Task Force on Climate-Related Financial Disclosures (TCFD) report

Zurich Financial Services UK Pension Scheme

Year ended 30 June 2023

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Introduction

Message from the Trustee Chair

Welcome to the annual TCFD report for the Zurich Financial Services UK Pension Scheme ("the Scheme") for year ended 30 June 2023.

This report presents analysis of the TCFD for the Scheme. It aims to provide a clear understanding of the financial implications of climate change on the Scheme. The report is structured to align with the TCFD's recommendations, focusing on governance, strategy, risk management and metrics and targets. It is designed to assist the Trustee, Scheme members, and other stakeholders in understanding how climate-related risks and opportunities are being managed within the Scheme.

Over the Scheme year the key activities are outlined below:

Climate risk assessment – the assessment for the Scheme's assets and liabilities highlights the potential impacts of climate change on the Scheme's financial performance. The assessment considers both physical risks, such as extreme weather events and rising sea levels, and transition risks, such as policy changes and technological advances.

Target setting and implementation – the Trustee set a net zero ambition for 2050, which means it aims to hold investment assets that achieve a balance between the greenhouse gas emissions it produces and removes from the atmosphere that year. This target aligns with the global goal of a maximum temperature rise of 1.5°C above pre-industrial temperatures, taking into account the best available scientific knowledge. The Trustee continues to monitor its asset managers on the agreed short-term carbon reduction targets for its equities and corporate bond portfolios.

Manager engagement – the Trustee recognises the importance of engaging with its asset managers to address climate-related risks and opportunities. The engagement is aimed at ensuring that the Scheme's investments are aligned with its climate-related objectives and that asset managers are effectively managing climate-related risks and opportunities.

Scheme's profile

The Scheme is managed by Zurich Financial Services UK Pension Trustee Limited ("the Trustee"). The Trustee has a legal duty to run the Scheme in accordance with the governing Trust Deed and Rules for the benefit of members and their dependents.

The Scheme has two sections: The ZPen Section, with its associated arrangements (ZPen Defined Benefit (DB) and ZPen Defined Contribution (DC)), and the ES Executives' Section (ESExec DB). The assets in each section are kept completely separate. Each arrangement requires a different investment strategy that is tailored to meet the investment aims and objectives.

ZPen DB

The ZPen DB arrangement is closed to new entrants and to future accrual. Active members are members of the ZPen DC arrangement. As at 30 June 2023, active ZPen DC members include 1,041 hybrid members who retained a link to final pensionable salary on their ZPen DB benefits.

For ZPen DB, there is a reasonable amount of time before there is expected to be a significant majority of pensioner members, therefore the Trustee invests around 40% of the assets for this arrangement in growth assets (e.g. equities and property). Investing in growth assets provides a higher expected return, but this brings a higher chance of volatility. Over time, whilst the membership profile matures, it is expected the amount of growth assets will reduce accordingly.

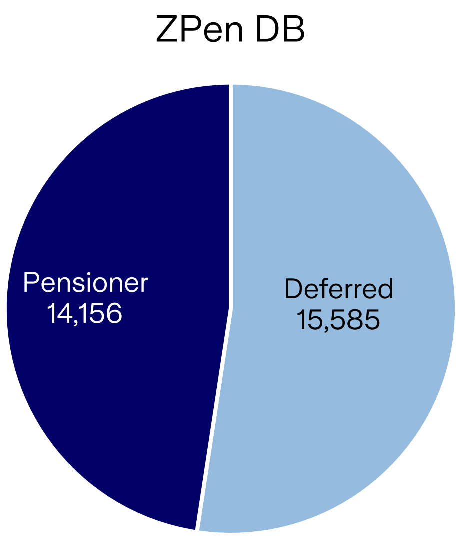
ESExec DB

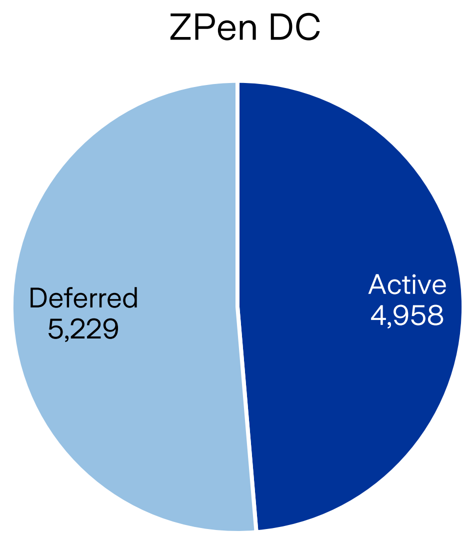
The section is closed to new entrants and future accrual. All members in the ESExec DB section are now pensioners. As such, the Trustee invests around 5% of the assets for this section in growth assets with the majority of investments in "matching" assets (e.g. government bonds). Investing in matching assets means that the assets are chosen because they react to market movements such as inflation and interest rate changes in a similar way to the liabilities of the section.

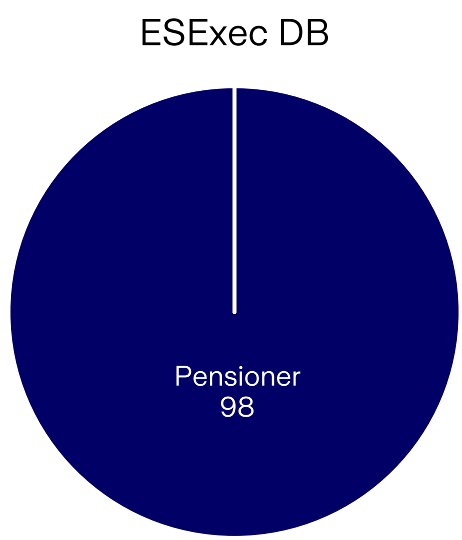
ZPen DC

The Trustee provides default strategies and a number of self-select funds for members. The Trustee believes the default strategies are suitable for the majority of members based on modelling the expected fund values at retirement and how members are expected to take their benefits.

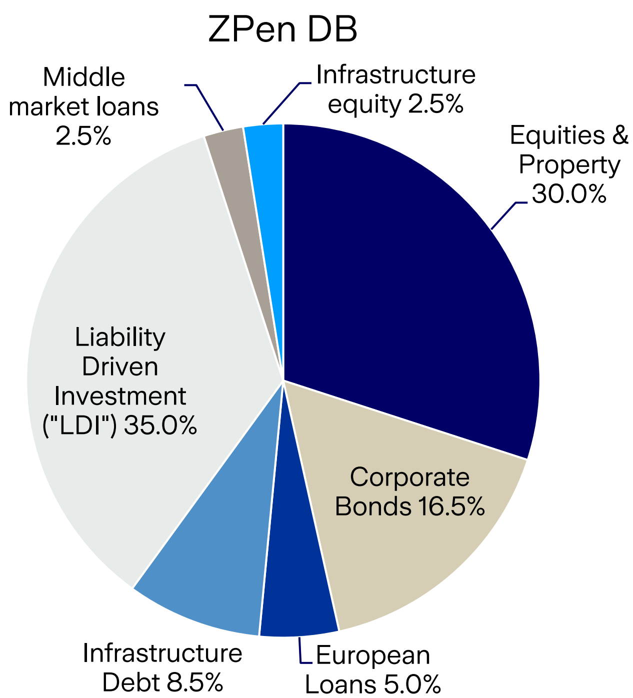
Membership


ZPen DB
Pensioner
14,156
Deferred
15,585

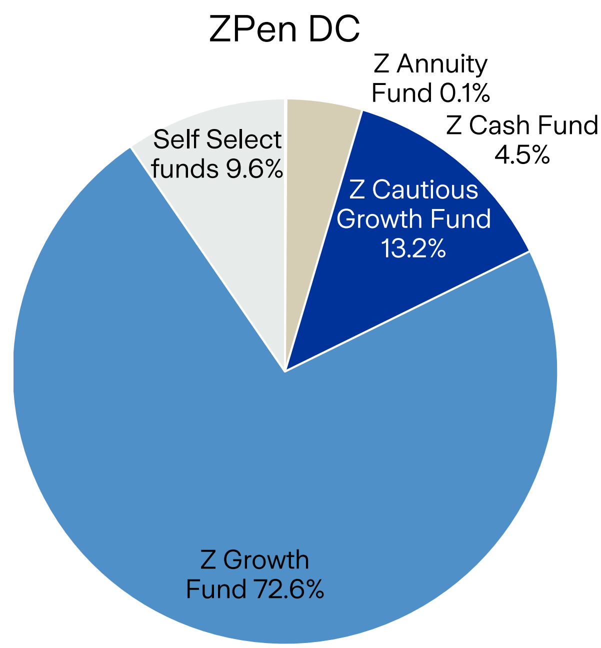

ZPen DC
Deferred
5,229
Active
4,958


ESExec DB
Pensioner
98

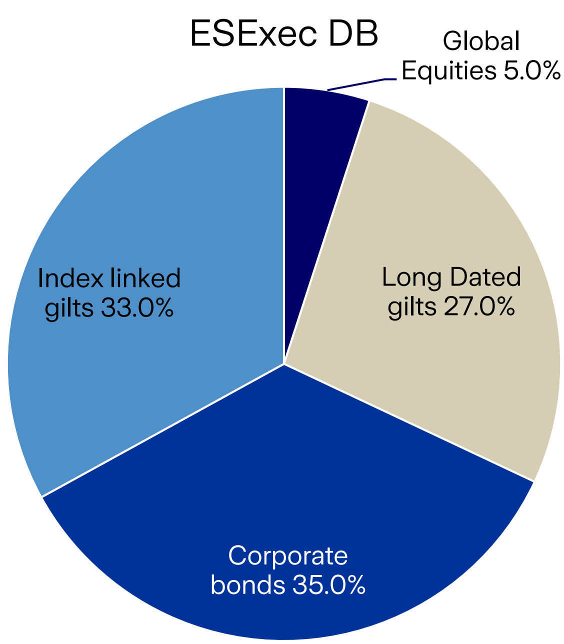
Assets



ZPen DB
Middle market loans 2.5%
Infrastructure equity 2.5%
Equities & Property 30.0%
Liability Driven Investment ("LDI") 35.0%
Corporate Bonds 16.5%
Infrastructure Debt 8.5%
European Loans 5.0%



ZPen DC
Z Annuity Fund 0.1%
Z Cash Fund 4.5%
Self Select funds 9.6%
Z Cautious Growth Fund 13.2%
Z Growth Fund 72.6%



ESExec DB
Global Equities 5.0%
Index linked gilts 33.0%
Long Dated gilts 27.0%
Corporate bonds 35.0%

Governance

Approach to stewardship and responsible investing

The Trustee believes that incorporating responsible investments (RI) into investment decisions improves long term risk adjusted returns. The Trustee has been integrating environmental, social and governance (ESG) factors at various steps in its investment process for many years, and in June 2019 it formalised the Scheme's RI strategy to reflect the changing regulatory landscape. There are five core principles to the RI strategy that has been implemented:

What

We believe that incorporating ESG factors into investment decisions improves long term risk-adjusted returns

We are an active owner – we vote proxies and engage, where appropriate

How

We take a pragmatic approach to responsible investments – we focus on what matters

We note Zurich Group's strategy and will leverage its global resources where it makes sense

When

We will evolve our responsible investment approach over time – and acknowledge that we will never be done

Governance framework

The Trustee is ultimately responsible for oversight of all strategic matters related to the Scheme. This includes defining the governance and management framework relating to ESG considerations and climate-related risks and opportunities. The Trustee is responsible for all material decisions related to climate change and the TCFD disclosure requirements. This includes approving the Trustee's net zero ambition, metrics and targets for the Scheme.

The Trustee directors meet as a full board at least five times a year. Occasionally, it is necessary to have additional meetings to consider specific matters. In order to facilitate management of the Scheme, sub-committees of the Trustee board have been formed to concentrate on specific matters and meet on a quarterly basis. The separate committees are the DC Committee and the Funding Committee.

The Funding Committee has been established as part of the overall governance framework that is in place to oversee and manage the DB arrangements of the Scheme.

The purpose of the **Funding Committee** is to manage the investment and valuation matters for the DB arrangements with a view to achieving appropriate funding of the Scheme. The Funding Committee provides oversight and guidance in line with relevant legal and regulatory requirements, including those of the trust deed and rules of the Scheme. The Funding Committee has delegated authority from the Trustee in respect of investment matters, except where a change to Scheme documentation is required e.g. the trust deed and rules, the statement of investment principles (SIP) etc. There is no delegated authority in respect of valuation matters.

The **DC Committee** has been established as part of the overall governance framework that is in place to oversee and manage the DC arrangements of the Scheme. The purpose of the DC Committee is to manage DC arrangements with a view to achieving good member outcomes. The DC Committee provides oversight and guidance in line with relevant legal and regulatory requirements, including those of the trust deed and rules of the Scheme. The Committee has delegated authority from the Trustee in respect of all matters relating to the ZPen DC section and legacy AVC arrangements of the Scheme, except where a change to Scheme Documentation is required.

Both sub-committees work with advisers to support with any decision making. Where a decision can't be made, a recommendation is made by the sub-committee to the Trustee board.

See appendix 2 for a diagram of how the Trustee's sub-committees work with advisers.

In addition to investment advice, the Trustee's Legal adviser, Covenant adviser and the Scheme Actuary provide advice to the Trustee on climate-related risks and opportunities.

Resources

The rationale for dedicating time and resources to the governance of climate-related risks and opportunities for the Scheme is multi-faceted and crucial for several reasons:

- Fiduciary duty: the Trustee has a fiduciary duty to act in the best interest of their beneficiaries. As climate change poses significant financial risks and opportunities, it is essential to assess and manage these factors to protect and enhance the long-term value of the Scheme's investments.
- Financial stability: climate-related risks, such as physical impacts (e.g. extreme weather events) and transition risks (e.g. policy changes, technological advancements), can have substantial financial implications for the Scheme. By integrating climate risk governance, the Scheme can enhance its resilience and ensure the long-term financial stability of the fund.
- Regulatory compliance: In the UK, regulatory bodies such as the Pensions Regulator and the Financial Conduct Authority (FCA) have emphasised the importance of climate risk management for pension schemes. The UK government has committed to achieving net-zero greenhouse gas emissions by 2050, and pension schemes are expected to play a role in this transition.
- Stakeholder expectations: Scheme beneficiaries, members, and other stakeholders are becoming more aware of climate change and its potential impacts.

Stakeholders expect the Scheme to address climate-related risks and opportunities proactively. Demonstrating effective governance in this area can enhance trust, reputation, and stakeholder satisfaction.

- Long-term investment perspective: The Trustee is a long-term investor, with investment horizon spanning several decades. Climate change is a long-term systemic risk that can significantly impact investment performance over time. By integrating climate risk governance, the Trustee can make informed investment decisions that consider the long-term implications of climate change on the Scheme's investments.
- Access to opportunities: climate change also presents opportunities for the Scheme to invest in low-carbon technologies, renewable energy, and other sustainable sectors. By actively managing climate-related risks and identifying these opportunities, the Trustee can align its investments with the transition to a low-carbon economy, potentially generating attractive returns while contributing to a more sustainable future.

The Scheme, with a total asset value of c.£6bn, is a significant and complex entity. Given the scale and complexity of the Scheme, the Trustee recognises the need to tailor the approach to climate risk governance accordingly. Over the Scheme year the Trustee allocated a significant amount of resource to protect the funding level of the Scheme, particularly in response to the rise in gilt yields during the Scheme year. This allocation on resources reflects the immediate priority of maintaining the financial stability and sustainability of the Scheme.

To ensure effective climate risk management, the Trustee engages advisers with expertise in this area. Additionally, the in-house team plays a crucial role in overseeing the governance and management of the Scheme. While the in-house team's primary focus has been on protecting the funding levels, climate risk considerations have also been integrated into the decision-making processes.

By tailoring the Trustee's approach to climate risk governance based on the size, complexity, and resource allocation of the Scheme, the Trustee is able to address climate risks in a manner that is proportionate to the Scheme's circumstances. This ensures that the Trustee's actions reflect the immediate priorities of maintaining financial stability and sustainability while also considering the long-term implications of climate change.

The Trustee's Investment Analyst (provided through the agreement between the Trustee and Zurich Insurance Company Ltd) has explicitly included the provision of services to include support for the Trustee on its climate-related risks and opportunities.

DB investment strategy changes include considerations of climate-related risks and opportunities. The Investment Analyst develops the investment strategy, working with the Finance and Investment team, any proposals are challenged by Hymans Robertson, the Trustee's independent investment adviser. Hymans Robertson provide formal advice on any investment strategy changes (under Section 36 of the Pensions Act 1995) to the Trustee. One challenge from Hymans Robertson to the Investment Analyst during the

Scheme year was the amount of interest rate and inflation hedging the Scheme should increase to.

For the DC arrangements, the DC Manager collaborates with the Investment Analyst and the Trustee's DC investment adviser, LCP, on the triennial review of the default investment strategies and fund range to ensure they are appropriate for the membership. The last review was completed in September 2020 and implemented in April 2021. As part of this review the Trustee considered how best to incorporate RI into the default arrangement and self-select fund range. The next review commenced in 2023 and included consideration of climate-related risks and opportunities. The review was still ongoing as at 30 June 2023.

All investment advisers to the Trustee have climate related objectives set within the annual investment consultant objectives, the Investment Analyst's main objective relating to climate change is the following:

- Support the Trustee to provide recommendations in developing and implementing the most suitable RI strategy through the integration of ESG, including climate change, stewardship and wider sustainability considerations into its investment and risk management arrangements, considering the Scheme's assets, as well as specific needs and requirements, including regulatory aspects.

Hymans Robertson and LCP both have objectives to support the Trustee with the annual production of the TCFD report.

An RI champion was appointed by the Trustee to oversee the day-to-day implementation of the RI strategy. The RI champion is a part of the Zurich Group's network enabling the Trustee access to the Group's resources and expertise. The RI Champion attends any sub-committee or Trustee board meeting where matters relating to RI are discussed. The RI champion has the primary day-to-day responsibility for the way in which climate-related investment risks are currently managed. The RI champion regularly collaborates with the DC Manager, who is responsible for overseeing the relationship with the asset managers related to the DC section. The RI champion has responsibilities on a day-to-day basis with the asset managers relating to the DB section. As all assets are mandated with external asset managers, climate-related risk is delegated onwards to the portfolio managers through investment management agreements and fund guidelines. Asset managers are monitored on a regular basis by the sub-committees.

To truly embed RI into the Scheme's priorities, the Trustee has appointed a nominated Trustee for RI to oversee the integration of RI into the Scheme's strategy. The Trustee for RI will collaborate frequently with the RI champion to stay up to date with any RI developments. The RI Trustee will also attend appropriate meetings with asset managers.

Policies

In 2021, the Trustee formalised its approach to climate change risks and opportunities and documented it in the climate change policies available on www.zpen.info. This report explains how the policies have been followed during the financial year.

The Trustee also has a proxy voting policy which was agreed in 2019. The last review of the asset managers' policies was performed in February 2021 and there have been no changes since.

The Trustee is monitoring voting and engagement activities delegated to the asset managers, appendix 3 provides engagement examples for all sections of the Scheme.

Trustee training

All Trustee directors are required to maintain a CPD (Continuing Professional Development) log with a minimum requirement of completing 15 hours per year. Each Trustee director has a personal review with the Chair and the Head of UK Pensions at least annually. This includes a review of their trustee knowledge and understanding and specific development areas. Any training needs, including the topic of climate change, are identified by the assessments and met through tailored training programmes which use a variety of training tools, including interactive workshop sessions, seminars and individual study. Use is made of in-house expertise and the Trustee's own advisers as well as external training programmes and seminars.

The Trustee last received training on RI in May 2021, the session focussed on the Group's RI strategy, the Scheme's RI progress to date and TCFD regulations.

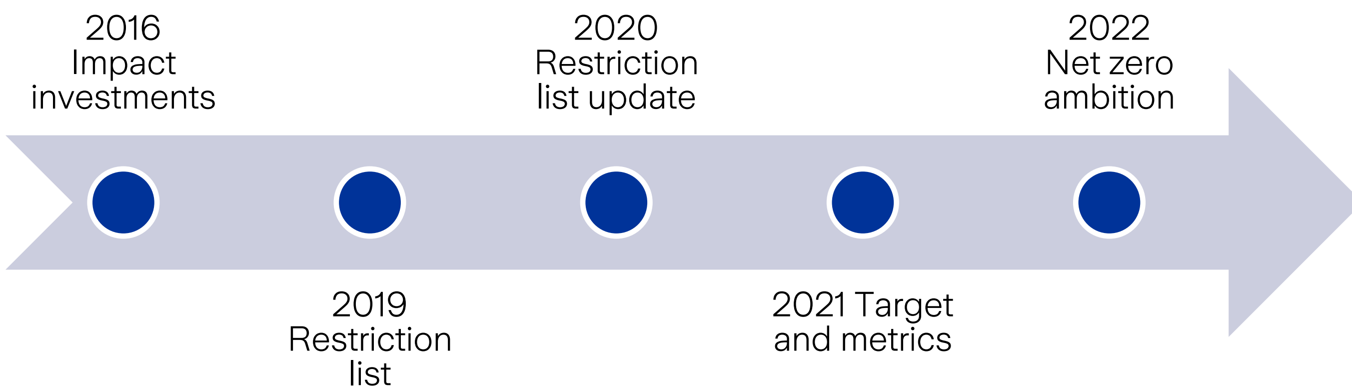
Key areas of strategy development

ZPen DB

The majority of investments held in this arrangement are held directly, rather than through pooled funds, which means the Trustee can directly influence the investment mandate and objectives pursued.

- The Trustee approved an allocation to Infrastructure Debt, which includes social and environmental impact investments.
- The Trustee agreed a restriction list excluding companies mining or generating power from thermal coal, a list which has subsequently been updated to include the consideration of oil sands and shale oil.
- The Trustee agreed a short-term carbon reduction target for its equities and corporate bond portfolios.
- The Trustee has agreed a 2050 net zero ambition.

The chronology of these considerations is illustrated below, and further detail set out in appendix 1.



ZPen DC

All the investments in this arrangement are in pooled investment vehicles with performance of the funds being monitored regularly by the Trustee.

Every three years, the Trustee reviews the funds offered and makes changes if required. The latest comprehensive review was carried out by the DC Committee and ratified by the Trustee at its meeting on 30 September 2020. The work carried out by the Committee included:

- a review of the default strategies and their suitability for the membership.
- analysis of the membership demographics and modelling the expected fund values at retirement and how members are expected to take their benefits.
- input from the Trustee's investment adviser.
- a review of the performance of the default strategies and the underlying funds.
- consideration of the most appropriate way of incorporating RI into the default arrangements.
- consideration of the most appropriate level of investment risk to be taken at different stages of a member's time to retirement.
- analysis of when members were expected to take their benefits.
- a review of the self-select options and take up by members of the differing options.

The Trustee is responsible for setting the investment objectives for the default strategy of the DC arrangements and its underlying funds, as well as for the range of funds to offer to members who want to choose their own investment strategy. As at 30 June 2023 a review of the DC investment arrangements was underway.

ESExec DB

The profile of this section is the most mature within the Scheme as all members are pensioners. As the liabilities have a shorter duration and the section has a strong funding position, the Trustee has agreed a de-risking investment strategy. In practice, it means the investment allocation to growth assets (in this case equities) is reduced with more assets allocated to liability matching asset classes (corporate bonds and gilts).

Asset manager engagement

The Trustee engages with its asset managers regularly. This includes engagements through the Funding Committee and meetings with Trustee and UK Pensions & Benefits team ("ZPen team") representatives. The Trustee has found direct meetings with asset managers is the most effective way to engage on RI and voting records.

Annual RI meetings

ZPen DB & ESExec DB

Annual RI meetings are generally held by a number of attendees representing the Trustee. This includes the nominated Trustee for RI, the Scheme's RI champion (currently the ZPen Finance and Investment Manager), the Trustee's Investment Analyst and a Funding Committee member. The attendees are briefed ahead of each asset manager meeting with key information on each mandate in order to facilitate discussions.

The meetings all follow a similar format and are structured to discuss areas most pertinent to the Trustee's RI requirements topics. For more information on the key topics discussed during the Scheme year, please visit the DB implementation statement available on www.zpen.info.

ZPen DC

The Trustee uses Scottish Widows as its DC platform provider, and as such the Trustee does not have a direct relationship with the DC asset managers; that relationship is held by Scottish Widows. The Trustee has found that direct meetings with Scottish Widows are the most effective way to engage on RI and voting records, and the provision of data required for the TCFD report.

For more information on the key topics discussed during the Scheme year, please visit the DC implementation statement available on www.zpen.info.

Strategy

In its climate change policies, the Trustee has outlined how climate-related risks and opportunities could affect DB and DC assets and defined applicable time horizons.

DB assets

The Trustee considers the risk over short, medium and long-term time horizons.

Short-term horizon is up to 5 years and risks are measured using a 5-year scenario analysis

Medium-term horizon is 5 to 10 years by the end of which approximately 80% of the Scheme's liabilities will be in respect of pensioners

Long-term horizon is greater than 10 years when over 80% of the Scheme's liabilities will be in respect of pensioners, which may result of a change in profile of the Scheme's assets

DC assets

The Trustee considers the risk for DC assets over short, medium and long-term time horizons in line with the UN Paris Agreement. The agreement was adopted in December 2015 setting out actions up to 2035 to limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels.

As the Section is open to new entrants and therefore the membership profile is not static, the Trustee has used the time horizons from the UN Paris Agreement.

Short-term horizon is up to 5 years

Medium-term horizon is 5 to 10 years

Long-term horizon is greater than 10 years

Climate related risks and opportunities

The Trustee's Climate change policy details how it identifies and manages the risks and opportunities that might affect the likelihood of meeting its objectives for the Scheme, especially where such risks and opportunities are interdependent.

The transition to a low-carbon economy requires significant changes to be made and will bring a variety of different types of risk. The financial and reputational impacts of such changes will vary depending on the type of organisation, political intervention and a variety of other factors. Depending on the success and speed of the transition, climate change will also pose physical risks, impacting the way organisations operate today. However, climate change is also a business opportunity. Transitioning to a low-carbon economy creates opportunities for efficiency, innovation and growth.

The table on the next page shows a number of different identified risks and opportunities, with the associated impact, as has been initially assessed by the Trustee. The Trustee's actuarial adviser was instructed to consider climate risk as part of the triennial valuation as at 30 June 2022. The covenant advisers also considered consider climate risk as part of formal advice that has been received. This is important as the impact of climate change over the short, medium and long term will impact covenant resilience and therefore could impact the ability of the Scheme to pay members' benefits in full.

<table>
<tr><th rowspan="2">Risk areas</th><th rowspan="2">Identified Risks & Opportunities</th><th colspan="2">Impact</th></tr>
<tr><th>Short term & medium term</th><th>Long term</th></tr>
<tr><td rowspan="3">Investment</td><td>Climate related physical risks</td><td></td><td>Resource scarcity
Extreme weather events
Sea level rise</td></tr>
<tr><td>Climate related transition risks</td><td>Carbon prices
Technological change
Policy tightening
Consumer preferences</td><td></td></tr>
<tr><td>Climate related opportunities</td><td>New market opportunities
'Green' investments</td><td></td></tr>
<tr><td rowspan="2">Covenant</td><td>Climate related physical risk to the Zurich Group</td><td>Investment risk: Valuation changes to investments as a result of climate change (Medium term)

Changes in severity, frequency and geography of extreme weather events leading to:
Larger/more frequent claims (Medium term)
Changes in revenue and costs from changes to supply chain costs and reliability.</td><td>Investment risk: Valuation changes to investments as a result of climate change

Changes in severity, frequency and geography of extreme weather events leading to:
Larger/more frequent claims
Changes in revenue and costs from changes to supply chain.</td></tr>
<tr><td>Climate related transition risk to the Zurich Group</td><td>Financing risk: Potential for increased borrowing costs (Medium term)

Regulatory risks: Requirements set by the PRA / government (Medium term)

Cost of and effective execution of transition, including changes in operating costs e.g. supply chain, compliance and enhanced reporting requirements, new production processes.

Consumer risks: Change in and shift in demand across</td><td>Market risk: Changes in GDP/growth rates, equity movements and currency risks

Financing risk: Potential for increased borrowing costs

Regulatory risks: Requirements set by the PRA / government

Cost of and effective execution of transition, including changes in operating costs e.g. supply chain, compliance and enhanced reporting requirements, new production processes.</td></tr>
</table>

		geographies and lines of businesses (Medium term) Reputational risks: Non-green products or not meeting transition targets could damage the Zurich brand, impact market share, impact new business and have lapse effects on existing business Investment risk: Valuation changes to investments as a result of climate change (Medium term) Asset risk: Write-offs and early retirement of assets (Medium term)	Consumer risks: Change in and shift in demand across geographies and lines of businesses Reputational risks: Non-green products or not meeting transition targets could damage the Zurich brand, impact market share, impact new business and have lapse effects on existing business Investment risk: Valuation changes to investments as a result of climate change Asset risk: Write-offs and early retirement of assets
	Climate related opportunities for the Zurich Group	Changes in products and services to attract customers as they increasingly look for policies/investments that have a positive effect for society and the environment.	By transitioning early to Net Zero by 2030 Zurich could differentiate itself within the market.

Climate related physical risks

To mitigate this risk, the Trustee engages with its asset managers on a regular basis to ensure sufficient emphasis is put on including these aspects in security selection and the ongoing monitoring process. The Trustee reserves its right to impose specific investment guidelines within its segregated mandates to ensure the Scheme's risks are mitigated and targets are met.

Climate related transition risk

In dialogue with the Group, the Trustee has recognised that certain assets are likely to be subject to transition risk through early policy change, creating the risk of asset stranding. Accordingly, the Trustee has implemented a restriction list described in the Governance section of this report. The list is updated on a quarterly basis and is based on a direct engagement with the investee companies.

This restriction list excludes investment in the equity and debt of companies that:

- generate more than 30% of their revenue from mining thermal coal, or produce more than 20 million tons of thermal coal per year;
- generate more than 30% of their electricity from coal;
- are in the process of developing any new coal mining or coal power infrastructure;
- generate at least 30% of their revenue directly from the extraction of oil from oil sands;

- are purpose-built (or "dedicated") transportation infrastructure operators for oil sands products, including pipelines and railway transportation;
- generate more than 30% of their revenue from mining oil shale, or
- generate more than 30% of their electricity from oil shale.

The Trustee periodically reviews this approach to ensure that the restrictions are appropriate.

From a covenant perspective, the Trustee, alongside its independent covenant adviser as appropriate, will monitor the possible impact of physical and transitional climate risks on the Scheme's covenant and the interaction of the risks with the Scheme's longer term strategy. Where appropriate, the Trustee will consider changes to the Scheme strategy to mitigate any impact on the covenant, whilst noting ongoing risk management being undertaken by the Group.

Climate related opportunities

The Trustee increased its allocation to the Infrastructure Debt portfolio, between 2016 and 30 June 2022. This asset class includes investments extending beyond climate change. The impact investments address social projects in healthcare and social housing as well as green impact investments focusing on cleaner energy and utilities. Valuations of those investments as at 30 June 2023 are shown below.

<u>Social impact</u>

Social investments held by the Scheme contributed towards more affordable housing and an increased number of hospital beds available.

Social housing £25m

Healthcare £20m

Green impact

The green impact investments increased available sources of sustainable energy avoiding emissions of conventional energy production.

Offshore wind £20m

Onshore wind £19m

Ground mounted solar £90m

Utility – waste water £39m

Net zero ambition

Over the last few years as the Trustee has developed its RI strategy for the Scheme, a key consideration has been to set an ambition for the Scheme to achieve net zero by 2050. Net zero represents a position where the carbon emissions generated by economic activity is balanced by the ability of natural and human-developed processes to absorb these emissions. The ambition of the Trustee is to have a similar position within the Scheme's assets.

Climate change is perhaps the most complex environmental risk facing society today. The risks and opportunities associated with climate change are intergenerational, international and interdependent. The Trustee has a duty to pay benefits as and when they fall due and in doing so recognises its responsibility to work proactively to tackle climate change. Setting a net zero ambition seeks to align the Scheme with a longer-term transition to a low carbon economy and support the process of change, recognising that climate change is a material financial risk.

The main focus for the Trustee when setting a net zero ambition has been on the Scheme's final salary arrangements due to the size of the fund and impact the Trustee can have in relation to these assets. The Trustee owns the majority of assets directly, meaning it has substantial influence to make a tangible difference by using voting rights and engaging directly with asset managers.

When the Scheme achieves maturity (i.e. a significant number of members are pensioners) the scope of the available assets to invest in may be limited, so, as the Scheme has not reached that position, now is the perfect time to act.

DB assets

To achieve its ambition, the Trustee has agreed a plan based on the following pillars:

Investments	Engagement	Monitoring

Investments

The Trustee recognises different characteristics of the asset classes it is invested in and availability of data. Once methodologies of measuring emissions are available the Trustee will work to set targets for remaining asset classes. The table below shows the current status and actions to be taken. For the asset classes that do not yet have an agreed methodology to account for emissions or reliable data is not available, the Trustee will continue to work with the Zurich Group and the asset managers to address these points.

Asset class	Asset allocation	
Equities	26.0%	5 year weighed average carbon intensity (WACI) reduction target set
Real Estate	4.0%	Engagement with CTI on measurement and target setting
Corporate Bonds	16.5%	5 year WACI reduction target set
Infrastructure Debt	8.5%	There is not yet an agreed methodology to account for the emissions
LDI	35.0%	There is not yet an agreed methodology to account for the emissions
European Loans	5.0%	The funds are co-owned with the Zurich Group. The Trustee will work with the Group on measurement and target setting once reliable data is available
Middle Market Loans	2.5%	
Infrastructure equity	2.5%	As at 30 June 2023, the Scheme had not yet invested in the agreed infrastructure equity funds. Work will commence on the methodology to account for emissions after subscribing to the funds.

Engagement

The Trustee will continue to delegate engagement with investee companies to its asset managers.

If the Trustee holds the same stock as Zurich Insurance Group ("Group"), the Trustee could leverage from the Group's direct engagement and engage jointly.

Monitoring

Monitoring activities are described in the risk management section of this report.

Operational ambition

From an operational perspective, the aim is to stop adding to the amount of carbon dioxide equivalent emissions that are released into the atmosphere. Significant progress has already been made and there is a clear path to further reduction by, for example, increasing our use of renewable energy and embracing hybrid working, meeting via Teams and travelling in smarter ways.

The Trustee will monitor:

Our suppliers	Our in-house team

The ZPen team is employed by the Group and works in line within the Group's operational model. Therefore, the in-house team is aligned with the Group's 2030 operational net zero target.

Working with the Group

For the Group, RI is about achieving the mission of "doing well and doing good", by not only creating long-term, sustainable financial value, in line with Zurich's fiduciary duty, but, at the same time, also creating non-financial value such as reduction of carbon emissions. RI is the creation of long-term benefits for all key stakeholders, while remaining true to the proven approach of maximising economic value based on a structured and disciplined investment process.

The Group are transitioning the investment portfolios to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures, taking into account the best available scientific knowledge. Science-based interim targets for 2025 have been set for listed equity, corporate debt and real estate. The Trustee has been working with the Group on the Scheme's net zero ambition as it can benefit, especially from the mandates where the Group use the same asset manager.

Scenario analysis

One of the tools employed by the Trustee in the financial management of the Scheme is scenario analysis. The purpose of scenario analysis is to explore how the Scheme's asset and liabilities behave under different stressed conditions and thus assess the overall resilience of the Scheme to different potential future outcomes.

Climate scenario analysis is an extension of this general approach and will help the Trustee to analyse climate-related risks and opportunities. The Trustee acknowledges that, in the current landscape there is no single methodology or tool employed by asset owners to assess the potential impacts of climate change. Further the Trustee recognises that there are different climate policy pathways that would each result in outcomes consistent with 1.5-2°C warming by 2100. Additional information regarding the limitations of climate scenario analysis is set out later in this paper, along with insights of the Trustee's ongoing efforts to overcome these limitations.

For the purpose of the analysis set out in this report, the Trustee focused on the three core climate scenarios as follows:

Scenario	Description
Green revolution	Corresponds to a world where there is concerted and collaborative policy action starting now, e.g. carbon pricing, green subsidies with increased public and private spending on "green solutions". Improved disclosures encourage market prices to shift quickly. Transition risks arise in the short term, but less physical risk in the long term. The intensity of the disruption is high and immediate. Scenario assumes a high likelihood of achieving an emissions trajectory consistent with limiting the average global temperature increase to at or below 2°C.
Delayed Transition	Reflects a world where no significant additional policy action is taken in the short-term, meaning the response must be stronger when it does happen. This results in a shorter and sharper period of transition with greater (but delayed) transition risks but similar physical risks in the long term. Assumes a reasonably high likelihood of achieving an emissions trajectory consistent with limiting the average global temperature increase to at or below 2°C.
Reference (BAU) Scenario	Corresponds to a world where currently existing policies for GHG emissions, renewables deployment and energy efficiency are carried out and where no additional policies are implemented compared to what have been legislated as of June 2019, it covers worldwide policies. Growing fears over ultimate consequences leads to market uncertainty and price adjustments; Ineffective and piecemeal action

	increases uncertainty and transition risks exceeded by physical risks. Assumes a very low likelihood of achieving an emissions trajectory consistent with limiting the average global temperature increase to at or below 2°C.

The modelling for the DB sections also uses a base case which reflects standard capital market assumptions based on consensus views on economic outlook, which feed into long-term views on what is currently priced into the market. This base scenario therefore indirectly captures the climate risk and opportunities that are priced into current market conditions but does not allow for specific scenarios such as those defined above.

The Trustee will monitor ongoing research and developments in this area and might change the above scenarios if more meaningful conclusions could be drawn from alternative scenarios.

Approach taken by the Trustee

Over the year to 30 June 2023, the Trustee built on the previous year's quantitative analysis of the Scheme's resilience to different climate change scenarios. During the year ended 30 June 2022, the Trustee focused on asset level scenario analysis. The 2023 analysis for the ZPen and ESExec DB sections builds on this and extends to also include the liabilities of the Scheme, thereby considering both funding and investment strategy in conjunction.

The two key outputs when understanding the resilience of the ZPen and ESExec DB sections to each of the climate scenarios in the modelling undertaken below are:

- 'Likelihood of success': this means the probability that the section will be 100% funded (i.e. assets are at least equivalent to the liabilities) over time.
- 'Downside risk in 20 years': this means the possible fall in the funding level over time in the worst 5% of cases modelled.

While the scenario analysis undertaken this year provides insight into the resilience of the Scheme's overall strategy, the previous year's analysis is still relevant in answering questions about the exposure of the Scheme's equity and bond allocations to climate related risks. As such, this analysis is included within Appendix 5.

The Trustee is comfortable that the scenario analysis carried out on the ZPen DC Section during 2022 is still appropriate and so has retained this analysis within the main body of this report.

Limitations of scenario analysis

It is important to note that climate scenario analysis as has been undertaken below for the Scheme is still in very early stages of development and is likely to evolve some way further. As such, there are a number of limitations with respect to the modelling that should be taken into consideration when contemplating the outputs below.

In particular, climate scenario modelling is only one of the tools used by the Trustee to consider the impact of potential climate-related risks; the output of this modelling will therefore form part of the discussions held with respect to the management of these risks alongside other tools such as the climate-related metrics chosen for the Scheme.

Additionally, the analysis does not try to answer how the Scheme's funding and investment strategy will fare in a 2, 3 or 4°C world, nor assign a likelihood to any given climate scenario. Instead, it performs what is called a 'stress test' of the resilience of a funding and investment strategy under outcomes that may be expected under different climate pathways, where uncertainty over different periods is emphasised. Finally, as with any modelling, there is some subjectivity in the underlying assumptions chosen. As a result, interpretation of the outputs should be carefully considered and should inform decisions on potential investment strategy changes, rather than decide them; this is the approach that the Trustee will take when considering the outputs of the climate scenario analysis.

More generally, it is acknowledged that when climate scenarios are being developed for modelling purposes, it cannot be assumed that the future is going to be the same as the past or that the traditional relationships between economic variables will hold. Instead, what should be explored is how the future economy could be impacted by evolving energy production, how society may change in response, and how our economic and social systems will adapt to the growing physical impacts of a warmer climate as well as associated government policy change.

For a climate scenario narrative to be realistic, one must consider how different actors within our global system respond to stress. This is to add in the human response to environmental or other stimuli, recognising that different entities may not always take decisions that lead to an optimal outcome.

Future climate scenario analysis modelling will hopefully build on this approach and should better inform decision making by recognising the systemic nature of climate risk and that it can only be modelled with significant uncertainty. As such, the Trustee will look to evolve their approach to climate scenario modelling in the coming years in order to improve it in light of current criticism and limitations.

Overall conclusions from the scenario analysis

<u>ZPen DB Section</u>

All scenarios, including the base case, trend upwards similarly with respect to the **likelihood of success**. The climate-specific scenarios do suggest slightly lower probabilities of success than the base case modelled, however not significantly so. This suggests that over the longer term in particular the section is relatively resilient to the climate scenarios modelled and their associated risks using this measure. This is likely due to the high hedging in place within the investment strategy as well as other risk management controls such as diversification of strategy.

The base case **downside risk** output represents particularly poor economic scenarios (similar to a severe recession or depression) and the climate scenarios modelled are producing results that are similar to the base case. However, the impact is broadly similar across the scenarios, including the base case, and this also thereby suggests that the section is resilient to the different climate scenarios.

As the particular scenario that will materialise is unknown, at this time remaining diversified is an important part of the Trustee's approach to addressing the risks posed.

The Trustee will reassess next year as to whether or not this scenario analysis remains appropriate for the section and undertake new analysis if they decide that the analysis needs refreshing. In the meantime, the Trustee will use the climate scenario analysis, where appropriate and noting its limitations, to inform their decision making.

ESExec DB Section

Within the ES Exec Section, all scenarios, including the base case, start at 100% **likelihood of success** at the modelling date. This is due to the section being fully funded at that point in time. Due to the investment strategy in place, including the high level of matching offered by the Section's strategy, the likelihood of success remains at 100% over the time periods modelled. Therefore the Trustee is satisfied, based on this measure, that the Section is resilient across all of these scenarios.

Similarly, when considering the **downside risk** for the section, despite this output representing particularly poor economic scenarios (similar to a severe recession or depression), all the climate scenarios modelled as well as the base case, produce projected funding levels that continue to ensure that the section remains above full funding. Further commentary is included in the more detailed section below, however, this also thereby suggests that the section is resilient to the different climate scenarios. This is likely in particular due to the high funding level and lower risk investment strategy in place.

The Trustee will reassess next year as to whether or not this scenario analysis remains appropriate for the section and undertake new analysis if they decide that the analysis needs refreshing. In the meantime, the Trustee will use the climate scenario analysis, where appropriate and noting its limitations, to inform their decision making.

ZPen DC Section

The overall impacts modelled to the section's funds under the different scenarios were low, suggesting overall resilience of the assets to the climate scenarios. However, no analysis of the corporate bond portfolio was available and the gilts and sterling liquidity funds are also unable to be modelled with respect to different climate scenarios given the nature of these asset classes.

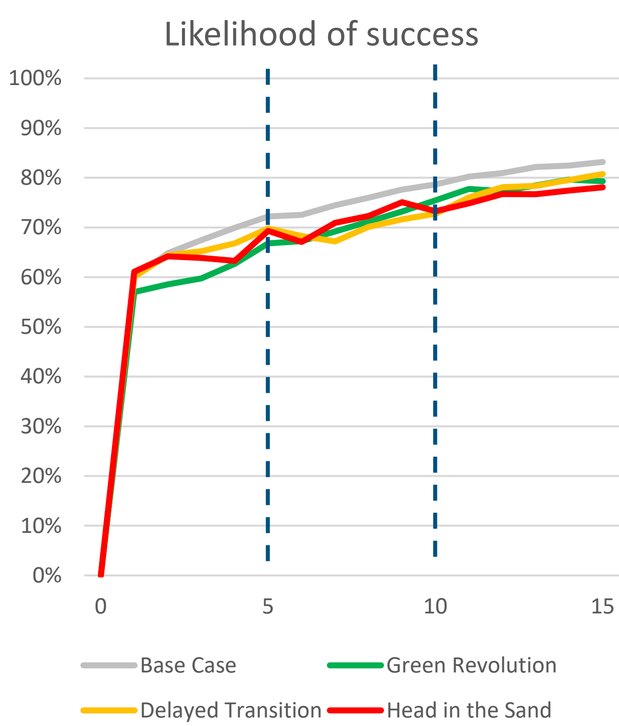
The scenario analysis for the DC Section has been limited by the number of sectors covered although has highlighted that materially affected sectors in both the equity and corporate bond portfolios are susceptible to limited downside financial risk and some level of transition disruption, creating the need to engage with companies so as to ensure that risks are being internally managed by the companies in which the Trustee is investing.

As a part of the next fund review, scenario analysis will be considered when assessing climate change risks and opportunities and potential fund choices will be compared on the basis of their resilience to climate risks.

Detailed outputs: ZPen DB Section

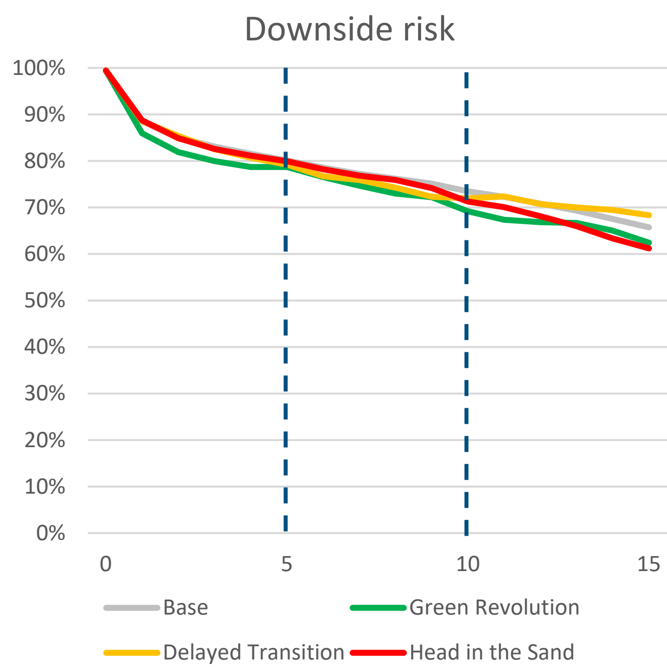
The Trustee undertook analysis based on both the funding and investment strategy of the section as at 30 June 2023. In doing this, the resilience of the whole section was considered with respect to the different quantitative impacts of the climate scenarios as set out above. For instance – should interest rates over time be impacted by the different climate scenarios, both the assets and the liabilities will reflect these impacts. However, due to protection provided by hedging assets within the section's investment portfolio, the impacts of interest rates to the liabilities may be mitigated by similar changes in the investments, thereby reducing the overall strategic impact of negative interest rate changes. As such, modelling across both the assets and liabilities of the section may provide a broader view of strategic resilience than asset-only analysis.

The graphs and commentary below and overleaf set out the results of the scenario analysis for the section. The impact at the five and ten year points in time has been highlighted in order to reflect upon the potential impact of the different scenarios with respect to the time horizons chosen for the Scheme earlier in this report.



For the ZPen Section, the probability of success of the section is similar across the different climate scenarios modelled, particularly over the longer term. The key differences are as may be expected; a slightly higher impact to projected funding level in the first 0-5 years under the green revolution scenario, between the years 5-10 under the delayed transition scenario and from year 10 onwards under the BAU scenario. This is reflective of when the different risks to the section may manifest depending on the scenario experienced. As the section was not fully funded at the modelling date, the likelihood of success starts at 0% but then significantly increases by year 1, reflective of the likelihood that the section achieves full funding by that point.

However, despite slight negative impacts to the section's funding level experienced across all scenarios versus the base case, the results remain relatively similar over the longer term (i.e. years 10 onwards). This indicates resilience of the section to the different climate scenarios as the modelling suggests that there is a high likelihood (70%+) of the section achieving full funding over the time periods modelled despite these impacts. It is also important to note that whilst the base case assumes that the market outlook has 'priced in' climate-related risks and opportunities, it does not make an allowance for specific climate scenarios or risks.



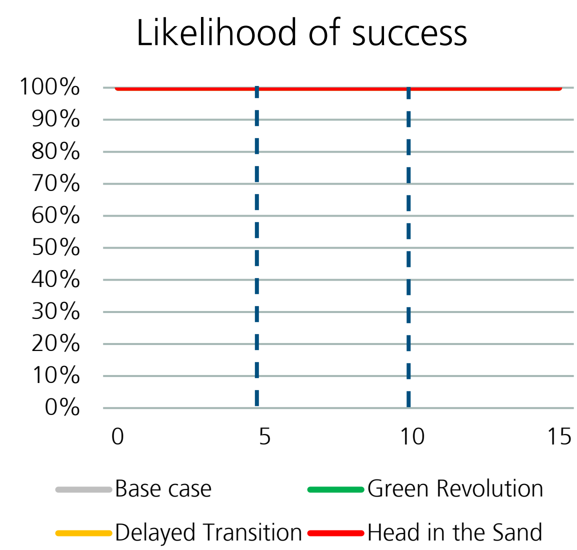
The graph to the left, focusing on downside risk to the section of the different climate scenarios, shows the average of the worst 5% of funding levels for the section. Therefore, the projected funding level of the section for this graph does appear under each scenario, to decline somewhat significantly over time, however this is the nature of downside risk as an output. It is important to note, though, that despite the risks to the section experienced under each scenario modelled, over the period to 10 years from the modelling date the funding level does not differ much between the scenarios. At the five year position, the average of the worst 5% of outcomes across all scenarios including the base case are 79% - 80%, and at the 10 year position this has reduced to 69% - 73%.

This Trustee is satisfied that this demonstrates resilience of the section to different climate scenarios over the medium-longer term as defined by the Trustee, as the difference between the outputs across these scenarios at these points in time are relatively small.

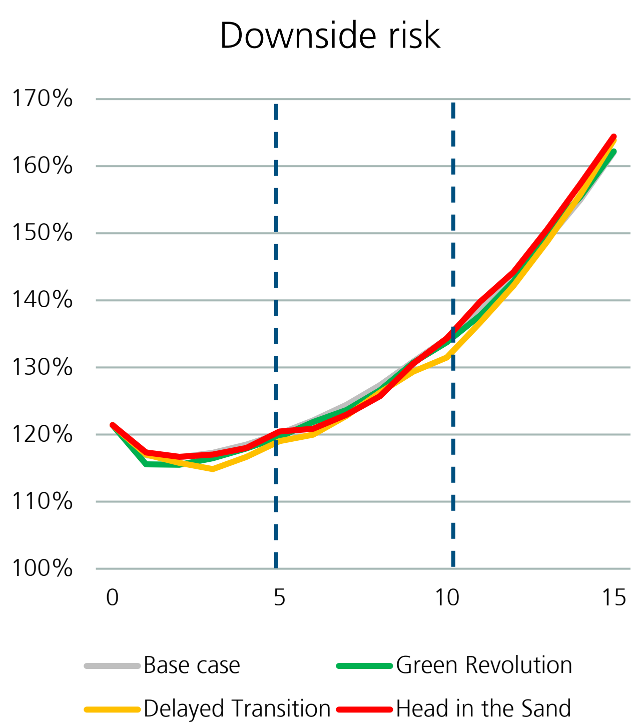
Detailed outputs: ESExec DB Section

As with the ZPen Section, the Trustee undertook analysis based on both the funding and investment strategy of the Section as at 30 June 2023. In doing this, the resilience of the whole section was considered with respect to the different quantitative impacts of the climate scenarios as set out above. As such, modelling across both the assets and liabilities of the section may provide a broader view of strategic resilience than asset-only analysis.

The graphs and commentary below and overleaf set out the results of the scenario analysis for the Section. The impact has been highlighted at the five and ten year points in time in order to reflect upon the potential impact of the different scenarios with respect to the time horizons chosen for the Scheme earlier in this report.



For the ES Exec Section, the probability of success of the section is the same across the different climate scenarios modelled, as shown by the graph to the left. For all scenarios, due to the high funding level of the section and high level of matching between the investment and the funding strategies, the likelihood of success therefore remains 100% across all time periods modelled. However, despite this positive result, the Trustee is cognisant of the potential climate-related issues that will continue to pose a risk to the section and, on an ongoing basis, continue to monitor and manage these.



The graph to the left looks at the potential downside risk to the section of the different climate scenarios. The downside risk measure focuses on the average of the worst 5% of outcomes. Despite this, whilst the projected funding level of the section for this graph does appear under each scenario, to decline over the shorter term, by the 5 and 10 year points it has recovered and then improved. Additionally, the projected funding levels do not differ much between the scenarios or between each scenario and the base case.

The Trustee is therefore satisfied that, based on the measures as shown above, this demonstrates resilience of the section to different climate scenarios over the medium-longer term as the difference between the outputs across these scenarios at these points in time are relatively small.

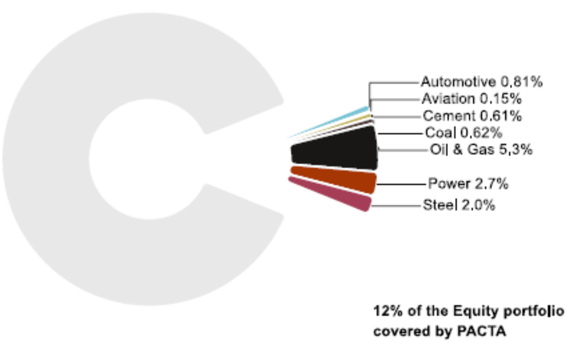
Detailed outputs: ZPen DC Section

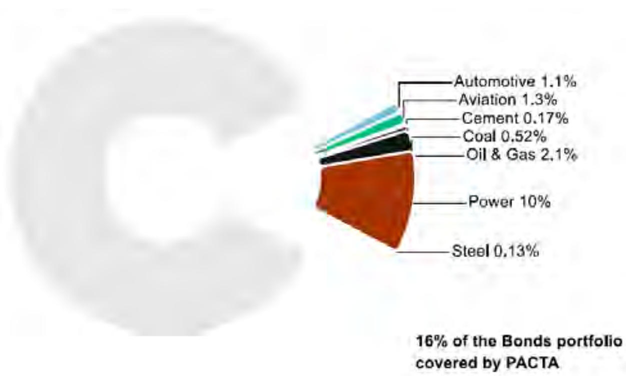
During 2022, the Trustee performed scenario analysis for the components of the default funds invested in the Equity and Corporate Bond asset classes. The Trustee decided to assess the Scheme's climate risk exposure for DC assets using the Paris Agreement Transition (PACTA) tool developed by the 2°C Investing Initiative (2DII).

The table below shows which funds were included in the scenario analysis. The Trustee believes that this analysis is still relevant when considering the resilience of the DC section to different climate scenarios and therefore did not update this during the 2023 Scheme year. The Trustee will reassess this position during the 2024 Scheme year.

Default Fund	AUM	Underlying component	Included in analysis
Z Growth Fund	£314m	LGIM 30/70 Global Equity Currency Hedged Fund	Yes
Z Cautious Growth Fund	£65m	55% Z Growth Fund 30% Corporate Bond All Stocks Index Fund 15% Over 15 years UK Gilt Index	Yes Yes No
Z Cash Fund	£21m	Schroder Sterling Liquidity	No
Z Annuity Fund	£0.5m	LGIM Pre-Retirement	No

Allocations to materially affected sectors are slightly higher for the DC section compared to the previous analysis of the assets undertaken for the DB sections, this being a consequence of the different management approach, with higher allocations to the oil and gas sector particularly notable.





Delayed transition scenario

Under the Delayed transition scenario, the potential change that the transition could have on the financial value of the portfolio, split in terms of impact on the equity and bond portfolios, is as follows:

Fund	Potential change in value under scenario
L&G 30/70 Global Equity Currency Hedged Fund	-2.62%
Corporate Bond All Stocks Index Fund	-0.07%

The potential financial impact under the Delayed Transition scenario is slightly higher, again a consequence of the higher allocation to materially affected sectors.

<u>Green revolution scenario</u>

The Trustee has also considered the potential alignment of the portfolio with a transition under its most progressive, Green Revolution scenario. The results are shown below for both the equity and corporate bond portfolios. For the equity allocation, some level of transition disruption is expected, but this is broadly in line with the level of disruption envisaged by the scenario. For the corporate bond portfolio, a significantly higher level of disruption is expected, albeit less than envisaged within the scenario.

Equity portfolio: Transition Disruption Metric

Corporate Bond portfolio: Transition Disruption Metric

Under the Green Revolution scenario, the potential change in value of the equity portfolio was -2.4%, broadly similar to the expected change in value under the Delayed Transition scenario.

Risk management

Identifying and assessing climate related risks

The Trustee has included climate change and broader RI consideration into the Scheme's Statements of Investment Principles ("SIP") for DB and DC assets. Implementation statements available on the Scheme's website www.zpen.info/Library/Responsible Investment describe compliance to SIPs during the year.

Various parties support the Trustee in the identification and assessment of climate related risks, including its sub-committees, advisers, investment managers and in-house team. Climate risk is particularly considered within the following processes:

Valuation process, with asset, liability and covenant scenario modelling

The Trustee instructed its actuarial and covenant advisers to consider climate change risk as part of the formal advice for the triennial valuation as at 30 June 2022:

- The Scheme Actuary undertook scenario modelling in order to stress-test the resilience of the funding valuation outcomes and investment strategy under different climate scenarios over different time horizons.
- The covenant advisers provided covenant considerations of the materiality and timing of the sponsor's key ESG risks and opportunities (including climate change), informed by company information and sector insights.

Selection of asset classes and mandates

The Trustee expects that its investment advisers will consider the extent to which any individual asset class will be affected by climate factors in providing advice although recognises that climate factors are currently more likely to arise when considering the mandate design within asset classes. For investment decisions, the Trustee has oversight of the investment advisers through its sub-committees (DC Committee/Funding Committee), both sub-committees report activity quarterly to the full Trustee board. For a diagram of the Trustee's investment governance structure of its advisers and sub-committees, see Appendix 2.

Selection/Monitoring of asset managers

In both the selection and ongoing evaluation of asset managers, the Trustee uses an internal system set up by the Zurich Group. It forms a part of the Investment Management application capturing scores based on various hard and soft factors that relate to the asset managers' performance. Each external asset manager's ESG and climate integration is assessed against the following criteria:

1. Interaction with portfolio manager/relationship manager, and overall RI approach
2. Training
3. Access to information
4. Investment Process
5. Active ownership

For any asset managers deemed to be underperforming on the ESG and climate integration criteria, the Trustee will provide feedback to the asset manager in order to request improvements are made. The respective DC/Funding Committees would consider further remedial action if standards were not improved.

Selection of individual assets

Investment managers are expected to take account of climate related factors within their decision making processes and to adopt a forward-looking approach to identify emerging risks.

Monitoring

Regular monitoring

The Trustee receives regular reports from its asset managers to track GHG reduction on a portfolio and asset manager level. The emissions will fluctuate on a short-term basis, but those fluctuations will be analysed by the UK Pensions & Benefits team, any large fluctuations will require engagement with the asset managers.

Annual monitoring

The Trustee instructs its investment adviser to prepare a climate change report covering the ZPen DB and ESExec DB arrangements. The report includes suggested next steps for the Trustee to improve an environmental impact of the Scheme's assets. The data included in this report forms a basis for the Trustee's metrics variance analysis and engagement with the Scheme's asset managers.

Monitoring at a board/sub-committee level

A report is prepared for the Trustee, this includes the Scheme's progress on its net zero journey. The topic will be added to the agenda if there are proposals to be assessed by the Trustee or significant changes to the emissions that need to be reported/discussed.

Monitoring of advisers

The Trustee evaluates its advisers on an annual basis. To assess if the Scheme's advisers are meeting expectations, the Trustee and key UK Pensions and Benefits team members provide feedback based on a set of high-level adviser objectives in the five key areas (knowledge, advice, service, relationship management and value for money). Going forward, the Trustee intends to monitor the capabilities of their advisers by using the Investment Consultant Sustainability Working Group climate competence framework.

The Trustee's Investment Analyst (provided through the agreement between the Trustee and Zurich Investment Management) has explicitly included the provision of services to include support for the Trustee on its climate-related risks and opportunities. In addition, the investment consultant objectives integrate this service and measures the Investment Analyst as part of an assessment annually.

Asset manager engagement

One of the Trustee's five core principles is to be an active responsible investor and vote proxies and engage where appropriate.

This is the Trustee's primary mechanism for the management of climate related risks. In the year ended 30 June 2023 all engagement activities were delegated to the Scheme's asset managers - with the Trustee exercising scrutiny over the managers' activities.

In June 2019, the Trustee agreed a proxy voting policy for the Scheme. As a long-term investor, the Scheme applies a longer-term focus, and will vote in order to support the investee companies' strong and sustainable governance, as well as a long-term oriented strategy and its implementation. Long-term value creation is preferred over short-term gains. Voting rights for financial investments shall be exercised actively following clearly defined voting guidelines. The Trustee reviews its asset managers' proxy voting policies every three years or more frequently if there are any material changes.

The Trustee reports on voting activities during the year via the implementation statements, the most recent documents are saved under www.zpen.info/Library/Responsible Investment.

Appendix 3 includes engagement examples from the Scheme's asset managers.

Integration into risk register and integrated risk management (IRM) framework

The Group assesses risk through its Total Risk Profiling (TRP) methodology and process. The Trustee has agreed to identify, assess, manage and monitor Scheme risks using the sponsor's TRP methodology, with appropriate adaptations. A separate TRP is considered for DB and DC assets, it documents the most relevant and material risks to the Trustee in meetings its objectives to (i) ensure that the Scheme is run properly, (ii) have sufficient and appropriate assets to pay the promised DB benefits as they fall due, and (iii) create and maintain a framework within ZPen to help members with DC benefits achieve what they consider to be a good outcome when taking their benefits.

Risks are expressed and documented in vulnerabilities, triggers and consequences, and rated in terms of severity and frequency/probability. The risk assessment takes account of existing controls in place to manage risk. Any improvement actions should reduce the severity or frequency/probability of risk scenarios that are above the risk priority boundary. The overall risk categorisation is based on the most relevant and impactful trigger.

For the DB and DC TRP, RI and climate change risks are identified, this ensures that the Trustee classifies, reviews and considers improvement actions that it can take to manage the risks.

The Trustee also has an IRM policy, this helps the Trustee to identify and manage the risks that might affect the likelihood of meeting its objectives for the Scheme, especially where the risks are interdependent. The Trustee recognises the link between covenant, funding and investment, all proposals are considered in the context of IRM.

Consistency in risk management

The Trustee recognises the importance of consistency in managing climate-related risks. The measures shown above ensure that the Trustee's approach to risk management is consistent across different areas of the Scheme.

Metrics and target

Metrics and target selection

ZPen DB and ESExec DB

Metrics

In line with regulations, the Trustee is required to select and report on four metrics. This must include one absolute emissions-based metric, one emissions intensity-based metric, one additional climate change metric and one portfolio alignment metric.

The Trustee has considered a number of factors when determining metrics to measure to have a comprehensive view of the Scheme's emissions. As availability of data varies between the asset classes and characteristics of assets held varies, the Trustee has decided to apply metrics on an asset class basis.

Publicly available data for private asset classes like infrastructure debt and private loan funds is not currently available. The Trustee is working with the relevant asset managers on obtaining the data.

In the table below, the Trustee has mapped metrics against climate change risks and opportunities described in the climate change policies. Ensuring the metrics address climate related risks and opportunities was key to the Trustee to provide a regular and a more holistic view of the investment risks.

	Weighted Average Carbon Intensity (WACI)	Total Carbon Emissions	Low Carbon Transition Score	Climate ESG score	Avoided Emissions
Type of metric	Emissions intensity-based	Absolute emissions	Portfolio alignment	Climate change	Additional
Climate related transition risk	✓	✓	✓	✓	✓
Climate related physical risks				✓	
Climate related opportunities			✓	✓	✓

Target

The Trustee agreed a short-term carbon reduction target for its equities and corporate bond portfolios for the **ZPen DB** assets. A target for a 25% decrease to the WACI metric over a 5 year period measured on a baseline of 31 December 2020.

In order to achieve the WACI reduction target, the Trustee has set out guidance for its asset managers in their investment management agreements on the expected annual reduction to the metric. The target has been defined at an aggregate level leaving asset managers to allocate targets to individual portfolios. It mainly applies to CTI, who manage the equities and one of the Scheme's corporate bond portfolios. M&G was allocated its target as the other corporate bond portfolio manager. The Trustee acknowledges that the change will not be linear and the investee company's carbon exposure is one of the factors taken into consideration during the investment process by the asset manager.

The WACI reduction target aligns with the longer Scheme ambition to be net zero by 2050.

Data limitations

- The majority of the data presented is sourced from Hymans Robertson LLP, who use a third party provider, MSCI. Whilst the Trustee has conviction in the supplier, the results may differ if an alternative provider was used.
- Data is collected periodically to align with the reporting year, but in certain cases, there may be delays in updating the data, resulting in the inclusion of emission data from the previous year.
- There may be overlap or duplication in the reported scope 3 emissions data due to the nature of the value chain and the multiple reporting entities involved. This overlap can occur when different entities report emissions from the same activities or when the same emissions source is reported by multiple entities within the value chain.

ZPen DC

The Trustee is dependent on Scottish Widows for DC metrics as they own the primary relationship with asset managers. The Trustee worked with Scottish Widows on sourcing suitable metrics for the section. As a result of the dependency on Scottish Widows producing standardised TCFD metrics the following metrics were agreed:

	Carbon footprint	GHG emissions	Investments with validated science based targets	Data quality
Type of metric	Emissions intensity-based	Absolute emissions	Portfolio alignment	Climate change
Climate related transition risk	✓	✓	✓	✓
Climate related physical risks				✓
Climate related opportunities			✓	✓

Metrics data

ZPen DB

The availability of data differs between the asset classes. The table below shows data coverage of the asset classes measured during the financial year.

	Equities	Corporate Bonds*	LDI	Infrastructure debt
WACI	96%	80%-82%	N/A	N/A
Total Carbon Emissions (scopes 1 & 2)	96%	80%-82%	N/A	N/A
Total Carbon Emissions (scope 3)	66%	56-59%	N/A	N/A
Low Carbon Transition Score	92%	77%-80%	N/A	N/A
Climate ESG Score	96%	77%-81%	100%	N/A
Avoided Emissions	N/A	N/A	N/A	100%

*this asset class is managed by two asset managers and the coverage varies between the sub-portfolios

For the year ended June 2023 the Trustee has focused on measuring asset classes for which reliable data is available. Measurement of remaining asset classes has been discussed with the asset managers and next steps are shown in the table included within the net zero section of this report. Asset classes not currently measured are: European Loan Fund, Middle Market Loans and Property Fund. For the asset classes that do not yet have an agreed methodology to account for emissions or reliable data is not available, the Trustee will continue to work with the Zurich Group and the asset managers in order to address these points.

Metric name	Metric description
WACI	A measure of a portfolio's exposure to carbon intense companies. This is expressed in terms of tons of CO2 equivalent emitted per million dollars of revenue, weighted by the size of the allocation to each company. WACI is measured using scope 1 + scope 2 emissions. Scope 1 emissions are those from sources owned or controlled by the company, typically direct combustion of fuel as in a furnace or vehicle. Scope 2 emissions are those caused by the generation of electricity purchased by the company.
Total carbon emissions (scopes 1 & 2)	This represents the portfolios estimated scope 1 + scope 2 greenhouse gas emissions. This is expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Total carbon emissions (scope 3)	This represents the portfolios estimated scope 3 greenhouse gas emissions. This is expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Low carbon transition score	A company level score that measures a company's level of alignment to the Low Carbon Transition. Companies with higher Low Carbon Transition score are more aligned with the Low Carbon Transition compared to the companies with lower scores. (Score: 0-10)
Climate ESG score	A final ESG Rating. At a company level this represents the weighted average of individual 'E', 'S' and 'G' pillars. The weight given to each pillar is dictated by MSCI's process which determines the relevance of each pillar to a given company and sector. At a portfolio level this is the weighted average of individual company scores by the weight in the portfolio.
Avoided emissions	Greenhouse gas emissions avoided or reduced from the use of the reporting company's product.

Metric	Asset manager	AUM	Jun-21	Jun-22	Jun-23	Change vs Jun-21
WACI			tCO2e / £m	tCO2e / £m	tCO2e / £m	
Equities	CTI	£1.3bn	98.6	95.5	80.1	-18.8%
Corporate bonds	M&G	£0.4bn	152.1	99.6	87.6	-42.4%
Corporate bonds	CTI	£0.4bn	97.2	64.1	73.5	-24.4%
Combined		**£2.1bn**	**102.2**	**90.3**	**80.3**	**-21.4%**
Total carbon emissions (scopes 1 & 2)			tCO2e	tCO2e	tCO2e	
Equities	CTI	£1.3bn	76.8	61.7	63.5	-17.3%
Corporate Bonds	M&G	£0.4bn	no data	80.2	64.3	n/a
Corporate Bonds	CTI	£0.4bn	no data	36.8	35.2	n/a
Total		**£2.1bn**				
Total carbon emissions (scope 3)			tCO2e	tCO2e	tCO2e	
Equities	CTI	£1.3bn	no data	no data	610	n/a
Corporate Bonds	M&G	£0.4bn	no data	no data	635	n/a
Corporate Bonds	CTI	£0.4bn	no data	no data	511	n/a
Total		**£2.1bn**				
Low carbon transition			Score 0-10	Score 0-10	Score 0-10	
Equities	CTI	£1.3bn	6.1	6.1	6.1	0.0%
Corporate Bonds	M&G	£0.4bn	6.1	6.3	6.3	3.3%
Corporate Bonds	CTI	£0.4bn	6.1	6.3	6.3	3.3%
Total		**£2.1bn**				
ESG environmental score			Score 0-10	Score 0-10	Score 0-10	
Equities	CTI	£1.3bn	6.2	6.1	6.1	-1.6%
Corporate Bonds	M&G	£0.4bn	7.0	7.3	7.6	8.6%
Corporate Bonds	CTI	£0.4bn	7.1	7.5	7.8	9.9%
Network Rail Bonds	CTI	n/a	4.0	3.7	n/a	n/a
LDI	Insight	£1.7bn	4.6	4.6	4.0	-13.0%
Total		**£3.8bn**				
Avoided emissions			kt CO2e/yr	kt CO2e/yr	kt CO2e/yr	
Infrastructure debt	Macquarie	£0.5bn	85.9	101.8	101.8	

Metrics presented in the table above have mostly improved since June 2021. For more detailed commentary please refer to appendix 4.

ESExec DB

This section's assets, except for Gilts, are invested in pooled funds. The Trustee does not have a direct impact on investment decisions but monitors financial and non-financial performance on a regular basis and challenges the asset manager if required.

The availability of data differs between the asset classes. The table below shows data coverage of the asset classes measured during the financial year.

	Equities	Corporate Bonds	LDI
WACI	98%	78%	N/A
Total Carbon Emissions (scopes 1 & 2)	98%	78%	N/A
Total Carbon Emissions (scope 3)	90%	56%	N/A
Low Carbon Transition Score	98%	76%	N/A
Climate ESG Score	98%	77%	100%

Metric	AUM	Jun-21	Jun-22	Jun-23	Change vs Jun-21
WACI		tCO2e / £m	tCO2e / £m	tCO2e / £m	
Equities	£7.8m	97.8	101.1	125.8	28.6%
Equities*	n/a	87.1	n/a	n/a	
Equities**	n/a	114.2	n/a	n/a	
Corporate Bonds	£51.8m	110.9	68.2	74.9	-32.5%
Combined	**£59.6m**	**105.6**	**95**	**81.6**	**-22.7%**
Total carbon emissions (scopes 1 & 2)		tCO2e	tCO2e	tCO2e	
Equities	£7.8m	37.8	42.8	65.7	73.8%
Equities*	n/a	139.7	n/a	n/a	n/a
Equities**	n/a	116.8	n/a	n/a	n/a
Corporate Bonds	£51.8m	no data	37.6	33.3	n/a
Total	**£59.6m**				
Total carbon emissions (scope 3)		tCO2e	tCO2e	tCO2e	
Equities	£7.8m	no data	no data	404	n/a
Equities*	n/a	no data	no data	n/a	n/a
Equities**	n/a	no data	no data	n/a	n/a
Corporate Bonds	£51.8m	no data	no data	513	n/a
Total	**£59.6m**				
Low carbon transition		Score 0-10	Score 0-10	Score 0-10	
Equities	£7.8m	6.4	6.3	6.2	-3.1%
Equities*	n/a	5.9	n/a	n/a	n/a
Equities**	n/a	6.0	n/a	n/a	n/a
Corporate Bonds	£51.8m	6.1	6.2	6.3	3.3%
Total	**£59.6m**				
ESG environmental score		Score 0-10	Score 0-10	Score 0-10	
Equities	£7.8m	7.2	7	6.6	-8.3%
Equities*	n/a	6.2	n/a	n/a	n/a
Equities**	n/a	6.6	n/a	n/a	n/a
Corporate Bonds	£51.8m	7.2	7.6	7.9	9.7%
Total	**£59.6m**				

*following the change in the investment strategy the CTI UK Equity fund was sold with proceeds reinvested into the CTI Global Select fund
**following the change in the investment strategy the CTI UK High Alpha Equity fund was sold with proceeds reinvested into the CTI Global Select fund

ZPen DC

Metrics selection for ZPen DC is driven by the platform provider Scottish Widows Limited (SW). The Trustee has discussed its reporting requirements and objectives and worked with SW on the common approach.

The metrics presented below are for the year ending 31 December 2022. The Trustee considers the results as a reference point for the future analysis. The availability of data is measured in the first metric. SW have committed to providing the data on an annual basis as at 31 December.

Metric name	Metric description
Investments with scope 1, 2 & 3 data	A proportion of investments within the fund with reported and estimated emission data. The higher reported emissions % the more reliable data.
GHG emissions	This represents the portfolios estimated greenhouse gas emissions. This is expressed in terms of thousand tons of CO2 equivalent emitted by the companies invested in by the portfolio, weighted by the size of the allocation to each company.
Carbon footprint	A measure of a portfolio's exposure to carbon-intense companies. This is expressed in terms of tons of CO2 equivalent emitted of a company's most recently available enterprise value including cash, weighted by the size of the allocation to each company.
Investments with validated science based target	A proportion of investments with valid science based targets that reports on companies that are aligned with the goals of the Paris Agreement and contribute to reducing GHGs

	Z Growth Fund		Z Cautious Growth Fund		Z Cash Fund	
	31-Dec-21	31-Dec-22	31-Dec-21	31-Dec-22	31-Dec-21	31-Dec-22
AUM	£351.2m	£334.9m	£74.6m	£64.9m	£19.4m	£21.3m
Investments with scope 1&2 data (data quality)	83%	86%	66%	75%	81%	96%
- reported	79%	81%	61%	71%	73%	72%
- estimated	4%	5%	5%	5%	9%	24%
GHG emissions (tCO2e)	18,064t	19,633t	2,856t	2,908t	6t	6t
Carbon Footprint (tCO2e / £m)	61.8	68.6	58.4	59.3	0.4	0.3
Investments with scope 3 data (data quality)	n/a	85%	n/a	75%	n/a	96%
- reported	n/a	20%	n/a	21%	n/a	67%
- estimated	n/a	66%	n/a	54%	n/a	30%
GHG emissions (tCO2e)	n/a	154,993t	n/a	22,327t	n/a	763t
Carbon Footprint (tCO2e / £m)	n/a	543	n/a	457	n/a	37
Investments with validated science based target	n/a	53%	n/a	44%	n/a	46%

Metrics data for the DC assets are provided to the Trustee by SW. The Trustee does not have a direct impact on which metrics are selected by SW and reported on.

Glossary

Active ownership is when shareholders engage in a company they have invested in to influence the company's strategy and actions. It is a method often used in responsible investing to directly influence a company's decisions and when working with corporate social responsibility.

Engagement - A long-term active dialogue between investors and companies on environmental, social and governance factors. An active dialogue offers investors the opportunity to discuss sustainability risks and opportunities with companies and provides them with insights into investors' expectations of corporate behaviour.

ESG stands for Environmental, Social and Governance. It is a framework used to assess the sustainability and ethical impact of a company. Environmental factors focus on the company's impact on the natural environment, social factors consider its relationships with employees, customers and communities, and governance factors evaluate its leadership and management practices. ESG criteria are used to evaluate the long-term viability and ethical practices of a company.

GHG emissions from human activities strengthen the greenhouse effect, contributing to climate change. Most is carbon dioxide from burning fossil fuels: coal, oil, and natural gas.

Infrastructure investments are a form of "real assets," which contain physical assets that are observed in everyday life like bridges, roads, highways, sewage systems, or energy.

Net zero is a balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. Net zero is reached when the amount of GHGs added is no more than the amount taken away.

Proxy voting – most institutional investors do not attend AGMs and EGMs, they are represented through proxy votes, through which they instruct someone who is attending to vote in a certain way.

Responsible investment is a strategy and practice to incorporate ESG factors into investment decisions and active ownership. It considers both how ESG might influence the risk-adjusted return of an asset and the stability of economy, as well as how investment in and engagement with assets and investees can impact society and environment.

Scenario analysis is an approach for the forward-looking assessment of risks and opportunities. Scenario analysis describes a process of evaluating how an organisation, sector, country or portfolio might perform in different future states, in order to understand its key drivers and possible outcomes.

Scope 1 emissions are direct emissions – controlled by the company (e.g. fossil fuel heating and fuel for the car fleet).

Scope 2 emissions are indirect emissions – this includes electricity and warmth that is not burnt on-site (e.g. electricity from the local utility provider)

Scope 3 emissions are emissions resulting from a company's operations or actions but not directly controlled by the company (e.g. staff commute, investment portfolio etc.)

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5°C, compared to pre-industrial levels.

Appendices

Appendix 1: RI strategy developments

ZPen DB

2016: Impact investments

The Trustee approved an allocation to Infrastructure Debt, which includes social and environmental impact investments. The portfolio has grown over time with £45m of social impact and £168m environmental impact investments as at 30 June 2023.

2019: Restriction list

The Trustee agreed its first restriction list excluding companies that generate more than 50% of their revenues from mining thermal coal and utility companies that generate more than 50% of their energy from coal.

2020: Restriction list update

The Trustee strengthened the restriction criteria to exclude investment in the equity and debt of companies that:

- generate more than 30% of their revenue from mining thermal coal, or produce more than 20 million tons of thermal coal per year;
- generate more than 30% of their electricity from coal;
- are in the process of developing any new coal mining or coal power infrastructure;
- generate at least 30% of their revenue directly from the extraction of oil from oil sands;
- are purpose-built (or "dedicated") transportation infrastructure operators for oil sands products, including pipelines and railway transportation;
- generate more than 30% of their revenue from mining oil shale, or
- generate more than 30% of their electricity from oil shale.

2021: Carbon reduction target and climate change driven metrics

- The Trustee agreed a short-term carbon reduction target for its equities and corporate bond portfolios. The total value of the equity and corporate bond portfolios total £2.1bn as at 30 June 2023.

Time period:	5 years
Reduction:	25%
Metric:	Weighted Average Carbon Intensity (WACI)
Baseline:	December 2020

- A selection of metrics have been agreed to measure and report on in this report (see Metrics and target section). The selection of metrics was driven by:
  - Different characteristics of each asset class

- Insights provided for the climate related risks and opportunities defined in the Climate Change Policy
- Data availability

2022: Net zero ambition

In September 2022, the Trustee agreed a 2050 net zero ambition. The ambition covers DB investments as well as the Scheme's operations.

For more information, please refer to the 'Net zero ambition' section of this report.

ZPen DC

2021

- The Trustee agreed approach to metrics and scenario analysis
- The fund review was completed, resulting in the following changes driven by RI
  - LGIM 30/70 Global Equity now forms a part of the default fund, one of the reasons for the change was LGIM's strong active ownership activities
  - LGIM Future World Fund was added to the self-selection options

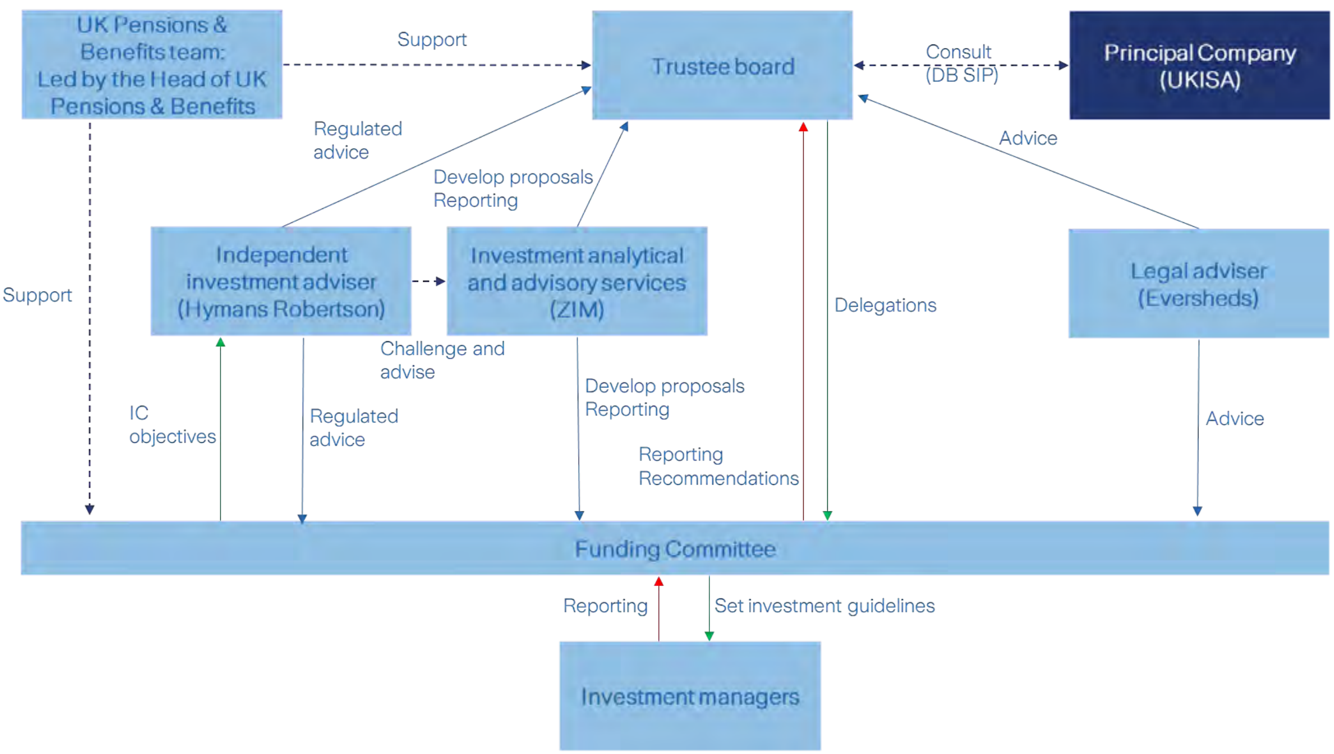
ESExec DB

2021

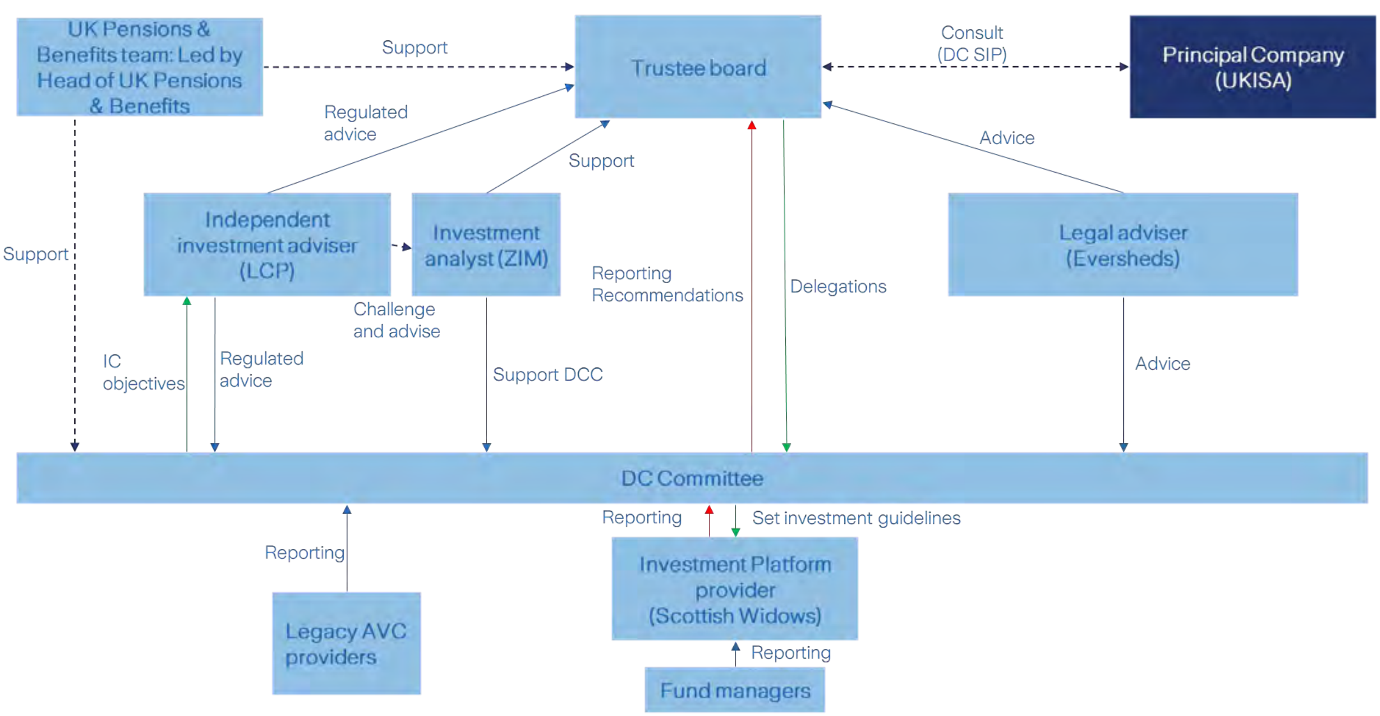
- A selection of metrics has been agreed to measure and report on in this report (see Metrics and target section). The selection of metrics was driven by:
  - Different characteristics of each asset class
  - Insights provided for the climate related risks and opportunities defined in the Climate Change Policy
  - Data availability

Appendix 2: Investment governance

DB Investment governance



DC Investment governance



Appendix 3: Engagement case studies

ZPen DB

Example 1 – Climate change

Background

A car manufacturer with significant influence on automotive climate policy, especially in Europe. The company has been reluctant to provide investors with more transparency on its positioning on public policies, and its lobbying on climate-related policies directly and through industry associations. Many peers have published lobbying reports. This lack of transparency is especially concerning given the role that the CEO played in successfully advocating for an e-fuel exemption in the EU's 2035 combustion engine ban.

Action

The asset manager engaged the company bilaterally and through Climate Action 100+ (CA100+) on this topic since 2019. In 2022 they sent a letter to the company together with other CA100+ co-leads to flag that they would seek escalatory action if the company did not begin to demonstrate progress on the topic. Towards the end of 2022 and 2023 the asset manager had a series of calls with investor relations and the external affairs team. They reviewed early drafts of the company's lobbying disclosures, and due to their concerns with the level of detail, an email was sent to the Chairman to clearly articulate expectations. The asset manager had another call in Q2 2023 in which they discussed updates to the draft report that the company would make to better align with their expectations, and to encourage them to publish the report well in advance of the AGM. As the company could not commit to publishing the report before the AGM, and the asset manager have experienced the company over-promising and under-delivering in the past, it escalated their engagement by choosing to vote against several items on the company's ballot, including the actions of the Board of Management, actions of the members of the Supervisory Board and re-election of members of the Supervisory Board.

Verdict

With just two days before the AGM, the company did in fact publish its Association Climate Review 2023. This report is the joint-highest rated automotive company lobbying report assessed by InfluenceMap (the climate-lobbying focused NGO). The asset manager welcomed this report and believe that the close work with the company's external affairs team delivered a marked improvement in its quality. Although the company has an especially developed method to assess industry association alignment vs its peers, the asset manager have still identified several areas for improvement such as evaluating the company's direct lobbying, and appraising more industry associations and rating associations on their activities (rather than stated positions). The asset manager will continue engaging with the company to secure these improvements.

Example 2 – active stewardship

The asset manager completed a net zero and decarbonisation engagement with an airport. A call took place with the bond issuer, asking if it can measure and report on the scope 3 emissions from the Cruise business (which relates to planes flying from the airport), as well as committing to including scope 3 emissions within their current net zero target, alongside scope 1 and 2 emissions. As a response to the call, the airport confirmed that cruise emissions are indeed measured, and they have begun reporting them in their report, as at 30 June 2023. The company also stated that its immediate focus is on direct emissions (which is scope 1 and 2 emissions), therefore the asset manager may decide to engage with the airport again in the future to discuss their approach to indirect emissions (scope 3).

Example 3 – ESG engagement

The asset manager engaged with a company within the hotels industry, on human capital management following the retirement of their female CEO, on the basis that gender diversity has now dropped to 27%. The asset manager met with the Head of Investor Relations, where it was stressed the importance of good board gender diversity and how this is interpreted through the asset manager's new voting policy, where the asset manager typically look for progress towards 40% female participation at the AGM. In the company's response, it disclosed that 2 female board members left in quick succession, however the Chair and wider Board takes diversity extremely seriously and highlighted how the group had previously exceeded its target for female leadership participation, with 42% of the top 100 managers now female (versus a target of 40%). The company also recognised that there are currently, at the time of engagement, no female colleagues in any of the senior positions on the Board, but this is likely to be addressed at the next appointment.

ZPen DC

ESG reports, including voting statistics, for the pooled funds are published on the asset managers' websites. More detailed active ownership information is included in the ZPen DC's implementation statement available on the Scheme website.

Appendix 4: Detailed metric data

ZPen DB

WACI

The Trustee has selected WACI as the metric used for the GHG emissions intensity following the recommendation from TCFD. As the metric is recommended to asset owners this makes it more common and easier for report readers to compare to peers.

The table below represents a change in WACI in comparison to the December 2020 baseline.

Asset class	Manager	AUM	Dec-20	Jun-21	Jun-22	Jun-23	Change vs baseline
Equities	CTI	£1.3bn	97.0	98.6	95.5	80.1	-17.4%
Corporate Bonds	M&G	£0.4bn	101.6	152.1	99.6	87.6	-13.8%
Corporate Bonds	CTI	£0.4bn	123.7	97.2	64.1	73.5	-40.6%
Combined		**£2.1bn**	**106.8**	**102.2**	**90.3**	**80.3**	-24.8%

Asset class	Manager	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	CTI	£1.3bn	80.1	142.2	-43.7%
Corporate Bonds	M&G	£0.4bn	87.6	76.1	15.1%
Corporate Bonds	CTI	£0.4bn	73.5	76.1	-3.4%
Combined		**£2.1bn**	**80.3**	**117.0**	-31.4%

Metrics data source: Hymans Robertson LLP

The asset managers and the Trustee will review the progress semi-annually and discuss any deviations from agreed annual ranges.

The Trustee monitors the change in WACI and engages with the asset managers regularly to understand variances and obtained the following commentary:

CTI:

Equities

• The portfolio is considerably underexposed to carbon, relative to the benchmark, from a total emission and intensity perspective.

• CTI has minimal or no exposure to sectors like energy, materials, utilities and carbon heavy construction businesses, where product differentiation is often limited, pricing power is difficult to establish, and/or returns are regulated.

• Through CTI's focus on quality, CTI tends to invest in asset light businesses.

• CTI continue to integrate ESG and carbon analysis into its research, as this helps CTI to better understand a company's business model, long-term positioning, opportunities, and risks and therefore expect to continue to decrease CTI's carbon exposure.

Corporate Bond Fund

• Majority of the difference is due to the fund not holding high carbon intensive utility names as the benchmark does.

• Industrial names, particularly in the construction and materials sub-sector, are another area that the benchmark holds quite highly carbon intensive names that the fund doesn't.

  o Transportation names within this sector are another driver for better values as they are typically carbon intensive.

M&G

Over the course of the Scheme year, company carbon emissions have generally continued to decrease across the sterling universe. It still remains the case that the utility sector is the dominant driver of the total index level WACI figure, as the carbon emissions associated with the sector are significantly higher than the market average.

For context, utilities remain c.13% of the sterling non-gilt index, however, contribute more than 50% of the index level WACI. The overall WACI of the corporate bond portfolio has similarly decreased over the period, however, it remains above that of the benchmark as the portfolio continues to hold an overweight to names within the utility sector on valuation grounds.

Total carbon emissions (scopes 1 & 2)

Asset class	Manager	AUM	Dec-20	Jun-21	Jun-22	Jun-23
Equities	CTI	£1.3bn	no data	76.8	61.7	63.5
Corporate Bonds	M&G	£0.4bn	no data	no data	80.2	64.3
Corporate Bonds	CTI	£0.4bn	no data	no data	36.8	35.2
Total		£2.1bn				

Asset class	Manager	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	CTI	£1.3bn	63.5	150.5	-57.8%
Corporate Bonds	M&G	£0.4bn	64.3	53.7	19.7%
Corporate Bonds	CTI	£0.4bn	35.2	53.7	-34.5%
Total		£2.1bn			

Total carbon emissions (scope 3)

Asset class	Manager	AUM	Dec-20	Jun-21	Jun-22	Jun-23
Equities	CTI	£1.3bn	no data	no data	no data	610
Corporate Bonds	M&G	£0.4bn	no data	no data	no data	635
Corporate Bonds	CTI	£0.4bn	no data	no data	no data	515
Total		£2.1bn				

Asset class	Manager	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	CTI	£1.3bn	610	1,070	-43.0%
Corporate Bonds	M&G	£0.4bn	635	636	0%
Corporate Bonds	CTI	£0.4bn	515	636	-19.0%
Total		**£2.1bn**			

Metrics data source: Hymans Robertson LLP

Commentary for the total carbon emissions metric is included in the WACI metric section above.

<u>Low carbon transition score</u>

Asset class	Manager	AUM	Dec-20	Jun-21	Jun-22	Jun-23
Equities	CTI	£1.3bn	6.1	6.1	6.1	6.1
Corporate Bonds	M&G	£0.4bn	6.2	6.1	6.3	6.3
Corporate Bonds	CTI	£0.4bn	6.0	6.1	6.3	6.3
Total		**£2.1bn**				

Asset class	Manager	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	CTI	£1.3bn	6.1	6.0	1.7%
Corporate Bonds	M&G	£0.4bn	6.3	6.3	0.0%
Corporate Bonds	CTI	£0.4bn	6.3	6.3	0.0%
Total		**£2.1bn**			

Metrics data source: Hymans Robertson LLP

The metric shows how aligned the investee companies are to the Low Carbon Transition based on the Paris Alignment method. Currently, the metric is in line with the benchmark and the previously reported periods. A deterioration in the score would be discussed with the asset managers.

<u>Climate ESG score</u>

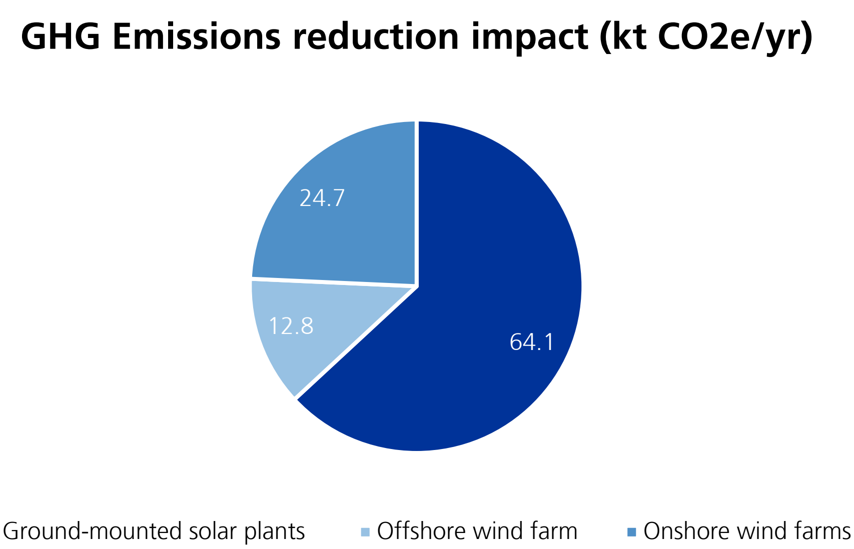
Asset class	Manager	AUM	Dec-20	Jun-21	Jun-22	Jun-23
Equities	CTI	£1.3bn	6.1	6.2	6.1	6.1
Corporate Bonds	M&G	£0.4bn	7.0	7.0	7.3	7.6
Corporate Bonds	CTI	£0.4bn	7.0	7.1	7.5	7.8
LDI	Insight	£1.7bn	4.6	4.6	4.6	4.6
Total		**£3.8bn**				

Asset class	Manager	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	CTI	£1.3bn	6.1	6.5	-6.2%
Corporate Bonds	M&G	£0.4bn	7.6	7.4	2.7%
Corporate Bonds	CTI	£0.4bn	7.8	7.4	5.4%
LDI	Insight	£1.7bn	4.6	4.7	-2.1%
Total		£3.8bn			

Metrics data source: Hymans Robertson LLP

The score is calculated using a MSCI's ESG assessment together with the Social and Governance factors. The Trustee monitors changes in the ESG scores and analyses drivers of the variances and if required, engages with its asset managers.

Avoided emissions



The total impact is equivalent to:

11,300 cars driven for a year*

Source: ZIC reporting
*Environmental Protection Agency
**I Z A Institute of Labor Economics
***UK Department of Transport

ESExec DB

WACI

Asset class	AUM	Jun-21	Jun-22	Jun-23
Equities	£7.8m	97.8	101.1	125.8
Equities*	n/a	87.1	n/a	n/a
Equities**	n/a	114.2	n/a	n/a
Corporate Bonds	£51.8m	110.9	68.2	74.9
Combined	**£59.6m**	**105.6**	**95.0**	**81.6**

*following the change in the investment strategy the CTI UK Equity fund was sold with proceeds reinvested into the CTI Global Select fund
**following the change in the investment strategy the CTI UK High Alpha Equity fund was sold with proceeds reinvested into the CTI Global Select fund

Asset class	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	£7.8m	125.8	139.1	-9.6%
Corporate Bonds	£51.8m	74.9	76.1	-1.6%
Combined	**£59.6m**	**81.6**	**84.3**	-3.2%

Metrics data source: Hymans Robertson LLP

Total Carbon Emissions

Asset class	AUM	Jun-21	Jun-22	Jun-23
Equities	£7.8m	37.8	42.8	65.7
Equities*	n/a	139.7	n/a	n/a
Equities**	n/a	116.8	n/a	n/a
Corporate Bonds	£51.8m	no data	37.6	33.3
Total	**£59.6m**			

*following the change in the investment strategy the CTI UK Equity fund was sold with proceeds reinvested into the CTI Global Select fund
*following the change in the investment strategy the CTI UK High Alpha Equity fund was sold with proceeds reinvested into the CTI Global Select fund

Asset class	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	£7.8m	65.7	116.7	-43.7%
Corporate Bonds	£51.8m	33.3	53.7	-38.0%
Total	**£59.6m**			

Metrics data source: Hymans Robertson LLP

Low Carbon Transition Score

Asset class	AUM	Jun-21	Jun-22	Jun-23	Annual change
Equities	£7.8m	6.4	6.3	6.2	-1.6%
Equities*	n/a	5.9	n/a	n/a	n/a
Equities**	n/a	6	n/a	n/a	n/a
Corporate Bonds	£51.8m	6.1	6.2	6.3	1.6%
Total	**£59.6m**				

*following the change in the investment strategy the CTI UK Equity fund was sold with proceeds reinvested into the CTI Global Select fund
**following the change in the investment strategy the CTI UK High Alpha Equity fund was sold with proceeds reinvested into the CTI Global Select fund

Asset class	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	£7.8m	6.2	6.2	0.0%
Corporate Bonds	£51.8m	6.3	6.3	0.0%
Total	**£59.6m**			

Metrics data source: Hymans Robertson LLP

Climate ESG Score

Asset class	AUM	Jun-21	Jun-22	Jun-23	Annual change
Equities	£7.8m	7.2	7	6.6	-5.7%
Equities*	n/a	6.2	n/a	n/a	n/a
Equities**	n/a	6.6	n/a	n/a	n/a
Corporate Bonds	£51.8m	7.2	7.6	7.9	3.9%
Government Bonds	£86.8m	4.6	4.6	4.6	0.0%
Total	**£146.4m**				

*following the change in the investment strategy the CTI UK Equity fund was sold with proceeds reinvested into the CTI Global Select fund
*following the change in the investment strategy the CTI UK High Alpha Equity fund was sold with proceeds reinvested into the CTI Global Select fund

Asset class	AUM	Jun-23 Scheme	Jun-23 Benchmark	Portfolio vs benchmark
Equities	£7.8m	6.6	6.6	0.0%
Corporate Bonds	£51.8m	7.9	7.4	6.8%
Government Bonds	£86.8m	4.6	4.7	-2.1%
Total	**£146.4m**			

Metrics data source: Hymans Robertson LLP

Appendix 5: 2022 scenario analysis

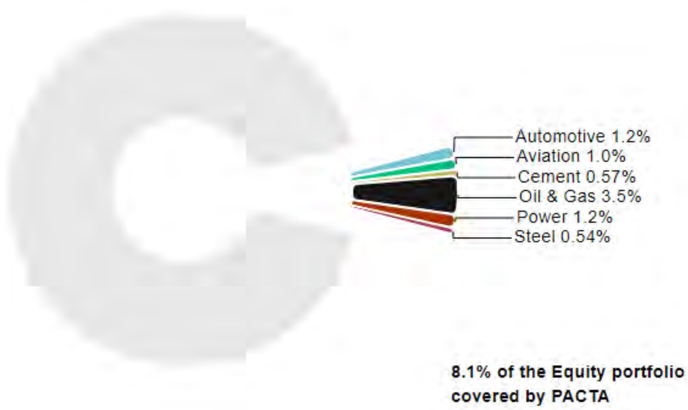
The scenario analysis undertaken by the Trustee during the 2022 Scheme year for both the ZPen DB Section and ESExec DB Section is set out below. This analysis was undertaken for the DB assets using the Paris Agreement Transition (PACTA) tool developed by the 2° Investing Initiative (2DII).

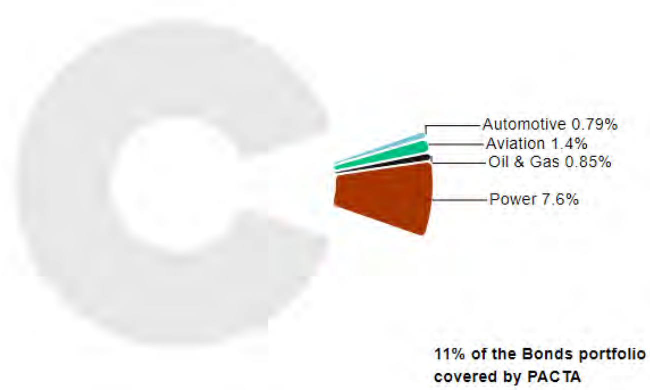
ZPen DB

Scenario analysis for this section was performed for the Equity and Corporate Bond portfolios based on assets as at 31 December 2021. The table and charts below show exposure to the climate relevant sectors and the extent to which this is covered by the analysis. This has been in line with analysis undertaken in December 2020 (Equities: 5.7%, Corporate Bonds 14.0%).

Portfolio	Actual asset allocation	Included in analysis	Proportion in climate relevant sectors
Equity	26.7%	Yes	8.1%
Corporate Bonds	19.3%	Yes	11.0%
Other	54.0%	No	n/a

The allocation is mainly driven by the benchmarks adopted by the Trustee.





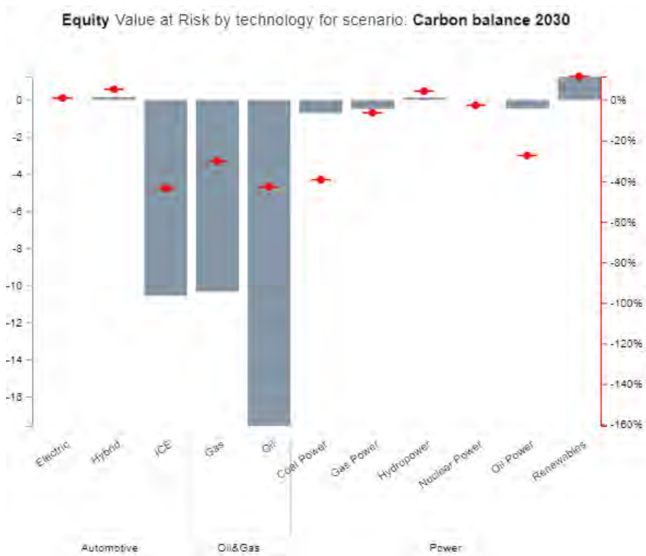
The industry sectors modelled are a small proportion of the overall holdings, however these sectors covered by the PACTA tool collectively account for c.75% of global greenhouse emissions.

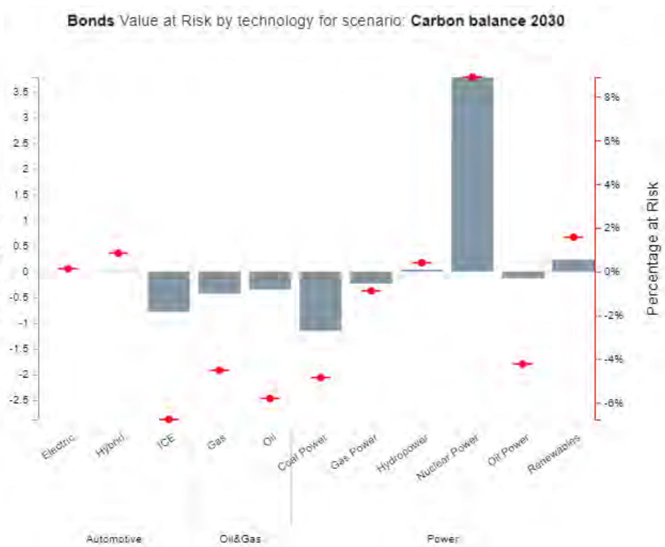
Delayed transition scenario

Under the Delayed transition scenario, the potential change that the transition could have on the financial value of the portfolio, split in terms of impact on the equity and bond portfolios, is as follows:

Portfolio	Potential change in value under scenario
Equity	-1.53%
Corporate Bonds	+0.05%

The Trustee has also considered a breakdown of the value at risk by technology. The analysis suggests that the potential financial impact within affected sectors is relatively small, although this is limited by the extent of the assets covered. Analysis indicated that for the equity portfolio, the portfolio was most overweight to the oil & gas sector although within sectors, the mismatch in future technologies is greatest within the automotive sector, creating a risk of a loss of value. Within the corporate bond portfolio, the level of mismatch was lower with limited downside risk within sectors.





Green revolution scenario

The Trustee has also considered the potential alignment of the portfolio with a transition under its most progressive, Green Revolution scenario. This analysis considers the adjustments needed to be made in the portfolio over the period from 2026-2030 relative to changes expected in the portfolio up to 2025. Higher numbers mean that the portfolio is more misaligned with the expected transition, thereby giving rise to greater risk.

The results are shown below for both the equity and corporate bond portfolios. For the equity allocation, some level of transition disruption is expected, but this is broadly in line with the level of disruption envisaged by the scenario. For the corporate bond portfolio, a significantly higher level of disruption is expected, albeit less than envisaged within the scenario.

Equity portfolio: Transition Disruption Metric

Corporate Bond portfolio: Transition Disruption Metric

Under the Green Revolution scenario, the potential change in value of the equity portfolio was -1.43%, broadly similar to the expected change in value under the Delayed Transition scenario. No analysis of the corporate bond portfolio was available.

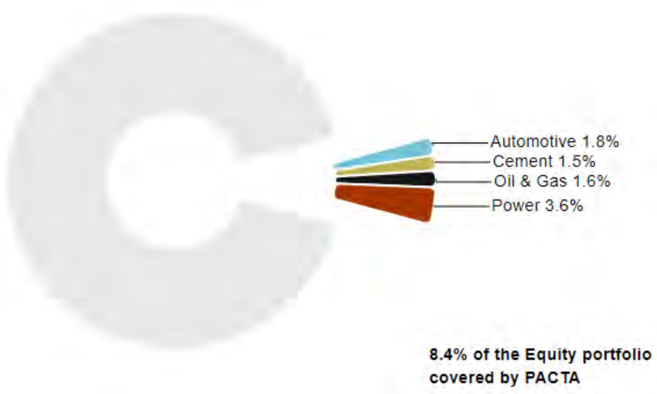
The main limitation of the analysis presented is that it only covers some of the investment portfolio. While the Equity and Corporate Bond allocation to renewables is not significant in comparison to other technologies, the Trustee holds an infrastructure debt portfolio which includes a material share of renewables, these being expected to benefit positively under stressed scenarios.

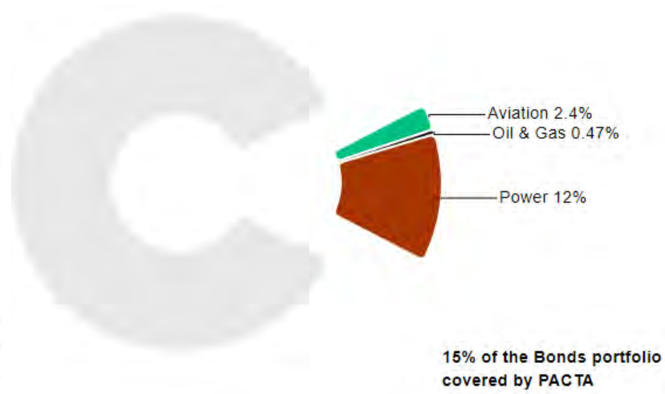
ESExec DB

Similarly to ZPen DB, only Equity and Corporate Bond portfolios have been analysed. Those asset classes are invested using pooled investment vehicles with no direct Trustee impact on the stock selection process. As a result of the investment strategy change implemented during the year ended June 2022, the allocation to the asset classes analysed has decreased.

Portfolio	Actual asset allocation	Included in analysis	Proportion in climate relevant sectors
Equity	5.3%	Yes	8.4%
Corporate Bonds	34.7%	Yes	15.0%
Other	60.0%	No	n/a

The percentage of securities in the climate relevant sectors is similar to the ZPen DB section and is also driven by the benchmark for the funds invested in.





<u>Delayed transition scenario</u>

Under the Delayed transition scenario, the potential change that the transition could have on the financial value of the portfolio, split in terms of impact on the equity and bond portfolios, is as follows:

Portfolio	Potential change in value under scenario
Equity	-1.24%
Corporate Bonds	+0.25%

Green revolution scenario

The Trustee has also considered the potential alignment of the portfolio with a transition under its most progressive, Green Revolution scenario. The results are shown below for both the equity and corporate bond portfolios. For the equity allocation, some level of transition disruption is expected, but this is broadly in line with the level of disruption envisaged by the scenario. For the corporate bond portfolio, a significantly higher level of disruption is expected, albeit less than envisaged within the scenario.

Equity portfolio: Transition Disruption Metric

Corporate Bond portfolio: Transition Disruption Metric