TfL

PENSIONFUND

Task Force on Climate Related Disclosures - June 2023

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MAYOR OF LONDON

Transport for London

Introduction

The TfL Pension Fund ("the Fund") is subject to the requirement to produce disclosures in line with the recommendations of the Task Force on Climate-Related Disclosures ("TCFD"), as transposed into UK law in 2021. The aim is to improve and increase reporting of climate-related financial risks and opportunities.

The TCFD framework requires disclosures in four broad categories:

- **Governance** around climate-related risks and opportunities

- **Strategy:** the actual and potential impact of climate-related risks and opportunities on the strategy and financial plans of the Fund

- **Risk management:** how the Fund identifies, assesses, and manages climate-related risks

- **Metrics and targets:** the metrics and targets used to assess and manage climate-related risks and opportunities

This report sets out the Fund's approach to compliance in each of these four categories. The report is extensive due to the comprehensive requirements of TCFD. Therefore, the section below highlights the key results from this year for the Fund's members. A glossary is included at the back of this report.

Member Highlights

Over the year covered by this report, the Trustee has undertaken an assessment of the impact of climate change risk on the funding of the Fund. This assessment covered both the asset and liability risks of the Fund as well as a consideration of the climate change risks on the strength of the Sponsor's covenant.

The approach adopted for the assessment represented a step change this year in quantifying climate risks on our funding position over a medium to long-term by subjecting the Fund's assets and liabilities to a range of scenarios. It then took the analysis to its next logical step of trying to understand how TfL covenant itself might fare and how its adaptation and net zero plans could help mitigate some of the risks. However, unlike the more quantified nature of asset and liability stress testing, covenant climate review was more qualitative in nature.

Quantitative and qualitative assessments have their advantages and disadvantages, but undertaken together, they should provide a better understanding of the risks. A quantitative framework helps to synthesise some very complex issues into an easy to compare numeric terms; qualitative analysis, on the other hand, helps to look at the issues through multiple lenses that aids better of contextualisation of the results. Precise modelled figures are based on several assumptions that would undoubtedly change over time, giving a sense of imprecise certainty. This is a helpful disclaimer to bear in mind when reading the scenario analysis.

Liability climate risk assessment was undertaken for the first time and it recognised the key risks being through changes in the Fund's longevity assumptions. Also, in line with the regulatory guidelines, the impact assessment of physical risks on the strength of the Employer covenant was also undertaken for the first time. Finally, climate scenario analysis was carried out this year on the Fund's assets and liabilities. The results are summarised below.

Assets

The Fund has significant allocations to private market assets with a strong climate sustainability theme which publicly available scenario analysis, like the Paris Agreement Capital Transition

Assessment (PACTA) tool used in previous reports, is not able to capture. Therefore, this year we have introduced an additional analysis using Bridgewater's climate transition stress testing tool[1]. This analysis is able to stress test most of the asset classes (including private markets) in the Fund's portfolio.

The Bridgewater tool focuses on the **four broad climate transition scenarios** they think are most likely—**carbon pricing** (a meaningful ramp up in mandatory carbon pricing that raises the cost of emitting greenhouse gases), **a supply squeeze** (limits on the supply of carbon-intensive energy force entities to reduce fossil fuel consumption), **green MP3** (green Monetary Policy 3, where Governments borrow and print money to spend directly on green R&D and infrastructure, reducing emissions by incentivizing the transition to low carbon energy sources and technologies), and **a green technology breakthrough** (step changes in green technology and an ensuing investment boom rapidly change the trade-off faced by various entities today in favor of greener technologies) —and assesses their impact on economies, markets, and portfolios. We have used the tool to stress test the impact of each of these climate transition scenarios on the whole asset portfolio.

Below table shows the total portfolio impact across 4 scenarios. **The results show that the portfolio's exposure to climate risks is mitigated and in two scenarios, the portfolio would benefit from climate related opportunities.** The expected portfolio impact is a "one off" impact. This analysis is intended to give a representative view of how portfolios and the assets within it could perform across different possible transition scenarios. Any climate transition would likely involve a combination of these policies. The full analysis results are included from page X onward and show that under each scenario, the portfolio impact could come in a range of outcomes and the table below presents the average outcome.

	Total Impact	Macro[1] Impact	Climate Specific Impact
I. Green Tech Breakthrough	**5.1%**	5.7%	-0.6%
II. Green MP3	**4.1%**	4.4%	-0.3%
III. Carbon Pricing	**-3.8%**	-3.2%	-0.6%
IV. Supply Squeeze	**-5.9%**	-5.8%	-0.2%

1. Key Macro factors include economic growth, inflation, employment, spending, and monetary and fiscal policy

Liabilities

The Fund is exposed to climate risk through the impact of climate on future improvements in life expectancy and the impact of both transition risk (the economic impact of a transition to a low carbon economy) and physical risk (the impact of changes in weather and climate on UK mortality rates).

The WTW Climate Scenario analysis considers the impact of four climate scenarios on future improvements in life expectancy:

- **Lowest Common Denominator** - 'business as usual' where current policies continue with no further attempt to incentivise further emission reductions;
- **Inevitable Policy Response -** rapid shift in policy in late 2020's after an initial delay in meaningful action, implemented in an uncoordinated manner;
- **Global Coordinated Action -** immediate, coordinated implementation of policies to reduce global emissions; and
- **Climate Emergency** - immediate, ambitions and coordinated response in which aggressive policy is pursued and extensive technology shifts are achieved.

The table below shows the impact on the Fund's liability value, on a Technical Provisions ("TP") basis, across the four scenarios. **The results show that, in isolation, three of the four climate scenarios**

[1] Bridgewater is the world's largest systematic macro manager with deep understanding of all major markets and economies, and therefore well placed to provide a tool to analyse systemic risks from climate transition.

in WTW's modelling process imply reduced life expectancies relative to the Fund's central mortality assumptions and therefore a relative reduction in the Fund's liabilities.

Under the Global Coordinated Action scenario, improvements in life expectancies result in an increase to the value of the TP liabilities and therefore a reduction in the funding level and surplus of the Fund. Whilst this has unfavourable implications on funding, the impact is manageable. The change in TP liability value is similar to the impact of a 1-in-20-year VaR95 shock to longevity, which the Trustee monitors quarterly. In this event, the funding position remains strong at 114%.

The Trustee has also assessed the impact as an annual impact on liability values over a 15-year period within the main body of the report.

Scenario	**Impact on Fund's Technical Provisions** (-ve: reduction in liabilities)
Base Case	N/A
Lowest Common Denominator	-4.4%
Inevitable Policy Response	-2.2%
Global Coordinated Action	3.0%
Climate Emergency	-0.6%

Covenant

As the integrated transport authority for London, TfL faces a number of risks related to the ongoing impact of climate change and has therefore developed goals and strategies for managing the risks and opportunities which reflect that impact. TfL's risk assessment of the physical impact of climate change has identified 14 current physical climate risks as severe or major, with this number expected to increase to 57 by 2080 as there is a risk of the impact of climate change intensifying over time. However, TfL seeks to mitigate the impact of these climate risks through achievement of its environmental sustainability targets and implementation of its Adaptation Plan.

In line with the Mayor's target for London, TfL has a target to reach Net Zero by 2030, through the use of 100% renewable energy, electrifying its support fleet and the use of a zero-emission bus fleet. TfL's Adaptation Plan focuses on preparing, planning and investing for future climate change by increasingly integrating climate change risk into planning and investment decisions which consider adaptation to be as important as safety and reliability. This is aimed at protecting staff, contractors, and customers and reducing the financial impact of climate change.

However, we note that achievement of TfL's climate targets and Adaptation Plan appears dependent on future external funding from both the Government and private sources. A dedicated budget for adaptation measures is set to be established by the end of 2023. Further costs may be incurred related to the impact of physical risks (which TfL has not yet quantified), depending on the climate change pathway that materialises. There may also be further impacts from the transitional risks which are not yet assessed. As a result, Penfida have advised that the impact of climate change and the need to fund delivery on climate targets and adaptation may reduce TfL's flexibility to fund DRCs in the future, to the extent that the required external funding is either not provided or comes with conditions.

Given that the Fund is still open, resulting in a long period of covenant reliance, the severity of the physical climate risks identified by TfL and the need for further funding to deliver on climate mitigation plans, **Penfida have assessed climate change-related risks from a covenant perspective to be Medium in the short to medium term and Medium to High in the long-term.**

This risk assessment should, however, take account of the critical nature of TfL to the London economy, the provision government financial support to date and TfL's position as a statutory corporation under the Greater London Authority Act 1999.

So what does it mean for the Fund when all the factors are considered all together? Bridgewater and WTW have conducted scenario analysis on impact of climate change on the assets and liabilities of the Plan, respectively. On the asset side, Bridgewater has modelled four scenarios, with two resulting in a negative impact and two positive, with a range of +5.1% to -5.9%. On the liability side, WTW has modelled four different scenarios, which shows that in three scenarios climate change could increase mortality assumptions, thereby reducing liabilities on a TPs basis, while in only one would liabilities increase. The range of the impact on liabilities is +3% to -4.4%. The scenarios used by Bridgewater and WTW are not exactly the same and therefore cannot be exactly mapped onto each other to determine a net funding impact. However, they are not that different in that they are trying to capture global transition trends and journeys, with Bridgewater analysis more optimistic about human ingenuity in finding a positive resolution to climate emergency in its scenarios. However, in any scenario, the impact on the Fund's assets and liabilities should be manageable relative to the sponsor's covenant and less significant than the ongoing risks related to the covenant.

In terms of the climate covenant risk, TfL, as the integrated transport authority for London, faces a number of risks related to the ongoing climate change crisis and has developed goals and strategies for managing the risks and opportunities borne from climate change. TfL's own risk assessment of the physical impact of climate change has identified 14 current physical climate risks as severe or major, with this number expected to increase to 57 by 2080 as there is a risk of the impact of climate change intensifying over time. However, TfL seeks to mitigate the impact of these climate risks through achievement of its environmental sustainability targets and implementation of its Adaptation Plan. It is to be noted though that achievement of TfL's climate targets and Adaptation Plan appears dependent on future external funding from both the Government and private sources. In addition, further costs may be incurred related to the impact of physical risks (which TfL has not yet quantified), depending on the climate change pathway that materialises. There may also be further impacts from the transitional risks which have not yet been assessed. Some of these observations would not come as surprise to anyone as the impact of heavy rains, rising temperatures and extreme weather in general is not lost on Londoners using public transport.

Whilst climate change is a serious risk to TfL, it is taking actions to mitigate the impact, subject of course to the availability of funding. However, climate change is a global problem requiring a coordinated global response. TfL could do everything and still the covenant could be at risk if the global response fails. In that context, it is important to continue to better understand the impact on TfL as disclosures become available, in particular should TfL publish any quantitative analysis of the potential impacts of various climate scenarios, the Trustees may consider updating the analysis.

Update on Metrics

Here we summarise the metrics used to assess and manage climate-related risks and opportunities under TCFD, and the actions (asset allocation, engagement and divestment/ exclusions) that the Fund took this year which are expected to have had a positive impact on the metrics. Please refer to Section IV of the report: Metrics and Targets for full details.

The Fund is aiming to achieve a 100% reduction in its carbon emissions no later than 2045; with an interim target reduction of 55% of carbon emissions for 2030 at the latest. These targets are set based on the comparison with the 2016 baseline, when the Paris Agreement came into effect. The targets will be measured using the weighted average carbon intensity ("WACI") metric, which is the same metric used to measure the Fund's carbon footprint below.

Metric	March 2023	March 2022
Absolute Carbon Emissions	Equity (Active + Passive) : 366,149 tons of Scope 1 and 2 carbon emissions ; and 2.722m tons of Scope 3 estimated carbon emissions Equity (Active): 265,977 tons of Scope 1 and 2 carbon emissions and 265,977 tons 1.931m tons of Scope 3 estimated carbon emissions Corporate bonds: 21,637 tons of Scope 1 and 2 carbon emissions; c. 193,000 tons of Scope 3 estimated carbon emissions Scope 3 data is a new entry from this year onward.	Equity (Active): 270,480 tons of Scope 1 and 2 carbon emissions Corporate bonds: 16,460 tons of Scope 1 and 2 carbon emissions
Weight Average Carbon Intensity[1]	Scope 1/2 (Active +Passive) : 122.7 Tons CO2e / $M revenue Scope 1/2 (Active): 103.7 Tons CO2e / $M revenue Scope 3 (Active+Passive): estimated 726.0 Tons CO2e / $M revenue . Scope 3 data is a new entry from this year onward.	Scope 1/2 (Active): 114.6 Tons CO2e / $M revenue
Percentage of investments with an "ESG" tilt	12.9% of total assets under management	11% of total assets under management
Portfolio Alignment	74.5% of portfolio companies assessed by TPI[2] are aligned with 1.5-degree to 2-degree targets	n/a (new metric introduced in 2023)

1. 2016 baseline: Scope 1/2, 182.09 Tons CO2e / $M revenue at 31 Dec 2016 (across the actively managed public equity and bond holdings). Source: Aladdin/ MSCI
2. The Transition Pathway Initiative (TPI) is an independent, authoritative source of research and data into the progress being made by the financial and corporate world in making the transition to a low-carbon economy

In terms of the actions that the Fund took this year which are expected to have had a positive impact on the metrics, these are extensive and the main form of communication on this subject to the Fund's members and the public is the annual Sustainability Report published in Q4 every year. Therefore we would first recommend reading the 2022 Sustainability Report for additional details on the Fund's actions and progress. It can be found at the link below:

https://content.tfl.gov.uk/2022-report-on-sustainable-investing.pdf

Some of the actions that are expected to have had a positive impact on the metrics include:

The Fund holds total investments of c. £1,837m in assets with an ESG tilt as of March 2023, an increase of £274m compared to last year.

With its stewardship partner Sustainalytics, the Fund participates in the Climate Change and Sustainable Forestry thematic programme which currently engages 22 companies in the forestry commodities, consumer products and financing value chain. Another programme with Sustainalytics, Material Risk Engagements, cover over 300 companies across the Fund's active and passive holdings, of which two-thirds have a focus on carbon emissions and decarbonisation/ net zero goals.

Sustainalytics also provides voting recommendations to Glass Lewis (the proxy voting specialist appointed by the Fund through Sustainalytics) on ESG topics on behalf of the Fund. A recent example is the voting on a shareholder proposal relating to scope 3 emission reduction targets at BP's annual meeting, on which the Fund voted 'for' the shareholder proposal following Sustainalytics' input.

With the fund managers, the Fund holds regular dialogues to evaluate investments in companies with high emission intensities. Each quarter the Fund monitors the active holdings with the highest emission intensities and requests and reviews the investment rationale by the fund managers. An example on the company South32 is included in this report. In an annual ESG questionnaire, the fund managers are asked to explain their engagement strategy for any fossil fuel company that is assessed as not aligned to the Paris Agreement goals by TPI, with divestment being an option if there is lack of progress over time.

In addition, the Fund adopts an exclusion policy of any companies that derive over 30% of total revenue from thermal coal mining or power generation. This results in the exclusion of 120 companies at the end of March 2023.

I. Governance

Recommended Disclosure (a)

Describe the board's oversight of climate-related risks and opportunities

The Trustee of the Fund ("the Trustee Board") maintains overall responsibility for investment matters, however, its implementation, including that of climate related risks and opportunities, is delegated to the Investment Committee ("IC") and Alternatives & Liability Hedging Committee ("ALHC"). The IC and the ALHC are subgroups of the Trustee Board.

The Trustee Board has developed beliefs with regards to the financial impact to the Fund arising from climate change. The resulting belief is that climate change is a significant long-term financial risk, which has the potential to impact all holdings in the portfolio over time, if not properly managed. This belief is integral to the Fund's Statement of Investment Principles ("SIP"), which also sets out how the Fund's Environmental, Social and Governance ("ESG") policy, which includes climate change issues, is taken into account in relation to exercising its ownership rights. The SIP can be found online at the following link:

Statement of Investment Principles – June 2023

The Trustee Board went through a thorough process of reviewing all its beliefs, including those around ESG and climate change over the Fund Year. The Trustee decided to undertake this process following turnover within the Trustee Board, changing market conditions & Fund circumstances, and an evolution of understanding, ambition, and best practice around ESG integration, The Trustee went through a multi-stage process, covering education on the importance and use of investment beliefs, responding to a beliefs questionnaire, discussion of the results of the questionnaire, and specific training on ESG beliefs, before documenting the new investment beliefs in a Statement of Investment Beliefs.

The Statement of Investment Beliefs can be found online at the following link:

Statement of Investment Beliefs – June 2023

The SIP and risk register are reviewed on an annual basis by the IC and approved by the Trustee Board. The Trustee Board receives annual training on ESG issues, including climate change. There is a half-day annual investment training session (including ESG and climate-related topics) provided to the Trustee Directors by WTW. On 24 April 2023 the Fund held a half-day training seminar focusing on carbon literacy and ESG beliefs; this was attended by Trustee Directors as well as the Fund Office's investment staff. The Chair of the IC is a member of Accounting for Sustainability and attends industry seminars and conferences regularly. Also, many of the Fund Office investment staff have already completed TfL Carbon Literacy Training or would do it shortly as part of their annual learning objectives. In addition, the Trustees and the Fund Office staff would attend ESG and climate focussed conferences and workshops to broaden their exposure and stay abreast of new developments.

The Trustee Board is ultimately accountable for climate-related risks and opportunities and sets the broad strategy and direction, with input from the Fund's investment and legal advisors, within which the IC and ALHC undertake further actions. The IC is responsible for the Fund's investments in equities, bonds and real estate holdings and the ALHC is responsible for the Fund's alternatives investments and hedging activities.

The Trustee Board receives quarterly updates from the IC and ALHC to undertake that oversight function. The four members of the ALHC are currently drawn from the 8-member IC to ensure there is an alignment on broader investment and sustainability issues.

The IC, which meets at least quarterly, and ALHC, which meets 7-10 times in a year, have responsibility for managing climate-related issues in their respective asset classes as part of its remit for the implementation of the Fund's investment strategy. In accordance with the Committee Remits (dated December 2020), the Trustee Board has delegated to the IC the following ESG matters:

o. ensure the Fund is complying with regulatory requirements including the submission of required disclosures around the Trustee's approach to sustainable investing.

p. carry out the selection process for, and monitor, the Fund's third party stewardship provider.

q. monitor the Fund's ESG activities against industry best practice, adopting new practices where required, and publishing voluntary disclosures on the Fund's ESG policies and activities.

In addition, the IC has been delegated the responsibility for meeting and discussing with the investment managers under its remit, investment and management strategies, approach to ESG considerations, and guidelines from time to time as necessary and at least every 24 months. The ALHC has been delegated the responsibility for meeting and discussing with the alternative asset and liability hedging managers their investment and management strategies, approach to ESG considerations, and guidelines from time to time as necessary and, for open-ended strategies, at least every 24 months.

In addition, IC and ALHC Risk Registers have been updated to cover the recognition, management and mitigation of climate risks in the Fund's investments.

The IC and ALHC meet with majority of the Fund's investment managers on a three-year cycle (with additional meetings outside of this cycle as required). As part of these meetings, the investment manager is expected to present on its ESG integration and corporate governance policies and processes, including case studies, and the Trustees will challenge the investment managers where they feel there are gaps or weaknesses in either the policies or processes.

A Sustainable Investing report is published every year, which covers sustainability and ESG issues, including climate change. Member comments and feedback are requested through the Pension Consultative Council ("PCC"), which the Trustee Board takes into account when reviewing its ESG policy and climate change strategy.

In addition, the Trustee Board has a robust governance framework. Trustee Directors are nominated by the employer, TfL, as well as by PCC and the unions, representing a plurality of views (including those from members) on the Trustee Board.

Lastly, the Trustee Board receives input and support from several professional advisors (WTW as investment advisors and Scheme Actuary, Sackers as legal advisors, and Sustainalytics as stewardship partner) in monitoring climate related risks and opportunities. The Trustee Board assesses the competence of the professional advisors, including specifically in relation to advice on climate change, by considering the quality of advice/service they receive and providing feedback to the Fund Secretary on an ongoing basis. In particular, the Trustee assesses the Fund's Investment Advisor with reference to the agreed Statement of Strategic Objectives, including the expectation that WTW reflects any Trustee-specific investment beliefs and Fund-specific circumstances (including in relation to climate change) in the advice provided. The Fund Secretary holds an annual meeting with each provider to review the contract. The intention is to review the appointments every three years.

In particular, the Fund's investment advisor, WTW, provides the IC with a biennial "Sustainable Investment Review" report. This includes an assessment of the Fund's public equity investment managers in meeting the Fund's requirements on ESG integration and corporate governance. This review has been expanded to also cover several credit and alternatives managers. Sustainable Investment Reviews for individual managers and strategies are also provided on a periodic basis as required. The Trustee Board also takes advice from its actuaries and covenant advisors regarding the extent to which climate change may affect the funding position of the Fund and the ability of the sponsor to support the Fund.

The Trustee Board has delegated responsibility for stewardship to Sustainalytics (for the segregated equity portfolio) and its investment managers, within approved guidelines. Sustainalytics, a Morningstar Company, is a leading independent ESG and corporate governance research, ratings and analytics firm. Appointed in December 2019, it engages with portfolio holding companies on behalf of the Fund on three programmes (Global Standards, Material Risk and a thematic programme, currently on climate change by focusing on Sustainable Forests and Finance, which launched in July 2021). Sustainalytics' partner Glass Lewis carries out proxy voting on all of the Fund's segregated equity mandates.

Recommended Disclosure (b)

Describe management's role in assessing and managing climate-related risks and opportunities

The Fund Office has been given the mandate by the Trustee to assess and manage climate-related risks and opportunities on a day-to-day basis. Specifically, the mandate mainly involves:

- engaging with and monitoring the fund managers and stewardship partner (Sustainalytics),
- data management and analysis,
- research, industry collaboration and advocacy,
- collaborating with the investment and legal advisors to provide advice and training to the Trustee,
- making proposals on managing climate-related risks and opportunities and implementing decisions made by the Trustee,
- reporting important findings to the Trustee on a regularly basis,
- other stakeholder and regulatory reporting,
- drafting and maintaining Fund ESG documents.

The mandate is further explained in the paragraphs below. The performance of the Fund Office is reviewed by the Trustee through 1) feedback from mainly the Trustee Directors and the PCC; 2) external reviews such as the PRI's annual assessment; 3) progress toward the metrics and targets set out in this report.

The Fund Office's investment staff attend seminars and conferences regularly and pursue continuous professional development through research and study.

The Fund Office is responsible for the preparation of reports for the Trustee Board and its subgroups, including with regards to climate-related risks and opportunities. The Chief Investment Officer Pensions is responsible and the Fund Secretary accountable for producing the reports. The Trustee Board and its subgroups, as outlined in the previous section, assess these reports, and hold the decision-making power.

The Fund Office is responsible for proposing climate change policy and processes for the IC and ALHC to consider and the Trustee Board to review and approve, as well as implementing the agreed risk management measures, with support from the Fund Office's investment team – for detail, see the Strategy and Risk Management sections below.

The Fund Office is responsible for engaging with the Fund's investment managers and advisors to collect information and carry out climate risk assessment. The Fund Office is also responsible for monitoring the investment managers' fulfilment of fiduciary duty in managing climate risk on behalf of the Fund. The Fund Office receives quarterly reporting from the Fund's investment managers including on ESG integration, voting and engagement, and feeds back this reporting on an exceptions basis to the Trustee Board if there are areas of concern.

As noted in Governance Disclosure (a) above, the IC has been delegated the responsibility by the Trustee Board for meeting and discussing with the investment managers under its remit, investment and management strategies, approach to ESG considerations, and guidelines from time to time as necessary and at least every 24 months. The ALHC has been delegated the responsibility for meeting and discussing with the alternative asset and liability hedging managers their investment and management strategies, approach to ESG considerations, and guidelines from time to time as necessary and, for open-ended strategies, at least every 24 months.

As an example, at the February 2023 meeting the IC received a presentation from the manager Oakhill, in regard to their enhanced credit strategy. The IC noted the manager's ESG progression through the hiring of a new Head – Jeff Cohen- who was a former Director of Capital Markets in SASB and would have new thoughts and policy aspirations. Oakhill were also making progress towards Net Zero through reporting of Scope 1 and 2 WACI and were doing a good job with 76 MtCO2e/$m sales versus 310 MtCO2e/$m sales for the benchmark but more work was still being done in this area.

Another example from the November 2022 ALHC meeting where the ALHC received a presentation from the US social infrastructure manager Harrison Street. The ALHC noted that the manager were the right strategic partners to help the Fund achieve its Net Zero ambition as they have strong ambitions to reduce carbon exposure at an asset level but also covered all ESG areas, which was very unusual for a US manager. It was also noted that in the US there was more focus on Social issues, whereas in the UK it was more on Environmental and Governance issues, so the manager had to balance the needs of their US and UK investors here.

Separately, outside formal meetings, the Fund Office has pushed for improved carbon emissions reporting from both managers (and other managers) as well as conveying the Fund's net zero goals and the Fund's requirement for its managers to contribute toward these goals, which have had a positive effect on the managers' ESG progression. For example, the fixed income mandate's guidelines have been revised to include a requirement of its WACI to be 20% lower than its benchmark.

The IC/ ALHC considers climate risk management practices as part of the Fund's manager selection process (including both new mandates and any top-ups of existing mandates). Specifically, the managers will now be required to formally commit to managing climate related risks and having a strategy for moving toward net zero in the portfolio. The contract will also incorporate requirements to measure carbon emissions of assets (for mandate top-ups, the requirement will be retrospective and cover all existing assets that the manager manages for the Fund too).

For the Fund's existing mandates, the same requirements on carbon reporting are being rolled out. The segregated equity and bond mandates already incorporate an annual ESG questionnaire within which the Fund asks for reporting of carbon emissions (the Fund also uses Aladdin to report carbon emissions data on public assets).

The Fund Office is also responsible for monitoring the Fund's partnership with stewardship specialists Sustainalytics, who exercise the Fund's ownership rights on climate-related matters.

The Fund Office also gathers relevant information through the Fund's membership of the PRI, CDP, Climate Action 100+, A4S, other investment industry contacts and the use of various risk tools such as that provided by MSCI and specialist providers in the investment sustainability sector such as Sustainalytics, who assist in the identification and management of risk.

Finally, the Fund Secretary is responsible for ensuring there are adequate resources available for managing climate risk in the Fund Office.

These resources include software (BlackRock Aladdin risk analytics including ESG risks, Bridgewater Climate Stress Test and publicly available tools including PACTA), personnel/resourcing support (a 5-member in-house investment team and external support including Sustainalytics and the fund managers), and access to data (the Fund subscribes to both MSCI and Sustainalytics ESG and carbon data and research) – how these resources are being deployed is further explained in the sections below.

II. Strategy

Recommended Disclosure (a)

Describe the climate-related risks and opportunities the organisation has identified over the short, medium and long term

The Fund is an open scheme, and its Investment Beliefs highlight the importance of a long-term focus in thinking about its investment strategy and implementation.

The Trustee Board believes that climate change is a significant long-term financial risk which has the potential to impact all holdings in the portfolio over time if not properly managed. Climate change brings about both physical and transition risks, which can be both short term (acute) and medium/ long term in nature. As such, the Fund considers the following time frames:

- Short term – the next 3 years
- Medium term – 3-10 years
- Long term – 10 + years

Physical risks:

Physical risks relate to the direct effects of climate change on the Fund and its members. These risks are expected to impact the Fund in the long term and limited to the effects of climate change-related weather and other natural events on the businesses of invested companies, and the effect of changing temperatures on the mortality of Fund members. These could have varying effects on the funding and investment strategy of the Fund, but the direction and size of the effects is unlikely to be clear for a considerable period of time. We have identified our real estate, infrastructure, catastrophic reinsurance, and private debt mandates as primary exposure to physical climate risk, although recognise that the entire portfolio of risky assets may be exposed to direct or indirect physical risk.

The Fund reviews each manager's due diligence process for assessing physical risks (including acute risk such as flooding or hurricane, and chronic risk such as drought or rising sea levels) as well as how the risks are managed.

Transition risks:

Transition risks relate to the risks and opportunities arising from efforts made to transition towards a net-zero economy (both domestically and globally) in order to limit climate change. These risks and opportunities are generally expected to occur in the medium term, with some perhaps occurring in the short term. As such, the Fund considers risks

1) affecting its asset portfolio (see below) and

2) affecting the Fund's operations itself, including changing regulatory requirements and membership/ public expectations, which require ample response from the Fund to manage the 'regulatory' and 'reputational' risks arising from such changes that will likely impact the Fund in the short and medium term.

Asset-related transition risks and opportunities:

As the Fund's investments are externally managed, engagement with its investment managers is a key step in understanding these risks and opportunities for the individual portfolios that comprise the Fund. This includes understanding their investment process and the reasoning for the individual asset selection in the context of those sectors which are most impacted by climate change, e.g. through the potential for stranded assets, as well as more generally the transition risk which many companies in the portfolios may face over short, medium and long-term time frames as the economy transitions to a low-carbon economy. The Fund also believe that there are climate-related opportunities arising from the transition to a zero-carbon economy and is engaging with its existing and potential new managers where there are investment opportunities in responding to climate change. The Trustee has set a target to invest at least 15% of the Fund's portfolio in investments that have a strong "ESG tilt" by 2025, and it is expected that a reasonable proportion of that will be in investments which access climate-related opportunities.

Identification of risks and opportunities is also informed through the Fund's organisational contacts, which include, but are not limited to, Climate Action 100+, PRI, CDP and A4S and the use of portfolio climate risk analysis tools provided by TPI, PACTA, and Bridgewater.

Alongside the asset risks outlines above, the Trustee has recognised the key climate risks associated with changes to longevity assumptions (with lower liabilities due to a reduction in longevity expectations) and the impact of transition and physical risk on the strength of the Employer covenant.

Covenant risks:

In its latest climate change risk assessment from the 2023 adaptation plan, TfL has categorised physical risks according to materiality (from Minor to Severe) based on their likelihood and financial impact. This categorisation has then been mapped onto three separate time horizons: Current, 2050 and 2080. This risk assessment identified 14 physical climate risks as severe or major currently, with this number expected to increase to 57 by 2080 as the risk of increased climate change intensifies. In the near-term, these risks primarily relate to precipitation, with the most severe risks being high rainfall over a season or longer, extreme rainfall in a single event and resulting in flooding. Over time, TfL is also expected to face increasing risk from changes in temperature, especially on the London Underground, with extreme high temperature posing the most severe risk. TfL did not disclose transition risks in this climate risk assessment.

Liability risks:

We have included the full results of the liability side climate scenario analysis to the Strategy section of the report. An extract is shown below.

The analysis considered four climate scenarios. Under the Global Coordinated Action scenario (which assumes policy makers agree on and immediately implement policies to reduce emissions in a globally co-ordinated manner; corresponding to 2^{o}C temperature rise), improvements in life expectancies result in an increase to the value of the TP liabilities and a reduction in the funding level & surplus. While a negative impact, the impact is manageable. The Trustee has identified longevity hedging as a potential approach to mitigating liability risk associated with climate change, although recognises that there are other considerations which may impact the attractiveness of doing so.

In the other three climate scenarios considered (corresponding to 1.5, 2 and 3.5^{o}C temperature rises), WTW's modelling process implies reduced life expectancies (relative to the Fund's central mortality assumptions) and therefore a relative reduction in the Fund's liabilities. This is a plausible potential outcome arising from the negative impacts of increasing climate change. In isolation, this can suggest a relative improvement in the expected funding position for the Fund.

However, it is important to recognise that an assessment of what is in the best interests of the Fund and its members is a much broader question than the impact on funding level alone. Key considerations may be a reduction in the quality (and length) of members' lives, and the quality of the environment that they will retire into. Consequently, the results of any such modelling should not be assumed to reflect any complacency or acceptance (either implicit or explicit) that the Trustee considers global inaction or business-as-usual with respect to climate change to be in the best interests of the Fund or its members. The Trustee recognises that climate change is a systematic risk of material scale and severity. Actions to address it are a collective priority, given the risks it presents to individual pension schemes, the ongoing resilience of the savings universe, and the planet as a whole.

Recommended Disclosure (b)

Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

The Fund's primary purpose is the delivery of pension benefits and ensuring there are enough funds to achieve that. The strategy in response to climate change is to use a research-driven and evidence-based framework to shift the portfolio assets over time to companies that are better prepared to handle physical and transition risks, reduce and, over time, completely eliminate investments in companies that are not. It should be noted that engagement with portfolio companies to promote real world decarbonisation will be a key part of the strategy. Also importantly, the Trustee aims to tilt the portfolio towards climate opportunities by investing in companies and sectors that would benefit from the transition to a low carbon economy. From a financial planning perspective, the dual goals are the delivery and sustainability of long-term funding ratio of the Fund.

Net zero carbon transition:

As part of its response to climate-related risks, the Fund has agreed its carbon neutral journey plan, which was developed with input from the Fund's investment advisor and asset managers. The Fund aims to achieve net zero carbon emissions by 2045 at the latest, with a 55% reduction in carbon emissions by 2030 also at the latest, relative to a baseline level of carbon emissions as at 2016.

Further details of the Fund's Carbon Neutral Journey Plan can be found in the link below and in the Metrics and Targets section of this report.

https://content.tfl.gov.uk/our-carbon-journey-net-zero-plan.pdf

Asset allocation and manager selection:

Through its diversification of investments, the Fund's strategy seeks to mitigate the impact of climate-related risks and identify opportunities. The Fund has a well-diversified portfolio of assets including specific allocations to those in the renewables sector, which provides resilience to adverse consequences of climate change. In 2021, the SIP was updated to include a target to invest at least

15% of the Fund's portfolio by 2025 (up from the previous 5% target which has been met) by value in investments that have a strong "ESG tilt", of which a significant portion will be aligned with decarbonisation. This represents a material increase in the Fund's ambition to benefit from the opportunities presented by decarbonisation and "investment with purpose" objectives.

In addition, the Fund's approach to the selection, appointment and monitoring of its investment managers is framed to ensure that such risks form part of their investment processes together with the ability of those managers to find opportunities where there is alignment between environmental outcomes and achieving good financial performance.

Stewardship:

Climate risk has a significant impact on the Fund's stewardship strategy and is of high priority. The Fund engages with investee companies that exhibit high climate-related risk (such as non-alignment with Paris Agreement transition pathway) and encourage more effective management of such risk, in order to 'safeguard' the assets. The Fund works with its investment managers, stewardship partner Sustainalytics and Climate Action 100+ to do so. Voting is used as an important tool to exercise its ownership right on climate related matters.

Managers are also required to engage with companies where climate change is considered likely to impact the asset's value over the investment horizon. Feedback from engagements inform the managers' decision to continue holding the assets or not, and the Fund challenges such decisions as necessary.

Divestment:

Although the Fund has a preferred approach for engagement, it carefully considers where divestment may be necessary due to the nature of certain sectors. Since 2019, it has taken an immediate disinvestment action for stocks and assets where thermal coal contributes more than 30% of company revenues. The Fund currently has a process to assess companies that are not aligned with the Paris Agreement (based on TPI[2] analysis) and requires managers to engage with these companies, with divestment remaining an option for the fossil fuel companies if engagement does not lead to improvements. This process is expected to be refined and evolve as technology for decarbonisation and investment research on stewardship best practice develops and TPI itself finetunes its approach. It is quite likely that the Fund would adopt a lower divestment threshold for the "extractive only" sub-sector of fossil fuel where, with few exceptions, engagement is proving more difficult and compliance with TPI framework is not progressing as expected.

Recommended Disclosure (c)

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Since 2019, the Fund has undertaken annual scenario analysis using the Paris Aligned Climate Transition Assessment (PACTA) Tool. The tool measures the alignment with various Paris-aligned climate scenarios. The Fund used the following World Energy Outlook (WEO) 2021 scenarios for portfolio alignment:

- Sustainable Development Scenario ("SDS") – limits global warming to below 2°C above pre-industrial levels, with an expected global temperature rise of 1.5°C. In this scenario, all current net-zero pledges are met, and emissions are significantly addressed in the near-term.
- Stated Policies Scenario ("STEPS") – reflects current and announced policies, assessed on a sector-by-sector basis. This scenario is not designed to achieve a particular global temperature rise, although industry expectations is that these current and announced policies

[2] The Transition Pathway Initiative Global Climate Transition Centre (TPI Centre) is an independent, authoritative source of research and data on the progress of the financial and corporate world in transitioning to a low-carbon economy.

are likely to be insufficient to limit global temperature rises to less than 2°C above pre-industrial levels.

The results show the current exposure of the portfolio to economic activities affected by the transition to a low-carbon economy, and what is the expected future exposure to high- and low-carbon economic activities based on the current revealed production and investment plans of the companies in the portfolio. The 2023 review covered equities (£2.8billion) and corporate bonds (£301m) of the Fund's assets. The results are summarised below.

Current exposure to climate transition risk (Charts 1-2):

The exposure of the portfolio to different sectors and technologies is shown. Within the climate relevant sectors, each technology differs in its role in the low-carbon transition of this sector. Understanding the exposure of the portfolio on a technology level provides the basis to understand transition. The equity portfolio is less exposed to transition risk as it has less exposure to various climate relevant sectors across power, automotive, oil & gas, coal, cement and aviation than the benchmark.

Within the Fund's automotive industry exposure, there is currently a lower proportional exposure to low-carbon technologies such as EV, compared to the benchmark, which can result in higher transition risk. However, Chart 3 below shows that the equity portfolio is expected to increase EV production at a faster pace than the benchmark going forward.

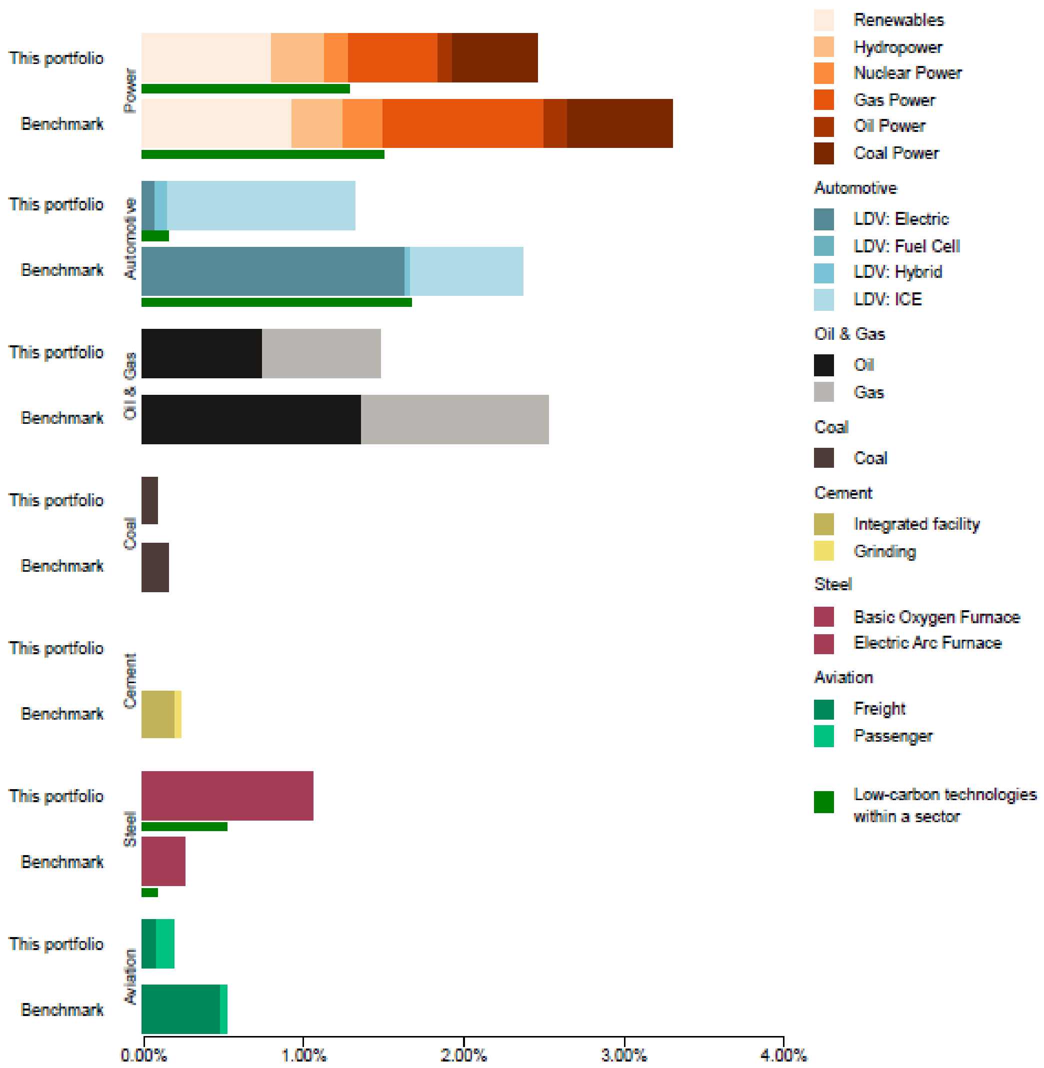
In addition, the biggest contributor to the equity portfolio's current underexposure to low carbon technologies, within the automotive sector, is the Japanese company Isuzu, a commercial vehicle manufacturer with a strong presence in Japan and ASEAN countries. The manager's investment thesis is driven by the fact that demand for small to medium sized commercial vehicles has been growing steadily due to the growth in e-commerce trade and the need for 'last-mile' delivery vehicles. While supply chain disruptions continue to affect the whole auto industry, the commercial vehicle segment is less negatively impacted than the passenger vehicle segment. The company has committed to carbon neutrality by 2050, but challenges remain as the electrification of commercial vehicles is more technologically demanding due to the heavier loads which these vehicles typically need to support. Utilising their alliance with Toyota Motor and Volvo Group, Isuzu is continuing to research and evaluate which technologies will be best suited to de-carbonisation of commercial vehicles. This project is expected to complete by 2025 and thereafter we expect a more detailed roadmap of the technological migration which will support this transition.

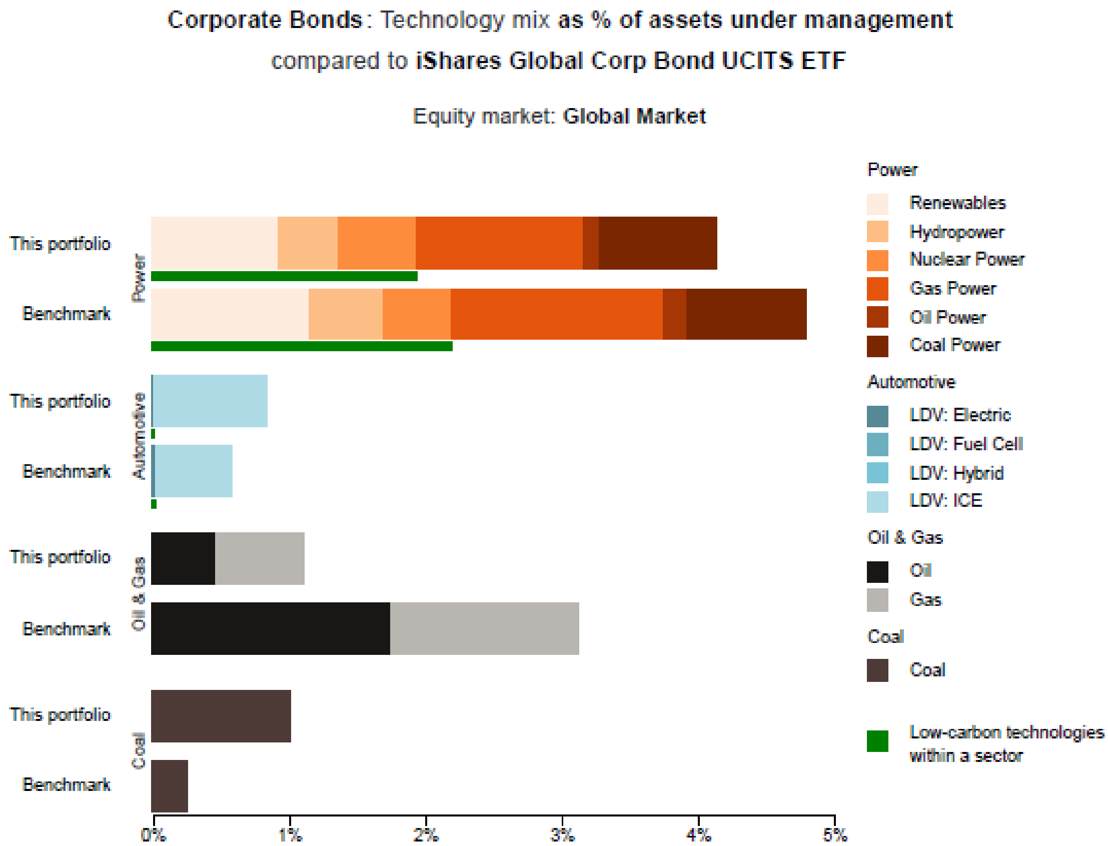
The Fund has higher exposure to steel versus the benchmark. The Fund believes that these companies are leaders in developing cost-effective low-carbon technologies in developing countries, where these companies are based. The Fund's managers have maintained their holdings in materials and utility sectors to provide further diversification in an inflationary environment. Some companies have small-scale coal operations that are below the Fund's 30% revenue divestment threshold. Additionally, many of the companies also produce other materials that are required for the transition to a low carbon future.

In the Corporate Bond portfolio, the Fund has lower exposure relative to the benchmark in the power and oil & gas sectors while having higher exposure in automotive and coal sectors. The exposure to coal can pose some transition risk to the fund, but it is only c1% of the corporate bond portfolio and insignificant. Some companies have small-scale coal operations that are below the Fund's 30% revenue divestment threshold.

Listed Equity: Technology mix **as % of assets under management** compared to **iShares MSCI ACWI ETF**

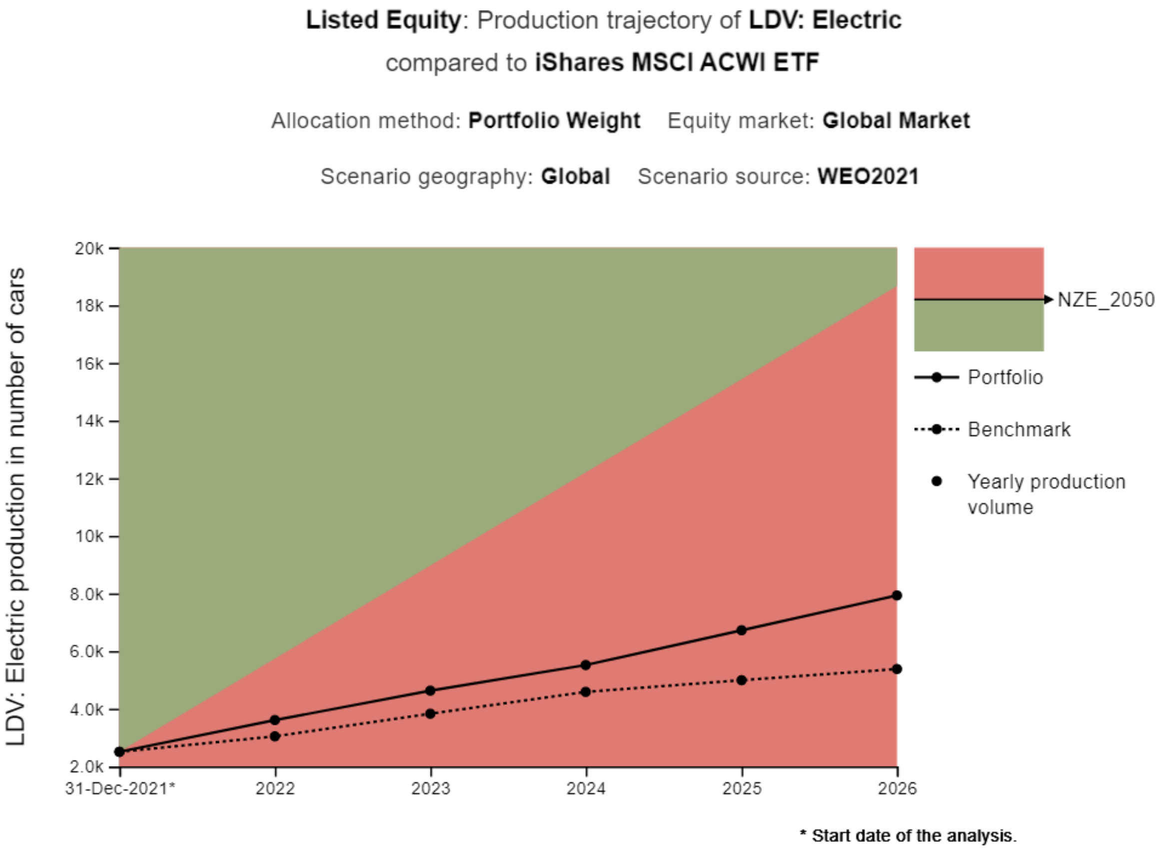
Equity market: **Global Market**





Production trajectory of electric lightweight duty vehicle (LDV) (Chart 3):

We can compare the trajectory production of electric vehicle for our equity portoflio with the benchmark portfolio. The WEO 2021 scenario projection shows that by 2026, the number of eletric vehicle production in our portfolio would be ahead of that of the benchmark, but both will lag the net zero 2050 trajectory, so there is more work to do.



Expected future exposure to high and low carbon economy (Charts 4-7):

For sectors with low carbon alternative technologies, it can be useful to compare how the split between technologies looks in 5 years to what is expected under scenarios and with what the benchmark is doing in this regard. These charts show the split between technologies within each sector in five years in cases where the Fund/ benchmark maintains the current trajectory (‘Portfolio/Benchmark’) and where the Fund/ benchmark aligns with each of the scenarios (‘Aligned Portfolio/Benchmark’).

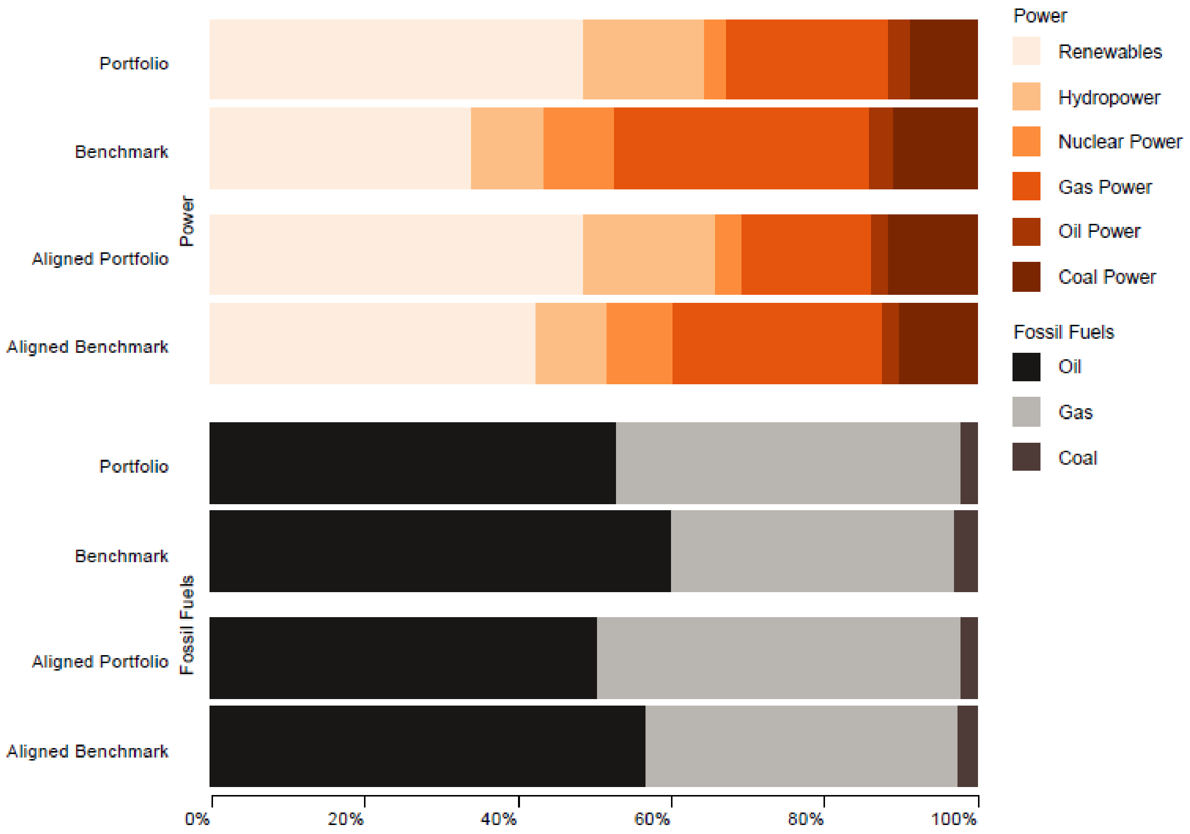
The equity portfolio in its current composition and in the SDS and STEPS-aligned scenarios has a more favourable future technology mix in the power sector relative to the benchmark. As such, in the medium-term, the Fund has a lower exposure to transition risks and stands to benefit from transition opportunities arising from holding an overweight position to low-carbon power technologies.

The equity portfolio’s future technology mix in fossil fuels demonstrates that the overall transition risk posed by fossil fuels is lower than the benchmark.

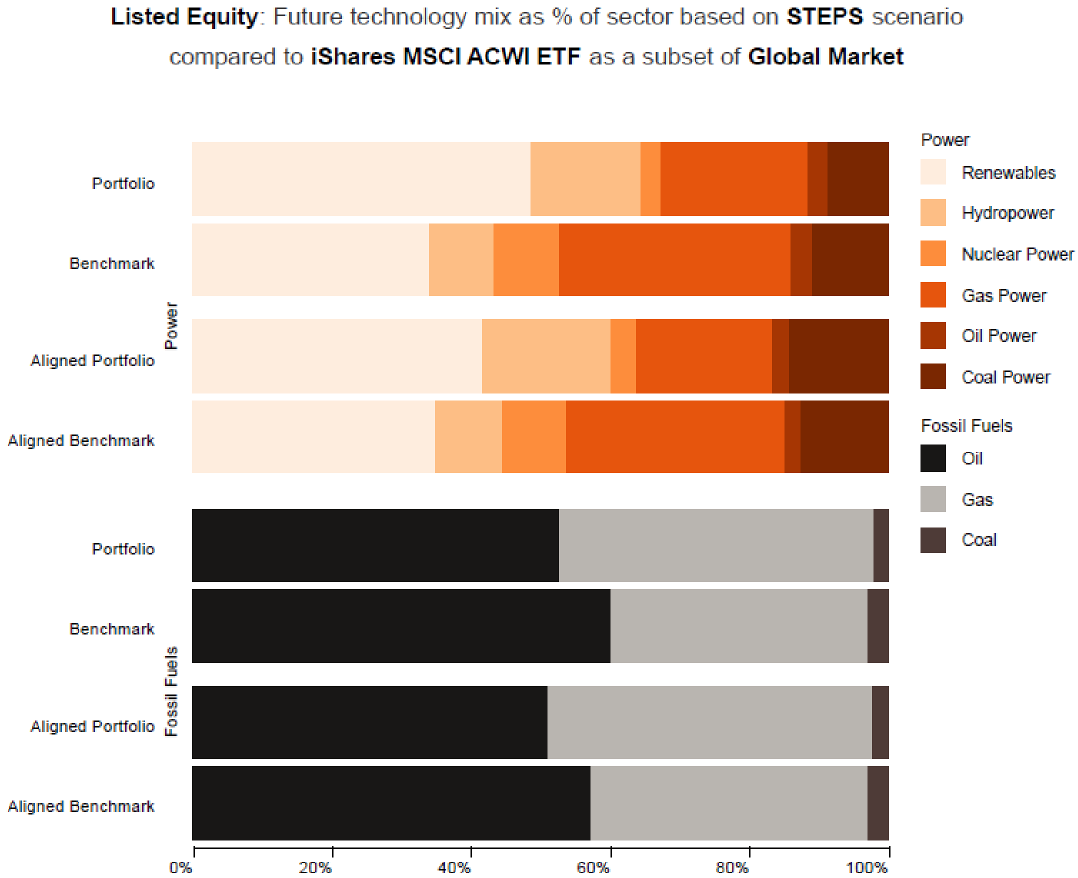
The corporate bond portfolio is expected to have higher exposure to low carbon Power technology than the benchmark in both SDS and STEPS scenarios if nuclear power is included. However, the portfolio is overweight to coal compared to the benchmark, in the fossil fuels sector.

Expected future exposure to high and low carbon economy – Equity (SDS scenario) Chart 4:

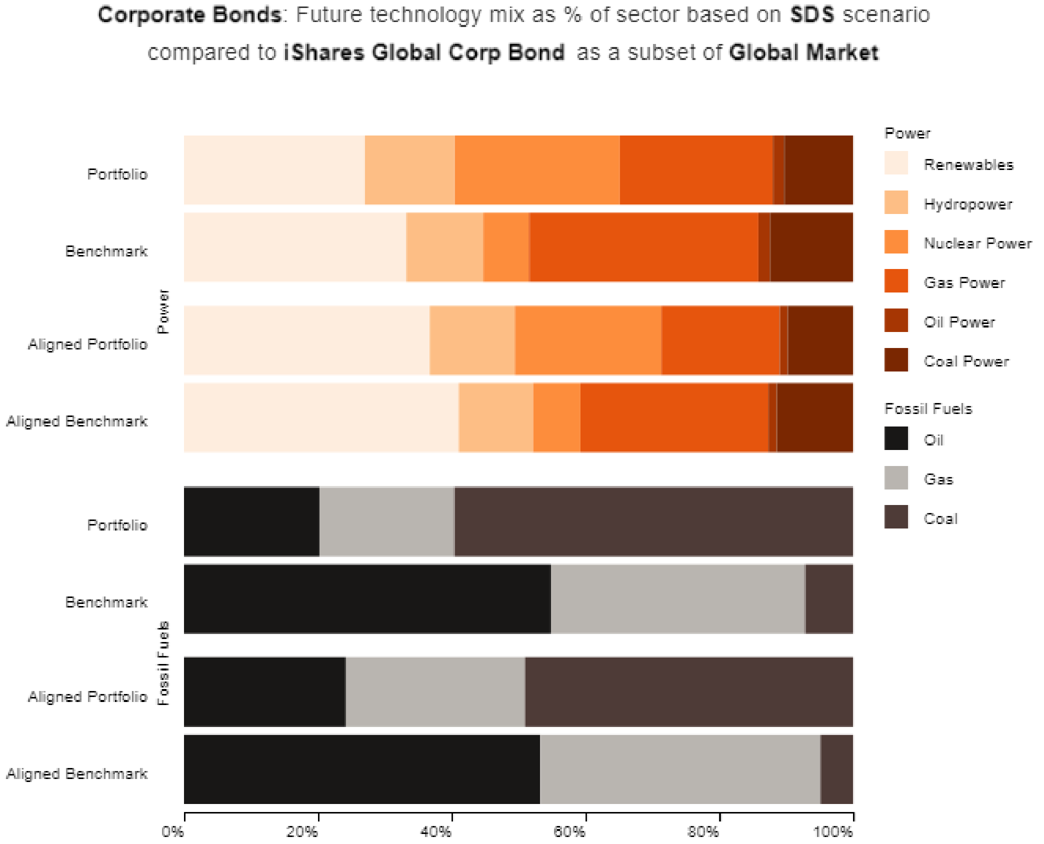
Listed Equity: Future technology mix as % of sector based on **SDS** scenario compared to **iShares MSCI ACWI ETF** as a subset of **Global Market**



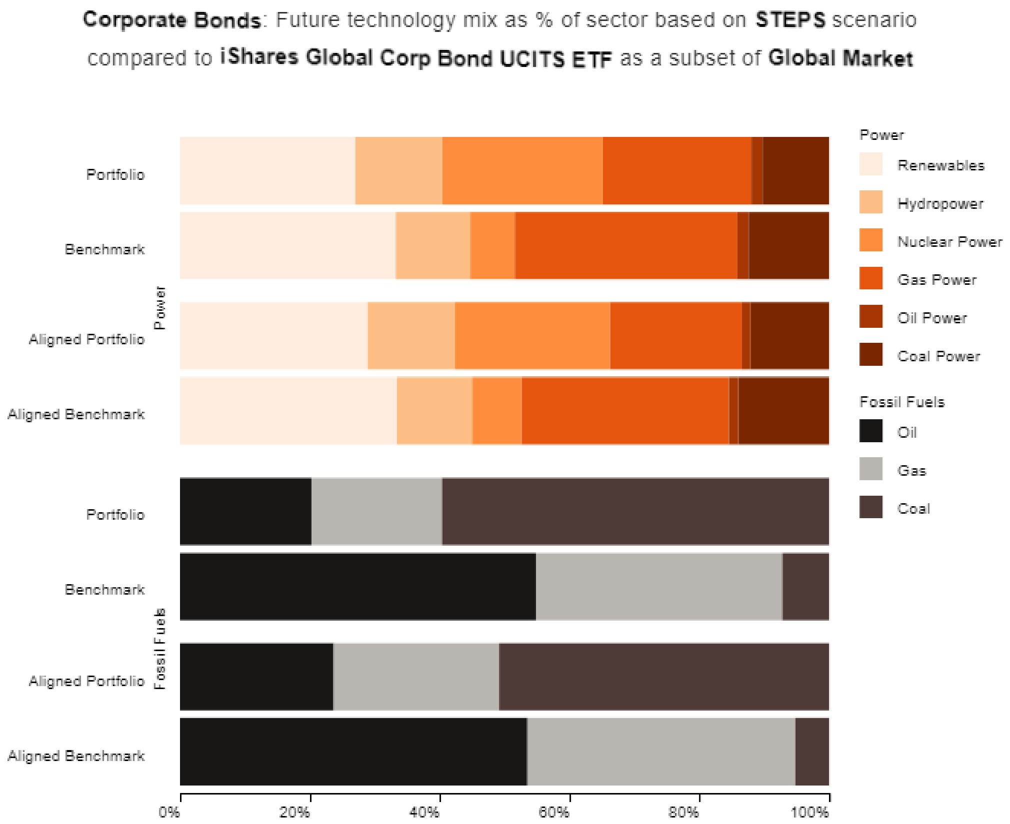
Expected future exposure to high and low carbon economy – Equity (STEPS scenario) Chart 5:



Expected future exposure to high and low carbon economy – Corporate Bonds (SDS scenario) Chart 6:



Expected future exposure to high and low carbon economy – Corporate Bonds (STEPS scenario) Chart 7:



Based on the above analysis, the equity and corporate bond portfolio's exposure to climate change risks appears to be mitigated, showing that we are on the right track, although we continue to further improve the balance of our exposure to climate risks and opportunities.

In addition to PACTA, the Fund undertakes qualitative assessment (summarised below) on the remainder of the portfolio and therefore understands the risks and opportunities presented by the assets not covered in the PACTA analysis.

Under scenarios where global temperature rises are limited to 2.0°C or less, the Fund's wider asset portfolio is expected to be exposed to both transition risk and physical risk. Under such a scenario the Fund's Private Equity and High Yield Credit assets are expected to be more exposed than the public equity and investment grade corporate credit portfolios respectively, whilst the real assets portfolio is expected to be more resilient to transition risk, particularly with consideration of the climate-related opportunities within those portfolios. The Fund is exposed to these transition risks primarily over the short and medium term.

Under scenarios where global temperature rises are not limited to 2.0°C, the Fund's property and infrastructure portfolios are more exposed to physical risk over the long term (as a result of increased likelihood of physical damage from weather-related events) compared to transition risk over the short and medium term. Under such a scenario, the alternative credit portfolio is expected to be less exposed to both physical and transition risk than the Fund's public equity portfolio, as it is typically higher in the capital structure and therefore less exposed to losses as a result of physical and transition costs.

Across all scenarios the liquid alternatives portfolio is expected to be less exposed to climate change risk relative to the public equity portfolio both in the short and medium term (through transition risk) and the long term (through physical risk). Many of our liquid alternative managers use derivative instruments in their investment process and they can incorporate climate considerations and conviction to go long or short on a range of asset classes. The actual climate footprints of these strategies is quite minimal.

Bridgewater Climate Transition Stress Test

In addition, the Fund has significant allocations to private market assets with a strong climate sustainability theme which the PACTA tool is not able to capture. Therefore this year we have introduced another quantitative analysis using Bridgewater's climate transition stress testing tool. This tool has been developed by Bridgewater to be used by their clients. This analysis is able to incorporate all the asset classes (including private markets) in the Fund's portfolio.

The Bridgewater tool focuses on the four broad climate transition scenarios they think are most likely—carbon pricing, a supply squeeze, green MP3 (Monetary Policy 3, referring to government borrowing and printing money to spend directly on green R&D and infrastructure), and a green tech breakthrough—and assesses their impact on economies, markets, and portfolios. We have used the tool to stress test the impact of each of these climate transition scenarios on our whole asset portfolio, covering all our investments in equities, fixed income and alternative assets.

Below table shows the total portfolio impact across 4 scenarios. The results show that the portfolio's exposure to climate risks is mitigated and in two scenarios, the portfolio would benefit from climate related opportunities. The expected portfolio impact is a "one off" impact. This analysis is intended to give a representative view of how portfolios and the assets within it could perform across different possible transition scenarios. Any climate transition would likely involve a combination of these policies. The full analysis results that follow the table show that under each scenario, the portfolio impact could come in a range and the table below presents the mean ("expected") impact.

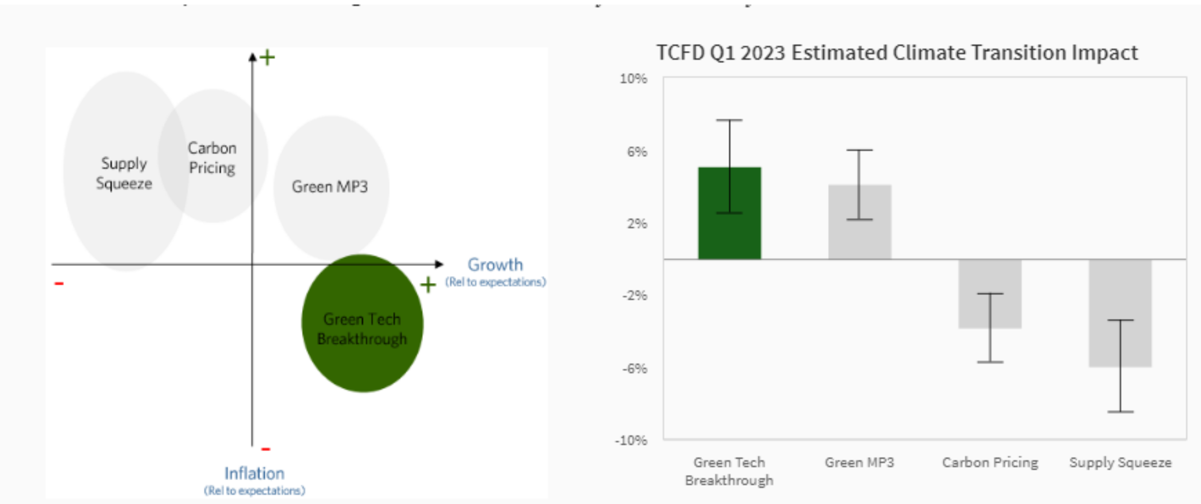
	Total Impact	Macro[1] Impact	Climate Specific Impact
I. Green Tech Breakthrough	**5.1%**	5.7%	-0.6%
II. Green MP3	**4.1%**	4.4%	-0.3%
III. Carbon Pricing	**-3.8%**	-3.2%	-0.6%
IV. Supply Squeeze	**-5.9%**	-5.8%	-0.2%

1. Key Macro factors include economic growth, inflation, employment, spending, and monetary and fiscal policy

Scenario 1: Green Tech Breakthrough

Step changes in green technology and an ensuing investment boom rapidly change the trade-off faced by various entities today in favor of greener technologies, shifting the world's energy mix away from fossil fuels and reducing emissions. Growth is stimulated by gains in productivity and a net increase in investment, while falling energy prices are likely disinflationary over time.

In our portfolio, the expected total impact under this scenario is +5.1%, where 5.7% are contributed by Macro factor while -0.6% detracted by climate specific factor. Generally, fixed income portfolios would experience no or slightly negative impact while equities portfolio can benefit from this scenario, because growth is stimulated by gains in productivity and a net increase in investment. For alternative assets, infrastructure and real estate can also benefit under this scenario, with the contribution driven mainly by macro factors.

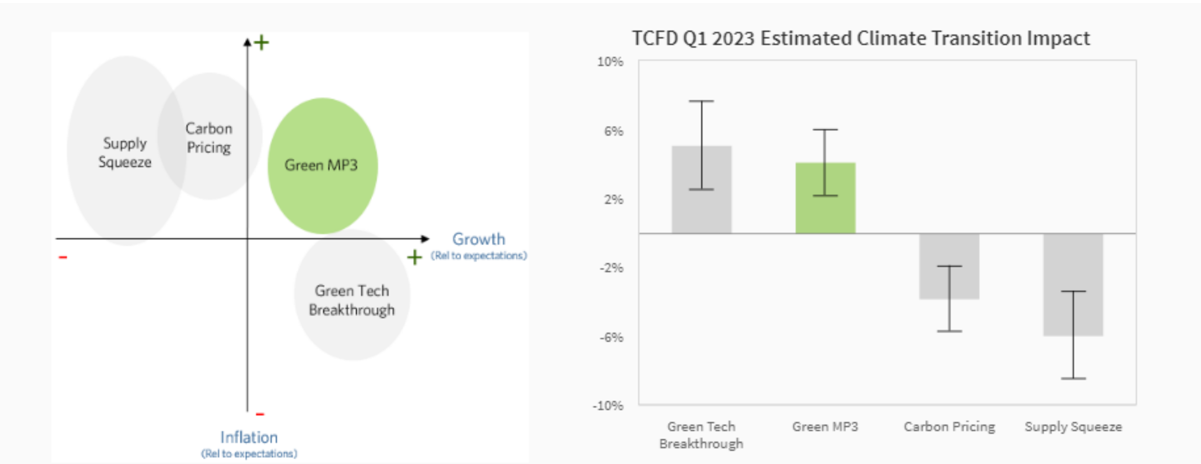


There is no guarantee results shown can or will be achieved. For more information on TCFD Q1 2023 please see the TCFD Q1 2023 disclosure.

Scenario 2: Green MP3

Governments borrow and print to spend directly on green R&D and infrastructure, reducing emissions by incentivizing the transition to low carbon energy sources and technologies. Rising direct government spending is likely to exert upward pressure on both growth and inflation.

In our portfolio, the expected total impact under this scenario is +4.1%, where 4.4% is contributed by macro factor while -0.3% detracted by climate specific factor. Generally, fixed income portfolios would experience no or slightly negative impact while equities portfolio can benefit from this scenario, because growth is stimulated by government spending. While inflation is likely to be pushed upward, non-inflation linked fixed income can be affected. For alternative assets, real estate and infrastructure can also benefit under this scenario, with the contribution driven mainly by macro factors.

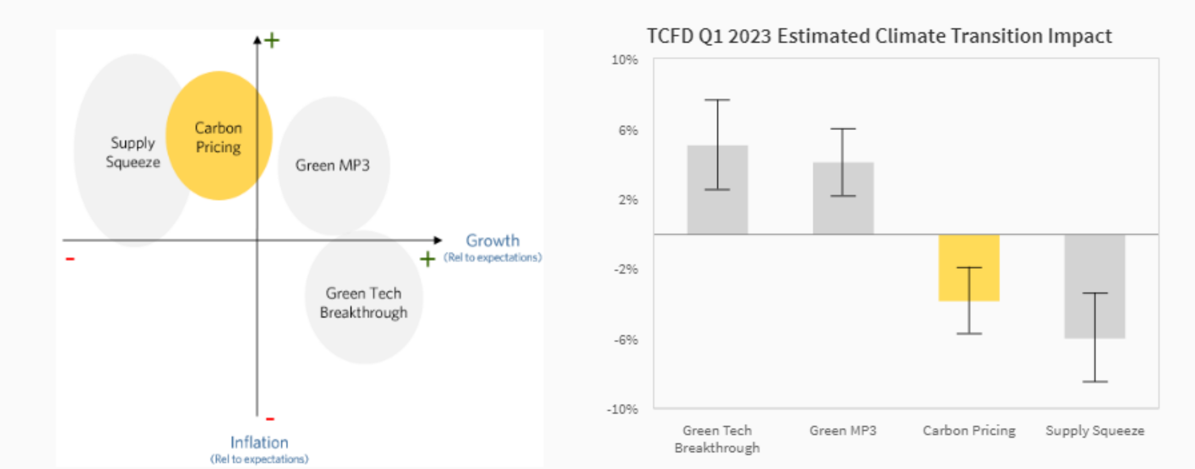


There is no guarantee results shown can or will be achieved. For more information on TCFD Q1 2023 please see the TCFD Q1 2023 disclosure.

Scenario 3: Carbon Pricing

A meaningful ramp up in mandatory carbon pricing that raises the cost of emitting greenhouse gases. This is by its nature inflationary—as the mechanism through which it operates is increasing the costs of today's activities in order to discourage them. The growth impact depends on who bears the tax burden and how the revenue is spent.

In our portfolio, the expected total impact under this scenario is -3.8%, where it was detracted by macro factor by 3.2% and climate specific factor by 0.6% respectively. Generally, all asset classes would be impacted but global equities portfolios would experience more pressure.

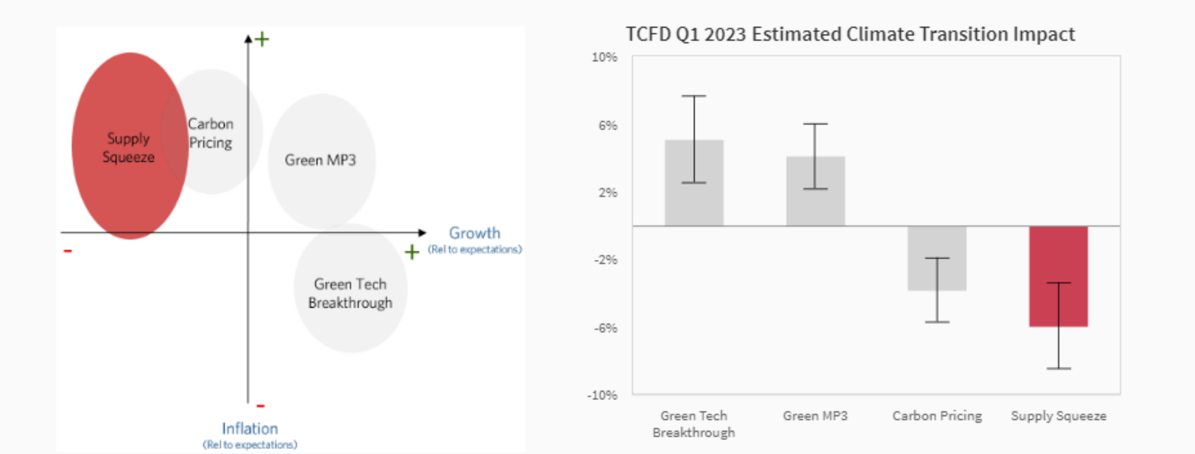


There is no guarantee results shown can or will be achieved. For more information on TCFD Q1 2023 please see the TCFD Q1 2023 disclosure.

Scenario 4: Supply Squeeze

Limits on the supply of carbon-intensive energy (e.g., quotas on fossil fuel exploration, limits on financing to fossil fuel companies) force entities to reduce fossil fuel consumption. Energy shortages are likely to slow economic growth (as some activity is not replaced with greener alternatives). The first-order impact is inherently inflationary, as a supply squeeze leads to increases in energy prices; the second-order impacts of the slowdown in the economy are deflationary.

This is the worst-case scenario among all mentioned in this section. In our portfolio, the expected total impact under this scenario is -5.9%, where it was detracted by macro factor by 5.8% and climate specific factor by 0.2% respectively. Generally, all asset classes would be impacted but global equity portfolios would experience the most pressure, followed by real estate and infrastructure assets.



There is no guarantee results shown can or will be achieved. For more information on TCFD Q1 2023 please see the TCFD Q1 2023 disclosure.

While the Fund will continue to make use of scenario-based assessments, they will only form a part of the information the Fund uses when considering resilience of its portfolios, with a strong focus needed on the managers' approach to sustainability. Other information includes assessment of exposure to climate-sensitive industries via manager engagement. The Fund also asks its managers to conduct climate resilience testing on the mandates they manage for the Fund and report on the findings on an annual basis.

Liability risk

Alongside assessing the impact of a range of climate scenarios on the investment strategy, the Trustee has conducted scenario stress testing on the Fund's liabilities in conjunction with the investment advisor and Scheme Actuary – specifically through the impact on longevity assumptions and future mortality rates. The key climate scenarios that the Trustee has considered are:

	Lowest Common Denominator	**Inevitable Policy Response**	**Global Coordinated Action**	**Climate Emergency**
Description	A 'business as usual' scenario where current policies continue with no further attempt to incentivise further emission reductions. This scenario is broadly aligned with the PATCA Stated Policies Scenario.	A delay in meaningful action but a rapid shift in policy in the mid/late 2020s. Policies are implemented but not in a very co-ordinated manner.	Policy makers agree on and immediately implement policies to reduce emissions in a globally co-ordinated manner. This scenario is broadly aligned with the PATCA Sustainable Development Scenario.	An immediate, ambitious and coordinated response in which aggressive policy is pursued and more extensive technology shifts are achieved. This scenario is broadly aligned with the Bridgewater climate scenarios.
Temperature rise vs pre-industrial levels	3.5ºC	2.0ºC	2.0ºC	1.5ºC
% of Renewable energy by 2050	30-40%	80-85%	65-70%	80-85%
Transition risk level (shorter term)	Low	High	Low – Medium	Medium – High
Physical risk level (Medium-longer term)	High	Low – Medium	Low	Low

The scenarios were created to reflect different paths that could be taken to meet, or fail to meet, the temperature rise target agreed as part of the Paris Agreement. The Paris Agreement's target is to limit global temperature rises to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The scenarios differ in both the size of the physical risks, based on the resulting temperature impacts, and size of the transition risks. In the view of the Trustee, the four scenarios selected reflect an appropriate range of plausible decarbonisation pathways and are relevant in the context of the Fund's funding plan. The Trustee recognises that there is the potential for more extreme outcomes than reflected in the chosen scenarios.

Below the Trustee has illustrated the impact of the climate change scenarios on the Fund's liability value. For the purpose of this analysis the Trustee has used a value for the PSS Technical Provisions as at 31 March 2023 derived consistently with the 'side letter' to the revised 2022 Pensions Funding

Agreement (PFA). The key results from the climate scenario analysis are outlined below. The Trustee recognises that there is uncertainty over how such climate scenarios are expected to impact liabilities values over different time periods and have therefore reviewed both a one-off shock to the liability value (which seeks to illustrate the impact of climate change was to be reflected instantaneously in longevity assumptions) and an annual impact on the liability value (which seeks to illustrate the impact of climate change being reflected through a combination of gradually changing longevity assumptions and member experience). The annual impact is assessed over a 15 year period, which is consistent with the Fund's long term time horizon, and broadly in line with the duration of the Fund (17 years).

The Trustee also recognises the uncertainty in the underlying assumptions and that, in reality, the shocks experienced could be larger.

Impact of Climate Shocks on the Fund's liability value

Scenario	Impact on Fund's Technical Provisions	Technical Provisions Funding Level after shock	Impact on Fund's Technical Provisions (£m)	Technical Provisions Surplus after shock (£m)	Average longevity improvement rate assumed p.a.*
Base Case	N/A	117.7%	N/A	2,140.0	1.5%
Lowest Common Denominator	-4.4%	123.1%	-533.0	2,673.0	0.1%
Inevitable Policy Response	-2.2%	120.3%	-266.5	2,406.5	0.8%
Global Coordinated Action	3.0%	114.2%	363.4	1,776.6	2.4%
Climate Emergency	-0.6%	118.4%	-72.7	2,212.7	1.3%

*Recent historical improvement rates have ranged between 0% and 3% p.a.

Impact of Climate Drags on the Fund's liability value

Scenario	Implied impact on asset outperformance versus TP Liabilities p.a. (%)	Implied impact on asset outperformance p.a. (£m)
Lowest Common Denominator	+0.30%	36.3
Inevitable Policy Response	+0.15%	18.2
Global Coordinated Action	-0.20%	-24.2
Climate Emergency	+0.04%	4.8

Under the Global Coordinated Action scenario, improvements in life expectancies result in an increase to the value of the TP liabilities and a reduction in the funding level & surplus (under a one-off shock scenario), or acts as an annual drag on the funding level (under a climate drag scenario). While a negative impact, under both assessment methods the impact is manageable. Under a one-off shock scenario, the impact on the liability value is similar to longevity risk as measured by the Trustee's 1-in-20 year VaR95 impact (a 3.5% increase in the liability value), and would result in the funding position remaining strong a 114%. Under an annual drag scenario, the impact is relatively small and well within the prudence between the best estimate investment returns and the TP discount rate. The Trustee has identified longevity hedging as a potential approach to mitigating liability risk associated with climate change, although recognises that there are other considerations which may impact the attractiveness of doing so.

In three of the four climate scenarios, WTW's modelling process implies reduced life expectancies (relative to the Fund's central mortality assumptions) and therefore a relative reduction in the Fund's liabilities. This is a plausible potential outcome arising from the negative impacts of increasing climate change. In isolation, this can suggest a relative improvement in the expected funding position for the Fund.

However, it is important to recognise that an assessment of what is in the best interests of the Fund and its members is a much broader question than the impact on funding level alone. Key considerations may be a reduction in the quality (and length) of members' lives, and the quality of the environment that they will retire into. Consequently, the results of any such modelling should not be assumed to reflect any complacency or acceptance (either implicit or explicit) that the Trustee considers global inaction or business-as-usual with respect to climate change to be in the best interests of the Fund or its members. The Trustee recognises that climate change is a systematic risk of material scale and severity. Actions to address it are a collective priority, given the risks it presents to individual pension schemes, the ongoing resilience of the savings universe, and the planet as a whole.

III. Risk Management

Recommended Disclosure (a)

Describe the organisation's processes for identifying and assessing climate-related risks.

As all assets are managed externally, at a mandate level, the Fund has explicitly stipulated clauses in the Investment Manager Agreements ("IMA") requiring its segregated equity and bond managers to account for climate related risks in the investment process, including an annual questionnaire asking for TCFD reporting/ carbon data from each manager. Work is ongoing to expand this to all segregated and bespoke mandates.

As mentioned previously, reports and analysis with regards to climate related risks and opportunities is carried out by the Fund Office. BlackRock's Aladdin tool (using MSCI ESG data) and the TPI analysis enables the Fund Office to identify the climate-related risks in the Fund's segregated equity and bond portfolios. The Fund identifies the holdings with highest reported carbon intensity and holdings not aligned with Paris Agreement transition pathways and assesses the investment managers' rationale for holding such stocks (including the managers' engagement with these companies) – an example is South32, a globally diversified mining and metals company which was spun out of BHP Billiton in 2015. Aluminum, copper and zinc are important inputs in the Electric Vehicles and/ or wind and solar energy industries. Whilst Alumina/Aluminum production is a carbon intensive industry, the company has acknowledged the same and is working with stakeholders on new technologies (electrification/renewables) towards the attainment of their stated carbon neutral 2050 goal. The Trustee recognises the need for diversified mining and metal in the low carbon transition. The holding is expected to be a high emitter whilst still aligned to a Paris Agreement transition pathway. It is acknowledged that technology and innovation will be critical to achieving the Paris goals, so investment in the industry is needed.

The climate change scenario analysis shown in the previous Strategy section provides the Trustee with a holistic overview of the potential impacts of climate change and how they may affect the Fund's funding strategy (across assets, liabilities, and covenant). This is an important risk management tool for a top-down risk and opportunity assessment.

Engagements with investees through Climate Action 100+, Sustainalytics and the managers help the Fund attain information to assess the quality of company management of climate risk.

For passive equity investments, there is data available from the manager which measures the carbon intensity of these portfolios.

For private equity, infrastructure, real estate, private debt, hedge funds and other assets, the Fund uses manager-supplied information and engagement. The Fund is in the process of collecting carbon intensity data from all the private market mandates in order to combine this data with public market assets. The Fund will then assess the full picture of the Fund's exposure to climate risk. However there remain material challenges on data availability and quality for private markets. Where carbon data is not readily available on the private market assets, the Fund may use a suitable proxy (MSCI GICS level 4 sector average carbon intensity) to enable this assessment but more time is needed to build a reliable dataset to support a robust assessment.

The Fund also requires its fund managers to explain how the managers identify and assess climate risk within their portfolios. Within real estate and infrastructure (in the form of both equity and debt investing), the Fund reviews the managers' due diligence process for assessing physical risks that the assets are exposed to (such as flooding and excessive heat) as well as how the risks are managed (such as the operator's quality of management).

As an example, with the main real estate mandate, the Fund had discussions at length with the manager to examine how they assess physical risks (understanding the tools and data they use, including 'mapping' physical risks), how such analysis is incorporated into investment decisions (we ask for specific examples), and the stewardship aspect (we challenge the manager to actively engage with tenants e.g. educate/encourage tenants to be energy efficient). Also, we ask for asset level GRESB reports (the current industry standard for ESG disclosures for real estate) and where they are not available, we push managers to start providing them and engage more with building occupants/operators to collect data.

Within private equity and corporate private debt, the Fund reviews how the managers assess climate risks for the businesses to which the Fund is providing capital (including both transition and physical risks).

Recommended Disclosure (b)

Describe the organisation's processes for managing climate-related risks.

Carbon Neutral Journey Plan: As part of its response to climate-related risks, the Fund has agreed its carbon neutral journey plan, which was developed with input from the Fund's investment advisor and asset managers. The Fund aims to achieve net zero carbon emissions by 2045 at the latest, with a 55% reduction in carbon emissions by 2030, relative to a baseline level of carbon emissions as at 2016.

Further details of the Fund's Carbon Neutral Journey Plan can be found in the link below and in the Metrics and Targets section of this report.

https://content.tfl.gov.uk/our-carbon-journey-net-zero-plan.pdf

The Fund intends to progress towards the targets above by including emissions-based guidelines in manager mandates, allocating to low carbon transition assets (such as renewable energy infrastructure, energy efficient buildings, controlled environment farming) and by engaging with investee companies to establish net zero business strategies, with divestment being an option on the table if companies are not sufficiently committed to change. The Fund also excludes any companies that derive over 30% of their revenues from thermal coal mining or power generation.

Manager monitoring:

Climate risk management is part of the regular conversation with investment managers, and each year the Fund formally evaluates the managers' effectiveness in doing this through a questionnaire, which began with the equity and bond mandates in 2021. This will be expanded to private markets over time.

This is supplemented by the monitoring of the Fund's equity mandates through a biennial review provided by the Fund's investment advisor, WTW, focussing on WTW's assessment of the sustainability capabilities and activities of the managers. This review has been expanded to also cover several credit and alternatives managers. The Fund considers the WTW report alongside information gathered through the Fund's dialogue with the managers (including the ESG questionnaire). Managers who show inadequate management of climate risk are challenged to improve their practices. The Fund will consider removing a manager if they do not show improvements on climate risk management over time.

As noted previously, the Fund has specific clauses in its segregated equity and bond mandate IMAs asking managers to monitor and manage climate related risks in the investment process (e.g. through engaging investee companies).

Mandate design:

The Fund has applied an exclusion across its segregated active mandates to exclude from its portfolio all companies that generate more than 30% of their revenue from thermal coal mining or electricity generation.

The Fund has implemented in its segregated corporate bond mandate a 'best effort' target of 20% lower carbon intensity versus benchmark at every calendar year end. As of 31 December 2022, the portfolio's WACI was 131.3 versus 222.3 of the benchmark (unit: tons/USD million sales).

In private markets, the Fund actively seeks out climate opportunities. In the private equity programme, the latest tranche has a 25% best effort target to invest in ESG tilted assets, a high proportion of which would be climate opportunities. The Fund has made large allocations to climate focused infrastructure (renewable energy, water utilities and waste management), real estate (energy efficient buildings) and private equity (controlled environment farming). Case studies of these investments can be found in the 2022 Sustainable Investing report.

Stewardship:

Sustainalytics helps the Fund manage climate risk by aligning the Fund's underlying holding companies' actions with the Trustee's beliefs. This is achieved through the Global Standard and Material Risk engagements, as well as a new thematic programme Sustainable Forests and Finance.

Also, the Fund's organisational involvements with CDP and Climate Action 100+ ("CA100"), enables engagement with investee companies to encourage better disclosure and improve assessment and management of climate risks. The Fund also has specific clauses in its IMA with segregated equity and bond managers to promote better climate risk disclosure among investee companies.

Through CA100 the Fund engages directly with three companies, Rio Tinto, Anglo American and Rolls Royce. All three companies have announced net zero by 2050 ambitions and have set short, medium to long term emission reduction *targets* with varying degrees of details. They are implementing a *strategy* of decarbonising their own operations, and developing products and technologies that will help clients decarbonise as well as enable the companies to access opportunities presented by the energy transition. There is increased *partnership* with customers, local governments and the like in research and development. These are all areas that CA100 has been pushing the companies to continue to improve. Companies are also being asked to align their *capital spending* with their decarbonisation strategies.

CA100 conversations with the companies are confidential but annual highlights are published on the company's website. For both Rio Tinto and Anglo American, accelerating the decarbonisation of steel making has been a focus. In 2022, Rio Tinto conducted commercial testing of direct emissions-free smelting technology. For Rolls Royce, the company is making progress toward the European aviation industry's 2050 goals. The company's Trent engines are expected to meet the target of a reduction in CO_2 by 30% and a reduction in the NOx certification metric by 75% (compared to a new aircraft in 2000).

Recommended Disclosure (c)

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.

Climate risk is considered among other significant financial risks as listed in the SIP. Investment decisions at the asset class level consider climate risk and are tilted towards asset classes that provide greater access to opportunities that mitigate or control climate risk – examples being the private market investments listed in the section above.

The Fund's assets and liabilities are coded on the BlackRock Aladdin Explore platform, a leading industry platform with direct ESG and carbon data feed from MSCI and Sustainalytics, that allows us to have real time access to key ESG/ climate metrics, at mandate and portfolio levels.

The climate change scenario analysis shown in the previous Strategy section provides the Trustee with a holistic overview of the potential impacts of climate change and how they may affect the Fund's funding strategy (across assets, liabilities, and covenant). This is an important risk management tool for a top-down risk and opportunity assessment.

From the sponsor's perspective, TfL has fully integrated climate risk and adaptation into its governance structure, with the Executive Committee Sustainability Group given management responsibility and the Board (chaired by the Mayor) with oversight and advisory responsibility. All risks in the organisation are managed through the ERM framework, which has been updated to include climate risk as a standalone Level 1 risk. TfL intends to use risk modelling to quantify the probability and severity of events, leveraging data from internal information systems as well as third-party data from the Met Office. The long-term aim of the organisation is to have an integrated approach to managing climate risks and to conduct in-depth quantitative risk modelling to improve performance.

Climate risk (the possibility of climate change leading to volatility or underperformance in the assets) has been added to the IC risk register. The likelihood and controls for the risk are considered.

At the manager level, the Fund continually engages with the investment managers and require the incorporation of climate risks and opportunities into their investment process (thereby integrating climate change into traditional financial analysis).

IV. Metrics and Targets

Recommended Disclosure (a)

Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.

A key facet of the Trustee's ongoing monitoring and management of climate change is having good data on the Fund's exposure in this area. Although there are limitations with some of the metrics presented and the completeness of data, the Trustee still has a strong belief that these can helpfully inform the ongoing monitoring and management of the Fund. The Trustee considers metrics across the SI spectrum, but the focus within this statement is those in climate change.

At a total Fund and asset class level, the Fund reports the following metrics, on an annual basis, which the Trustee Board takes into consideration in investment strategy setting, risk management and manager evaluation:

Absolute Carbon Emissions – This is an 'absolute emissions' metric which gives the total greenhouse gas ("GHG") emissions attributable to the Fund's assets. This is calculated in line with the GHG protocol methodology and currently includes only Scope 1 and 2 Emissions. This year, the Fund reports scope 3 Emissions separately on a best endeavours basis.

Weighted Average Carbon Intensity ("WACI") – This is an 'emissions intensity' metric which gives the total greenhouse gas emissions attributable to the Fund's assets per some form of unit (such as per £ invested or £ of company revenue).

Percentage of investments with an "ESG" tilt – This is a metric which demonstrates the Fund's ambition to benefit from the opportunities presented by decarbonisation.

Portfolio alignment - An additional metric this year to measure the compatibility of the Fund's investment portfolio with the aspiration to limit global temperature rises to 1.5 degrees Celsius.

It is also important to be clear which emissions are captured within the above metrics and therefore the Trustee have referred to the categories of emissions as follows:

- Scope 1 emissions: all direct emissions from the activities of an entity or the activities under its control

- Scope 2 emissions: indirect emissions from electricity purchased and used by an entity which are created during the production of energy which the entity uses

- Scope 3 emissions: all indirect emissions from the activities of the entity, other than scope 2 emissions, which occur from sources that the entity does not directly control.

Scope 3 emissions are significantly more difficult to calculate than scope 1 or scope 2 emissions for any given entity. It is also the case that, for some assets, even scope 1 and scope 2 emissions are difficult to calculate. The Fund uses best endeavours to make as full a disclosure as it can, subject to overriding constraints of reasonable time and cost for doing so. The Fund is working actively with its investment managers to improve the quality of the data supplied for these purposes over time.

The metrics are calculated through BlackRock Aladdin and MSCI on segregated, public assets (equity and bonds).

At a sector and issuer level, the Fund also uses the TPI tool which allows the assessment of carbon management quality and carbon performance for key companies within high-risk sectors.

Recommended Disclosure (b)

Disclose Scope 1, Scope 2, and, if appropriate Scope 3 greenhouse gas (GHG) emissions and the related risks.

As of 31 March 2023, the Fund has calculated the metrics below:

1. Absolute Carbon Emissions:

Equity (35.0% of the Fund's assets): 366,149 tons of Scope 1 and 2 carbon emissions; 2.722m tons of Scope 3 carbon emissions

Corporate bonds (2.8% of the Fund's assets): 21,637 tons of Scope 1 and 2 carbon emissions; 193k tons of Scope 3 carbon emissions

2. Weighted Average Carbon Intensity:

Scope 1/2: 122.7 Tons CO2e / $M revenue, Scope 3: 726.0 Tons CO2e / $M revenue across the public equity and corporate bond holdings, which was 37.8% of the Fund's assets.

3. Percentage of investments with an "ESG" tilt: estimated at 12.9%. This covers all assets in the Fund's portfolio.

4. Portfolio alignment metric: 74.5% of companies assessed by TPI are aligned with 1.5-degree to 2-degree targets. The total number of portfolio companies assessed by TPI is 47 (note this number may change due to TPI coverage expansion or change in holdings). Table below shows the breakdown. This covers the actively managed, segregated public equity and corporate bond holdings, which was 21.9% of the Fund's assets (out of which 4.8% or c. £151m was covered by TPI assessments). TPI does not provide coverage for private companies or sovereign bond issuers.

TPI Assessed Alignment	By Market Value	No. of Companies
1.5 Degrees	47.90%	17
2 Degrees or below	26.60%	12
International Pledges	0.90%	1
National Pledges	11.50%	4
Not aligned	8.70%	10
No or unsuitable disclosure	4.50%	3
Total	100.00%	47

Table 1 below summarises the Fund's coverage of carbon emissions data in this report by asset class as at 31 March 2023 and considerations in relation to data coverage. Note all the %s shown are of the total Fund:

Table 1

Asset Class (% of total Fund at 31 March 2023)	**Data coverage- scope 1&2**	**Data coverage – scope 3**	**Steps being taken by the Fund to improve data coverage and quality**
Listed equity, 35.8%	35.8% included in this year's reporting Please see Table 2 below for MSCI source of data.	35.8% included in this year's reporting All data was estimated by MSCI	The Fund participates in CDP's Non Disclosure Campaign and also asks the managers to engage with companies, in order to increase emission disclosures.
Traditional fixed income (developed market sovereign bonds and investment grade credit), 4.9%	2.8% included in this year's reporting (corporate bonds) Please see Table 2 below for MSCI source of data.	2.8% included in this year's reporting (corporate bonds) All data was estimated by MSCI	See Note 1 below.

Liability hedging (mostly Gilts and derivatives, and a small portion of Network Rail bonds), 10.0%	0% included in this year's reporting	0% included in this year's reporting	See Note 1 below, for Gilts. Network Rail bonds (which is a small holding) will be reported alongside Gilts in future. For derivatives, the Fund will discuss with its LDI manager about the best method for reporting data.
Alternative liquid credit, 4.8%	0% included in this year's reporting	0% included in this year's reporting	See Note 2 below.
Private markets (including alternative illiquid credit), 27.9%	0% included in this year's reporting	0% included in this year's reporting	See Note 3 below.
Liquid alternatives (hedge funds and alternative beta), 14.5%	0% included in this year's reporting	0% included in this year's reporting	See Note 4 below.
Cash and equivalent, 2.1%	Cash is assumed to have nil carbon emissions.	Cash is assumed to have nil carbon emissions.	-
Total, out of 100% of Fund assets	*38.6%*	*38.6%*	-

For public assets (equity and traditional fixed income), the table below shows the MSCI source of data (weighted by market value) for scope 1 and 2, as at 31 March 2023.

Table 2

	No data	**Estimated**	**Reported**	**Grand Total**
Grand Total	6%	5%	89%	100%

Note 1: Sovereign bond holdings were excluded as methodologies for attributing carbon emissions to sovereign bondholders are not standardised and remain debatable, therefore including these data points could distort the metrics. However, for completeness and in order to comply with regulations, the Fund is looking to include these as a separate line in the next report. The Fund also follows industry research to determine what would be the most suitable method for calculating emissions for sovereign bondholders.

Note 2: Alternative liquid credit covers 3 mandates within the Fund, with assets mostly invested in high yields, loans/ structured products, Emerging Market Sovereign Debt, short-term government debt and derivatives. The Fund has obtained data from the managers but did not include the data in the main report this year due to several reasons: 1) data quality: for high yield and loans/structured products, only 14% of data was from company reporting (the rest was estimated). 2) for sovereign debt and derivatives, Notes 1 and 4 explain the Fund's rationale and next steps on reporting.

Note 3: Private markets were excluded this year as the managers were not yet able to supply the data on most of their assets. The Fund continues to engage its managers to ask for more data coverage on private market assets. A project is being undertaken to report carbon emissions on private market assets (using public market data as proxy where suitable) on an annual basis going forward and making it mandatory to report carbon data for any future mandate awards or re-ups to any existing mandates.

Note 4: Liquid alternative mandates often make use of derivative instruments in their investment process and they can incorporate climate considerations and conviction to go long or short on a range of asset classes. The net-long climate footprints of these strategies tend to be insignificant. However, in the next report the Fund will look to report data on the proportion of assets that is in single name equity/ corporate exposure, where data is available from the manager. The Fund also continues to engage its managers and ask for more data coverage on liquid alternatives.

Recommended Disclosure (c)

Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

The Trustee have reinforced their views of climate change being a financial risk to the return of the Fund's assets by committing to a Net Zero Carbon Emissions Plan, which would see the Fund achieve a 100% reduction in its carbon emissions no later than 2045. To assist in meeting this target, a target reduction of 55% of carbon emissions has been set for 2030 at the latest. These targets are set based on the comparison with the December 2016 baseline, when the Paris Agreement came into effect.

The Fund intends to progress towards the targets above by including emissions-based guidelines in manager mandates, allocating to low carbon transition assets (such as renewable energy infrastructure, energy efficient buildings, controlled environment farming) and by engaging with investee companies to establish net zero business strategies, with divestment being an option on the table if companies are not sufficiently committed to change. The Fund also excludes any companies that derive over 30% of their revenues from thermal coal mining or power generation.

The targets will be measured using the weighted average carbon intensity ("WACI") metric, which is the same metric used to measure the Fund's carbon footprint. This will allow the Fund to effectively measure progress through making comparisons with the baseline.

The Fund is currently ahead of schedule to meet the target of a 55% reduction by 2030. The table below illustrates the progress of the Fund's WACI across the *actively managed public equity and bond holdings* since 31 December 2016 (note this is not a direct comparison with the Fund's net zero target as the announced target covers the whole portfolio but provides an indication, and work is being undertaken to report carbon emissions on the whole portfolio):

Date	Fund WACI[3]	MSCI AC World Index WACI
31 December 2016	182.1	219.9
31 March 2020	123.4	180.5
31 March 2021	115.7	157.6
31 March 2022	114.6	162.8
31 March 2023	98.5	149.8

Since ,31 December 2016 the WACI of the Fund (as calculated on the actively managed public equity and bond holdings) has reduced by 45.9%. By comparison, the WACI of the MSCI AC World Index has reduced by 31.8% over the same period.

The table above has not been updated to included pooled equity funds due to the historic data shown, making any comparison erroneous, but it will be updated going forward. It is noteworthy that the Fund's WACI was down by around 15% over the last twelve months year against 8% decline experienced by the benchmark.

The Trustees are actively looking to do more and are targeting to invest at least 15% of the Fund's portfolio by 2025, by value in investments that have a strong "ESG tilt". This represents a material increase in the Fund's ambition to benefit from the opportunities presented by decarbonisation and "investment with purpose" objectives.

The Fund is currently in line with the 2025 target of a 15% allocation to "ESG" tilted investments, with c.12.9% of investments having an "ESG" tilt.

Glossary

Climate Action 100+
An investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change.

Carbon Intensity (Weighted Average Carbon Intensity)
Carbon intensity (or emission intensity) measures the carbon emissions per unit of output (expressed as CO_2e tonnes /$m Sales). Weighted average means each company's carbon intensity is adjusted by its weight in the Fund's total portfolio (as a percentage of the total market value.

CDP
formerly the Carbon Disclosure Project. The CDP is an international non-profit organisation that helps companies and cities disclose their environmental impact.

CO_2e
"Carbon dioxide equivalent" or "CO_2e" is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO_2e signifies the amount of CO2 which would have the equivalent global warming impact.

COP

[3] Tons CO_2e / $M revenue across the actively managed public equity and bond holdings.

The United Nations Climate Change Conference. COP stands for Conference of the Parties, and is attended by countries that signed the United Nations Framework Convention on Climate Change (UNFCCC)– a treaty agreed in 1994.

ESG tilted assets/ investments
Investments in sectors that have real-world environmental and/or social impacts, including but not limited to renewable energy, sustainable agriculture, education, healthcare, other essential infrastructure, and green buildings.

GHG
Greenhouse Gases

Paris Agreement
The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Its overarching goal is to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels."

Scope 1 Emissions
Direct emissions from owned or controlled sources

Scope 2 Emissions
Indirect emissions from the generation of purchased energy

Scope 3 Emissions
Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organisation (in
this case, the Fund's investee companies), but that the organisation indirectly impacts in its value chain. Scope 3 emission sources include emissions both upstream and downstream of the organisation's activities, such as business travel, procurement, waste and water.

SDGs
Sustainable Development Goals

SIP
Statement of Investment Principles

Stewardship
A purposeful dialogue between shareholders and boards with the aim of ensuring a company's long-term strategy and day-to-day management is effective and aligned with shareholders' interest. Good stewardship should help protect and increase the value of investments.

TPI
Transition Pathway Initiative

UN PRI
United Nations Principles of Responsible Investments

Voting rights
Equity investors typically enjoy rights to vote at annual and extraordinary general meetings (AGMs and EGMs). The resolutions on which shareholders vote will vary according to individual countries' legal frameworks. They may include voting on an individual director's appointment, remuneration or mergers and acquisition.

For further help or information

Please contact the Fund Office if you have any questions about this document.
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