to split out orderly and disorderly scenarios into a 1.5°C and a 2°C scenario to acknowledge the significant differences in these two temperature outcomes.

- **Policy VaR**
  The highest Climate VaR under a disorderly transition is mainly explained by the abrupt need for a higher and faster reduction in emissions. Companies would be required to achieve a bigger emission reduction and pay a higher assumed carbon price, face higher electricity costs, and absorb higher costs from their value chain, totalling in a higher Policy VaR. (Conversely a failed transition results in low Climate VaR because it assumes no/minimal policy action is taken so companies would not be required to decarbonise as much. Plus they would not be forced to move into renewable energy as quickly or at all.)
- **Technology opportunities**
  As well as assessing risks, we look ahead to see how opportunities that will thrive in a Net Zero world might benefit our portfolio. The VaR model principally assumes that, as the world moves towards Net Zero, companies with low-carbon technology patents, for example, are expected to see positive performance as the demand for renewable energy/low-carbon technologies increases.



"We not only examine our portfolio in terms of extreme risks, but also opportunities that will thrive in a Net Zero world."

Physical VaR

The location database used by the MSCI Climate VaR tool now maps to approximately 270,000 locations, including an expansion of the global power plant database. The tool covers five acute risks and five chronic risks. Acute hazards are catastrophic events such as coastal flooding, tropical cyclones, fluvial flooding, low river flow, and wildfire. Chronic hazards are extreme heat, extreme cold, precipitation, extreme snowfall, and extreme wind.

Within our analysis, we have selected the 'Aggressive' physical risk scenario throughout, against which to assess the resilience of our portfolios, so we can see the largest potential impact on our investments.

However, we acknowledge that there are limitations with the currently available climate scenarios and value-at-risk methodologies, that could be under-representing the risk. Recent studies have highlighted, in particular, the lack of integration in the models between transition and physical risks and not factoring in tipping points or feedback loops. We would intuitively expect to see a higher Physical VaR in the scenarios where there is less of a transition or a delayed transition.

Note

Our external data provider MSCI introduced two new datasets (Regional Company Exposure to Physical Hazards and Regional Physical Hazard Metrics) to improve accuracy and better align with TCFD recommendations. This enhancement makes year-on-year comparisons of Physical VaR less meaningful.

METRICS AND TARGETS CONTINUED

Climate Value-at-Risk 2022 results by asset class[1]

The 1.5°C Disorderly scenario continues to present the greatest CVaR for all three of our analysed asset classes. Note: Due to model enhancements by our data provider, the 1.5°C Orderly scenario now presents a worse outcome than the 2°C Disorderly scenario. This is because MSCI has changed the way they calculate costs, which is one of the main inputs for Climate VaR.

Equities

The impact from a 1.5°C Disorderly scenario is most significant for Equities, with a Transition VaR of over 16 per cent. The Physical VaR for the aggressive physical risks scenario is 25 per cent. Whilst the Transition VaR is lower than last year (which was 38 per cent), it suggests our Equities portfolio is still not very resilient to scenarios factoring in delayed but forceful action to keep global warming within Paris Agreement levels.

We hope our actions to assess and manage all our assets' alignment with Paris targets (see page 13) will further help to improve this resilience in the future. For example, Energy is the most exposed sector within Equities under Transition VaR. As mentioned, 72 per cent of the Energy sector emissions are associated with companies in our Climate Watchlist.

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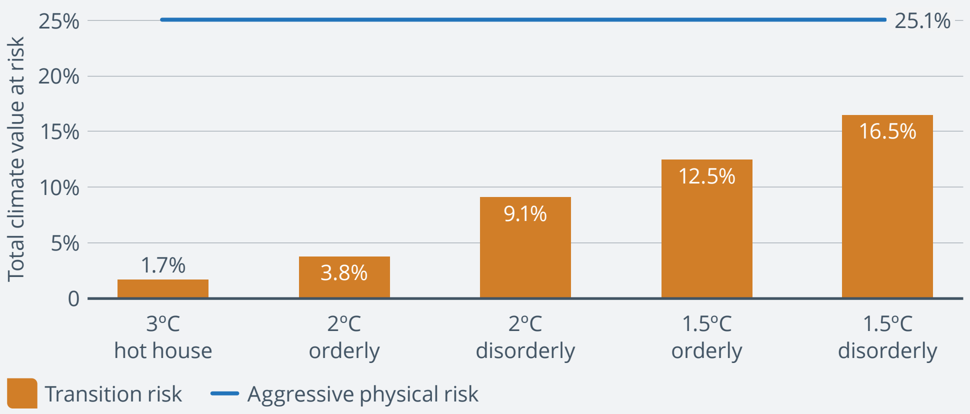
Equities Climate VaR



Credit

For another year, our global Credit portfolios registered a lower CVaR, than our Equities ranging from 12 to 16 per cent under our five scenarios when aggregating both Transition and Physical VaR. Whilst the Physical VaR is higher than last year, due to the methodology changes undertaken by MSCI, the Transition VaR is lower for both 2°C and 1.5°C disorderly scenarios than last year.

Transportation is the most exposed sector under Transition VaR across all five scenarios. This is due to the sector being highly exposed to transition risks around electrification and a move away from fossil fuel energy sources.

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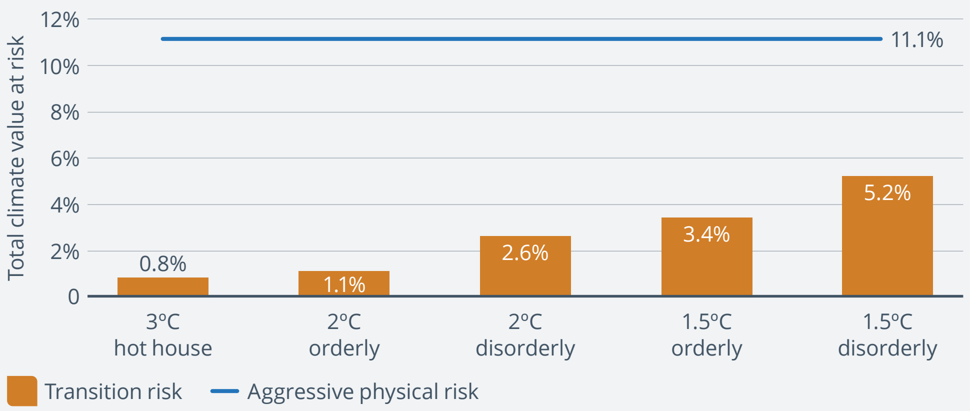
Global Credit Climate VaR



UK Credit

Even taking into account the methodology changes year-on-year, we have seen Transition VaR increase for the UK Credit book. This is likely to be driven by the increased exposure to Utilities.

However, there is considerable exposure in this portfolio to Utilities companies that have set science-based targets. Our expectation is that if these companies start delivering on their goals, then the transition risk they are exposed to will decline.

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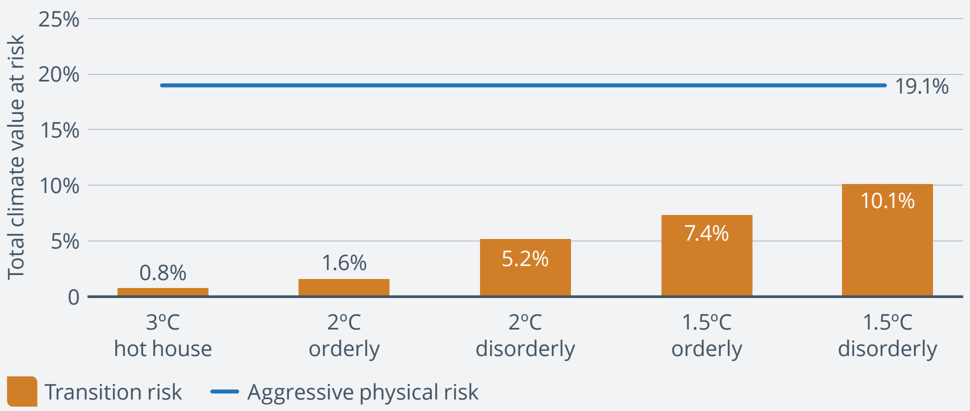
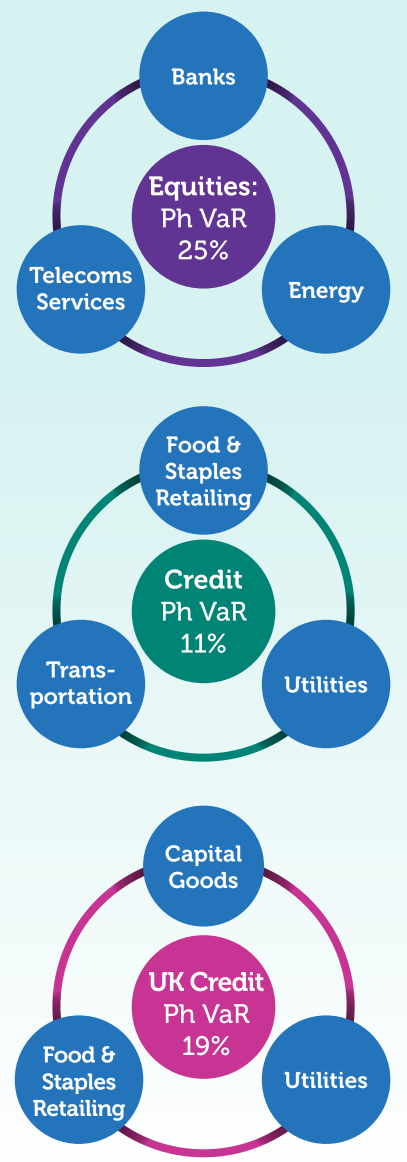
UK Credit Climate VaR



Physical risk

Physical risk within Equities is driven mostly by Extreme Heat (17 per cent of the 25 per cent of Physical VaR). This is mainly due to Banks – the most exposed sector – then Energy and Telecommunications Services. China, US, and Japan are the most exposed regions to physical risk within the Equities book.

Biggest contributing sectors to physical risks by portfolio



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In Credit, Physical VaR is primarily accounted for by Extreme Heat (7 per cent of the 12 per cent). In terms of sector, Food & Staples Retailing, Transportation and Utilities have the highest exposure; and in terms of regional exposure, the US and China have the highest exposure.

In UK Credit, physical risk is mostly coming from Coastal Flooding (15 per cent of the 19 per cent). Capital Goods is the most exposed sector; Netherlands and United Kingdom are the most exposed countries.

Note

The UK Credit book has some physical risk exposure to other countries besides the UK. This is because it includes non-UK companies that issue Sterling debt or companies that might have assets located elsewhere than UK. If MSCI does not have data for the underlying credit issuer, we may use data from the ultimate parent to approximate the risk, which may not be a UK name.

Technology opportunities

Although a 1.5°C Disorderly scenario is expected to have the highest – and hence worst – Climate VaR for all asset classes we analyse, it is also expected to generate the most exposure of all scenarios to Technology Opportunities.

Technology, Buildings and Health have the highest future low-carbon technology potential. MSCI's modelling suggests that the sector best positioned for low carbon opportunities is Heavy Manufacturing in the Equities portfolio, Technology and semiconductors manufacturing in the Credit portfolio and Rail and Utilities in the UK Credit portfolio.

1 The Climate VaR of a company, in any given scenario, is simply the present value of the costs impacts in that scenario divided by the current enterprise market value of the company. The enterprise market value is computed as the sum of the market values of a company's equity and debt. The book value of debt is used to proxy the market value of debt at the company level.

METRICS AND TARGETS CONTINUED

2. The Transition Pathway Initiative (TPI)

The TPI tool uses publicly-disclosed information collected by FTSE Russell and validated by the Grantham Research Institute at the London School of Economics to assess nearly 700 of the world's highest-emitting listed companies on two measures:

- **The TPI Management Quality (TPIMQ) level** assesses a company on how well its management is dealing with climate change risks, from Zero (0) to Four Star (4*).
- **The TPI Carbon Performance (TPICP)** measure assesses a company on how effective it is at achieving carbon reduction in line with the Paris Agreement or any target it's set.

"A substantially higher number of these companies received a TPIMQ Management Quality level of three or above."

TPIMQ levels

Level 0 – Unaware
Level 1 – Acknowledging
Level 2 – Building capacity
Level 3 – Integrating into operational decision-making
Level 4 – Strategic assessment
Level 4* – Meets all indicators

As mentioned earlier, we use TPIMQ to measurably track and encourage progress on climate among our portfolio companies and it is embedded within the index construction for our Equity climate-aware benchmark. For 2023 voting decisions, we increased the TPIMQ score thresholds for climate-related voting guidelines.

Equity

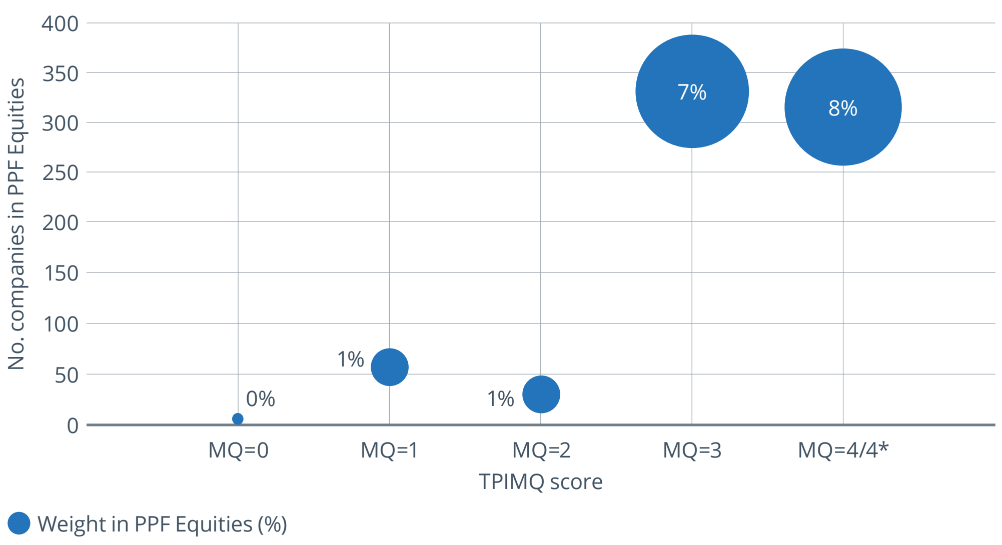
TPI now covers nearly 700 companies globally, up from around 400+ last year so a good expansion rate that is set to continue as the organisation builds out its coverage. Coverage for our Equities portfolio has increased from 14 per cent to 17 per cent of market value.

We also see more holdings (percentage of market value and number of holdings) achieving the highest TPIMQ scores (MQ=3 and MQ=4/4*). Only 2 per cent of the 17 per cent coverage in the portfolio is scored in the lower range.

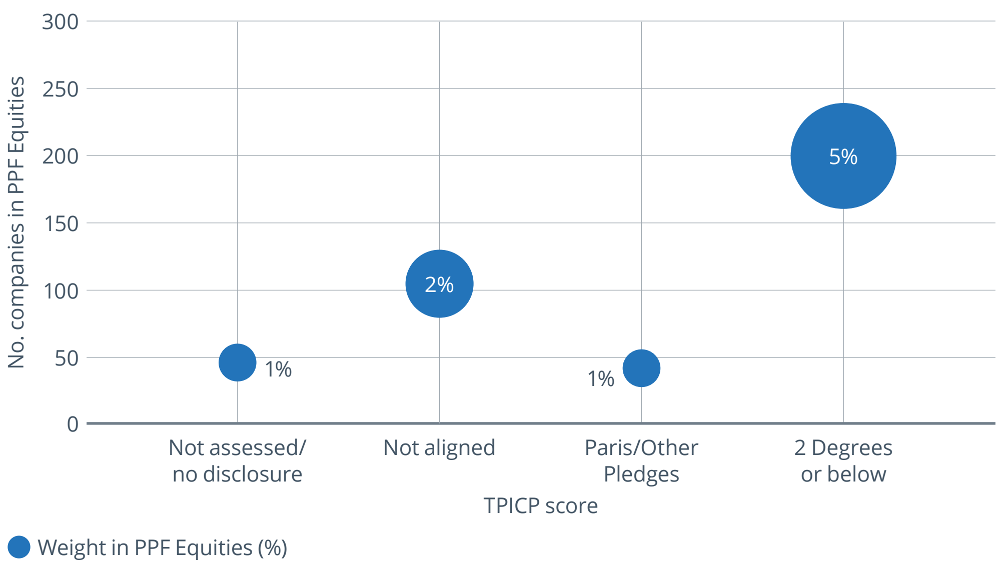
In fact, most of our holdings maintained the same score as last year and 2 per cent of the book increased by at least one point. Eight names constituting less than 1 per cent of the book saw their TPIMQ score decrease by one point. Roughly 4 per cent of the book are new additions as TPI increased its coverage this year.

We have seen improvements in the Carbon Performance assessments from last year too. The biggest shift in exposure has been from 'Not aligned' to '2 Degrees or below', which is positive.

TPI Management Quality scores for PPF Equities



TPI Carbon Performance assessments for PPF Equities



"TPIMQ coverage for our Equities portfolio has increased to 17 per cent of market value from 14 per cent last year."

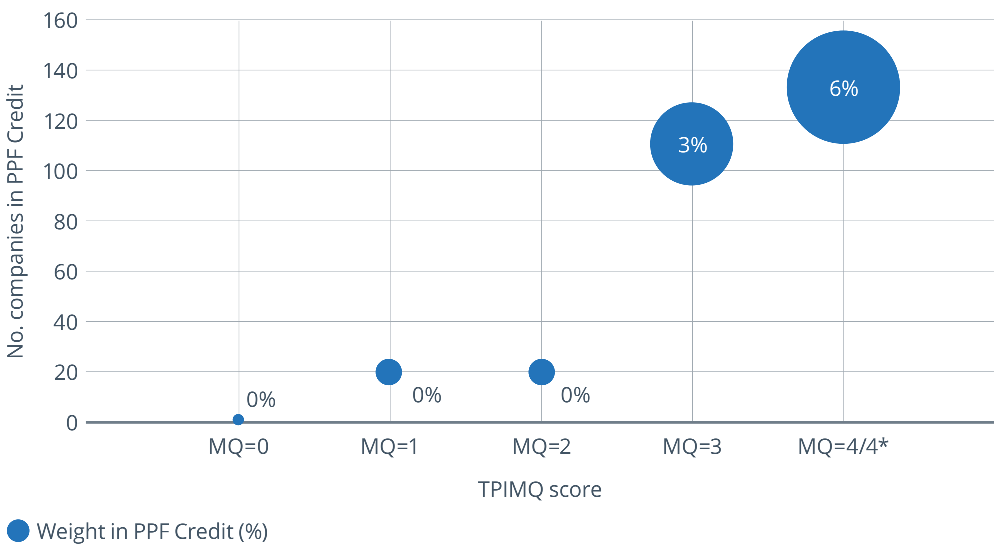
METRICS AND TARGETS CONTINUED

Credit

This is the second year that TPI analysis has been extended to our Credit portfolios, which is highlighting some positive year-on-year trends. The TPIMQ coverage for our Credit Portfolio more than doubled (from 4.5 per cent to 10.3 per cent of the portfolio by value), helped in part by TPI increasing its coverage of bond issuers. Our Credit portfolio now has 86 per cent of its exposure to companies scored 3 and above for management quality, up from 83 per cent last year.

For TPICP, the portfolio coverage increased by more than two-thirds, and we've seen an increase in exposure to companies with a carbon performance aligned with 2°C or below (64 per cent of companies compared with 48 per cent last year).

TPIMQ scores for PPF Credit

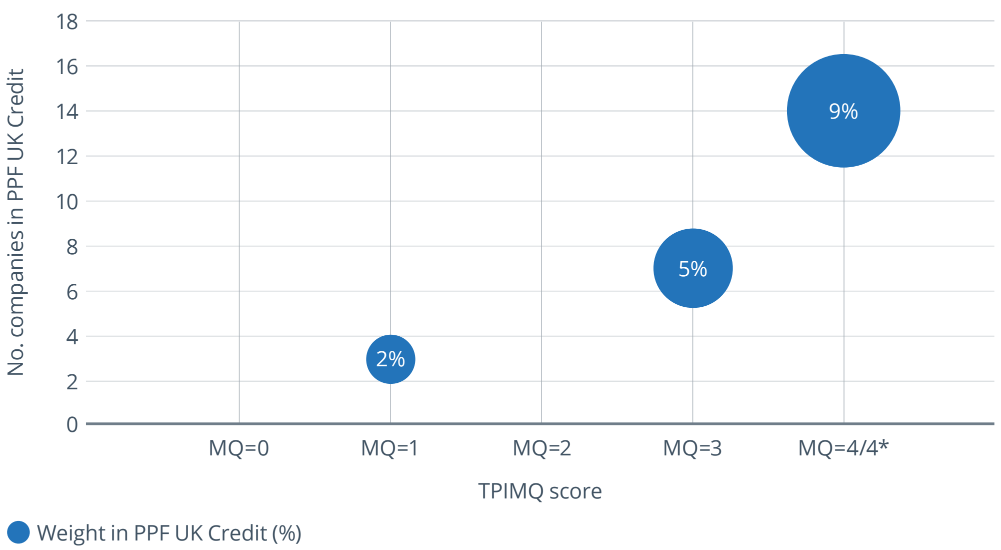


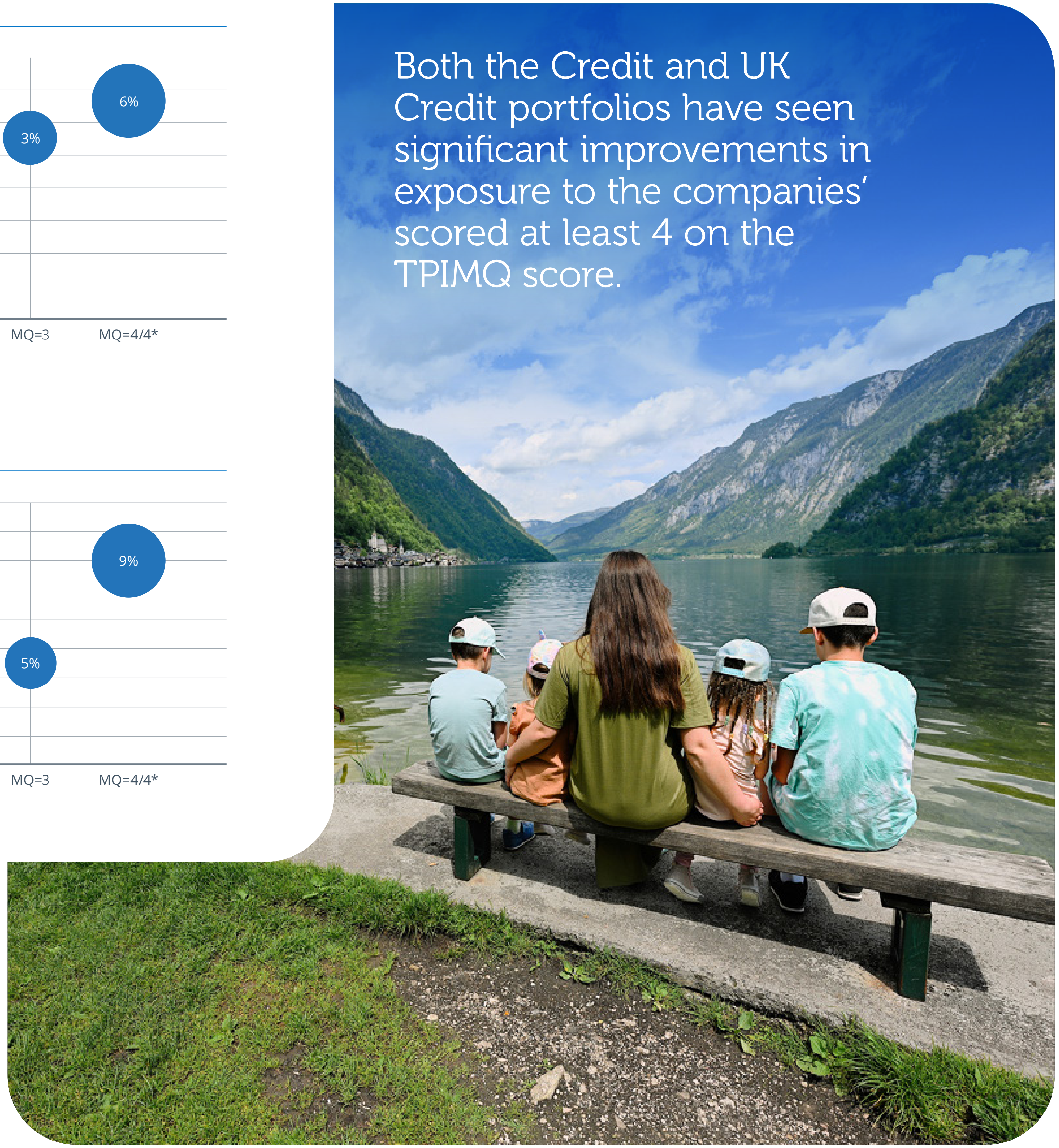
UK Credit

Although we saw a reduction in TPI coverage in the UK Credit book by market value compared to last year, the number of companies itself has increased, again helped by the increase in bond issuers in the TPI universe. The breakdown for TPIMQ remains roughly the same: 88 per cent of the covered companies have achieved a management quality score of at least 3 versus 86 per cent last year and none received the lowest score of 0 (same as last year).

The TPICP distribution also saw an increase in companies with carbon performance aligned to a trajectory of 2°C or below, at 81 per cent compared to 71 per cent last year.

TPIMQ scores for PPF UK Credit





METRICS AND TARGETS CONTINUED

3. The Science-Based Targets initiative (SBTi)

We view the SBTi (see last year's report for a full explanation) commitment or approved target as a key metric for evaluating companies' ambition. The initiative's aim is to provide companies with a clearly-defined path to reduce emissions in line with the Paris Agreement by setting ambitious, science-based emissions reduction targets. As we noted this year, it has been instrumental in improving the assessment of Paris alignment of many of our portfolio companies.

This year, we have used a new dataset within the MSCI ESG platform to analyse our portfolios' exposure to companies that have either formally committed to SBTi targets or had their targets approved by the initiative.

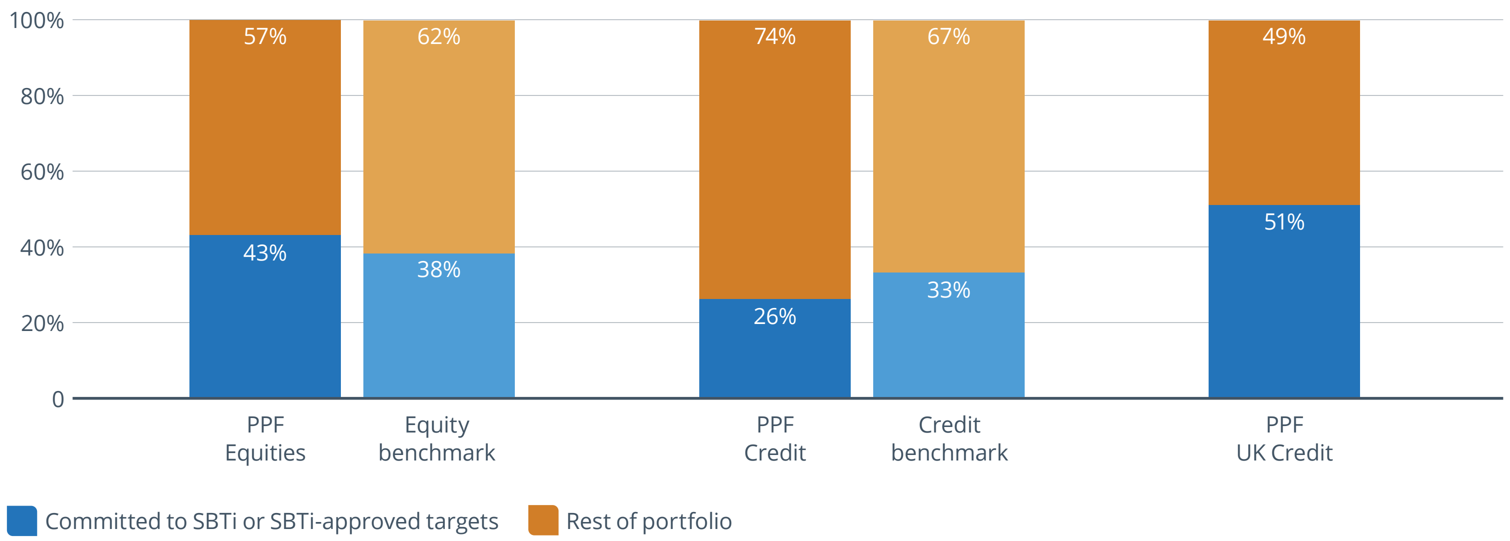
We are pleased to see that currently almost 43 per cent of our Equities book by market value has now set or committed to an SBTi target, up by a third from last year.

Increasing adoption is even more pronounced among credit issuers: in the UK Credit portfolio it has increased from last year by over 80 per cent to more than half the book demonstrating commitment by market value. The global Credit book is lower at 26 per cent, but this is still an increase of nearly 50 per cent on last year. It is also somewhat expected to be lower due to the Credit portfolio's higher allocation to Financials, which fall under a different SBTi standard, (which is still in development).

Next steps

Our ultimate desired outcome from a real-world perspective is to see companies actually acting to reduce their carbon reductions. However, as the energy transition has a multi-year pathway, setting clear targets is a step in the right direction. We will continue to encourage more companies to set robust, science-based targets (for example, by supporting the CDP SBT Campaign – see page 17) as well as monitoring the progress of those that have already set targets.

Percentage of portfolio committed to SBTi or SBTi-approved targets (by market value) 2022



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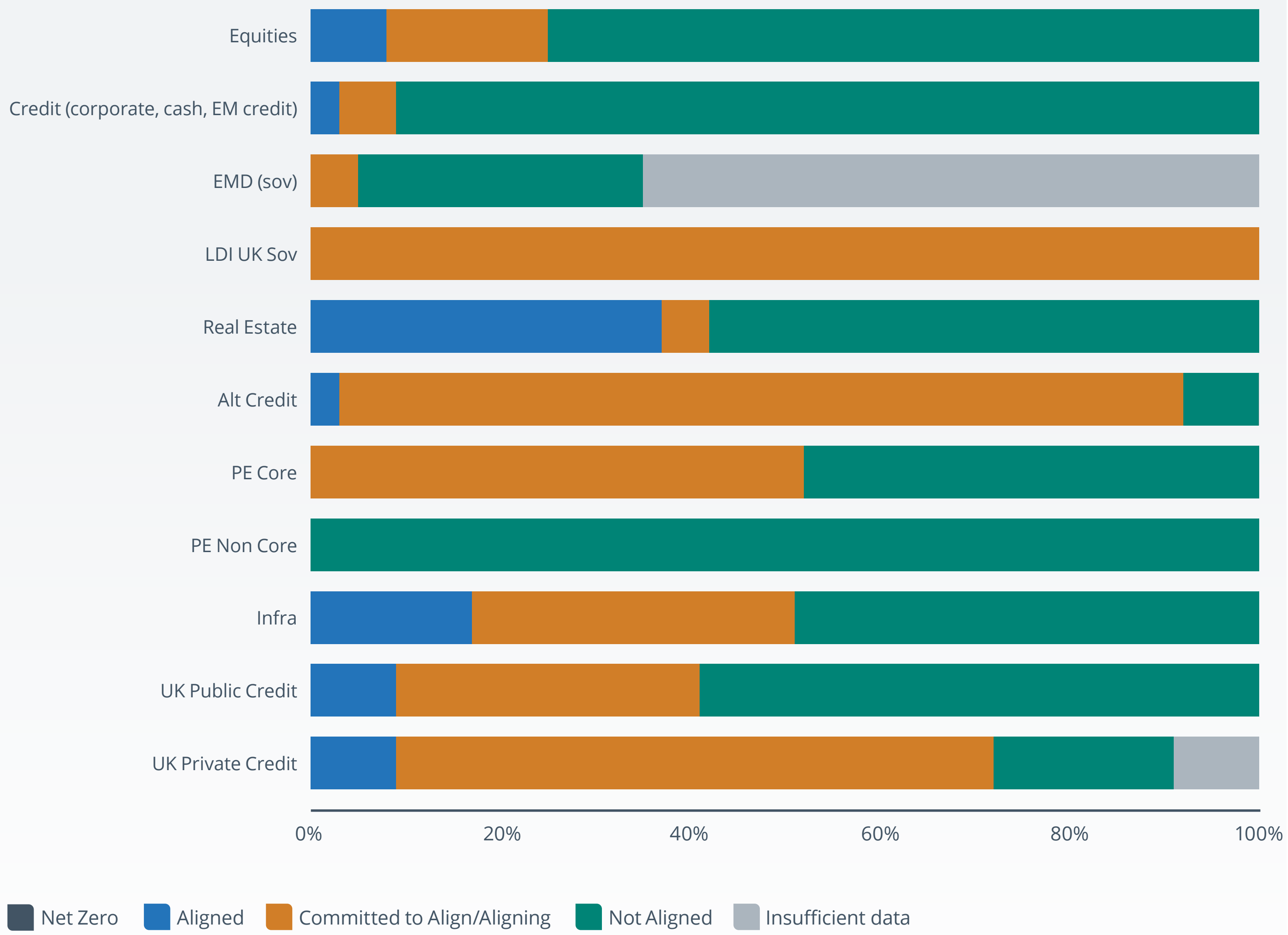
4. Portfolio Alignment Metrics

As detailed earlier, our Portfolio Alignment project delivered a baseline that allows us to understand the alignment of each of our asset class portfolios against the Paris Agreement to keep global warming within 1.5°C of pre-industrial levels. The chart below summarises our baseline findings by asset class for our portfolio holdings as at December 2020. Please refer to page 13 for descriptions of our alignment categories.

Breakdown of portfolio alignment to Paris Agreement by asset class as at December 2020 (Baseline)



We acknowledge we are still relying on proxied data within our assessment for many asset classes, especially in private markets. For Private Equity, Infrastructure, Alternative Credit and UK Private Credit, over 80 per cent of portfolios were proxied. Real Estate was the only private markets portfolio with better disclosure (less than 50 per cent proxied).

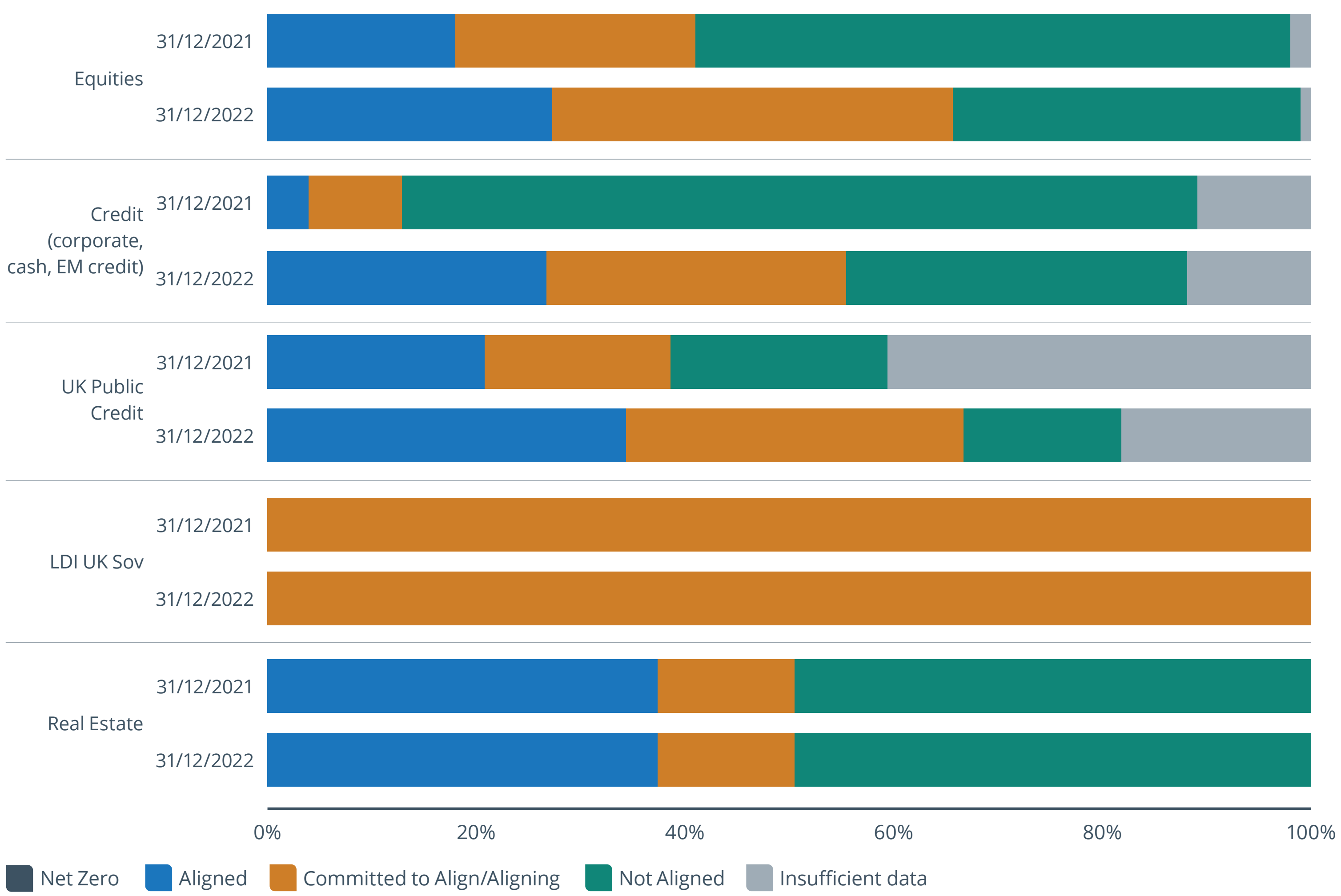
METRICS AND TARGETS CONTINUED

For asset classes where more established alignment methodologies and data are available, we have been able to rerun our analysis at least once (for Real Estate and UK Sovereign/LDI portfolios) and twice in some cases (Equities, Credit and UK Credit portfolios). The percentage of disclosed data in our Credit and UK Public Credit books has significantly improved over the last year, which gives us greater confidence about the reliability of future results.

In all portfolios apart from our LDI/UK Sovereign portfolio, these reruns have indicated improvements from the baseline. The Equities, Credit (both Global & UK) and Real Estate books saw a significant reduction in the 'Not Aligned' category and improvements in both 'Aligned' and 'Committed to Aligning/Aligning' in the past two years.

As already mentioned, our improvements in alignment with Paris Agreement targets have largely been driven by more companies setting science-based targets or commitments, as measured by the SBT initiative (SBTi). We see this as encouraging, although we appreciate that setting a target is only one step in the overall path needed to align with Net Zero. We still need to see continued progress from setting targets to actually delivering on these targets if we want a 'real-world' decarbonisation outcome, something that we incorporate into our engagement strategies for pushing the leaders as well as the laggards.

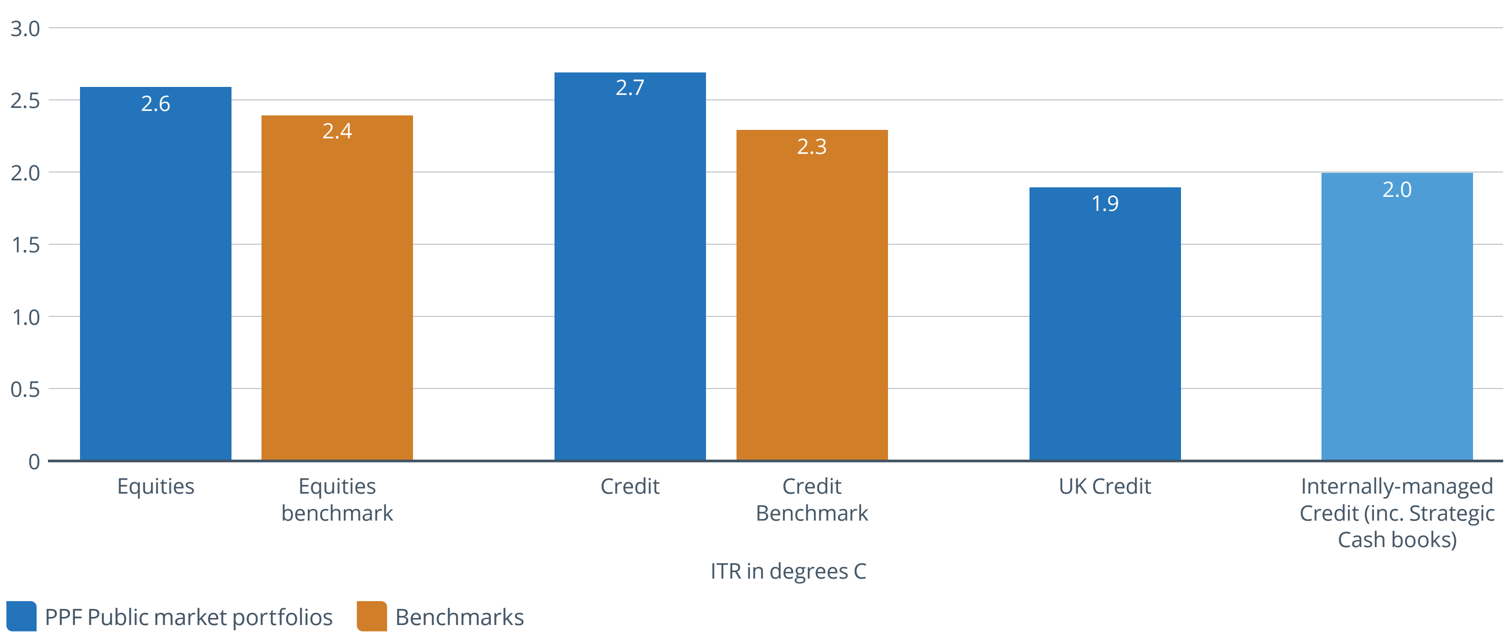
Progress of portfolio alignment by asset class as at December 2021 and 2022 updates



Implied Temperature Rise (ITR)

The other forward-looking data metric we have started tracking within our Portfolio Alignment work is Implied Temperature Rise (ITR). We fully acknowledge there are complexities and assumptions within the methodologies for ITRs, however we use the outputs as one signal alongside other climate considerations when evaluating our investments. The below chart shows how our public markets portfolios are tracking in terms of ITRs as at December 2022.

Implied Temperature Rise (°C)



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Our 2022 analysis is based on MSCI's ITR model. We have adopted this approach as this also incorporates company targets to some degree, not just projecting out the current emissions of a company. Comparing this year's MSCI ITR scores with last year's show a 0.3°C improvement in the Equity portfolio, a 0.2°C improvement in the Credit portfolio and a 0.1°C improvement in the UK Public Credit portfolio. We have also provided a carve-out of our internally-managed UK Credit and Strategic Cash holdings, which has a lower temperature alignment than the externally-managed assets of 2°C ITR.

Both the Equity and Credit portfolios have slightly higher ITRs than their benchmarks (2.4°C and 2.3°C respectively), which is to be expected in both situations. Our Equity benchmark is a climate-aware index[1] that is fully tracked by our passive mandates. However, our active Equity mandates have more discretion to follow their own investment strategy which can result in a higher ITR.

However, we hold regular dialogue with our external active equity managers to understand their investment rationale for investing in any non-benchmark positions.

Our Credit benchmark is primarily exposed to developed markets whereas our Credit portfolio also incorporates emerging markets corporates, which we appreciate tend to be on a slower trajectory towards Net Zero – hence we would expect the slightly higher ITR score for the portfolio.

1 The FTSE Custom All-World Climate Minimum Variance Index.

METRICS AND TARGETS CONTINUED

Other asset classes – Real Estate

Real Estate alignment

This year, we worked with our external consultant to enhance our approach to estimating data to address gaps in our Real Estate analysis and to calculate portfolio ITRs for the Real Estate book. Seven CRREM models were run to capture a combination of regions and building use types. In addition, we moved from a point-in-time approach to using a 1.5°C carbon budget overshoot approach to align more with how our corporate ITRs are generated.

Results showed an improvement in the overall Real Estate portfolio ITR and only three sub-portfolios have ITRs of 2°C or higher. However, we recognise that this was driven largely by moving to a more sophisticated approach to applying real estate estimations from the global ESG platform Measurabl. There are still a few sub-portfolios whose results we are assessing with caution, given the higher percentage of estimated rather than actual data. In particular, our multimanager Real Estate mandate is almost entirely based on estimates, given some challenges in accessing underlying fund reporting.

Next steps

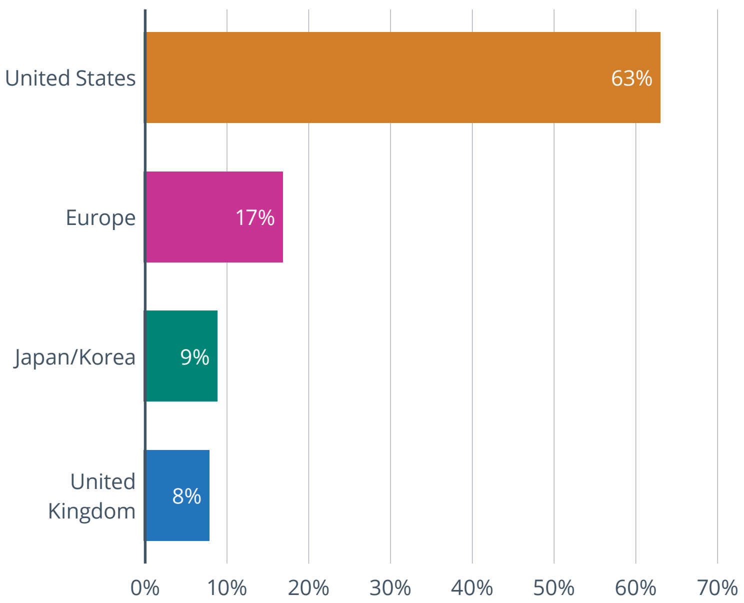
We will continue to validate results at an individual real-estate asset level with our external managers, prioritising action on assets generating high ITR scores and on the portfolios relying heavily on estimated data.

Assessing the sustainability of our Real Estate assets

We are pleased that our all our Real Estate managers provided at least some reporting, and this gave us the opportunity to get an overview of how sustainable our Real Estate book is. We can potentially classify as 'sustainable' the assets that have the highest energy rating in their region, hold certificates showcasing excellence in sustainability, and/or are classified as green by a credible third party.

We have managed to obtain a breakdown of Energy Ranking results for 88 per cent of our Real Estate book. Above right are the percentage of assets that have the Highest Energy Rankings in their area. We break down figures by geographic region because we feel an aggregate number would be misleading, given that each region has different standards in their energy performance.

Real Estate: MV (%) in Assets with High Energy Rankings



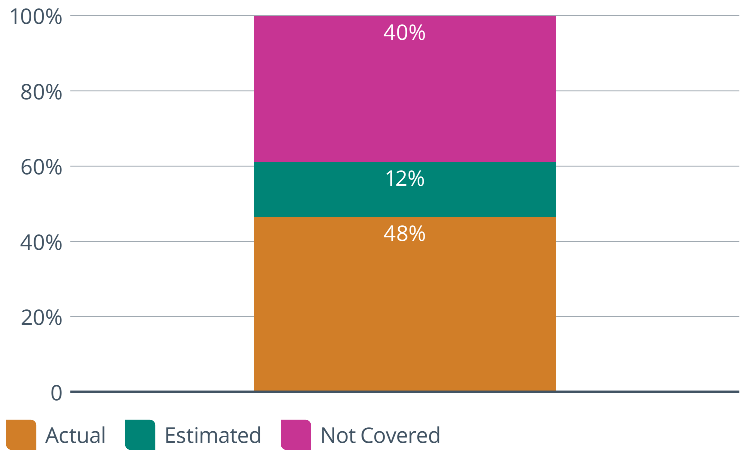
Real Estate Carbon Emissions

We are pleased that our Real Estate managers reported such a high amount of carbon emissions data to us. However, we are not comfortable aggregating the emissions reported by the managers yet, as they use different methodologies and there is still a high reliance on estimated emissions. Half of the book is based on actual emissions and the rest is estimated or not reported.

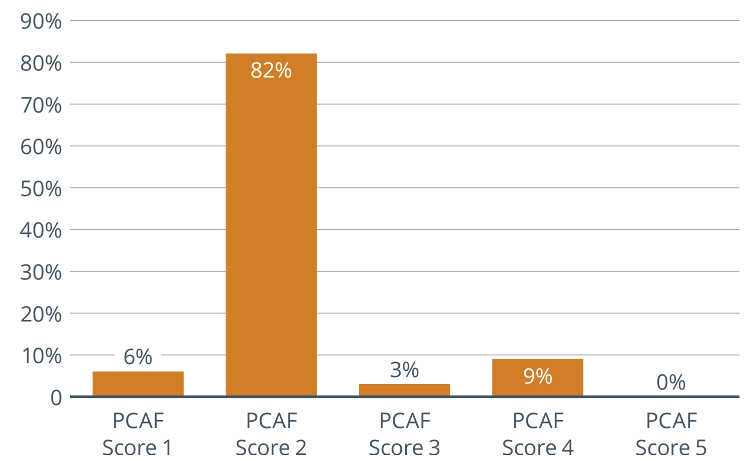
From a reporting quality perspective, almost all reported emissions have achieved a PCAF Score of 2 or 4. Although almost all managers (96 per cent by market value) reported emissions, only 67 per cent of them provided the PCAF Score. We are engaging with managers to investigate the reason behind this.

PPF Real Estate – Emissions disclosure and PCAF Score distribution

Real Estate Emissions Disclosure Rate



Real Estate PCAF Score Distribution



Next steps

We would ideally like to report the percentage of our Real Estate book invested in buildings that are classified as green or have certificates that showcase excellence. However, we have received reporting on this for less than 40 per cent of the book, so it's not currently meaningful to aggregate or analyse the data. We will work with managers to obtain better results next year.

CASE STUDY

Investing in sustainable property

This year we invested in a loan to finance the construction of a state-of-the-art office building in Bristol's business district. The seven-storey property is expected to have a net internal area of 200,000 sq ft and the capacity to host more than 2,000 employees.

At the time of the loan, the building was one of only two under construction in the UK regions to target Net Zero carbon operations, a BREEAM 'Outstanding' rating for sustainability standards, and an Energy Performance Certificate (EPC) A-rating. These classifications will put the building at the forefront of sustainable office provision in the UK.

METRICS AND TARGETS CONTINUED

Forestry

Forestry is a key asset class where we see sustainable investment opportunities. Forestry helps to mitigate CO_2 emissions by storing carbon, making it one of the few viable nature-based investment solutions that can help progress towards a Net Zero world. Well-managed forests can also increase biodiversity.

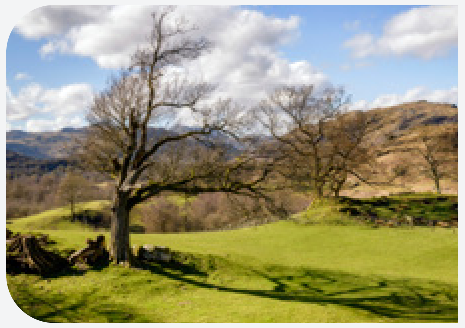
Certification Standards for PPF's share of timberland

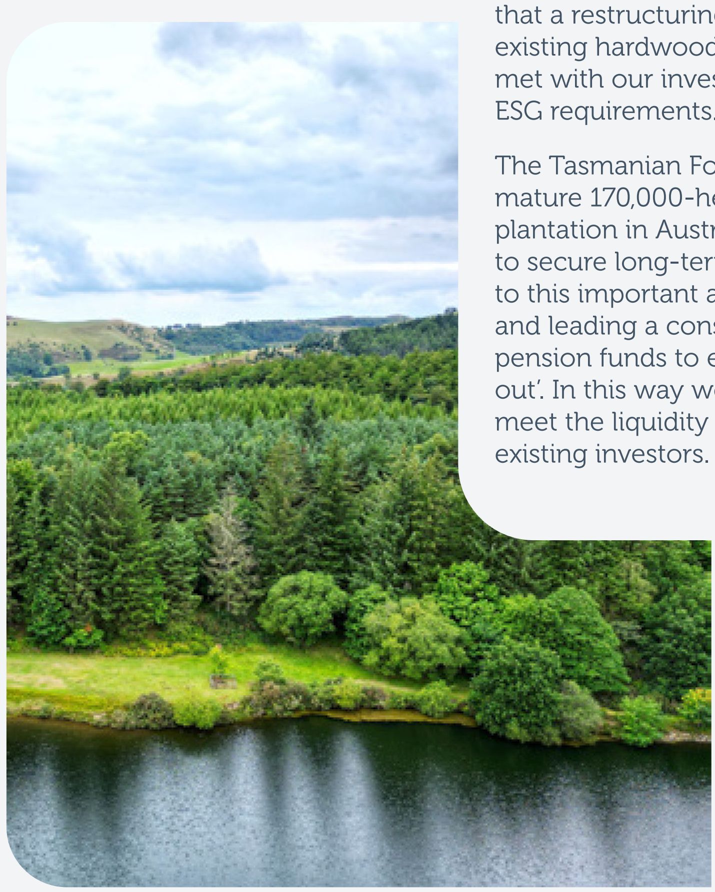
	2022
Certified timberland in accordance with the FSC and/or PEFC	98.5%
Timberland in the process of certification in accordance with the FSC and/or PEFC	0.9%
Land that is sustainably managed in accordance with the FSC and/or PEFC, but that cannot be certified	0.0%
Other	0.5%

We are pleased to see that almost all our assets continue to be certified to the highest international standards (FSC and/or PEFC). The small percentage that falls under the Category 'Other' is allocated to new planting sites, and the manager is expecting the area to be certified when planting is completed.

Apart from certification statistics, we also ask our managers to report carbon sequestration data. All of them have reported to us, however since there is no standardised methodology yet, we are unable at the moment to compare and aggregate data. To address this, we are working with our external consultant to establish a methodology.

CASE STUDY

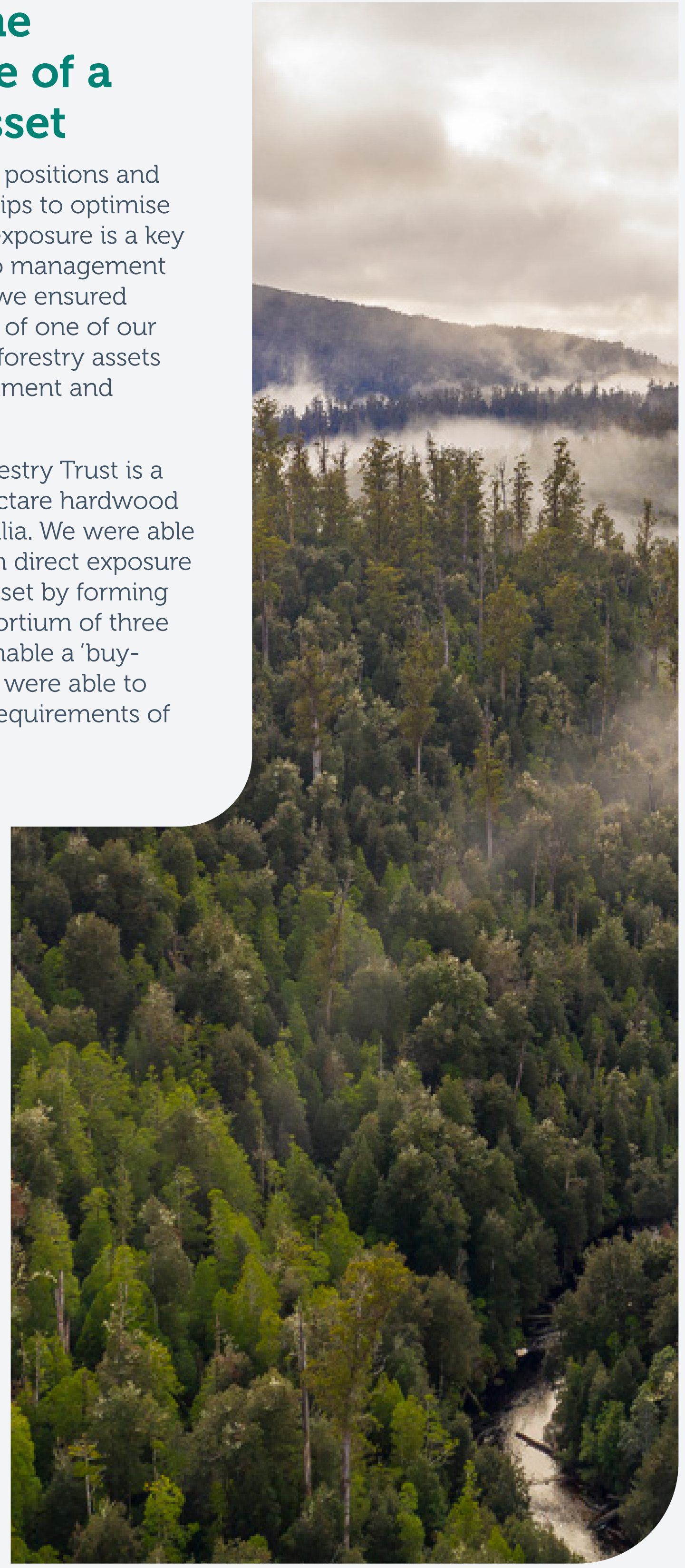




Leading the restructure of a forestry asset

Leveraging existing positions and manager relationships to optimise future investment exposure is a key part of our portfolio management process. This year, we ensured that a restructuring of one of our existing hardwood forestry assets met with our investment and ESG requirements.

The Tasmanian Forestry Trust is a mature 170,000-hectare hardwood plantation in Australia. We were able to secure long-term direct exposure to this important asset by forming and leading a consortium of three pension funds to enable a 'buy-out'. In this way we were able to meet the liquidity requirements of existing investors.



Sustainable Assets

We believe that considering climate-related issues and the transition to a low carbon economy can also bring about opportunities from an investment perspective. This year, we have started to aggregate a high-level breakdown of the Fund's exposure to investments that can be classified as sustainable (see definition right). This is still a work in progress, and we hope to provide more detail in coming years, particularly as green taxonomies become more established within financial markets.

Our data providers incorporate some sustainable or low-carbon solutions datapoints or flags into their climate reports for public markets, and we have enhanced this with additional green revenue data from our Equity index provider (as our Equity climate-aware benchmark index includes green revenue exposure within its optimisation process).

Exposure to Sustainable Assets per asset class:

	Percentage of exposure by asset class to sustainable assets	AUM (USDm)
Equities	7.0%	$185
Credit	4.7%	$159
UK Credit	9.0%	$193
EMD Debt	0.8%	$11
Forestry	100.0%	$1,164
Other Private Markets	3.5%	$433

What we have classified as 'sustainable':

- **Equities:** Companies with green revenue exposure or exposure to products and services classified as low-carbon solutions
- **Credit, UK Credit, EMD Debt:** Bonds classified as Green, Social, Sustainability Bond or Sustainability Linked (across corporate, sovereign and supranational issuers)
- **Forestry:** Forests that are certified by international bodies and/or are managed in a sustainable manner
- **Other Private Markets:** Infrastructure Equity and Debt renewable power assets.

We have some underlying information about some of our Private Markets assets, especially those within our Infrastructure Equity and Debt portfolios. However, because the information is not standardised by format or source, it is currently challenging and very resource-intensive to identify. We have therefore started by including a few assets that are more straightforward to classify at this stage (e.g. renewable power assets) but will continue to refine this for future reports.

METRICS AND TARGETS CONTINUED

Measuring and managing the impact of our operations

Addressing our own environmental impacts

Most of our material exposure to climate-related risks exists in the downstream Scope 3 category 15 'financed emissions' in our investment value chain. However, we support and reflect the UK Government's commitment to reduce its impact on the environment. Therefore, we're also reporting our ambitions, commitments and targets under the Greening Government Commitments (GGC) where possible.

Over the last year, we conducted a review of the PPF's own environmental impacts as a business to establish a baseline. Given the availability of data, we selected our 2019/20 financial year as the most appropriate baseline year and will use this as a basis to measure progress on reducing our organisational impacts. We have intentionally excluded 2020/21 and 2021/22 from our measurement of progress as the lockdown periods during the 2020–22 COVID-19 pandemic means the data would not accurately reflect our business-as-usual activities.

Assessing our offices

The PPF offices in Croydon and Cannon Street are based in shared-lease buildings so we have limited control over them, nor complete access to activity data and systems. We mainly source energy-use data from our building managers, but have used estimates of our share of usage when information is not available to us. To improve the accuracy of our reporting, we have restated our Scope 2 location-based emissions data for 2021/22 and 2020/21 to also include our data centre energy consumption.

Both of these office buildings are already very efficient, with no direct combustion facilities onsite and BREEAM ratings of 'Excellent' and 'Very Good' respectively. All of the electricity our offices use is sourced via 100 per cent renewable electricity tariffs, which have been in place since October 2019. Therefore, our direct organisational Greenhouse Gas emissions (Scope 1 and 2) are effectively zero using a Scope 2 market-based approach. Our data centres have also sourced 100 per cent renewable electricity during the reporting period.

We continue to work to reduce our electricity consumption through greater energy efficiency where possible. As the table overleaf shows, our Scope 2 location-based emissions have steadily fallen as energy efficiency has improved, with a 34 per cent reduction since our 2019/20 baseline year.

As Net Zero for our 'easier' direct organisational emissions has already been achieved, we are now focused on how we can reduce our organisational emissions within our value chain across Scope 3 categories 1, 6 and 7 (purchased goods & services, business travel and employee commuting/remote working).

Business travel

We have started to take account of our business travel activities in our Scope 3 emissions analysis. A challenge is how best to capture employees' travel data, so currently, we use travel expense invoices to calculate emissions. Business travel remains an essential element of our business, particularly when carrying out due diligence of our investments and key suppliers. However, we are working to understand its impacts and will focus on encouraging employees to consider alternatives where possible. Scope 3 emissions are already lower than our 2019/20 baseline year by 12 per cent as the table, overleaf, shows.

Our suppliers

We now consider sustainability in all our procurement strategies and assess the ESG practices and commitments of suppliers in many tenders. This includes reviewing suppliers' Net Zero commitments, carbon reduction plans, commitment to ESG reporting to meet TCFD requirements, and Diversity & Inclusion reporting.

Our Sustainable Procurement Statement and Policy was approved at the end of the 2022/23 financial year. This captures our procurement approach and governs our practices. We communicate our commitment to working with suppliers who share our ambition for sustainable business practices including reducing and reporting on their own carbon emissions and environmental impact.

CASE STUDY

Lowering our organisational emissions through digital adoption

Recent digital transformation at the PPF has prioritised sustainability and helped us achieve a range of carbon efficiencies.

By migrating all our data and technology services to cloud-based platforms such as Microsoft Azure, we've made significant reductions in the PPF's organisational energy emissions. For example, in March 2022, our physical on-premises data centres consumed 7,111kWh of power. By March 2023, following the cloud migration, this had fallen to 2,951kWh.

Adopting cloud-based services has also allowed employees to use their own phones for work purposes, reducing the need for PPF-issued mobile phones by 72 per cent. Being able to collaborate more easily digitally has allowed us to reduce the number of printers by 33 per cent, which has also meant reduction in toner cartridge disposal, paper usage and site support.

"Our devices have a heavy environmental cost. Working in collaboration with our colleagues to reduce our corporate devices helps to reduce our overall operational carbon footprint."

Simon Liste
Chief Technology Officer

METRICS AND TARGETS CONTINUED

A summary of our Organisational Scope 1, 2 and 3 emissions

PPF operations – summary of carbon emissions

All emissions units in tonnes of carbon dioxide equivalent (tCO_2e) unless stated otherwise

		2019/20 (baseline)	2020/21	2021/22	2022/23	% change from 2019/20 baseline
Energy consumption used to calculate emissions in kWh		1,076,231	1,123,197	1,076,948	936,935	-13%
Scope 1 emissions	See footnote 1	0	0	0	0	–
Scope 2 emissions	**Location-based** See footnote 2	275.1	261.9	228.7	181.2	-34%
	Market-based See footnotes 3 & 4	160.5	0	0	0	-100%
Scope 3 emissions	See footnote 5	60.3	0.2	2.3	53.2	-12%
Total Scope 1, 2 and 3 emissions (gross)	See footnote 6	**335.4**	**262.1**	**231.0**	**234.4**	**-30%**
Total Scope 1, 2 and 3 emissions (net)	See footnote 7	**220.8**	**0.2**	**2.3**	**53.2**	**-76%**

Notes:

1 Scope 1 covers direct emissions from owned or controlled sources. Our two shared-lease office buildings are already efficient, with no direct combustion facilities on-site, and BREEAM ratings of 'Excellent' or 'Very Good' respectively. So our Scope 1 Greenhouse Gas Emissions from fossil fuel combustion are zero (0).

2 A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). Emissions are calculated using DEFRA conversion factors.

3 A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice). It derives emission factors from contractual instruments, which include any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims.

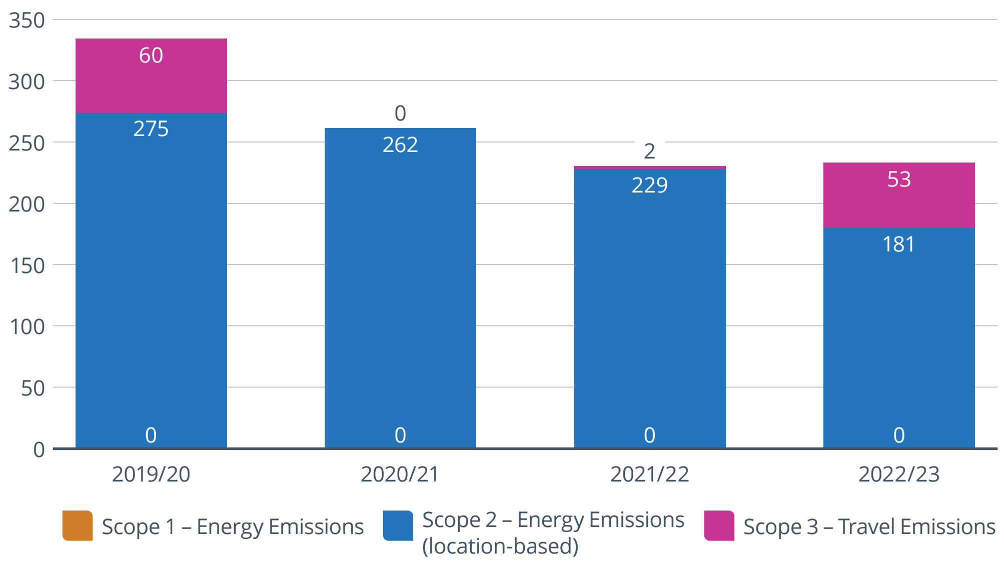
4 All the electricity our offices use is sourced via 100 per cent renewable electricity tariffs, which have been in place in both offices since the end of October 2019. For the seven months (April to October 2019) we have calculated our market-based emissions as: 275.10*(7/12) = 160.48 (tCO_2e), where total location-based emissions for 2019/2020 were 275.10 tCO_2e.

5 Our Scope 3 organisational emissions include emissions from business travel only at present.

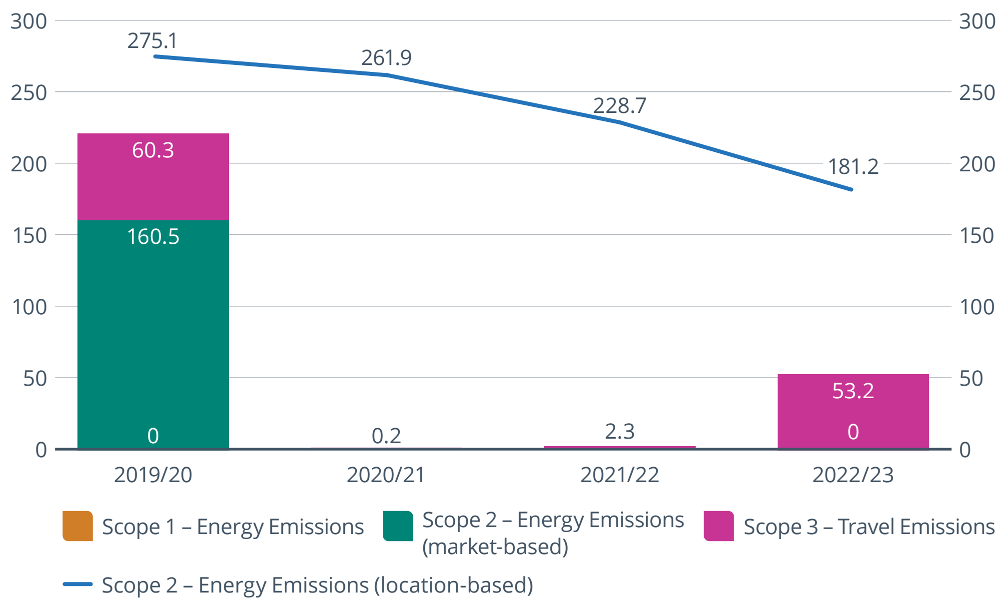
6 Our total gross emissions are calculated by aggregating our Scope 1, Scope 2 location-based and Scope 3 business travel emissions.

7 Our total net emissions are calculated by aggregating our Scope 1, Scope 2 market-based and Scope 3 business travel emissions.

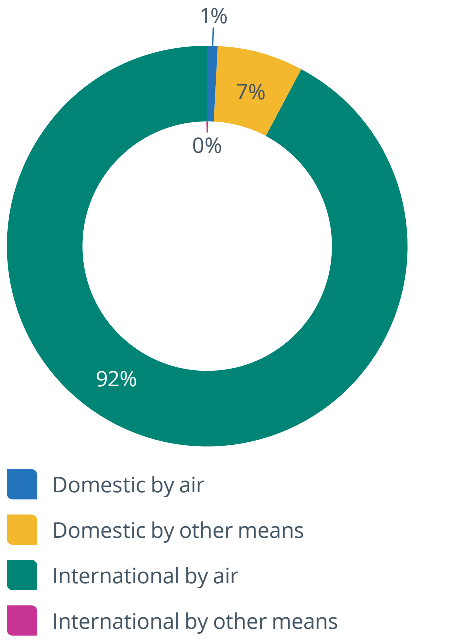
Emissions (in tonnes using a Scope 2 location-based approach)



Emissions (in tonnes using both a Scope 2 location-based and Scope 2 market-based approach)



Sources of Travel Emissions in 2022/23



Setting aspirational **targets**

Every year, we look to use the findings that come out of the analysis for our TCFD reporting to see how we might improve how we monitor, manage and reduce the carbon emissions connected to our investments and organisational activities. This year we have set some formal targets to reflect our ambition.

Climate-related KPIs for 2023/24 financial year

The PPF is committed to acting responsibly and transparently, while generating a good, risk-based investment return to meet the needs of our members and stakeholders. We have chosen to focus our targets on those areas that are most important to us and where we believe we can make the biggest difference.

Through our Sustainability Strategy, we have identified some key performance indicators (KPIs) for 2023/24 that are directly linked to our four sustainability goals to help us measure our progress and enable our stakeholders to hold us to account. Initially, however, a lot of our work will focus on developing processes and improving transparency before we can start to see the impact of our activities. Our sustainability goals are supported by more specific objectives or milestones for each team.

Our key climate-related targets are:

1. **Ensure at least 80 per cent of our Climate Watchlist companies are making disclosures on emissions, with a view to standardising how this is reported.**

   As mentioned earlier, we are extremely supportive of the CDP as a global corporate disclosure mechanism offering standardised reporting for climate change and we strongly encourage our investee companies to report in their annual disclosure campaign.

   Of our Climate Watchlist, 84 per cent of companies participated in CDP's 2022 Disclosure process. We are pleased to see a good level of initial disclosure from many of the highest emitters in our portfolio. However, we also recognise that some of these disclosures are not meeting the full standard of CDP reporting as yet, so we will be actively encouraging these companies to improve their reporting.

2. **Continue to source 100 per cent of our purchased electricity for our offices through renewable tariffs each year.**

   Both of our UK offices were moved to 100 per cent renewable electricity tariffs in October 2019 and we monitor this annually to ensure this continues. The same goes for our data centres.

3. **Work towards achieving Net Zero for our operations by 2035.**

   We are committed to supporting the UK Government's Net Zero by 2050 target and are taking all reasonable steps as an organisation to achieve this for our own operations by 2035 or sooner.

   We have already achieved Net Zero for our operational Scope 1 and 2 emissions, with no emissions arising from fossil fuel use. So our focus going forward will be on what we can do to achieve Net Zero in our Scope 3 operational supply chain and travel emissions. Scope 3 financed emissions from our Investments will be considered separately.

   Achieving this depends on our level of control and influence with stakeholders. We have reasonable control over our direct emissions (Scope 1 and Scope 2), but we can only influence our indirect emissions (Scope 3) to a degree. For example, we can only reduce emissions across our supply chain and investments if our suppliers and portfolio companies or issuers reduce their own emissions or otherwise contribute to the global transition to Net Zero.

   We have chosen 2035 as our target Net Zero date because we believe that it provides a reasonable timeframe for advancements in both data transparency and technological solutions. Our preference is to reduce emissions as much as possible. Therefore, we will only consider using high-quality carbon offsets to offset those emissions we cannot reduce.

Areas we can **control**

Scope 1	Scope 2
Direct emissions of owned/ operated assets	Indirect emissions from generation of purchased energy
• Building management	

Areas we can **influence**

Scope 3

Indirect emissions from rest of value chain activities

Operational	Financed
• Procurement & supply chain • Travel	• Investments

Appendices

Appendix A

Our commitment to the TCFD

The Task Force on Climate-Related Financial Disclosures (TCFD) guidance was created by the Financial Stability Board to help companies and investors voluntarily disclose climate-related financial risks clearly, consistently and reliability to help lenders, insurers and investors make informed decisions.

We've formally supported the TCFD framework since 2018 and have continually implemented it across our investment process. We share our progress in our annual Responsible Investing (RI) reports, which also detail our stewardship activities and work as an active owner of securities and real assets.

Considering the impacts of climate change on our investments is one of the three priorities within our RI strategy.

We're committed to:

- **Implementing the TCFD**
  We're continuously applying and implementing TCFD recommendations – and are always looking for ways to improve transparency and management of climate risks in our portfolio.
- **Assessing transition risks and physical risks**
  We take a phased approach to analysing how exposed our portfolio is to risk in the global transition to a low-carbon economy, optimising relevant data as and when it becomes available. We are also starting to assess the physical risks that climate change presents to our portfolio, while recognising that data on this is at a very early stage.
- **Engaging with our fund managers**
  We work tirelessly with our fund managers across all strategies, asset classes and markets to ensure they consider, manage and report to us the climate-related risks and opportunities our investments might face.
- **Collaborating with industry**
  We are committed to engaging with our industry peers, policymakers, regulators and the wider investor community to further best practice in climate-related risk disclosure – supporting not only the TCFD but also Climate Action 100+, the PAII, and CDP.

A summary of where each TCFD recommendation is covered within this climate disclosure

TCFD Pillars	TCFD recommended climate disclosure	Climate disclosure references
Governance Disclose the organisation's governance around climate-related issues and opportunities.	a. Describe the board's oversight of climate-related risks and opportunities.	Pages 07–09
	b. Describe management's role in assessing and managing climate-related risks and opportunities.	Pages 07–09
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.	Pages 10, 13
	b. Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning.	Pages 10–13
	c. Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2 degree or lower scenario.	Pages 12–14, 26–32
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	Pages 10–15
	b. Describe the organisation's processes for managing climate-related risks.	Pages 16–18
	c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Pages 07–12
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.	Pages 15, Appendix D
	b. Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.	Pages 21–24, 35
	c. Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Page 36

APPENDICES CONTINUED

Appendix B

PPF climate change policy

Beliefs

As a long-term investor, we have a duty to consider all financially material risk factors in our investment decisions, including climate-related. We believe climate change can materially impact businesses, markets and economies globally in a number of ways, from a societal perspective as well as environmental.

We've developed a specific climate change policy, as we see climate change as a systemic and non-diversifiable concern that has the potential to significantly affect the value of our investments across the short, medium and long-term, throughout the global economy. We also believe that opportunities can exist and be exploited for companies and assets well-positioned for the transition to a low-carbon economy.

Assessment

We recognise the complexity and barriers to identifying and assessing the forward-looking financial materiality of climate-related impacts on our investments. However, we seek to assess their exposure to climate-related risks and opportunities through a range of metrics and analysis, as the tools available to measure these evolve.

Consideration will be given to the potential impacts on asset prices and return expectations across both short and longer-term time horizons, and how this could inform our decisions around strategic asset allocation and portfolio construction.

We will seek to oversee all new and existing investment arrangements in a way that takes account of climate transition and adaptation risks, as well as resilience, opportunities and inclusivity, in line with the 2015 Paris Agreement commitment to keep global temperature rise this century to well below 2°C and aim to limit the increase to 1.5°C.

Manager expectations

We expect our external managers to understand and integrate material climate-related risks into their analysis and investment process. This includes undertaking carbon footprinting and scenario analysis, assessing asset exposure to physical risks, and engaging with issuers, where relevant for their asset class.

In monitoring the exposure and performance of our external managers, we'll review how they're managing climate-related risks and opportunities, including voting and engaging with issuers on climate-related issues, and how they're reporting to us on their actions.

Collaboration

We also collaborate with the wider investment community on climate change issues, as a signatory to the Principles for Responsible Investment (PRI) and as a member of the Institutional Investor Group on Climate Change (IIGCC). We seek to encourage greater climate disclosure through supporting initiatives such as CDP and the Task Force on Climate-related Financial Disclosures (TCFD), and through engaging with companies identified by Climate Action 100+, so that exposure to climate risks (and opportunities) can be better understood.

Reporting and engagement

We'll communicate and engage on the actions and progress that have been taken around our climate change strategy to relevant beneficiaries and stakeholders, reporting in line with TCFD guidance for asset owners.

(Last reviewed December 2022.)

Appendix C

Disclosure metrics from the 2022/23 Annual Report and Accounts

PPF carbon footprint listed equities Scope 1 and 2 metrics

	2022	2021	2020	% Change from 2021 to 2022
Metrics based on investor allocation (EVIC)				
Total financed carbon emissions (tCO_2e)	170,370	395,353	796,972	-57%
Financed carbon emissions (tCO_2e/$m invested)	57	65	122	-12%
Financed carbon emissions intensity (tCO_2e/$m revenues)	112	151	226	-26%
Metrics based on portfolio weights (WACI)				
Weighted average carbon intensity (tCO_2e/$m revenues)	108	154	243	-30%
Equity benchmark weighted average carbon intensity (tCO_2e/$m revenues)*	83	83	299	–
Market value of the Fund's equities covered by carbon data ($m)	2,948	6,090	6,528	
Proportion of the Fund's equities for which data is available (%)	99%	99%	98%	

PPF carbon footprint corporate credit Scope 1 and 2 metrics

	2022	2021	2020	% Change from 2021 to 2022
Metrics based on investor allocation (EVIC)				
Total financed carbon emissions (tCO_2e)	233,705	321,205	329,106	-27%
Financed carbon emissions (tCO_2e/$m invested)	51	50	53	+1%
Financed carbon emissions intensity (tCO_2e/$m revenues)	179	204	192	-12%
Metrics based on portfolio weights (WACI)				
Weighted average carbon intensity (tCO_2e/$m revenues)	181	133	318	+36%
Credit benchmark weighted average carbon intensity (tCO_2e/$m revenues)	162	279	255	-42%
Market value of the Fund's corporate credit covered by carbon data ($m)	4,475	6,451	6,214	
Proportion of the Fund's corporate credit for which data is available (%)	96%	89%	93%	

Source: Certain information ©2023 MSCI ESG Research LLC. Reproduced by permission; no further distribution (PPF holdings as of 31/12/2022). Equity benchmark = FTSE Custom All-World Climate Minimum Variance Index. Credit benchmark = Bloomberg Barclays Global Aggregate Credit Index.

* Equity benchmark changed from FTSE All-World Minimum Variance Index to FTSE Custom All-World Climate Minimum Variance Index on 1 August 2021.

Metric definitions:

- Total Financed Carbon Emissions: Measures the Scope 1 + Scope 2 tonnes of CO_2 equivalent emissions for which an investor is responsible by their total overall financing. Emissions are apportioned across all outstanding shares and bonds (% Enterprise Value including cash).
- Financed Carbon Emissions: Measures the Scope 1 and 2 tonnes of CO_2 equivalent emissions, for which an investor is responsible, per $ million invested, by their total overall financing. Emissions are apportioned across all outstanding shares and bonds (% Enterprise Value including cash).
- Financed Carbon Intensity: Measures the carbon efficiency of a portfolio, defined as the ratio of Scope 1 and 2 tonnes of CO_2 equivalent emissions for which an investor is responsible to the revenues for which an investor has a claim by their total overall financing. Emissions and sales are apportioned across all outstanding shares and bonds (% Enterprise Value including cash).
- Weighted Average Carbon Intensity (WACI): Measures a portfolio's exposure to carbon-intensive companies, defined as the portfolio weighted average of companies' Carbon Intensity (Scope 1 and 2 tonnes of CO_2 equivalent emissions per $ million of revenues).
- Enterprise value including cash (EVIC): Market capitalisation at fiscal year-end date + preferred stock + minority interest + total debt.

APPENDICES CONTINUED

Appendix D

Our carbon footprint calculations

We report a range of carbon emissions-based metrics for our listed global equity and credit investment holdings to align with both TCFD and [Partnership for Carbon Accounting Financials](https://carbonaccountingfinancials.com) (PCAF) guidance. We are also guided by the DWP's work around proposed metrics for pension funds.

Although our year-end is 31 March, we review our climate exposure metrics to 31 December. This allows for the greatest coverage of climate data, such as the annual corporate CDP responses made available to investors each autumn.

Our preferred metric for assessing carbon risk exposure on a day-to-day basis is the Weighted Average Carbon Intensity (WACI). We feel it gives us the greatest coverage in fixed income where we have more significant exposure and allows us to compare similar types of assets and portfolios, regardless of investment size.

Absolute financed emissions

For absolute carbon emissions, we measure the total operational Scope 1 and Scope 2 carbon emissions (based on the definition set by the Greenhouse Gas (GHG) Protocol) using data from MSCI ESG Research. To calculate our apportioned 'ownership' of each investment, we've used Enterprise Value Including Cash (EVIC) as recommended by the PCAF.

Relative carbon intensity

To give the fullest picture of the carbon intensity of our portfolio and so we can compare different portfolios on as close to a like-for-like basis as we can, we use three key measures:

- **Financed carbon emissions per million dollars invested metric**
  Measuring the Financed Carbon Emissions per million dollars invested helps us understand the carbon emissions being financed by the size of our investment portfolio.
- **Financed carbon emissions per million dollars revenue metric**
  Measuring the Financed Carbon Intensity per million dollars of revenue helps us understand the carbon efficiency of our portfolio, i.e., how efficient the companies are at generating output per tonne of carbon.
- **Weighted Average Carbon Intensity (WACI) metric**
  As recommended by the TCFD, we use the WACI footprint to monitor our portfolios' exposure to carbon-intensive companies. It's flexible enough to use across asset classes and gives us greater coverage in fixed income portfolios.

Carbon metric equations

Total Financed Carbon Emissions in tonnes CO_2e:

$$\sum_n^i \left(\frac{\text{current value of investment in entity}}{\text{Entity's Enterprise Value including cash}} \text{ X entity's GHG emissions} \right)$$

Financed Carbon Emissions per million dollars invested

metric (may be shown in other currencies too):

$$\frac{\sum_n^i \left(\frac{\text{current value of investment in entity}}{\text{Entity's Enterprise Value including cash}} \text{ X entity's GHG emissions} \right)}{\text{current portfolio value (\$m)}}$$

Financed Carbon Intensity per million dollars revenue

metric (may be shown in other currencies too):

$$\frac{\sum_n^i \left(\frac{\text{current value of investment in entity}}{\text{Entity's Enterprise Value including cash}} \text{ X entity's GHG emissions} \right)}{\sum_n^i \left(\frac{\text{current value of investment in entity}}{\text{Entity's Enterprise Value including cash}} \text{ X entity's revenue} \right)}$$

Weighted Average Carbon Intensity

metric (where normalisation factor is entity's revenues, but other normalisation factors can be used):

$$\sum_n^i \left(\frac{\text{current value of investment in entity}}{\text{current portfolio value}} \text{ X } \frac{\text{entity's GHG emissions}}{\text{normalisation factor}} \right)$$

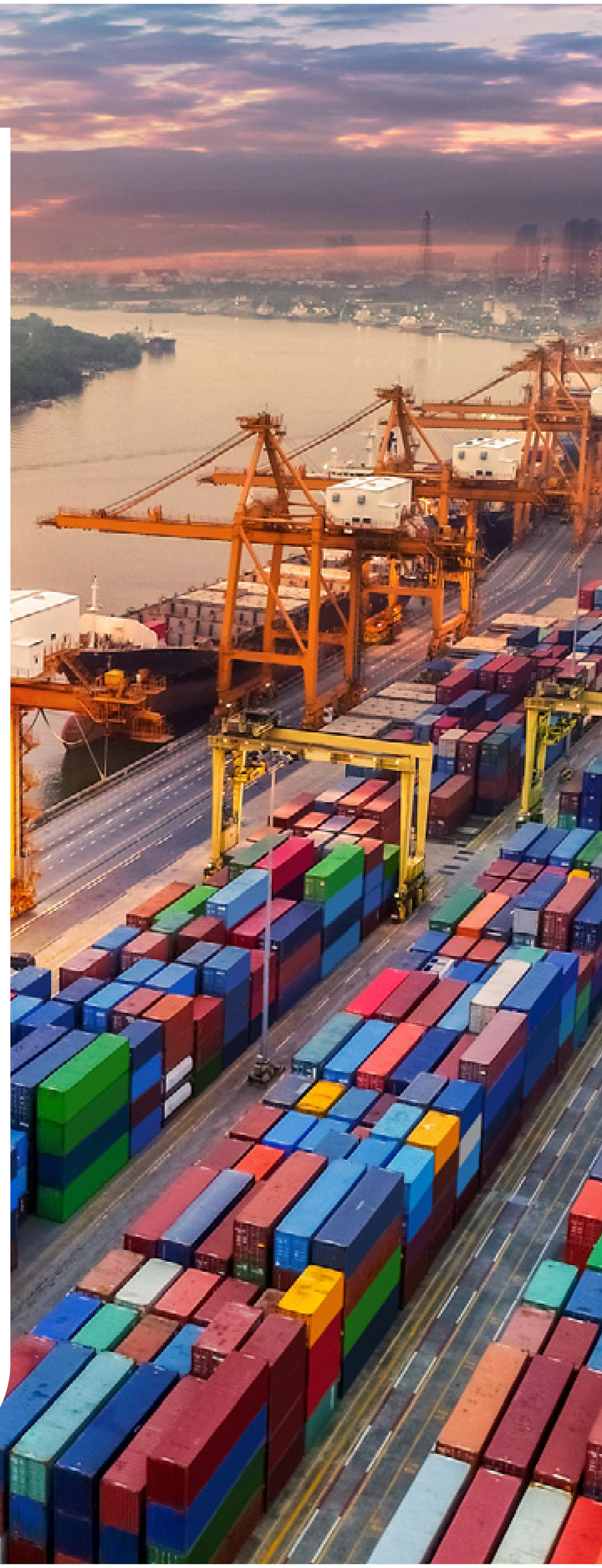
Weighted Average Carbon Intensity for EM Sovereign Constituents (tonnes CO_2e/ \$M GDP nominal)

Measures a portfolio's exposure to carbon-intensive economies, defined as the portfolio weighted average of sovereigns' GHG Intensity (emissions/GDP).

Sovereign constituents tonnes CO_2e/\$m GDP nominal

$$\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \text{ X } \frac{\text{sovereign issuer's GHG emissions}_i}{\text{sovereign issuer's \$M GDP}_i} \right)$$

Weighted Average Carbon Intensity for UK Sovereign Constituents (tons CO_2e/ PPP-Adjusted GDP): Measures a portfolio's exposure to the UK economy, defined as the portfolio weighted average of sovereigns' GHG Intensity (emissions/GDP). We have calculated this metric based on PCAF's latest recommendations.



Sources: Sovereign GHG without LULUCF from United Nations Framework Convention on Climate Change (UNFCCC) and PPP-Adjusted GDP from World Bank.

Sovereign Emission Intensity Formula based on PCAF standard (see page 116 of https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf): Sovereign GHG without LULUCF / PPP adjusted GDP.

APPENDICES CONTINUED

Appendix E

MSCI disclaimer

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Appendix F

Our climate change voting guidelines

Climate change is a key area of focus for us, and Net Zero stewardship is a fundamental part of our approach to management of climate-related risks. Read our Climate Change Policy for more details. Through our stewardship provider and participation in collaborative initiatives, we expect tangible progress around Net Zero and work with both our managers and companies to encourage the transition to a low-carbon economy.

In order to measurably track and encourage progress on climate, we utilise the management quality assessment of companies by the Transition Pathway Initiative (TPI). We are also informed by the Climate Action 100+ Net Zero Benchmark for those companies included in this assessment. We also will be guided in our voting by the industry initiatives around Net Zero alignment for both asset owners and our asset managers.

For 2023, we have increased the thresholds for climate-related voting guidelines as noted below:

Transition Pathway Initiative Management Quality score: All European and Australian companies in all sectors below Level 4; all coal, oil, gas, utilities and automotive companies below Level 4 vs. Level 3 for autos in 2022; below Level 3 for all remaining sectors/companies in US and Asia and Emerging Markets;

Climate Action 100+ Benchmark: Companies that have no medium-term targets in place as identified by indicator 3 of the Climate Action 100+ Benchmark;

Coal: Companies identified as expanding coal-fired infrastructure by the Global Coal Exit List or companies that have significant dependence on coal without a sufficiently ambitious timeline and strategy for coal phaseout; and

Deforestation: Companies that score below 10 on the Forest 500 ranking (assesses companies' disclosure and management of deforestation risks); Financial institutions that score 0 on the Forest 500 ranking.

Climate-related Shareholder Proposals: For European companies, we will be reviewing any shareholder proposals related to climate change internally.

Companies on the PPF's Climate Engagement Watchlist: Shareholder meetings at companies on our Climate Watchlist will also be reviewed internally by the ESG Team. This process will allow additional analysis around the progress being made against our internally-set targets. A vote against management may be necessary if we consider there has been inadequate progress.

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