



LGPS Central Limited

PREPARED BY LGPS CENTRAL

Shropshire Pension Fund 2022 Climate Risk Report

NOVEMBER 2022

FOR PROFESSIONAL CLIENTS ONLY

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LGPS Central Limited

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1.0 Executive Summary

Key Highlights from 2022:

AS OF JUNE 2022
the carbon intensity of total equities has decreased by

▼ 46%

FROM MARCH 2020

AS OF JUNE 2022
the financed emissions of the portfolio has decreased by

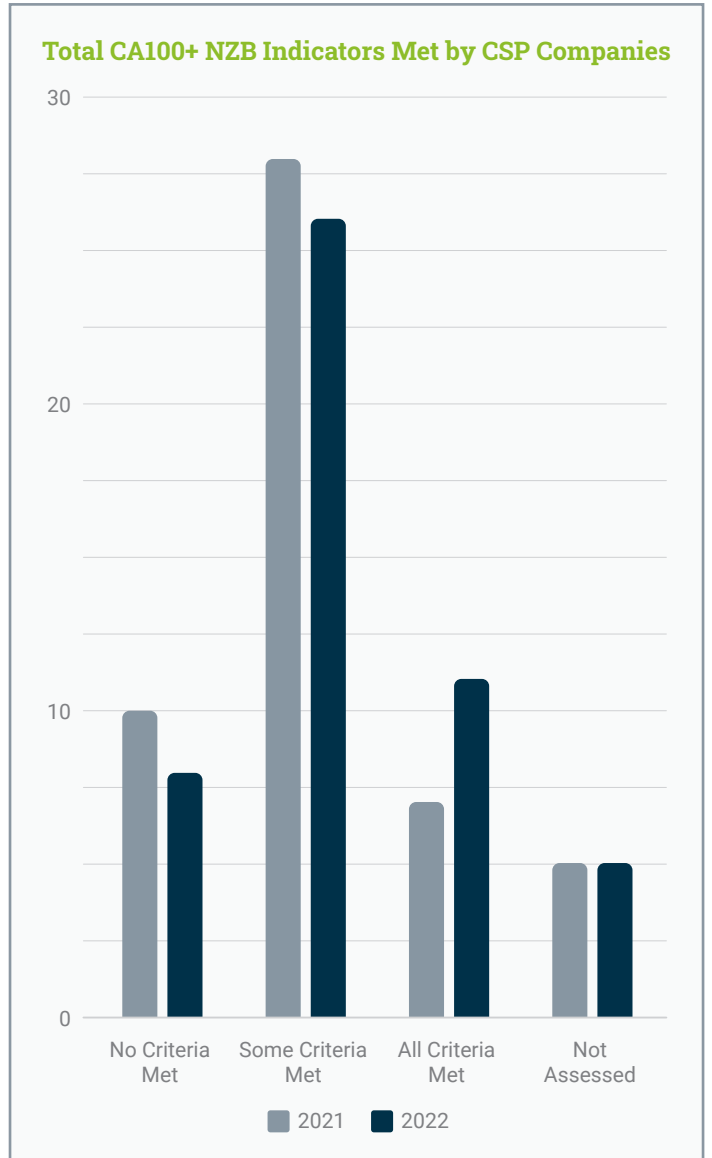
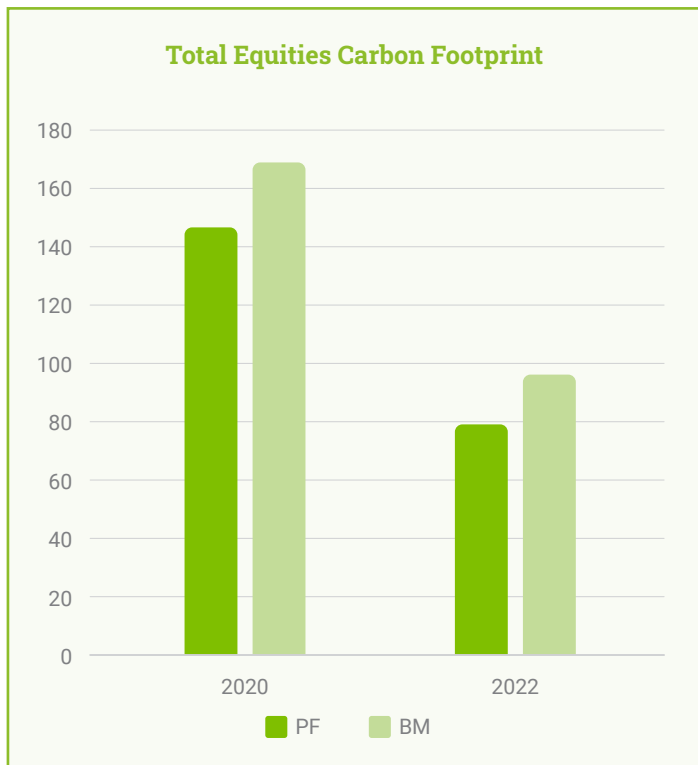
▼ 42.96%

FROM MARCH 2020

The decreases in the portfolio's carbon intensity and financed emissions have been driven by the portfolio's shift

FROM THE LGIM World Developed Equity Index and Majedie TO THE Solactive and Global Sustainable Equity (GSE) funds

THIS PORTFOLIO AMENDMENT HAS ALSO RESULTED IN A CHANGE OF THE BLENDED BENCHMARK



AS OF JUNE 2022
total equities carbon intensity was

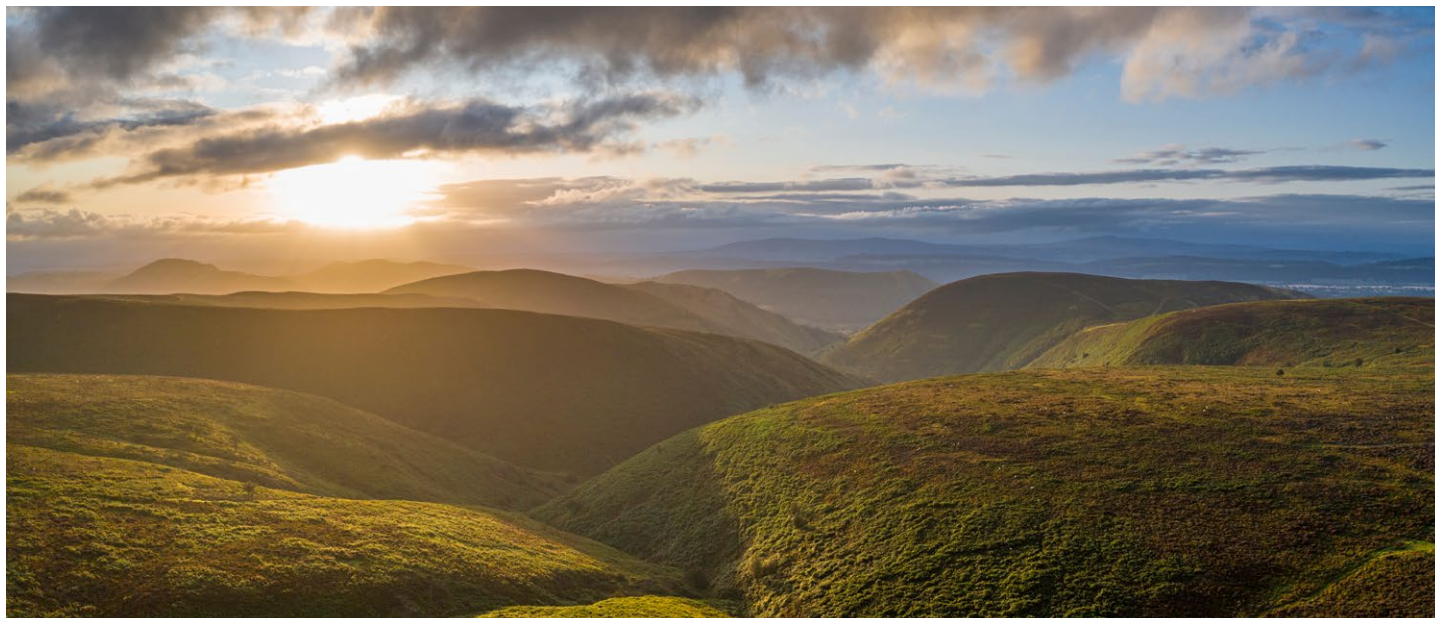
▼ 17.83%

lower than that of the benchmark

66.67%

OF COMPANIES IN THE CLIMATE STEWARDSHIP PLAN achieved a Transition Pathway Initiative¹ Management Quality rating of 4 or 4*

¹ The Transition Pathway Initiative (TPI) framework evaluates companies based on their climate risk management quality and their carbon performance.



We provide below a summary of the salient findings from each section in the report.

GOVERNANCE

The Fund has made progress in enhancing its responsible investment and climate change practice. Examples of these enhancements include integrating climate change as a regular item within Pensions Committee meetings, developing and publishing its documents such as the Stewardship Plan, Climate Change Strategy and second TCFD Report. From 2020 significant progress has been made in terms of completing and progressing through recommendations provided.

STRATEGY

Section 4.2 provides a Climate Scenario Analysis (CSA), which estimates the effects on key financial parameters (such as risk and return) that could result from plausible climate scenarios. The findings from Mercer's climate scenario analysis highlights the possible impact from transition and physical risks of climate change. The Fund will likely perform better in an Orderly or Rapid transition scenario. In a Failed transition scenario, physical impact from climate change will likely affect longer-term investment return.

RISK MANAGEMENT

We have reviewed ongoing engagements with the six companies in the Fund's Climate Stewardship Plan. Currently, none of these companies have attained all the indicators within the CA100+ benchmark assessment, and only two companies (Holcim and Shell) are aligned with a 1.5°C scenario by 2050. However, most of the companies are making clear progress in their climate strategies, which is evidenced through several measures of success.

METRICS AND TARGETS

Carbon Risk Metrics demonstrate that carbon intensity of total equities have decreased from March 2020 to June 2022 by 46.04%. At both March 2020 and June 2022, the carbon intensity of the total equities remained below that of the benchmark, but over this period the carbon intensity of the portfolio has decreased by a greater magnitude than that of the benchmark. During March 2020 total equities has a carbon intensity which was 13.20% lower than the benchmark, during June 2022 this value became 17.83%.

2.0 Recommendations and Considerations

2.1 Governance

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Governance	Total Fund	<ul style="list-style-type: none"> R: Continue to report decarbonisation progress on an annual basis, comparing results with previous values. R: Continue the implementation of the portfolio's net zero policy. 	4.1

2.2 Strategy

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Strategy	Total Fund	<ul style="list-style-type: none"> R: We recommend the Fund continue with actions which are positively correlated with broader Net Zero strategies through its various collaborations with LGPSC and other external managers. This is to ensure that climate transition and physical risks are identified and managed through stewardship and/or asset allocation activities. 	4.2

2.3 Risk Management

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Company Stewardship	Total Equities	<ul style="list-style-type: none"> R: Continue to engage the companies highlighted in the Climate Stewardship plan through selected stewardship partners. R: Report progress in the next Climate Risk Report. C: Consider adding RWE, Linde, CRH PLC, and CF Industries to the Climate Stewardship Plan. 	4.4.3

2.4 Metrics & Targets

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Metrics	Total Equities	<ul style="list-style-type: none"> R: Continue to monitor the carbon intensity and financed emissions of this portfolio. R: Continue to monitor key carbon intensive and fossil fuel holdings via the Fund's Climate Stewardship Plan. C: Consider adding RWE, CRH PLC., Linde and CF Industries to the CSP. This is due to their significant contributions to both carbon intensity and financed emissions. 	4.4.3

3.0 Introduction

3.1 Scope of the Report

This report is SCPF's third Climate Risk Report. It follows previous iterations delivered in August 2020 and November 2021. The purpose of this report is to:



Our mode of analysis continues to be consistent with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD). Each section in chapter 4 corresponds to one of the TCFD pillars.

3.2 Climate Action to Date

To demonstrate the urgency surrounding climate change, and why it is necessary for Pension Funds to act now to mitigate climate risks, we provide below a summary of the key climate updates which have occurred since the start of 2021.

The evidence is clear that climate change could be the largest systemic risk, and largest example of market failure, faced by human society. Whilst concern is being voiced, the current trajectory of 3°C could have catastrophic consequences within 30 years. This is sub-optimal for pension funds, even accounting for their ability to diversify idiosyncratic risk. The climate scenario with the lowest estimated economic damages and most favourable to long-term investors is a scenario that aligns with the Paris Agreement. Since climate risks could affect all asset classes, sectors, and regions, it is unlikely that climate-risks can be mitigated completely through diversification alone.

For investors, climate change is a fiduciary issue. Local authority pension funds typically have multidecadal time horizons, with both their investment beliefs and liability profiles thoroughly long-term. Significant uncertainty remains, and no single tool can provide an accurate and complete observation on a pension fund's climate risk. For responsible investors looking to proactively manage climate risk, a combination of metrics and methodologies, paired with targeted engagement, represents the best possible information set currently available.

MAY 2021**IEA 1.5°C SCENARIO**

The International Energy Agency (IEA) publishes its 1.5°C 'Net Zero' Scenario. It argues the new scenario is the most technically feasible, cost-effective and socially acceptable way to stay below the 1.5°C limit. Stipulations of the scenario include: no new investments in fossil fuel supply as of 2021; a 75% decline in methane emissions; a radical shift towards renewable energy; an increase in Carbon Capture and Storage (CCS) capacity of 4000%; no sales of new combustion engines in cars by 2035; and net zero emissions from the power sector by 2040.

AUGUST 2021**IPCC SIXTH ASSESSMENT PART ONE**

The Intergovernmental Panel on Climate Change (IPCC) releases Part One "Physical Science Basis" of its Sixth Assessment Report. The report reconfirms that human activity is the cause of global warming, and that much of the damage caused by climate change is now irreversible. The report warns that mankind has emitted 2,560bn tons of CO_{2e} since 1750 and we only have a budget of 500bn tons more if we want to limit warming to 1.5°C. The report focuses on three modelled scenarios (1.5°C, 2°C and 4°C). The first scenario implies a drastic reduction in global emissions. The second assumes the commitment of effective, ambitious, and coordinated climate policies. The first two scenarios both assume that most fossil fuels will no longer be used. According to the report, the probable temperature rise is 3°C by the end of the Century, with 1.5°C reached before 2040.

OCTOBER 2021**WMO STATE OF GLOBAL CLIMATE REPORT**

The World Meteorological Organisation (WMO) releases its 2021 State of Global Climate Report which combines inputs from multiple UN agencies, national meteorological and hydrological services, and scientific experts. The report reveals that:

- 2021 was among the seven hottest years on record. Global average temperatures were 1.1°C–1.2°C above the preindustrial average.
- Levels of atmospheric CO₂ reached 414ppm, their highest average in the modern record. This represents an increase of 50% compared to pre-industrial levels. Sea level rise reached 1.4mm/yr between 2013 and 2021. Global mean sea level reached a record high in 2021.
- Sea level rise reached 1.4mm/yr between 2013 and 2021. Global mean sea level reached a record high in 2021.
- Ocean heat content reached a new record high in 2020.

OCTOBER 2021**UN EMISSIONS GAP REPORT 2021**

The UN released its Emissions Gap Report 2021. The report shows that countries' 2030 climate targets would lead to a global temperature rise of 2.7°C by the end of the century. This is above the goals of the Paris Agreement and would lead to catastrophic changes in the Earth's climate.

NOVEMBER 2021**COP26**

The outcomes of COP26 included the following:

1. 197 countries agreed to adopt the Glasgow Climate Pact. This commits countries to review and strengthen their NDCs at COP27, and to accelerate efforts towards the phase-down of unabated coal power.
2. 100 countries signed a pledge to cut methane emissions by 30% by 2030. The pledge includes six of the world's ten largest emitters.
3. Joint US-China climate declaration centred around principles for climate cooperation, ranging from methane reduction to protecting forests.
4. UK-led initiative of 190 countries and organisations agreeing to phase out the use of coal-fired power for major economies in the 2030s.
5. Article Six was finalised, ensuring rules for a global carbon offset market.
6. Agreement between 141 countries to end deforestation by 2030.

DECEMBER 2021**IEA ANNUAL REPORTS**

The 2021 IEA Renewables Forecast revealed that a record amount of renewable energy was added to energy systems globally in 2021, but it remains half of what is needed annually to be on track to reach net zero emissions by 2050. Additionally, within their Coal Forecast, the IEA called for strong and immediate action from governments to tackle emissions from coal as it predicted the amount of electricity generated from burning the fuel would jump by 9%.

FEBRUARY 2022**IPCC SIXTH ASSESSMENT PART TWO**

The IPCC releases Part Two "Impacts, Adaptation and Vulnerability" of its Sixth Assessment Report. The report warns that climate change risks are greater than previously thought. The world has a brief and rapidly closing window to adapt to climate change. Some losses are already irreversible, and ecosystems are reaching the limits of their ability to adapt to the changing climate. Hazards such as the rise in sea level were unavoidable and "any further delay" to mitigate and adapt to warning would miss the "window of opportunity to secure a liveable and sustainable future for all".

APRIL 2022**IPCC SIXTH ASSESSMENT PART THREE**

The IPCC releases Part Three "Mitigation of Climate Change" of its Sixth Assessment Report. The Report covers efforts to mitigate the effects of climate change and finds that the world can still achieve 1.5°C if radical action is taken. Net carbon emissions must peak within the next three years and be eliminated by the early 2050s. On our current trajectory, we are heading for a temperature rise of 3°C. The main finding for investors is that financial flows are currently 3-6 times lower than the level needed by 2030 to limit global warming. While there is sufficient capital to close investment gaps, increasing flows relies on clearer signalling from governments.

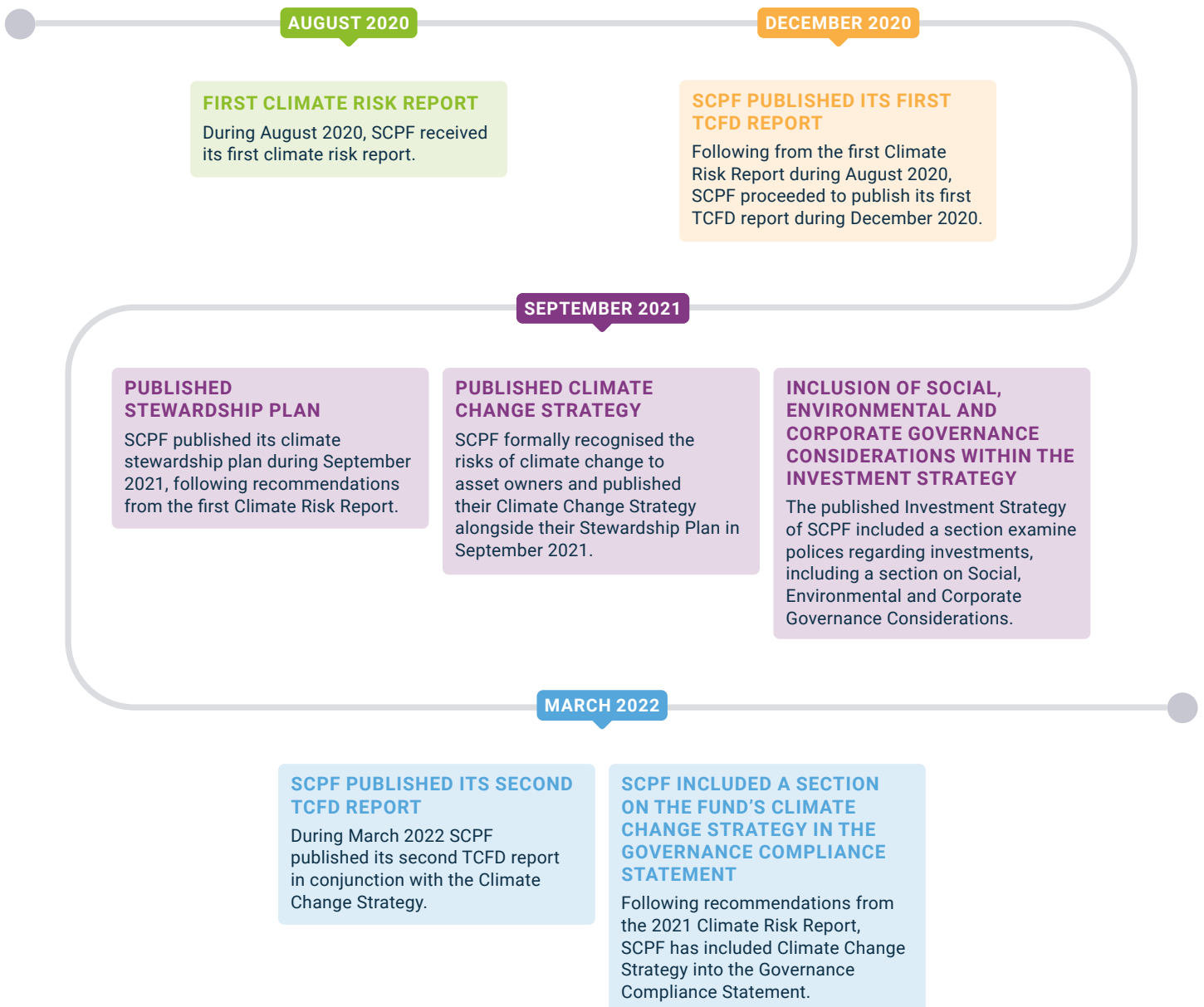
4.0 Analysis

4.1 Governance

4.1.1 SCOPE

In the Fund's 2020 Climate Risk Report we reviewed the Fund's published documentation and governance arrangements from the perspective of climate strategy setting. In the subsequent 2021 Climate Risk Report we provided a progress update and refresh to this review. Both reports identified areas in which the Fund's governance and policies could further embed and normalise the management of climate risk. We provide a progress update against the recommendations and considerations issued in the previous report and suggest further policy extensions the Fund could consider. We recognise that the Fund's existing climate governance is already to a high standard, and our perspectives offered below are suggestive only.

4.1.2 SCPF'S CLIMATE MANAGEMENT TIMELINE



4.1.3 KEY FINDINGS

Climate risk within the Fund is overseen by the Head of Pensions – LGPS Senior Officer who works alongside the Pensions Investment and Responsible Investment Manager. The Fund has made considerable progress in terms of its responsible investment and climate change practice. Since 2021, SCPF has published a Stewardship Plan, Climate Change Strategy and its second TCFD aligned report. SCPF has included climate change considerations in the Investment Strategy.

4.1.4 FURTHER ACTIONS

RECOMMENDATIONS AND CONSIDERATIONS

The following recommendations were successfully achieved in 2021 but due to their ongoing nature we recommend they continue as regular practice in future years.

- Continue to schedule time at Pension Fund Committee meetings for the discussion of climate-related risks and climate strategy. Schedule training on RI and climate risk for members of the Pension Fund Committee.

We recommend that the following recommendations and considerations are carried over from the 2021 Climate Risk Report.

- Continue the implementation of the portfolio's net zero policy, with the inclusion of a short-term target of financed emissions.
- Review as part of the Funding Strategy Statement (FSS) the extent to which climate risks could affect other risks noted in the FSS.

4.2 Strategy

4.2.1 CLIMATE SCENARIO ANALYSIS

CLIMATE SCENARIO ANALYSIS INTRODUCTION

In the Fund's 2020 Climate Risk Report, we utilised the services of Mercer LLC (Mercer) to conduct Climate Scenario Analysis of the Fund. Climate Scenario Analysis estimates the effects on key financial parameters (such as risk and return) that could result from plausible climate scenarios. In these reports the scenarios are defined according to the change since pre-industrial times in mean global surface temperatures, and we considered three scenarios (2°C, 3°C and 4°C) across three timescales (2030, 2050 and 2100).

For 2022, Mercer has partnered with Ortec Finance and Cambridge Econometrics to develop climate scenarios that are grounded in the latest climate and economic research and give practical insights. The partnership brings together Mercer's investment and climate expertise with Ortec's research and scenario generator.

This report will summarise the key changes in the model and discuss the results of this analysis, focusing on annualised and cumulative impacts against a baseline assumption, and comparison between the two asset allocations.

WHY SHOULD A PENSION FUND CONDUCT CLIMATE SCENARIO ANALYSIS?

Investors often use scenario analysis to support Strategic Asset Allocation (SAA) and portfolio construction decisions, as it helps to model potential risks and returns.

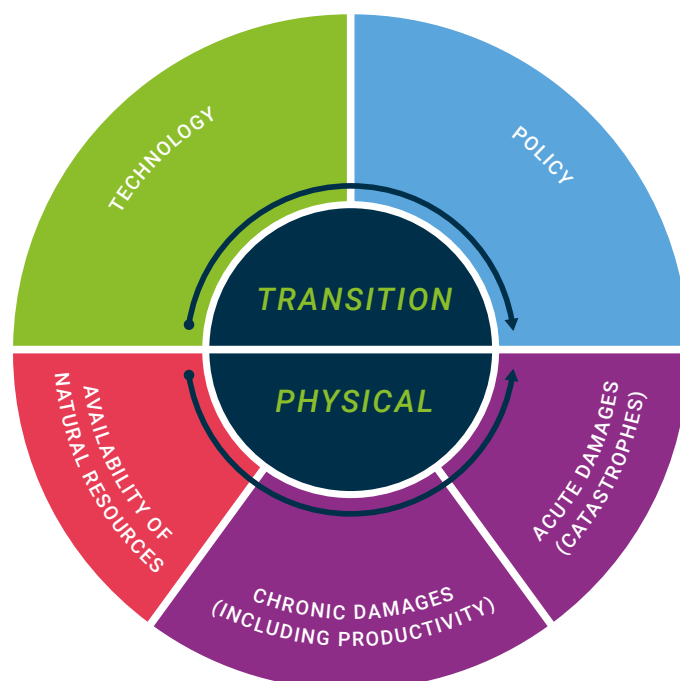
With a growing (but still early) understanding of the potential impacts of climate change on investment performance (see above) and following the recommendations of the TCFD, more pension funds are electing to conduct Climate Scenario Analysis. Climate Scenario Analysis helps investors to better understand the short-, medium- and long-term climate change risks and opportunities associated with plausible climate change scenarios, to understand the portfolio's sensitivities to such scenarios, and to build more resilient portfolios.

As we argue above, although the predictions made by climate scientists have gained overwhelming consensus, there remains a great deal of uncertainty for investors around the market reaction to climate risks and changing climate policies. This creates a strong argument for Climate Scenario Analysis to understand the different possible eventualities across a range of scenarios. It is important that investors assess their portfolio's resilience to different climate scenarios and consider the impact of their portfolios on future climate trajectories.

We remain conscious that scenario analysis (of any kind) requires by necessity the use of assumptions about inherently unpredictable phenomena. Climate Scenario Analysis is no different in this regard. We believe, however, that investors looking to manage climate risk proactively ought to attempt an 'inference to the best explanation' and we think the Mercer's model and approach to Climate Scenario Analysis is the best available.

Mercer's climate scenarios are constructed to explore three climate scenarios (Rapid Transition, Orderly Transition and Failed Transition) are constructed to explore a range of plausible futures over 5 to 40 years, rather than exploring tail risks. Mercer's analysis considers two risk factors: transition risk and physical risk. Although Mercer's analysis focusses on these two principal sources of transition and physical risk, SCPF are also aware of other risks which may emerge in various climate scenarios. These include impacts from the wider market and associated reputational risks connected to the energy transition. There is also the possibility of litigation risk in cases where businesses and investors fail to meaningfully account for climate risk. As each of these risks could present a material financial impact for the Fund, they are each considered in investment decisions through integration of ESG factors.

RISK FACTORS

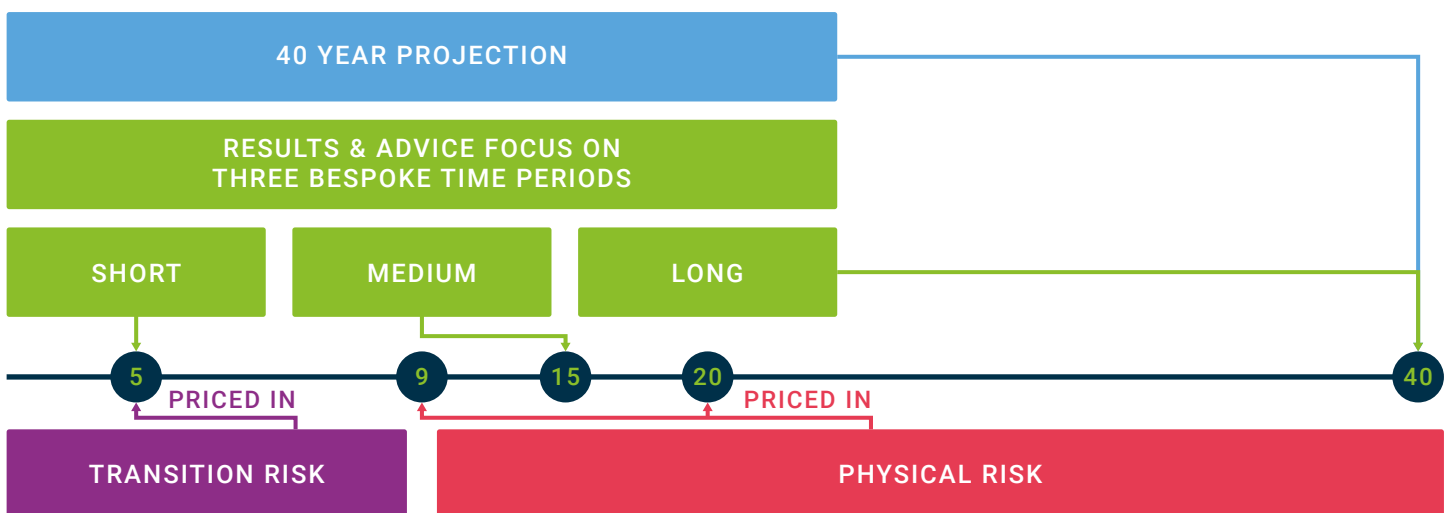


MERCER'S CLIMATE SCENARIOS

Mercer's three climate scenarios are developed by building the investment modelling on top of the economic impacts of different climate change scenarios within the Cambridge Econometric's E3ME climate model. Each climate scenario analyses the policies enacted and the technologies developed to manage climate risks. An implied temperature score is calculated to indicate the level of warming which occurred as a result of these climate actions and is driven by levels of carbon dioxide (CO₂) and other greenhouse gases. The impacts of the warming are shown in the physical damages. The three scenarios used in the modelling are outlined below.

1.5°C RAPID TRANSITION AVERAGE TEMPERATURE INCREASE OF 1.5°C BY 2100 IN LINE WITH THE PARIS AGREEMENT This scenario assumes sudden large-scale downward re-pricing across multiple securities in 2025. This could be driven by a change in policy or realisation that policy change is inevitable, consideration of stranded assets or expected cost. To a degree the shock is sentiment driven and therefore followed by a partial recovery across markets. The physical damages are most limited under this scenario.	1.6°C ORDERLY TRANSITION AVERAGE TEMPERATURE INCREASE OF 1.6°C BY 2100 This scenario assumes political and social organisations act in a co-ordinated way to implement the recommendations of the Paris Agreement to limit global warming to well below 2°C. Transition impacts do occur but are relatively muted across the broad market.	4°C FAILED TRANSITION AVERAGE TEMPERATURE INCREASE ABOVE 4°C BY 2100 This scenario assumes the world fails to co-ordinate a transition to a low carbon economy and global warming exceeds 4°C above pre-industrial levels by 2100. Physical climate impacts cause large reductions in economic productivity and increasingly negative impacts from extreme weather events. These are reflected in re-pricing events in the late 2020s and late 2030s.
RAPID TRANSITION <ul style="list-style-type: none"> Sudden divestments in 2025 to align portfolios to the Paris Agreement goals have disruptive effects on financial markets with sudden repricing followed by stranded assets and a sentiment shock Locked-in physical impacts 	ORDERLY TRANSITION <ul style="list-style-type: none"> Early and smooth transition Market pricing-in dynamics occur smoothed out in the first 4 years Locked-in physical impacts 	FAILED TRANSITION <ul style="list-style-type: none"> The world fails to meet the Paris Agreement goals and global warming reaches 4.3°C above pre-industrial levels by 2100 Severe gradual physical & extreme weather impacts Markets price in physical risks of the coming 40 years over 2026-2030, and risks of 40-80 years over 2036-2040
Average temperature increase of 1.5°C	Average temperature increase of 1.6°C	Average temperature increase of 4.3°C
Shows the resilience of the portfolio to sudden repricing, triggering a market dislocation centred on high-emitting stocks	Tests exposure to the risks/opportunities from the systemic drivers of an ideal transition and locked-in physical risk	The main focus of this pathway is physical risk, results show the exposure to plausible, severe climate change impacts

In the analysis, Mercer focused on short-, medium- and long-term time frames of 5, 15 and 40 years. In shorter time frames, transition risk tends to dominate while over longer time frames physical risk is expected to be the key driver of climate impacts. Transition risks are priced in around 2026 and future physical damages are priced in around the end of 2020s and 2030s. These pricing in shocks reflect likely market dynamics and mean climate impacts are more likely to fit within investment timeframes.



INTERPRETATION OF THE MAIN RESULTS

The main results produced by Mercer’s model is an estimated impact on investment returns, given some particular pair of (a) climate scenario and (b) time horizon, expressed either as annualised (%) or cumulative (£) returns. This should be interpreted as the climate-related impact on the estimated returns for a portfolio or asset class, i.e., it is additional to the expected mean return – which Mercer depicts as the baseline – for that portfolio or asset class.

Mercer modelled scenarios relative to a climate aware baseline, based on the assumption that climate impacts are currently priced-in to some extent. The main assumptions include:

- At a market level transition risks are reasonably priced in; however longer-term physical risks are more likely to be mispriced.
- Transition risks remain at sector level and at the market level due to the potential for more extreme transition scenarios to occur.

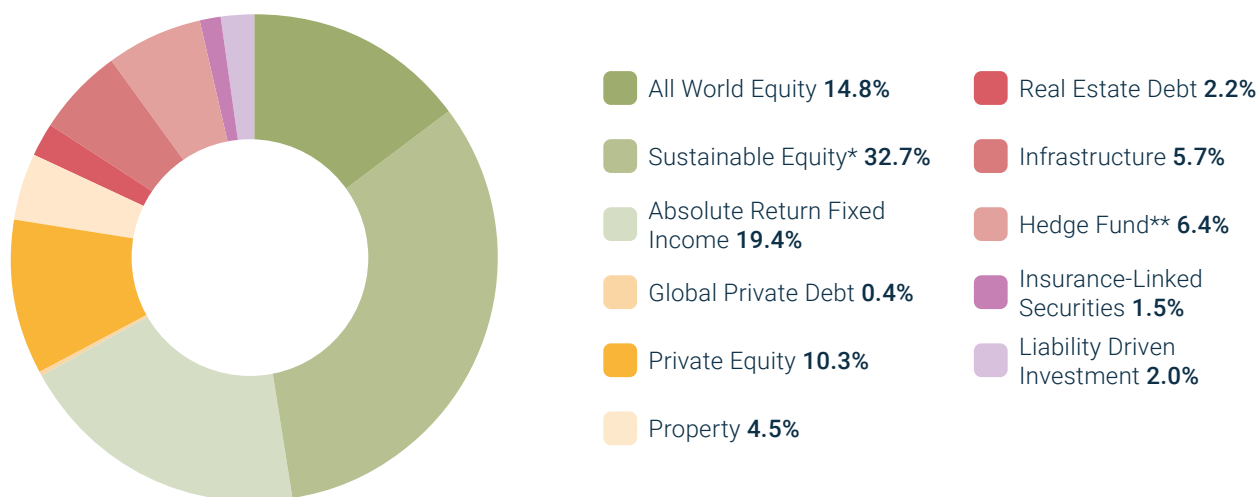
CLIMATE SCENARIO ANALYSIS SCOPE

The analysis includes the whole of SCPF’s investment portfolio. The analysis is top-down, mapping each of SCPF’s underlying portfolios to an asset class that is featured within Mercer’s model. The projections utilise asset allocations as of the 30th of June 2022, assume £2.24 billion initial asset value and contributions income matches benefit outgo. Two variations of SCPF’s investment portfolio are analysed by Mercer:

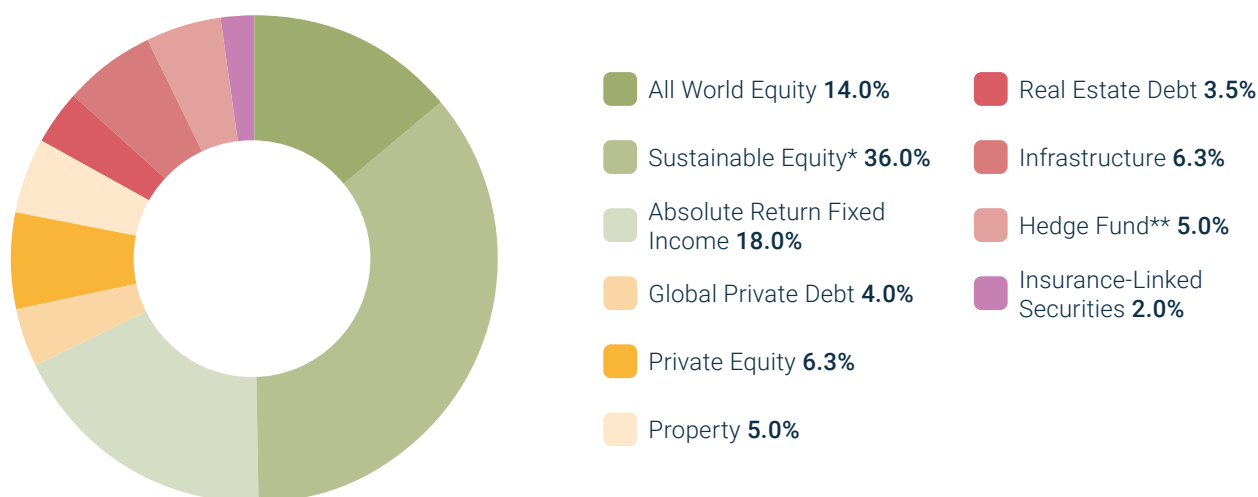
1. The Current Asset Allocation (invested as of 30st June 2022)
2. The Alternative Asset Allocation

TABLE 4.2.1.1 ASSET ALLOCATION VARIANTS ANALYSED

CURRENT ASSET ALLOCATION



ALTERNATIVE ASSET ALLOCATION



CLIMATE SCENARIO ANALYSIS FINDINGS

KEY CONCLUSION ONE: A SUCCESSFUL TRANSITION IS AN IMPERATIVE

Over medium- to long-term, a successful transition is imperative for SCPF as both asset allocations fare better under rapid and orderly transition scenarios versus the failed transition. Over the long term for nearly all investors a successful transition leads to enhanced projected returns when compared to scenarios associated with higher temperature outcomes due to lower physical damages.

Under a failed transition scenario, both asset allocations are affected by a greater degree of physical impact which drive underperformance in the long-term. Cumulative losses under the failed transition scenario over 40 years could amount to c.32% of the portfolio's value relative to the baseline.

According to Mercer's model, over the long term both asset allocations fare materially better under the orderly transition and rapid transition in comparison to the failed transition. In the orderly transition and rapid transition physical risks are lower due to temperature rises being limited.

Over 40 years, Mercer's model suggests an orderly transition leads to marginally superior economic outcomes in comparison to a rapid transition for both asset allocations.

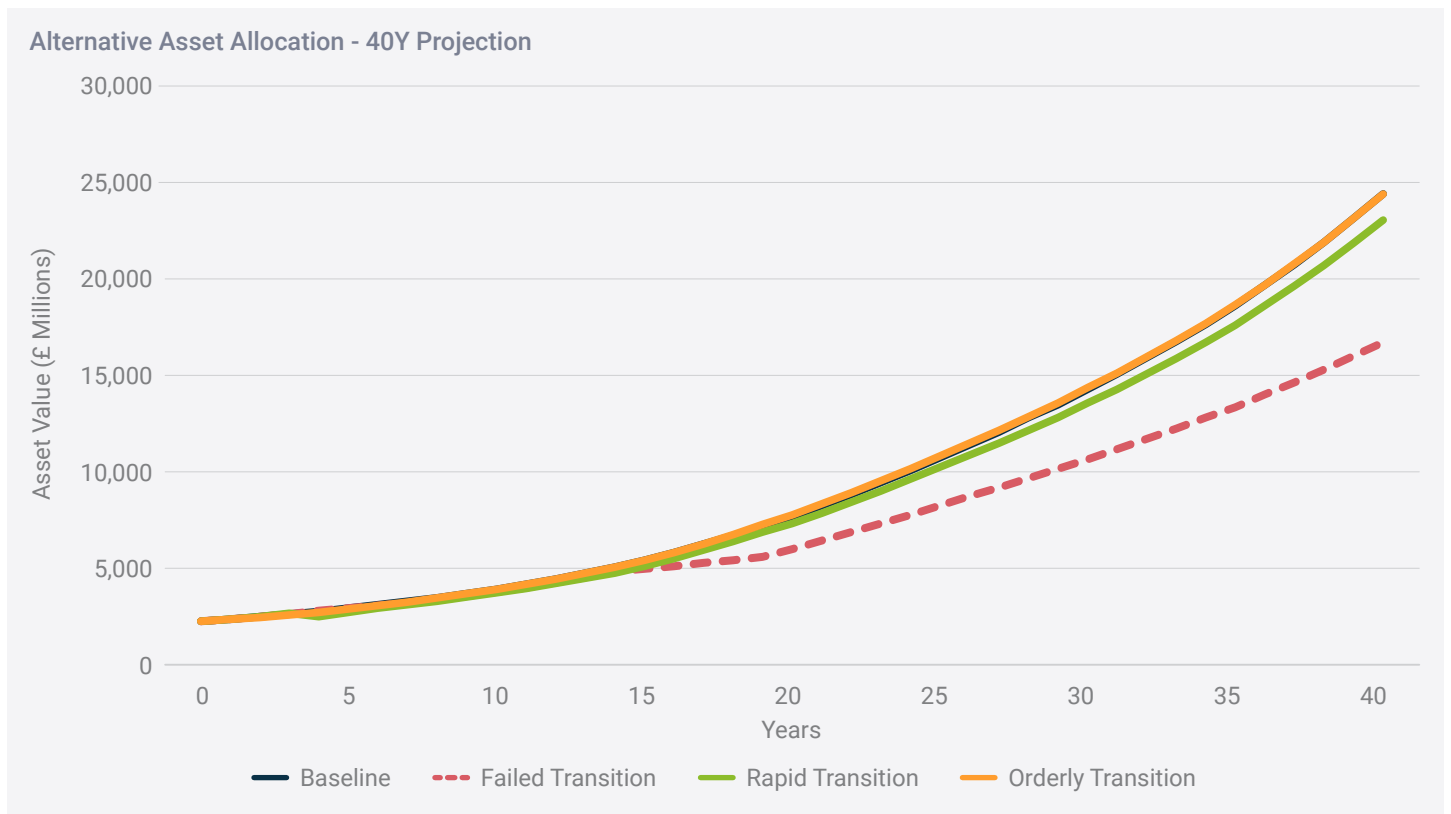
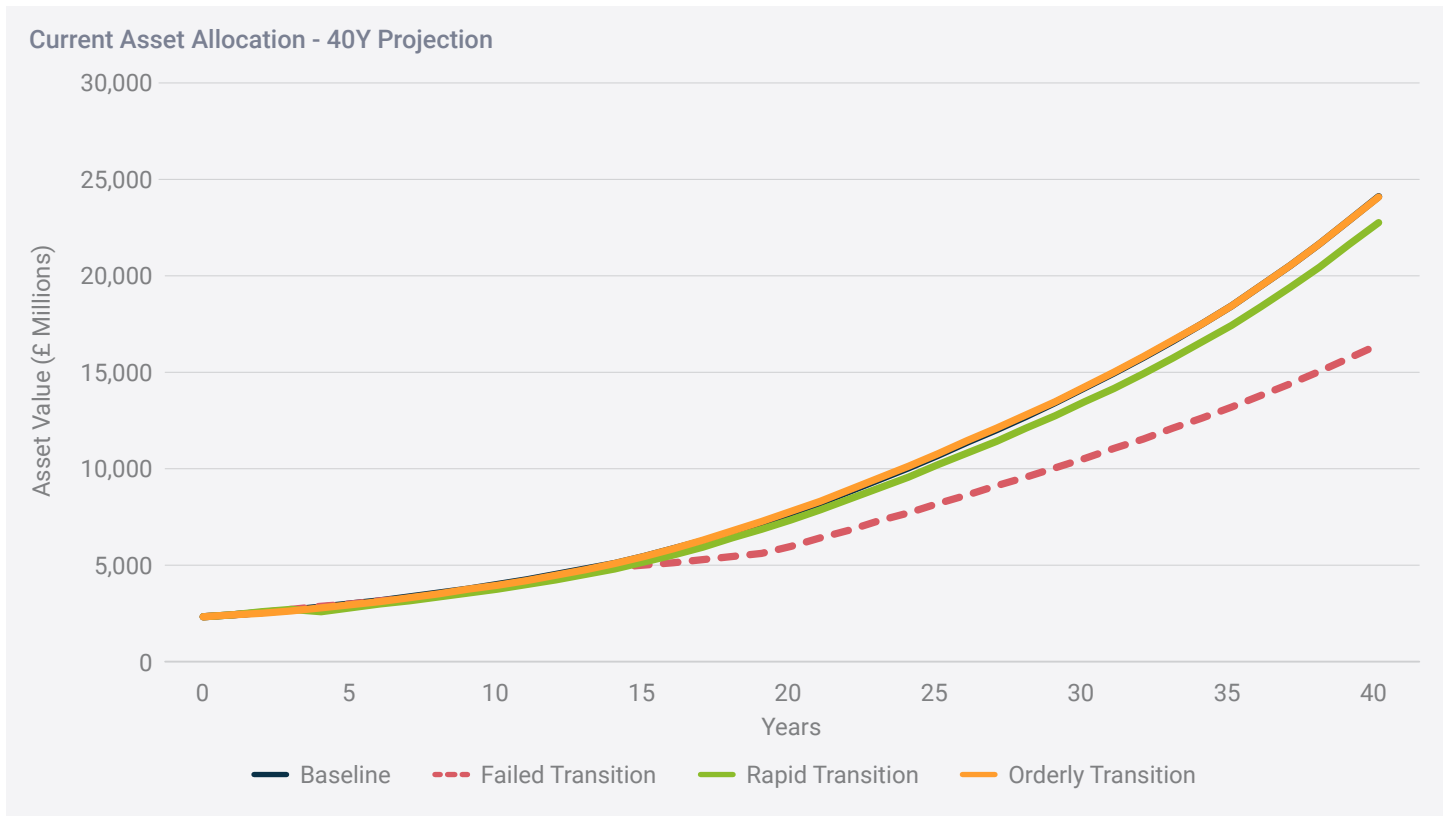
There is little material difference between how the two asset allocations are impacted by climate because the two strategies are relatively similar in respect of sustainability tilts and broader allocations.

TABLE 4.2.1.2 ANNUALISED CLIMATE CHANGE IMPACT ON PORTFOLIO RETURNS – TO 5, 15 AND 40 YEARS.

		CURRENT ASSET ALLOCATION	ALTERNATIVE ASSET ALLOCATION
RAPID	5 years	-1.5%	-1.5%
	15 years	-0.4%	-0.4%
	40 years	-0.2%	-0.2%
ORDERLY	5 years	-0.2%	-0.2%
	15 years	0.0%	0.0%
	40 years	0.0%	0.0%
FAILED	5 years	0.2%	0.1%
	15 years	-0.6%	-0.6%
	40 years	-1.0%	-1.0%

■ ≤ -10 bps
 ■ > -10 bps, < 10bps
 ■ ≥ 10 bps

FIGURE 4.2.1.1 CUMULATIVE RETURN PROJECTIONS BY CLIMATE CHANGE SCENARIO



RECOMMENDATIONS:

We recommend the Fund continue with the development of the net zero strategy through its various collaborations including with LGPSC and other external managers. This is to ensure that climate transition and physical risks are identified and managed through stewardship and/or asset allocation activities.

KEY CONCLUSION TWO: 2. SUSTAINABLE ALLOCATIONS PROTECT AGAINST TRANSITION RISK, GROWTH ASSETS ARE HIGHLY VULNERABLE TO PHYSICAL RISK

Asset class returns vary significantly by scenario depending on their respective exposure to transition and physical risks. SCPF has a large allocation of growth assets, which are generally more exposed to transition and physical risks. Increased allocations to sustainable equity would provide additional protection from transition and physical risks in the event of a rapid transition.

TABLE 4.2.1.3 CUMULATIVE RETURN IMPACTS FOR CURRENT ASSET ALLOCATION, BY ASSET CLASS ACROSS THREE CLIMATE CHANGE SCENARIO

CURRENT SAA	MODELLING ASSET CLASS	CURRENT ALLOCATION (%)	5 YEARS			40 YEARS		
			FAILED TRANSITION	RAPID TRANSITION	ORDERLY TRANSITION	FAILED TRANSITION	RAPID TRANSITION	ORDERLY TRANSITION
Listed Global Equity	MSCI ACWI Equity	14.8%	2%	-13%	-1%	-43%	-12%	-1%
Listed Sustainable Equity	Active Sustainable Equity*	30.3%	0%	-6%	-1%	-45%	-3%	2%
	Passive Sustainable Equity*	2.4%	1%	-9%	-2%	-44%	-7%	0%
Absolute Return Fixed Income	Absolute Return Fixed Income	19.4%	0%	-2%	0%	-3%	-2%	0%
Global Private Debt	Global Private Debt	0.4%	0%	-4%	0%	-11%	-4%	-1%
Private Equity	Private Equity	10.3%	2%	-12%	-3%	-52%	-9%	-1%
Property	UK Real Estate	4.5%	-1%	-8%	0%	-41%	-4%	3%
Real Estate Debt	Global Private Debt	2.2%	0%	-4%	0%	-11%	-4%	-1%
Infrastructure	Infrastructure	5.7%	1%	-9%	0%	-37%	-9%	-1%
Hedge Fund***	Absolute Return Fixed Income	6.4%	0%	-2%	0%	-3%	-2%	0%
Insurance-Linked Securities	Cash	1.5%	0%	0%	0%	-7%	1%	1%
Liability Driven Investment	Cash	2.0%	0%	0%	0%	-7%	1%	1%

*The passive sustainable equity fund (LGIM Solactive Low Carbon Transition Developed Markets Fund) has been modelled as 100% Broad Paris Aligned and the active equity fund (LGPS Central Global Sustainable Equity Active Fund) as 50% Broad Paris Aligned 50% Complete Paris Aligned.

***Hedge fund relate to BlackRock: QIP Ltd fund.

Please note the colour scaling is specific to the timeframe and scenario and cannot be compared across columns. Red indicates a negative value, whereas green indicates a positive value.

RECOMMENDATIONS:

SCPF could consider reducing portfolio weighting of growth assets and increasing the portfolio weighting of sustainable equity to mitigate potential transition impact in the short- to medium-term. It is also important to work with managers with existing net zero commitments and potentially find alternative benchmarks for its passive strategy to tilt the portfolios further towards climate alignment.

KEY CONCLUSION THREE: MONITOR SECTOR AND REGIONAL EXPOSURES

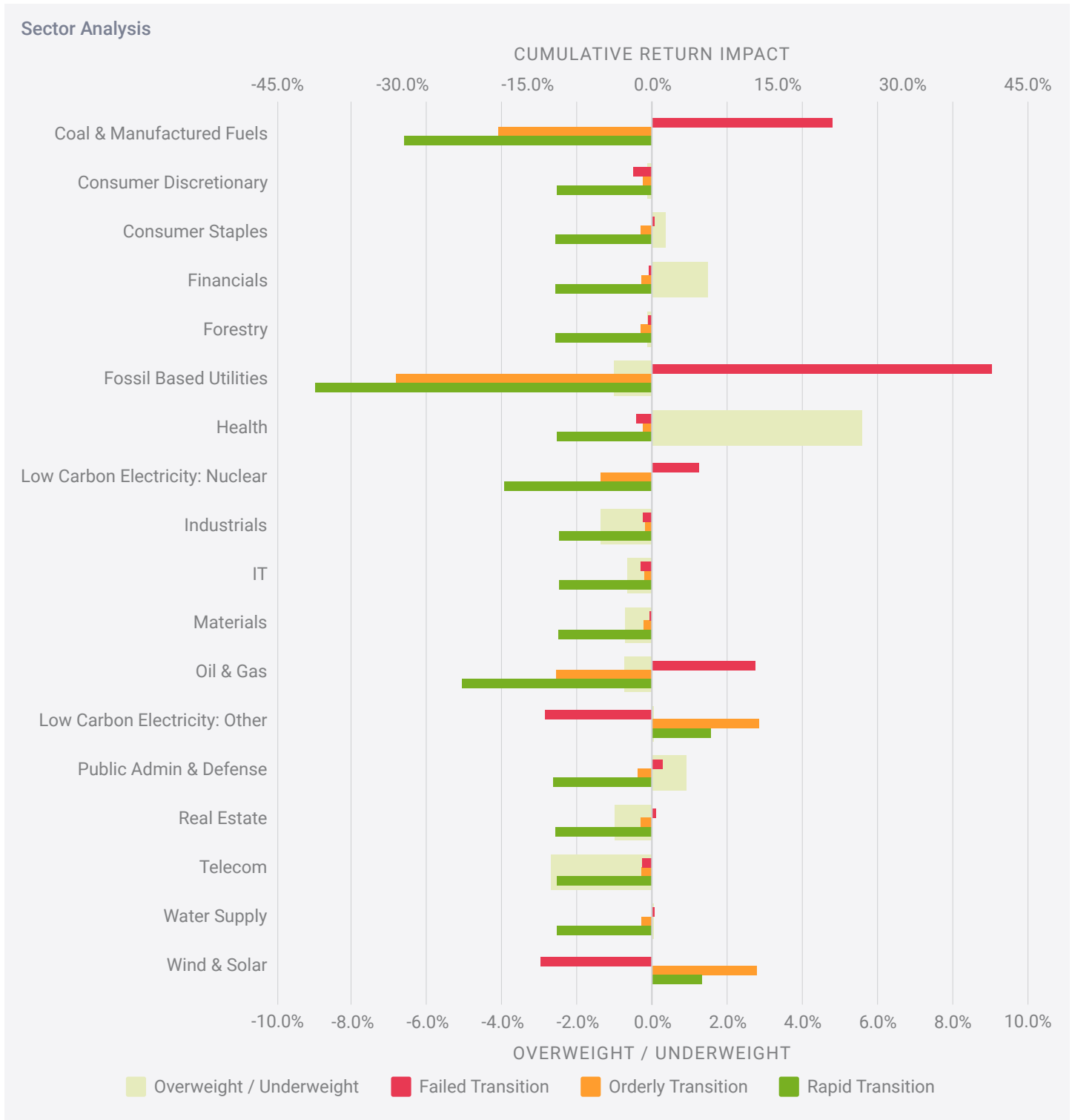
Differences in return impact are most visible at an industry sector level, with significant divergence between scenarios. Oil and Gas, Fossil Fuel Based Utilities and Renewables are most impacted by the transition.

SCPF's equity portfolios is marginally underweight to two sectors that are particularly exposed to transition risk, oil and gas and fossil fuel-based utilities. Both of these sectors are negatively impacted by a Rapid and Orderly Transition.

Figure 4.2.1.2 shows the relative under/overweight positions of SCPF's overall equity portfolio versus MSCI ACWI (light grey bar), as well as cumulative return impact experienced by different sectors within an equity portfolio over a 5 year-period, when transition risks dominate.

In the rapid and orderly transition scenarios, low carbon electricity and renewable energy (Wind & Solar) are the only two sectors to generate positive returns.

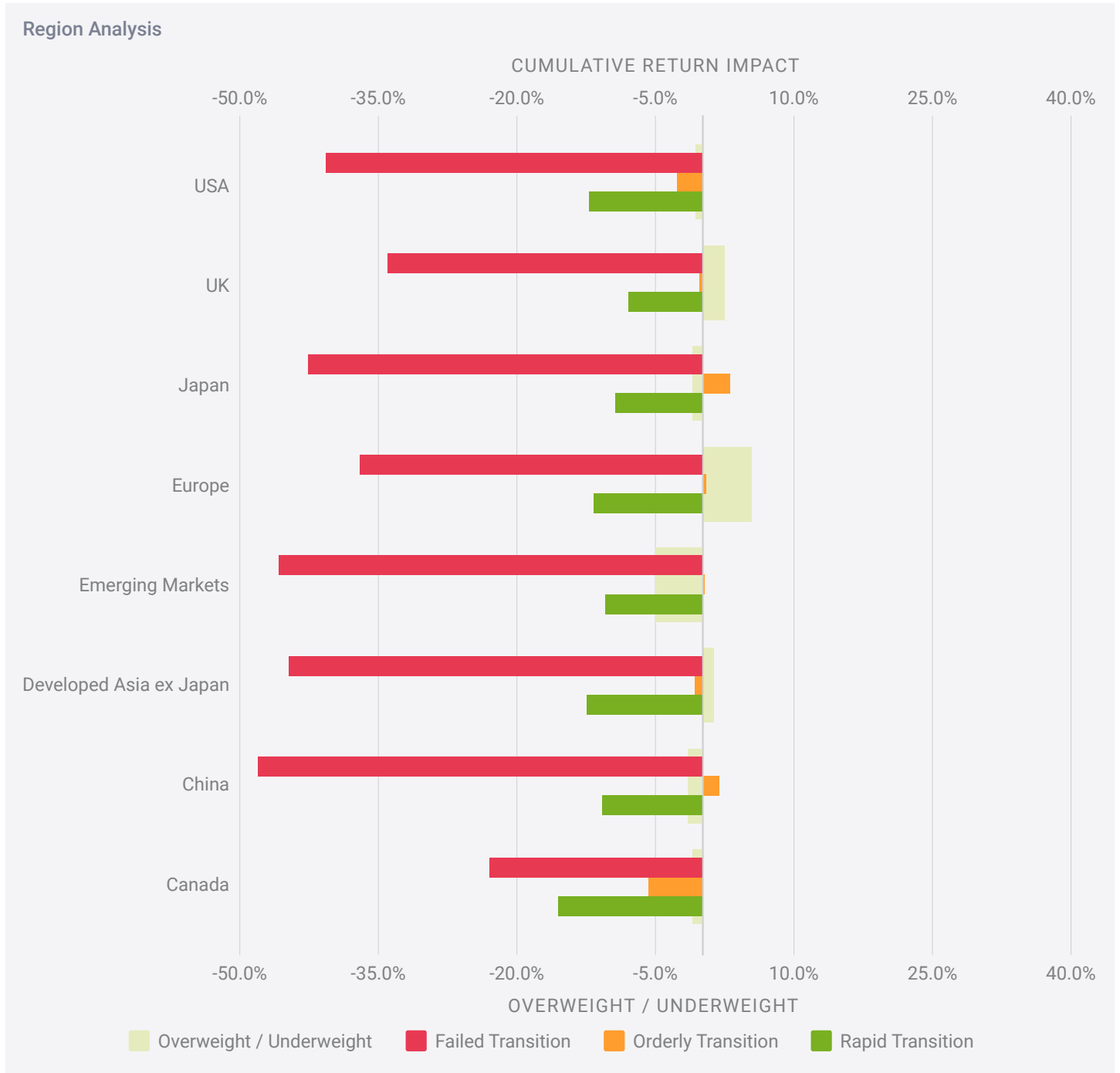
FIGURE 4.2.1.2 SECTORAL CUMULATIVE RETURN IMPACT AND SCPF CURRENT EQUITIES SECTOR ALLOCATION



In terms of regional impact, China, Emerging Markets and Developed Asia ex. Japan are the most exposed to climate risks. Figure 4.2.1.3 shows the relative overweight/under positions of SCPF's overall equity portfolio versus MSCI ACWI (light grey bar), as well as cumulative return impact experienced by different region within an equity portfolio over a 40 year-period, when physical risks dominate.

The portfolio is overweight to Europe and UK equities which are less impacted under a failed transition when compared to most other regions, and underweight to Emerging Market equities and China which experience significant negative outcomes under a failed transition scenario. However, the portfolio is marginally overweight to Developed Asia ex. Japan which also experiences significant negative outcomes under a Failed Transition Scenario.

FIGURE 4.2.1.3 REGIONAL CUMULATIVE RETURN IMPACT AND SCPF CURRENT EQUITIES SECTOR ALLOCATION



RECOMMENDATIONS:

We recommend SCPF work with its appointed fund managers to understand how they are assessing, monitoring, and mitigating key transition and physical risks within the high-impact sectors. Regional exposures should be kept under review.

KEY CONCLUSION FOUR: BE AWARE OF FUTURE PRICING SHOCKS

As markets react to new information because of changing physical and policy / transition risks, investors will be vulnerable to rapid repricing shocks. Exploring the potential impact that repricing events can have on investment strategy and positioning portfolios ahead of time is critical.

Investors look to predict future events and price these events before they occur. This means that longer-term impacts, including transition and physical risks could impact portfolios earlier than the time these events occur.

Mercer's rapid transition includes a shock around 2025 pricing in (and overreacting to a degree) to transition costs. The failed transition includes shocks towards the end of the 2020s and 2030s pricing in future damage. While the exact timing of such shocks is unknowable, considering such shocks is important to risk analysis.

As discussed in key conclusion two, SCPF could reduce the portfolio's exposure to growth assets and increase the allocation of sustainable equities to provide some transition risk protection in the event of a rapid repricing event.

RECOMMENDATIONS:

Using the analysis from this Climate Scenario Analysis and the overall Climate Risk Report, SCPF is on track to get a better understanding of the portfolio's capacity to transition into a low carbon economy. We recommend using these analyses to evolve SCPF's sustainable investment targets to include more ambitious climate objectives.

4.3 Risk Management

4.3.1 CLIMATE STEWARDSHIP PLAN SCOPE

Based on the findings of its previous Climate Risk Reports, the Fund has developed a Climate Stewardship Plan (CSP). The CSP identifies the areas in which stewardship techniques can be leveraged to further understand and manage climate-related risks within the Fund.

The CSP identifies a focus list of ten companies for prioritised engagement. Reflecting the externally managed nature of SCPF,

the Fund's portfolio managers and suppliers are engaging with these companies on behalf of the Fund.

We have reviewed ongoing engagements with these companies and provide below a progress update on the outcomes of the engagement. The Climate Action 100+ Net Zero Benchmark and Transition Pathway Initiative are used as key tools to monitor progress within the Fund's CSP.

TRANSITION PATHWAY INITIATIVE

The Transition Pathway Initiative (TPI) framework evaluates companies based on their climate risk management quality and their carbon performance. The former includes an assessment of policies, strategy, risk management and targets. There are six management quality levels a company can be assigned to:

- **Level 0** – Unaware of (or not Acknowledging) Climate Change as a Business Issue
- **Level 1** – Acknowledging Climate Change as a Business Issue
- **Level 2** – Building Capacity
- **Level 3** – Integrated into Operational Decision-making
- **Level 4** – Strategic Assessment
- **Level 4*** – Satisfies all management quality criteria

Companies expected future emissions intensity pathways – labelled carbon performance – is assessed against international targets and national pledges made as part of the 2015 Paris Agreement. Alignment is tested on different timeframes, including 2030 and 2050. There are eight carbon performance trajectories:

- No or unsuitable disclosure
- Not aligned
- International pledges
- National pledges
- Paris pledges
- 2 Degrees
- Below 2 Degrees
- 1.5 Degrees

CLIMATE ACTION 100+ NET ZERO BENCHMARK

The CA100+ Net Zero benchmark is designed to assess the performance of the world's 166 largest corporate greenhouse gas emitters against ten key indicators. These indicators are all measures of success for business alignment with a net zero emissions future and with the goals of the Paris Agreement. The ten indicators are:

- 1 Net Zero GHG Emissions by 2050 (or sooner) ambition
- 2 Long-term (2036-2050) GHG reduction target(s)
- 3 Medium-term (2026-2035) GHG reduction target(s)
- 4 Short-term (up to 2025) GHG reduction target(s)
- 5 Decarbonisation Strategy (Target Delivery)
- 6 Capital Alignment
- 7 Climate Policy Engagement
- 8 Climate Governance
- 9 Just Transition
- 10 TCFD Disclosure

The first assessments for each CA100+ company against the ten indicators were published on 22nd March 2021 and refreshed on 30th March 2022. These assessments offer comparative assessments of individual focus company performance against the goals of the initiative. The Benchmark will be reviewed in 2022 with an aim to provide sector-specific transition pathway parameters that companies respectively are compared to.

4.3.2 PROGRESS UPDATE

TABLE 4.3.2.1 COMPANIES INCLUDED IN THE CLIMATE STEWARDSHIP PLAN

COMPANY	SECTOR	ACTIVE / PASSIVE	CA100+	STRATEGY	ENGAGEMENT OBJECTIVES	TPI MANAGEMENT QUALITY	TPI CARBON PERFORMANCE		
							TO 2025	TO 2035	TO 2050
BP	Energy	Active		CA100+ collaborative engagement with EOS as co-lead.	<ul style="list-style-type: none"> Achievements of the high-level objectives of the CA100+ initiative Duly account for climate risks in financial reporting 	4*	Not Aligned	Not Aligned	Not Aligned
Glencore	Materials	Active		Engagement by LGPSC as co-lead for the CA100+ Glencore Focus Group.	<ul style="list-style-type: none"> Achievements of the high-level objectives of the CA100+ initiative including attainment of the specific indicators in the CA100+ benchmark 	4	1.5 Degrees	Below 2 Degrees	National Pledges
Holcim	Cement	Active		Collaborative engagement by the CA100+ Focus Group and through Paris-aligned financial accounting investor initiative.	<ul style="list-style-type: none"> Paris-aligned accounts in line with IIGCC's Investor Expectations Achievement of the high-level objectives of the CA100+ Initiative 	4	Below 2 Degrees	Below 2 Degrees	1.5 Degrees
NextEra	Energy	Active		CA100+ collaborative engagement with LGPSC in the focus group.	<ul style="list-style-type: none"> Net Zero GHG emissions by 2050 or sooner ambition Capital allocation alignment with the Paris Agreement Commitment to clear medium and long-term GHG reduction targets 	4*	Not Aligned	Not Aligned	Not Aligned
RyanAir	Airlines	Active	N/A	Direct engagement by Baillie Gifford.	<ul style="list-style-type: none"> Discussing the progress of the company's decarbonisation strategy 	4	1.5 Degrees	Below 2 Degrees	National Pledges
Shell	Energy	Active		CA100+ collaborative engagement with LGPSC involved in the focus group.	<ul style="list-style-type: none"> To set and publish targets which are Paris-aligned To fully reflect its Net Zero ambition in its operational plans and budgets To set a transparent strategy on achieving net zero by 2050 	4	Below 2 Degrees	Below 2 Degrees	1.5 Degrees

4.4 Metrics and Targets

4.4.1 SCOPE AND DEFINITIONS OF TERMS

The following Carbon Risk Metrics section is a bottom-up analysis conducted at the company and portfolio level. The purposes of this analysis are:

- To observe climate transition risks and opportunities in the portfolio
- To identify company engagement opportunities
- To support manager monitoring of climate risk management

The scope of the analysis comprises the portfolios as of the 30th June 2022. The results are compared to data from 31st March 2020. The analysis seeks to identify and assess how the portfolio carbon risk metrics have changed within this timeframe.

The analysis is limited to equities and corporate bonds as unlisted asset classes do not have sufficiently complete and comparable data to facilitate carbon risk metrics analysis at this time.

TABLE 4.4.1.1: SCOPE OF CARBON RISK METRICS ANALYSIS AS OF 30TH JUNE 2022

	PORTFOLIOS ANALYSED
NUMBER OF STRATEGIES ANALYSED	6
INDIVIDUAL COMPANIES INCLUDED	1,451

The analysis is based on a dataset provided by MSCI ESG Research LLC (MSCI)². Table 4.4.1.2 provides an overview of the types of carbon risk metrics utilised. While these raw numbers should not be treated as a complete guide to climate risk, we do believe that this kind of bottom-up quantitative analysis can assist an asset owner in identifying the parts of the portfolio to prioritise, and in framing relevant questions to put to investee companies and external fund managers.

² Certain information @ 2022 MSCI ESG Research LLC. Reproduced by permission. Attention is drawn to Section 8.0 Important Information.

TABLE 4.4.1.2: CARBON RISK METRICS USED

CARBON RISK METRIC	DEFINITION	USE CASE	LIMITATIONS
PORTFOLIO CARBON FOOTPRINT (WEIGHTED AVERAGE CARBON INTENSITY (WACI))	Is calculated by working out the carbon intensity (Scope 1+2 Emissions / \$M sales) for each portfolio company and calculating the weighted average by portfolio weight.	A proxy for carbon price risk. Were a global carbon price to be introduced in the form of a carbon tax, this would (ceteris paribus) be more financially detrimental to carbon intensive companies than to carbon efficient companies.	This metric includes scope 1 and 2 emissions but not scope 3 emissions. This means that for some companies the assessment of their carbon footprint could be considered an 'understatement'.
EXPOSURE TO FOSSIL FUEL RESERVES	The weight of a portfolio invested in companies that (i) own fossil fuel reserves (ii) thermal coal reserves (iii) utilities deriving more than 30% of their energy mix from coal power.	A higher exposure to fossil fuel reserves is an indicator of higher exposure to stranded asset risk.	It does not consider the amount of revenue a company generates from fossil fuel activities. Consequently, diversified businesses (e.g. those that own a range of underlying companies, one of which owns reserves) would be included when calculating this metric. In reality, these companies may not bear as much stranded asset risk as companies that do generate a high proportion of revenue from fossil fuels.
EXPOSURE TO CLEAN TECHNOLOGY	The weight of a portfolio invested in companies whose products and services include clean technology (Alternative Energy, Energy Efficiency, Green Buildings, Pollution Prevention, and Sustainable Water).	Provides an assessment of climate-related opportunities so that an organisation can review its preparedness for anticipated shifts in demand.	There is no universal standard or definitive list of green revenues; the EU has been developing such a taxonomy for several years. Even the EU's taxonomy is not likely to be a complete and exhaustive list of technologies relevant for a lower-carbon economy.
CARBON RISK MANAGEMENT VIA THE TPI	The TPI framework evaluates companies based on their climate risk management quality and their carbon performance. The former includes an assessment of policies, strategy, risk management and targets.	Contextualises the companies contributing to a portfolio's carbon footprint or fossil fuel exposure. Can be used to track how companies are managing climate risk and whether their strategies are aligned with the goals of the Paris Agreement.	Does not assess every company, only the world's largest high-emitting companies. The data are also not updated very frequently, which can make some assessments outdated.
FINANCED EMISSIONS	Is calculated by multiplying an attribution factor by a company's emissions. The attribution factor is the ratio between an investor's outstanding amount in a company and the value of the financed company.	Measures the absolute tons of CO ₂ for which an investor is responsible.	Limited usefulness for benchmarking and comparison to other portfolios due to the link to portfolio size.
NET ZERO TARGET COVERAGE	The weight of the portfolio invested in companies that have set a "net zero" emissions target, as defined by the company.	Provides an insight into the alignment of a portfolio with Net Zero based on the commitments of the underlying companies.	Does not provide any insight into how likely the companies are to meet their targets. Does not provide any insight into the quality of the targets set.

4.4.2 TOTAL EQUITIES

Recommendations will not be included for total equities, but instead will be included in the sections which provide a closer examination of the individual portfolios.

TABLE 4.4.2.1 TOTAL EQUITIES DESCRIPTIVE STATISTICS

STRATEGY	BENCHMARK	CLIENT AUM (£, AS OF 30TH JUNE 2022)	STRATEGIES ANALYSED	NO. COMPANIES
Total Equities	Blended Equities BM	£889,742,998	5/5	1324

CARBON FOOTPRINT

TABLE 4.4.2.2 TOTAL EQUITIES CARBON FOOTPRINT METRICS

	2020			2022			% DIFFERENCE BETWEEN 2020 AND 2022	
	PF	BM	% DIFF	PF	BM	% DIFF	PF	BM
Portfolio Carbon Footprint (tCO ₂ e/ \$m)	146.78	169.10	-13.20%	79.20	96.38	-17.83	-46.04%	-43.00%
Weight in fossil fuel reserves (%)	6.23%	7.26%	-1.03%	3.35%	4.07%	-0.72%	-2.88%	-3.19%
Weight in thermal coal reserves (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Weight in coal power (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Weight in clean tech (%)	35.36%	35.25%	0.11%	36.52%	35.88%	0.64%	1.16%	0.63%

Figure 4.4.2.1 Total Equities Carbon Footprint

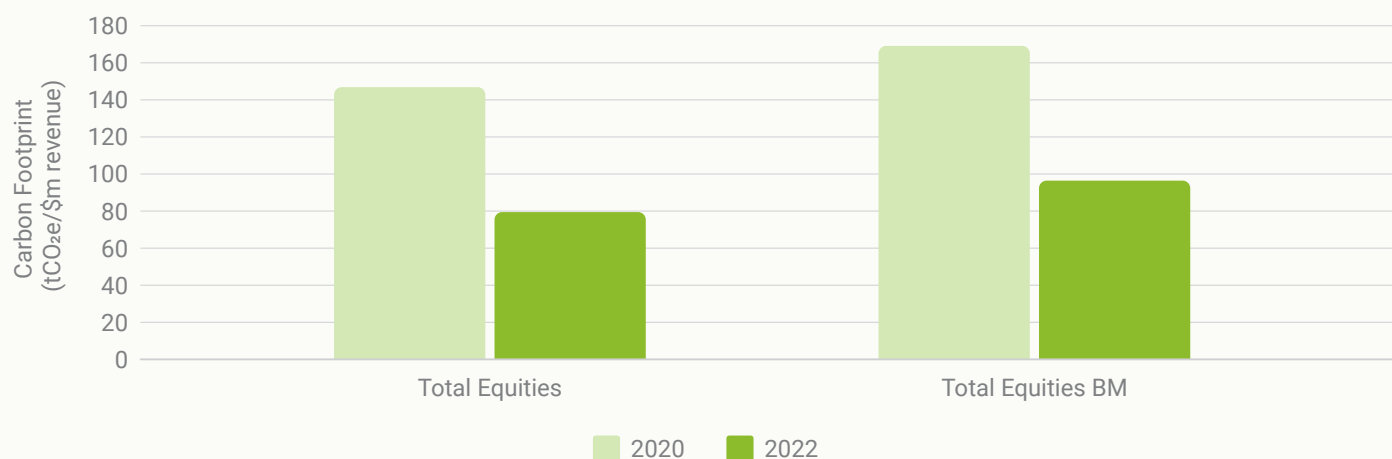


Figure 4.4.2.2 Total Equities Financed Emissions

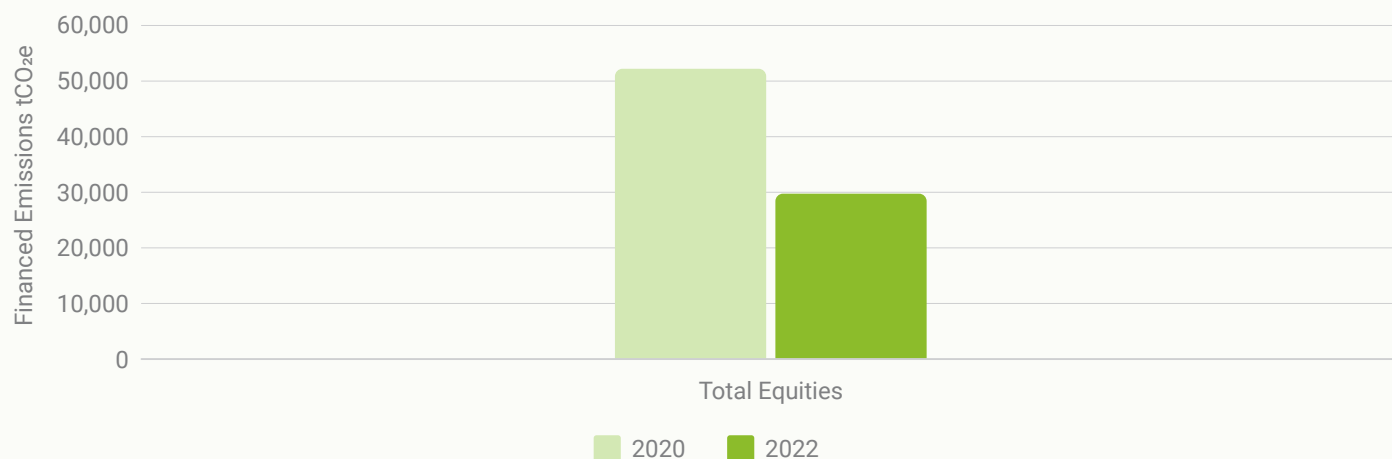


TABLE 4.4.2.3 TOTAL EQUITIES LARGEST CONTRIBUTORS TO PORTFOLIO CARBON FOOTPRINT

COMPANY	PORTFOLIO WEIGHT	CARBON INTENSITY	CONTRIBUTION TO PORTFOLIO CARBON FOOTPRINT
NEXTERA ENERGY, INC.	0.43%	2407.4	13.18%
HOLCIM AG	0.19%	4278.3	10.12%
LINDE PUBLIC LIMITED COMPANY	0.45%	1332.8	7.70%
RWE AKTIENGESELLSCHAFT	0.18%	3212.5	7.27%
CF INDUSTRIES HOLDINGS, INC.	0.13%	2644.3	4.20%

TABLE 4.4.2.4 TOTAL EQUITIES LARGEST CONTRIBUTORS TO PORTFOLIO FINANCED EMISSIONS

COMPANY	PORTFOLIO WEIGHT	SCOPE 1&2 EMISSIONS	CONTRIBUTION TO PORTFOLIO FINANCED EMISSIONS
RWE AG	0.17%	89,600,000	19.41%
HOLCIM LTD	0.18%	126,000,000	17.14%
CRH PLC	0.24%	36,000,000	6.29%
CF INDUSTRIES HOLDINGS INC	0.12%	17,288,228	3.89%
GLENCORE PLC	0.24%	25,724,000	3.46%

The carbon intensity of the total equities decreased by 46% between 2020 and 2022, while the blended benchmark decreased by 43%. Accordingly, the portfolio's carbon intensity is now 17.83% lower than the benchmark, compared with 13.20% in 2020. This reduction has been driven by the portfolio's shift from the LGIM World Developed Equity Index and Majedie to the Solactive and GSE funds. As with the carbon footprint, the financed emissions of the total equities significantly decreased

by 42.96%, which is again driven by the portfolio's shift from the LGIM World Developed Equity Index and Majedie to the Solactive and GSE funds. The magnitude of this decrease was mitigated by a significant increase in the financed emissions of GEAMMF.

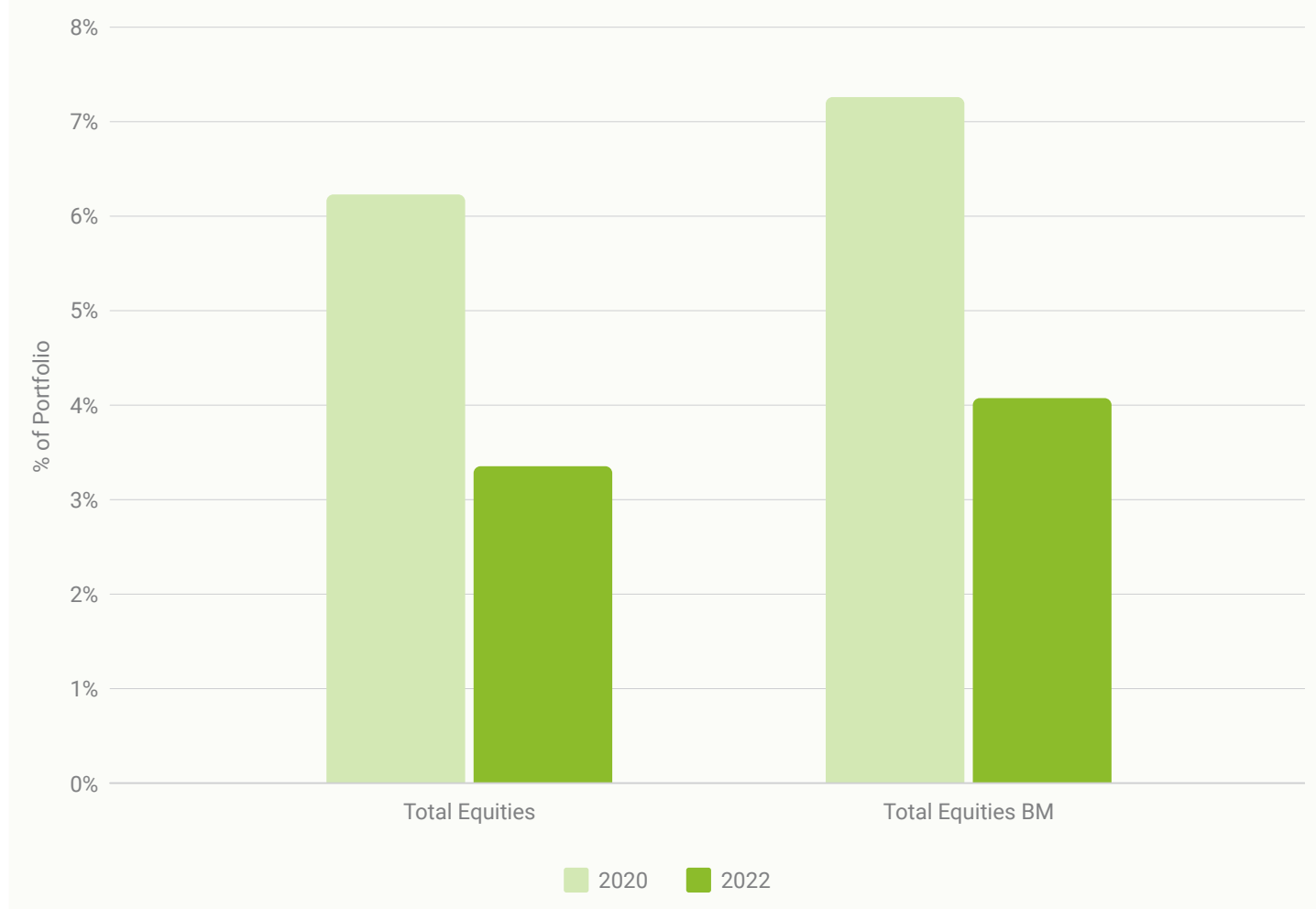
The increase in the carbon footprint and financed emissions of GEAMMF is associated with the abnormally low levels of carbon emissions during 2020 as a result of the Covid-19 lockdowns.

FOSSIL FUELS

TABLE 4.4.2.5 TOTAL EQUITES FUND FOSSIL FUEL METRICS

	2020	2022	% DIFFERENCE
Weight in fossil fuel reserves	6.23%	3.35%	-2.88%
<i>By Revenue</i>		1.01%	
Weight in thermal coal reserves	2.61%	1.21%	-1.40%
<i>By Revenue</i>		0.01%	
Weight in coal power (%)	1.88%	0.63%	-1.25%

Figure 4.4.2.3 Total Equites Fund Fossil Fuel Exposure



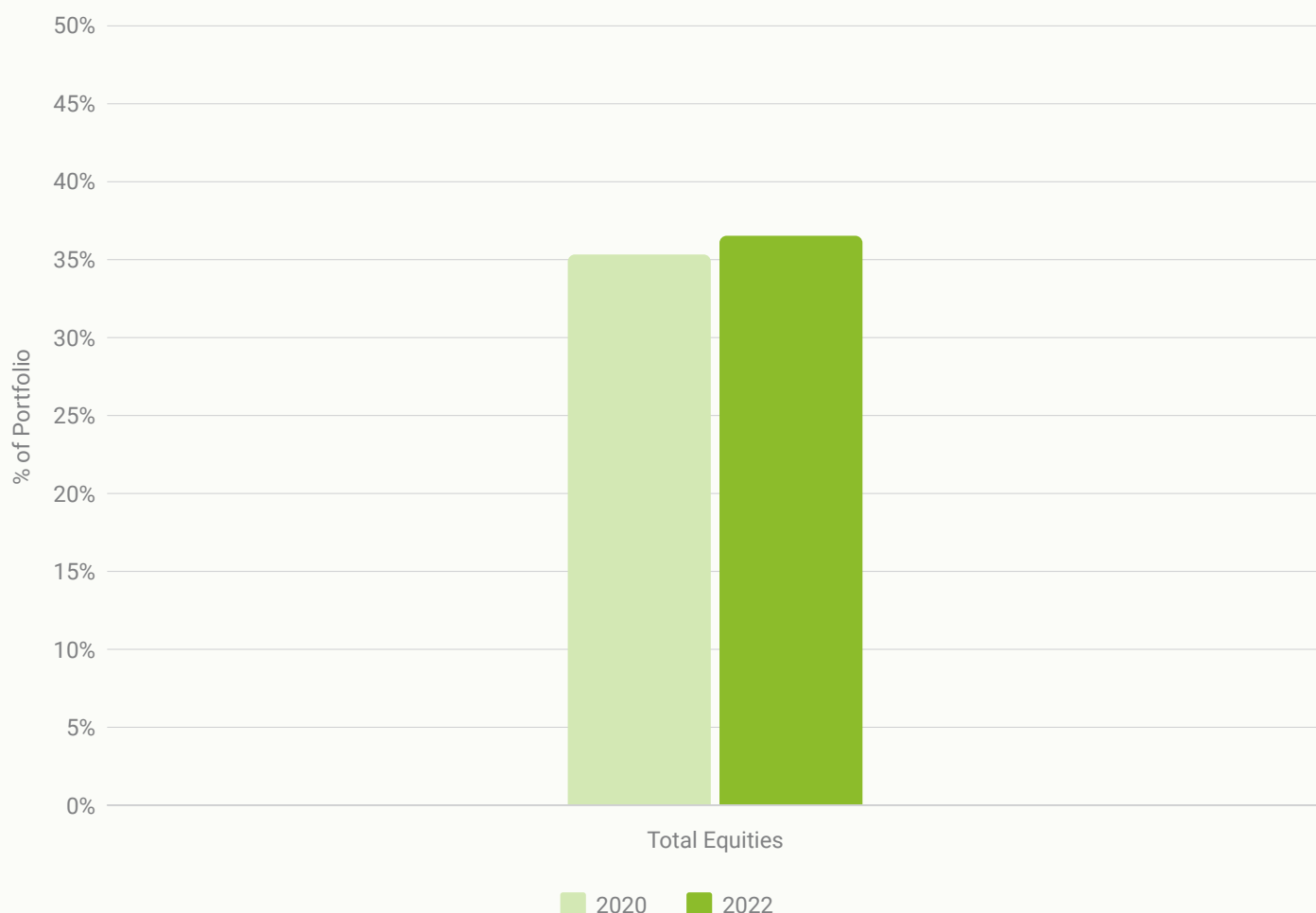
Exposure to fossil fuel reserves, thermal coal reserves and coal power has decreased by 2.88%, 1.40%, and 1.25% respectively. The shift from Majedie and LGIM to Solactive and GSE saw a significant reduction in the total portfolio's fossil fuel exposure. While the benchmark also dropped significantly over the same period, total equities in the portfolio have remained less exposed to fossil fuels than the benchmark.

CLEAN TECH

TABLE 4.4.2.6 TOTAL EQUITES CLEAN TECHNOLOGY EXPOSURE

	2020	2022	% DIFFERENCE BETWEEN 2020 AND 2022
Weight in Clean Technology	35.36%	36.52%	-1.16%
<i>By Revenue</i>		5.77%	

Figure 4.4.2.4 Total Equities Fund Clean Tech Exposure



The exposure of the total equities to clean technology has remained relatively stable since 2020, experiencing a marginal decrease of 1.16%. Apportioned by revenue, the portfolio has only 5.77% exposure to clean technology solutions, suggesting that the majority of companies with clean technology exposure do not derive a significant proportion of their revenue from this area.

CLIMATE GOVERNANCE

TABLE 4.4.2.7: TOTAL EQUITIES % OF COMPANIES WITH A NET ZERO TARGET

% of Total Portfolio	50.70%
% of Companies in Material Sectors	53.87%
% Financed Emissions	79.03%

TABLE 4.4.2.8: TOTAL EQUITIES FUND TPI ASSESSMENT

	RANKING	2022
Management Quality	4*, 4	58.79%
	3, 2	29.42%
	1, 0	11.79%
Paris Alignment	1.5 Degrees	9.00%
	2 Degrees or below	27.30%
	International/ National/ Paris Pledges	14.69%
	Not Aligned	49.01%

202 companies within total equity funds (covering approximately 18.00% of total holdings) were assessed and ranked by the Transition Pathway Initiative (TPI). Of the assessed companies, approximately 58.79% were given a management quality rating of 4-4*. The results for Paris Alignment show that 36.30% of companies are aligned to 2 degrees or less, while 49.01% are not aligned or don't have suitable disclosures. It should be noted that only 9.12% of companies within the portfolio were assessed. This suggests that the majority of companies are yet to release targets aligned with the Paris Agreement.

Just over half (50.70%) of the companies within total equity funds are committed to achieving Net Zero by 2050. 79.03% of the portfolio's financed emissions are generated by companies which have set Net Zero targets, which suggests that these commitments are being made by the right companies. However, a significant proportion of companies are yet to set a Net Zero target, emphasising the need for engagement within this critical decade.

RECOMMENDATIONS:

- Continue to monitor the carbon intensity and financed emissions of the portfolio.

5.0 Conclusion

In this SCPF's third Climate Risk Report, we continue to argue that climate-related risks can be financially material, and that the management of climate risk is a fiduciary issue. Through physical events, policy or market changes, climate risks are likely to affect almost all asset classes, sectors and regions. While there remains a great deal of uncertainty, it is not likely that climate risks can be mitigated through diversification alone.

In the Fund's first Climate Risk Report we used a combination of top-down and bottom-up analyses to explore the nature and magnitude of the Fund's climate-related risks. The report established a baseline for SCPF's climate risk management and supported the Fund in shaping its strategic approach to climate risk. In this third report we focus on providing the Fund with a progress update.

KEY TAKEAWAYS:

The key takeaways from the report are:

- 1 Since 2020, SCPF have a significantly improved climate risk management through publishing several important reports, including the Stewardship Plan, Climate Change Strategy and TCFD report. SCPF have also successfully integrated ESG considerations into other reports such as the Investment Strategy and Governance Compliance Statement.
- 2 The fund carbon's portfolio carbon intensity has significantly decreased by 46%.
 - This has been driven by the portfolio's shift from the LGIM World Developed Equity Index and Majedie to the Solactive and GSE funds.
 - The Total Equities benchmark has also been amended in line with the portfolio changes, despite this the carbon intensity of total equities remains 17.83% lower than the benchmark.
 - This change is also reflected in the decreased exposure to fossil fuels reserves, thermal coal reserves and coal power from March 2020 to June 2022.
- 3 The proportion of companies which (were assessed and) achieved a score of 4 or 4* in TPI management quality increased from 36.31% to 58.79%.
- 4 5 out of the 6 companies in the CSP have committed to a net zero target.

6.0 Glossary

Carbon Risk Management: How well a company is managing ESG risks and opportunities. A higher score is indicative of better management.

Clean Technology/ Weight in Clean Technology: the weight of a portfolio invested in companies whose products and services include clean technology. Products and services eligible for inclusion include Alternative Energy, Energy Efficiency, Green Building, Pollution Prevention, Sustainable Water.

Coal Power Generation/ Portfolio exposure to coal power generation: the weight of a portfolio invested in electricity utilities where more than 30% of the fuel mix derives from coal power.

Coal Reserves/ Portfolio exposure to thermal coal reserves: the weight of a portfolio invested in companies that own thermal coal reserves.

Divestment/exclusion/negative screening: the exclusion, usually on moral grounds, of particular types of investments, possibly affecting in a negative way the risk-return profile of a portfolio.

Engagement: dialogue with a company concerning particular aspects of its strategy, governance, policies, practices, and so on. Engagement includes escalation activity where concerns are not addressed within a reasonable time frame.

ESG factors: determinants of an investment's likely risk or return that relate to issues associated with the environment, society or corporate governance.

Ethical investment: an approach to investment where the moral persuasions of an organisation take primacy over investment considerations.

Fossil Fuel Reserves/ Portfolio exposure to fossil fuel reserves: the weight of a portfolio invested in companies that own fossil fuel reserves.

Interaction effect: The combined impact of sector allocation decisions and stock selection decisions.

Non-financial factors: determinants of an investment's likely risk or return that cannot be, or cannot straightforwardly be, given a monetary value for insertion into an organisation's financial statements.

Physical risk/ climate physical risk: the financial risks and opportunities associated with the anticipated increase in frequency and severity of extreme weather events and other phenomena, including storms, flooding, sea level rise and changing seasonal extremities.

Portfolio Carbon Footprint/ Carbon Footprint: A proxy for a portfolio's exposure to potential climate-related risks (especially the cost of carbon), often compared to a performance benchmark. It is calculated by working out the carbon intensity (Scope 1+2 Emissions / \$M sales) for each portfolio company and calculating the weighted average by portfolio weight.

Responsible Investment factor/RI factor: an aspect of an investment which relates to environmental, social or corporate governance issues.

Responsible Investment/RI: the integration of financially material environmental, social and corporate governance ("ESG") factors into investment processes both before and after the investment decision.

Scope 1 Greenhouse Gas Emissions: Direct emissions from owner or sources controlled by the owner, including: on-campus combustion of fossil fuels; and mobile combustion of fossil fuels by institution-controlled vehicles.

Scope 2 Greenhouse Gas Emissions: Indirect emissions from the generation of purchased energy.

Scope 3 Greenhouse Gas Emissions: Indirect emissions that are not controlled by the institution but occur as a result of that institutions activities. Examples include commuting, waste disposal and embodied emissions from extraction.

Sector Allocation Effect: The impact of over or underweighting portfolio sectors relative to a benchmark. Negative value comes from underweighting sectors with carbon footprints higher than the benchmark or overweighting sectors with carbon footprints lower than the benchmark.

Social investing/social impact investing: investments that seek to achieve a positive social impact in addition to a financial return.

Stewardship: the promotion of the long-term success of companies in such a way that the ultimate providers of capital also prosper, using techniques including engagement and voting.

Stock Selection Effect: The impact of specific security selection within a sector relative to the benchmark. A negative value indicates the fund manager is choosing more carbon-efficient assets than the benchmark.

TCFD: Taskforce on Climate-related Financial Disclosures. A body established by Mark Carney in his remit as Chair of the Financial Stability Board whose recommendations have come to be seen as the best practice framework for climate-related disclosures by companies, asset managers, asset owners, banks and insurance companies.

Transition risk/ climate transition risk: the financial risks and opportunities associated with the anticipated transition to a lower carbon economy. This can include technological progress, shifts in subsidies and taxes, and changes to consumer preferences or market sentiment.

Voting: the act of casting the votes bestowed upon an investor, usually in virtue of the investor's ownership of ordinary shares in publicly listed companies.

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