LGPS Central Limited

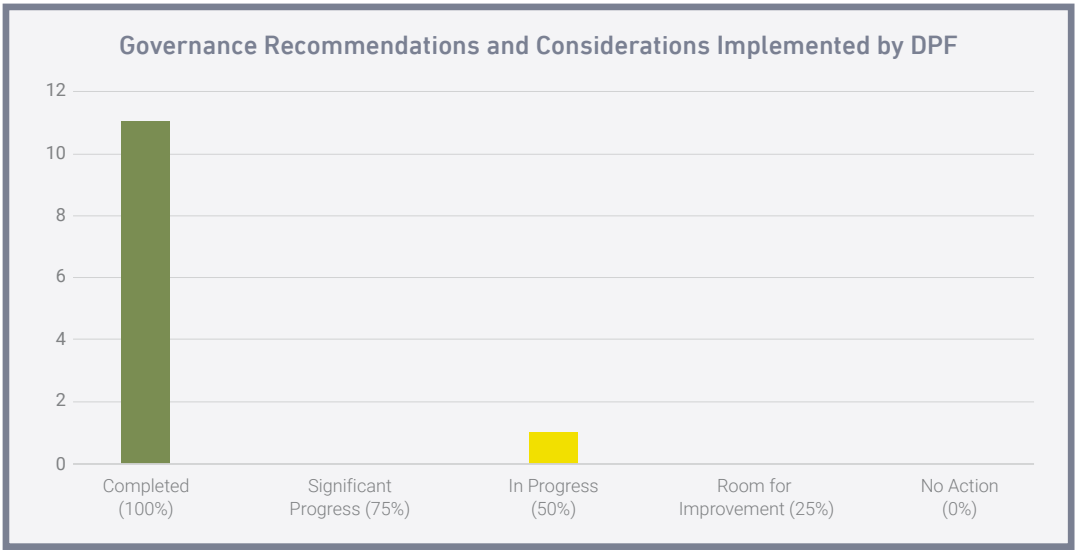
PREPARED BY LGPS CENTRAL LIMITED

Derbyshire Pension Fund 2021 Climate Risk Report

NOVEMBER 2021

Contents

1.0 Executive Summary

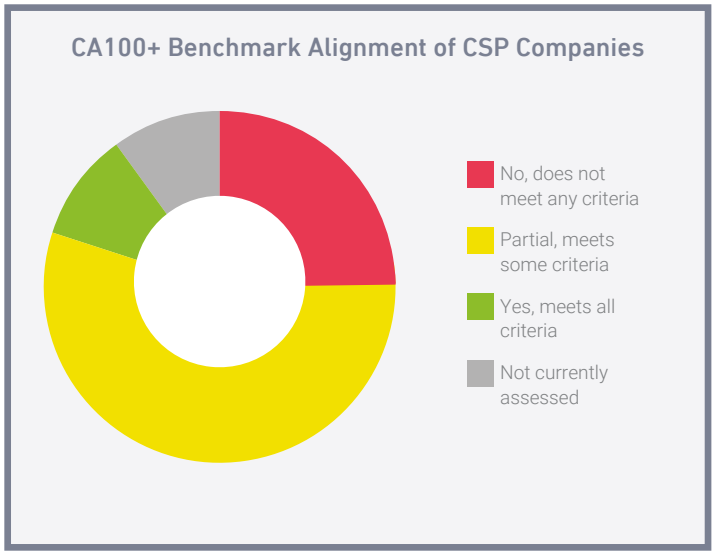


Disclosed the Fund's first standalone TCFD Report

19% of the Fund invested / committed in low carbon and sustainable investments as at 31st March 2021

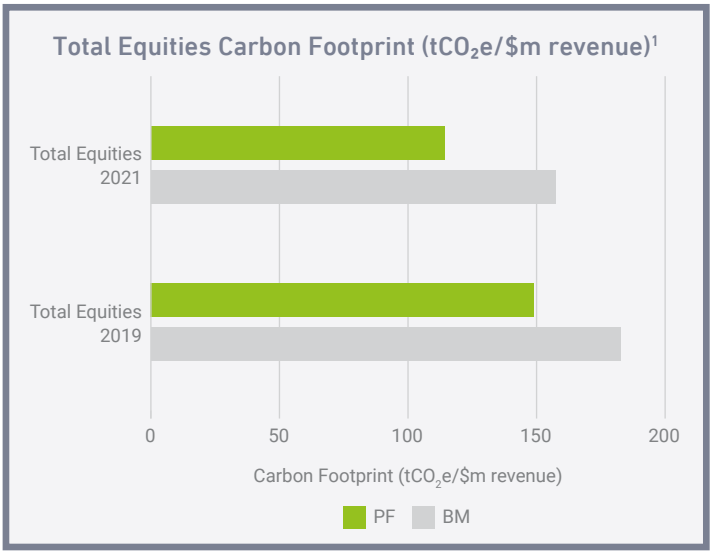
Published a Climate Strategy

75% of Climate Stewardship Plan Companies (CSP) with TPI Management Quality 4/4*



Total Equities carbon footprint 37.4% below 2020 weighted benchmark

Published Responsible Investment Framework



23.3% carbon reduction in Total Equities portfolio since 31st July 2019

Increased carbon efficiency in 4 out of 6 regional equity strategies.

3.8 percentage point reduction in Total Equities exposure to fossil fuels from 10.3% in December 2019 to 6.5% in March 2021

All regional strategies equal or more carbon efficient than the benchmark

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This Report is Derbyshire Pension Fund's ("DPF" or "the Fund") second Climate Risk Report. In February 2020, DPF received its first Climate Risk Report. Through a combination of bottom-up and top-down analysis, the report was designed to allow DPF a view of the climate risk held throughout its entire asset portfolio, accompanied by proposed actions the Fund could take to manage and reduce that risk.

The purpose of this second Climate Risk Report is threefold. We aim to analyse progress against the baseline of data and recommendations established in the first report; to reassess the financially material risks and opportunities the Fund may be exposed to; and, to identify a series of further measures by which DPF can continue to manage material climate risks.

The report aims to accompany and complement the climate-related work already in progress at DPF. In a similar fashion to the first report, wherein many of our recommendations commendably overlapped with steps the Fund had already committed to, this report is designed as a resource to be drawn on in conjunction with the Fund's own standalone climate research.

The report is structured to align with the four pillars of the Taskforce on Climate-Related Financial Disclosures (TCFD) and facilitates the Fund's annual public disclosure against this framework. We provide below a summary of the key findings from each section[2].

GOVERNANCE

The Fund has made good progress in enhancing its responsible investment and climate change practice in the last 16 months. This includes developing a Climate Strategy, formulating a Responsible Investment Framework, and publishing its first TCFD Report. Out of the 12 recommendations and considerations issued in the first Climate Risk Report, 92% have been completed and 8% are in progress.

STRATEGY

The Climate Scenario Analysis suggests that of the three asset allocations analysed, the alternative asset allocation is best positioned to capture upside or "low carbon transition premium" in a 2°C scenario. From this result, we can infer that the Fund's Final Strategic Asset Allocation Benchmark (SAAB) is, based on Mercer's model, likely to deliver consistently better results from a climate perspective to 2030, 2050 and 2100 in a 2°C scenario than the Fund's previous SAAB.

RISK MANAGEMENT

We have reviewed ongoing engagements with the eight companies in the Fund's Climate Stewardship Plan. Currently, most of these companies have not attained all of the indicators within the CA100+ benchmark assessment, and they are not aligned with a 1.5°C scenario. However, most of the companies are making clear progress which is evidenced by achievement of several measures of success.

METRICS & TARGETS

The Carbon Risk Metrics we have analysed suggest that climate risk is better managed by the Fund than in the benchmarks. Between 31st July 2019 and 31st March 2021, the carbon footprint of the Total Portfolio decreased by 23.4%. At the latter date, the Total Equity carbon footprint was 37.4% more carbon efficient than the 2020 weighted benchmark. Exposure of the Total Portfolio to fossil fuel reserves also decreased between 2019 and 2021, and as at the latter date 19.0% of the Fund was invested / committed in low carbon and sustainable investments.

It should be noted that there is considerable uncertainty in the crystallisation pathway for climate risk. Well known concepts such as stranded asset risk are not homogenous, with uncertainty stemming from value chains, the pass-through cost of carbon, policy fragmentation, certain companies being too big to fail, and so on. The likelihood of asset stranding depends on the commodity, the asset quality, the customer base, the rate of technological change, cost curve dynamics, mitigating strategies, and ability of the market to price risk & timing thereof. It is also a risk that cannot be fully diversified. Almost all asset classes, sectors and regions are likely to be affected by the physical, policy, or market-related consequences of climate change over the long term. It is not a risk reserved solely to oil & gas or listed equities.

It is our aim that this Climate Risk Report will assist the Fund in continuing its journey to integrate climate risk into its investment decisions.

[2] Source of all carbon risk metrics data: MSCI ESG. Attention is drawn to Section 8.0 "Important Information"

2.0 Recommendations and Considerations

2.1 Governance

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Governance	Total Fund	• **R:** Continue to implement the recommendations and considerations from the 2020 Climate Risk Report	§4.1

2.2 Strategy

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Strategy	Alternative Asset Classes	• **R:** Explore the potential options to monitor and manage climate risk in alternative asset classes	§4.2

2.3 Risk Management

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Company Stewardship	Total Equities	• **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	§4.3.2

2.4 Metrics & Targets

These recommendations are based on carbon risk metrics data as of 31st March 2021. We note that upcoming asset allocation changes within the Fund may nullify several of the actions. DPF expect to exit the US Equity, European Equity and Asia-Pacific Ex-Japan Equity portfolios by 31st December 2021, with the proceeds being reinvested into Global Sustainable Equities. Both the Japan Equity and Emerging Market Equity portfolios are also being consolidated.

CATEGORY	PORTFOLIO	RECOMMENDED ACTION	REPORT REFERENCE
Metrics	Total Fund	• **R:** Repeat Carbon Risk Metrics analysis annually • **R:** Report annually on progress on climate risk using the TCFD Framework • **R:** Continue to include key carbon intensive and fossil fuel stocks in the Climate Stewardship Plan • **R:** Continue to monitor manager's stewardship activities with key carbon intensive and fossil fuel holdings	§4.4.1
	Fixed Income (Investment Grade Bonds)	• **R:** Monitor the manager's approach to managing climate risk within their portfolio, particularly where there is an absence of reporting GHG emissions data • **R:** Monitor engagement with key carbon intensive and fossil fuel holdings	§4.4.3

3.0 Introduction

3.1 Scope of the Report

In February 2020 DPF received its first Climate Risk Report. Through a combination of top-down and bottom-up analyses the report aimed to identify the nature and magnitude of the Fund's climate-related risks, and suggest actions that could be taken to manage the risk.

The purpose of this report is threefold. We aim to analyse progress against the baseline of data and recommendations established in the first report; to reassess the financially material risks and opportunities the Fund may be exposed to; and, to identify a series of further measures by which DPF can continue to manage material climate risks.

Our mode of analysis is consistent with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD). The TCFD set out four disclosure pillars and each section in chapter four of this report corresponds to one of those pillars (Table 3.1.1). Our analyses aim to facilitate the Fund's annual disclosure against the TCFD framework.

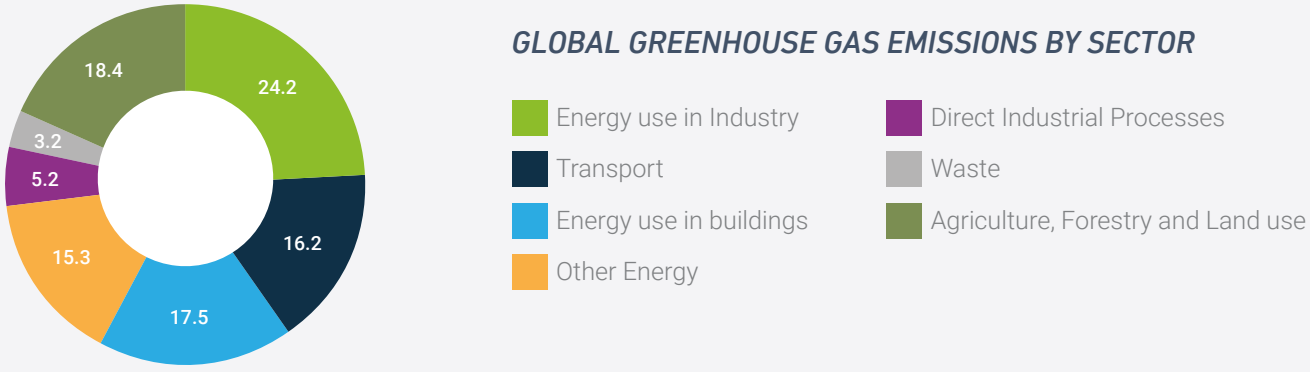
TABLE 3.1.1: THE FOUR PILLARS OF TCFD RECOMMENDED DISCLOSURE

PILLAR	ABOUT	REPORT REFERENCE
Governance	Organisations should describe how climate-related risks and opportunities are assessed and managed by an organisation's management team and overseen by its board.	§4.1
Strategy	Organisations should disclose the actual and potential impacts of climate-related risks and opportunities on their businesses, strategy, and financial planning.	§4.2
Risk Management	Organisations should disclose how they identify, assess and manage climate risk.	§4.3
Metrics and Targets	Organisations should disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.	§4.4

3.2 Climate Change as a Fiduciary Issue

Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels. Most of this warming has occurred in the past 35 years, with the five warmest years on record taking place since 2010. Between the years 2006-2015, the observed global mean surface temperature was 0.87°C higher than the average over the 1950-1990 period. The overwhelming scientific consensus is that the observed climatic changes are primarily the result of human activities including electricity and heat production, agriculture and land use change, industry, and transport (Figure 3.2.1).

Figure 3.2.1: Total anthropogenic Green House Gas ("GHG") emissions ($GtCO_2eq/yr$) by economic sectors.



Source: Climate Watch, the World Resources Institute (2020).

Despite the need for urgent action, the majority of climate scientists anticipate that with the current response to climate change, the world will be between 2°C and 4°C warmer by 2100, with significant regional variations. This is substantially higher than the Paris Climate Change Agreement, which reflects a collective goal to hold the increase in the climate's mean global surface temperature to well below 2°C above preindustrial levels and to pursue efforts to limit the temperature increase to 1.5°C.

The magnitude and speed of a Paris-aligned climate transition leads to climate-related risks and opportunities about which investors ought, as far as is possible, be aware. The Task Force on Climate-Related Financial Disclosure divides climate risks into two major categories. The first is the transition risk that could crystallise as society attempts to move into a low-carbon economy, and the second is the physical damages that are likely to occur as the natural world changes (Tables 3.2.1 and 3.2.2).

TABLE 3.2.1: EXAMPLES OF TRANSITION RISKS.

POLICY	• Increased pricing of GHG emissions • Enhanced emissions-reporting obligations • Mandates on and regulation of existing products and services • Exposure to litigation
TECHNOLOGY	• Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Costs to transition to lower emissions technology
MARKET	• Changing consumer behaviour • Uncertainty in market signals • Increased cost of raw materials
REPUTATION	• Shifts in consumer preferences • Stigmatisation of sector • Increased stakeholder concern or negative stakeholder feedback

Source: Taskforce on Climate Related Financial Disclosures (2017)

TABLE 3.2.2: EXAMPLES OF PHYSICAL RISKS

ACUTE	• Increased severity of extreme weather events, including more severe storms, wildfires and droughts.
CHRONIC	• Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels

Source: Taskforce on Climate Related Financial Disclosures (2017)

Climate change is for asset owners a risk that cannot be fully diversified. Almost all asset classes, sectors and regions are likely to be affected by the physical, policy or market-related consequences of climate change over the long term. Climate risk is not reserved to the oil & gas and power generation sectors, but also to downstream sectors. Investors focussing exclusively on primary energy suppliers could fail to identify material climate risks in other sectors. Speaking generally, a Paris-aligned transition to a low carbon economy would lead to lower economic damages and is for long-term investors preferable to alternative climate scenarios.

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 represents the best possible information set currently available.

4.0 Analysis

4.1 Governance

4.1.1 SCOPE

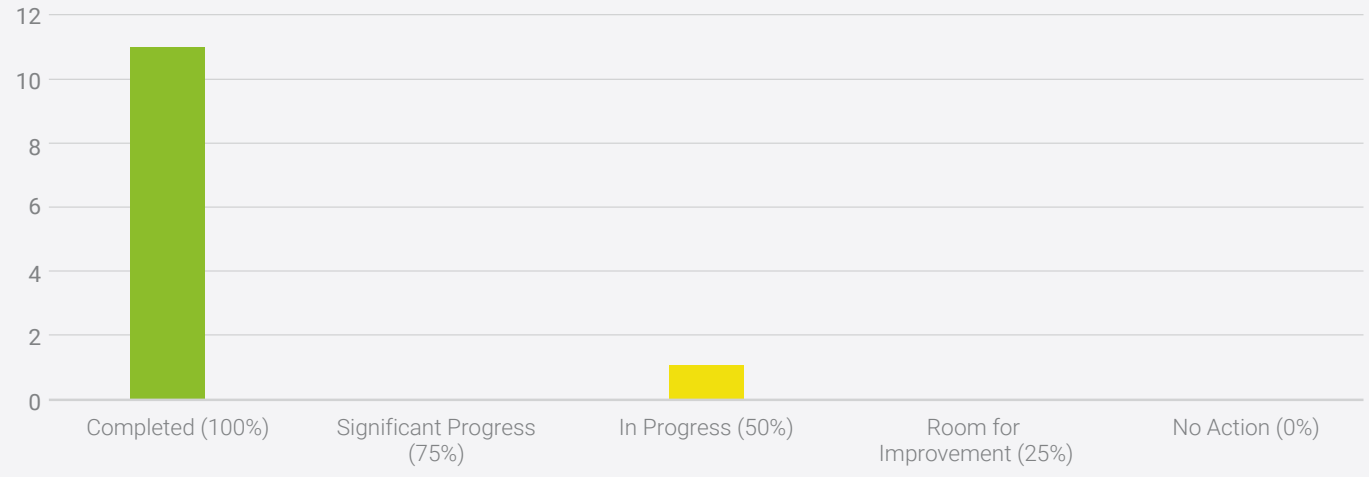
In the Fund's 2020 Climate Risk Report we reviewed the Fund's published documentation and governance arrangements from the perspective of climate strategy setting. We identified areas in which the Fund's governance and policies could further embed and normalise the management of climate risk. The purpose of this section is to refresh this review. We provide a progress update against the recommendations and considerations issued in the first 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 KEY FINDINGS

The Fund has made considerable progress in terms of its responsible investment and climate change practice in the last 16 months. In November 2020, the Fund published its first Climate Strategy which we find to be a clear, ambitious document that supports the Fund's investment objectives. In tandem, the Fund released its Responsible Investment Framework, a comprehensive policy with three distinct strategic pillars (Selection, Stewardship, Transparency & Disclosure). The Framework explicitly references the Fund's investment beliefs, a sign of robust RI integration within the Fund's investment approach. Climate change has also featured as a regular item on the agenda for Pensions & Investments Committee meetings, with numerous training sessions held during the drafting and publication of the Fund's RI Framework and Climate Strategy.

We issued 12 recommendations and considerations in the last Climate Risk Report, all with medium term horizons (i.e. they were not designed to be implemented immediately). We also note that it was at the Fund's full discretion to decide which recommendations were most appropriate to execute. Given the already high volume of RI activity within the Fund, we acknowledge that a degree of prioritisation will have been required and the following progress update should be interpreted with this in mind. 11 recommendations have been completed whilst the remaining one is in progress. Figure 4.1.2.1 provides a high-level summary of the progress made, while the tables below provide a more comprehensive overview of the actions taken by DPF.

Figure 4.1.2.1: Progress against the governance recommendations and considerations from the 2020 Climate Risk Report.



RECOMMENDATIONS PROGRESS

NO.	RECOMMENDATION	PROGRESS UPDATE	STATUS
1	Continue to schedule time at Pensions & Investments Committee meetings for the discussion of climate-related risks and climate strategy	Climate change has been included as a regular item on Pensions & Investments Committee meeting. A stewardship report is taken to the committee on a quarterly basis and receives extensive discussion.	
2	Consider training specifically in climate-risk for members of the Pensions & Investments Committee	The Pensions & Investments received extensive training on climate change and RI in 2020. Several dedicated sessions were held as part of the drafting and publication Fund's RI Framework and Climate Strategy.	
3	Integrate consideration of climate-related risks into the processes for considering 'traditional' risks	The Fund's Climate Strategy explicitly acknowledges the Fund's belief that climate change should be considered alongside 'traditional risks' as part of asset allocation, manager selection and individual investment decisions.	
4	Publish a Climate Strategy, aligned with TCFD	The Fund published a Climate Strategy in November 2020. The strategy recognises the importance of climate change and draws together the Fund's climate related policies, statements and targets into one consolidated document. The document considers: more detailed climate-related investment beliefs; integration of climate risks into asset allocation and asset selection; climate stewardship activities; and targets for carbon reduction and sustainable investment.	
5	Consider offering public support for the Paris Agreement	The Fund has given public support to the Paris Agreement through its Climate Strategy (p.3)	
6	Publish more detailed climate-related Investment Beliefs	The Fund has published more detailed climate-related beliefs via its Climate Strategy (p.4 and p.5).	
7	Use the Climate Strategy to inform the Fund's updated approach to the new UK Stewardship Code particularly Principle 7 which refers specifically to climate risk	The Fund's Responsible Investment Framework states the Fund's intention to fully comply with the 2020 Stewardship Code[3]. It is likely that the Fund will report against the code in 2022.	

PROGRESS

0%	No Action	75%	Significant Progress
25%	Room for Improvement	100%	Completed
50%	In Progress		

[3] The Fund was previously a Tier 1 Signatory to the Financial Reporting Council's 2012 UK Stewardship Code. This has been recently replaced with the 2020 Stewardship Code, which requires organisations to reapply to achieve signatory status.

NO.	RECOMMENDATION	PROGRESS UPDATE	STATUS
8	Consider including references to climate strategy or climate risk oversight in the Fund's Risk Register.	Climate Risk is included in the Fund's Risk Register.	
9	Consider including references to climate strategy or climate risk oversight in the Fund's Service Plan.	References to both climate risk and the Fund's Climate Strategy are included in the Fund's Service Plan. As part of the Plan, the development of a Responsible Investment Framework and Climate Strategy are listed as medium-term priorities for the Fund as well as Key Performance Indicators.	
10	Consider including references to climate strategy or climate risk oversight in the Fund's Voting Policy.	The Fund's voting policy covers directly held investments in the United Kingdom and North America. A significant proportion of the Fund's assets are managed through pooled products, where the voting activity is carried out by external investment managers. Moving forward, the Fund expects an increasing proportion of its assets to be managed by LGPS Central. In light of this, the Fund's votes will be cast according to LGPS Central's Voting Policy, which includes several measures designed to hold boards to account in terms of climate risk management. This includes voting against the re-election of board members where climate risk management is deemed insufficient and votes against the annual report where climate-related disclosures are insufficient.	
11	Consider including references to climate strategy or climate risk oversight in the Fund's Governance Policy & Compliance Statement.	This recommendation has been addressed via the inclusion of a dedicated section on climate risk governance within its TCFD Report.	
12	Publicly support the TCFD and adopt its recommendations for DPF's climate disclosure	The Fund published its first TCFD-compliant report in September 2020. The Fund has committed to disclosing biannually against the framework.	

PROGRESS

0%	No Action	75%	Significant Progress
25%	Room for Improvement	100%	Completed
50%	In Progress		

4.1.3 FURTHER ACTIONS

CLIMATE CHANGE STRATEGY

The Climate Change Strategy sets out Derbyshire Pension Fund's approach to addressing the risks and opportunities related to climate change. The document carries three objectives, against each of which the Fund can record progress:

OBJECTIVE	PROGRESS
Access the best information on the risk and opportunities presented by climate change.	Receipt and consideration of this Climate Risk Report
Ensure the Fund's investment portfolio is resilient to climate-related risks.	Allocation of 29% to Global Sustainable Equities. Implementation of a Climate Stewardship Plan.
Decarbonise its portfolio.	The Fund's Total Equity carbon footprint decreased by 23.3% between July 2019 and March 2021.

The Climate Strategy has two explicit targets which we find to be ambitious and consistent with the Fund's wider investment objectives. Progress against each of the targets is shown below. It should be noted that the Climate Strategy runs over the long-term, so the below status is just an initial update.

TARGET	STATUS
Reduce the carbon footprint by 30% relative to the weighted benchmark in 2020 by the end of 2025	The Fund's Total Equities carbon footprint 37.4% below 2020 weighted benchmark
Invest at least 30% of the Fund portfolio in low carbon & sustainable investments by the end of 2025.	The Fund has recently made an allocation to Global Sustainable Equities. As at 31st March 2021, 19.0% of the Fund was invested in global sustainable or low carbon equities. This allocation is expected to be in excess of 30% by late 2021/ early 2022.

RECOMMENDATIONS AND CONSIDERATIONS

The following recommendations were successfully achieved in 2020 but due to their ongoing nature we recommend they continue as regular practice in future years.

- Continue to schedule time at Pensions & Investments Committee meetings for the discussion of climate-related risks and climate strategy. Schedule one training session on general RI matters, and one climate-specific training per year
- Consider training specifically in climate-risk for members of the Pensions & Investments Committee
- Report against the TCFD recommendations

We recommend that the following recommendation is carried over from the 2020 Climate Risk Report.

- Use the Climate Strategy to inform the Fund's updated approach to the new UK Stewardship Code particularly Principle 7 which refers specifically to climate risk

4.2 Strategy

4.2.1 CLIMATE SCENARIO ANALYSIS

CLIMATE SCENARIO ANALYSIS INTRODUCTION

In order to address the TCFD Recommendation under Strategy part (c), we utilised the services of Mercer LLC (Mercer) to conduct Climate Scenario Analysis of the Fund's investment portfolio. Climate Scenario Analysis estimates the effects on key financial parameters (such as risk and return) that could result from plausible climate scenarios. In this report the scenarios are defined according to the change since pre-industrial times in mean global surface temperatures, and we consider three scenarios: 2°C, 3°C and 4°C. Mercer pioneered Climate Scenario Analysis techniques in its 2011 and 2015 research reports. All results/ IP in the proceeding section belong to Mercer.

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. 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 analysis considers three temperature scenarios (2°C, 3°C and 4°C) across three time horizons (2030, 2050, 2100). Mercer's analysis considers the following three types of investor consequence:

- **Transition Risk:** To what extent is the portfolio at risk from the transition to a low carbon economy, and over what timeframes?
- **Opportunities:** To what extent is the portfolio positioned to benefit from the transition to a low carbon economy (mitigation) and the solutions designed to build resilience to physical damages (adaptation)?
- **Physical Risk:** To what extent is the portfolio at risk from climate change-related physical damages and resource scarcity, and over what timeframes?

MERCER'S CLIMATE SCENARIO ANALYSIS METHODOLOGY IN BRIEF

The methodological approach is summarised below in four steps.

STEP 1: CLIMATE-RELATED DATA GATHERING

The model captures developments in the collective understanding of environmental science, and climate change-related political and technology developments, since 2015. This draws on Cambridge Econometric's global E3ME model, with comprehensive regional and sector data.

STEP 2: GENERATION OF CLIMATE SCENARIOS & RISK FACTORS

These data are summarised by three climate change scenarios (2°C, 3°C and 4°C) and four climate change risk factors. The so-called 'STIR' risk factors - focused on both transition risks and physical risks – include Spending, Transition (policy and technology), Impacts, and Resources. The model maps the relative impact of these risk factors under three climate change scenarios.

STEP 3: MODEL RETURN IMPACTS BY ASSET CLASS & SECTOR

The model estimates a 'climate change impact on return', which is in addition to the traditional investment returns currently expected for asset classes and sectors in the future.

STEP 4: ANALYSE

The findings are used to provide commentary on the portfolio implications of climate change, in particular climate change risks and opportunities for the Fund.

CLIMATE CHANGE SCENARIOS

Three climate change scenarios have been developed in the study, each reflecting different climate change policy ambitions that result in varying CO_2 emissions pathways and levels of economic damages related to climate change. These have been developed using existing climate change models (Cambridge Econometric's E3ME model) and through an extensive literature review. The three scenarios used in the modelling are outlined below.

2°C

A low carbon economy transformation most closely aligned with both successful implementation of the Paris Agreement's ambitions and the greatest chance of lessening physical damages. It should be noted that the model's 2°C scenario represents a 50% chance of staying below 2°C.

3°C

Some climate change action but a failure both to meet the Paris Agreement 2°C objective and meaningfully alleviate anticipated physical damages

4°C

Reflecting a fragmented policy pathway where current commitments are not implemented and there is a serious failure to alleviate anticipated physical damages

RISK FACTORS

In order to consider the impact on investment returns and volatility under the different climate change scenarios, Mercer identified four climate change risk factors ("STIR Factors") that can be used to translate each of the climate change scenarios (based on the outputs of the climate change modelling and literature review) into the language of investments.

Transition factors – near-term

1. **S**pending: rate of investment spending to catalyse the transition to a low carbon economy
2. **T**ransition: development of technology and low carbon solutions and climate change focused policy targets, legislation and regulations aiming to reduce the risk of further human-induced climate change

Physical risk factors – long-term

3. **I**mpact of natural catastrophes: physical damages due to acute weather incidence/severity; for example, extreme or catastrophic events
4. **R**esource availability: long-term weather pattern changes — for example, in temperature or precipitation — impacting the availability of natural resources like water

INTERPRETATION OF THE MAIN RESULTS

The main result 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 a per annum % or a cumulative %. This should be interpreted as the climate-related impact on the estimated returns for some particular portfolio or asset class, i.e. it is additional to the (climate-unaware) expected mean return for that portfolio or asset class. For example: if global equities are expected to return 10% based on some particular asset pricing model, and the climate scenario analysis estimates -1% climate-related return impact, the net expected return for global equities would be 9%. In this report we discuss only the "-1%" of the foregoing example, i.e. the climate-related impact.

SCENARIO ANALYSIS AND STRESS TESTING

While Mercer's main results model annual incremental changes in portfolio returns given certain climate scenarios, it might be considered that a sudden pricing in of climate risk could be more realistic than neat, annual averages. Therefore, Mercer's Climate Scenario Analysis also stress tested changes in scenario probability and market awareness to prepare for this eventuality. The results (below) estimate returns as a single point in time impact over less than one year, rather than an annualised response, with the model capitalising the return impact into present value terms.

Under the low carbon stress test, Mercer models the shift from the current policy trajectory (equivalent to a ~3.0°C warming) to a 2°C scenario, towards alignment with the Paris Agreement, with climate change information effectively priced-in by markets.

Under the physical risks stress test, Mercer model the shift from the current policy trajectory towards a 4°C scenario with climate change information once again effectively priced-in by markets. Given current global policies would result in ~3.0°C warming, this outcome would mean a more emissions intensive scenario than existing policies, leading to higher physical risks and a stronger likelihood of natural disasters[4].

It is assumed in both stress tests that under business as usual only 20% of climate change information is priced-in by markets whereas the stress test shock assumes an increase of market awareness to 80% of climate change-related information being priced-in.

HOW CAN WE RECONCILE THE LONG-TERM NATURE OF CLIMATE CHANGE AND THE SHORTER-TERM INVESTMENT TIMESCALES?

Mercer's analysis considers three timeframes, the longest of which stretches to 2100. It is acknowledged that 2100 is very long term from an investment perspective, given that strategic investment advice is based on a modelling period of 10 years and investment managers typically take investment decisions on a 3 to 5-year timeframe, or less.

We believe the long-term perspective is worth considering in Climate Scenario Analysis because climate change risks become increasingly apparent post-2050 (e.g. physical risks). Some physical risks that crystallise after 2050 are made irreversible by shorter term action or inaction. As such investors will increasingly need to consider the impacts of their investments beyond traditional investment timeframes. In addition, the Fund remains open to both new entrants and future accrual, with liabilities stretching out well beyond 2050 and possibly to 2100.

We acknowledge, especially within the longer-term timeframes, that the annualised results may appear more conservative than what might be expected. This is due to the current limitations in the data and methodology available for modelling climate change, in particular physical damage risks, combined with the myriad of climate change factors not yet captured by available modelling approaches. This can result in the annual "climate change impact on return" figures appearing relatively small in absolute terms in some cases, though these are often meaningful when considered on a cumulative basis. We, therefore, encourage the Fund to focus on the relative, rather than the actual, magnitude and direction.

CLIMATE SCENARIO ANALYSIS SCOPE

The analysis includes the whole of DPF's investment portfolio. The analysis is top-down, mapping each of DPF's underlying portfolios to an asset class that is featured within Mercer's model. The results are based on the Climate Scenario Analysis conducted in the Fund's 2020 Climate Risk Report and an additional analysis commissioned by DPF in Q3 2020. The analysis was not repeated in the 2021 Climate Risk Report as its top-down nature makes it best suited to a bi-annual/ tri-annual refresh.

Three variations of DPF's investment portfolio were analysed by Mercer:

1. The Current Asset Allocation (invested as of 31st July 2019)
2. The Strategic Asset Allocation[5]
3. The Alternative Asset Allocation

We also include below DPF's "Final Strategic Asset Allocation Benchmark" (SAAB) which was agreed by the Pensions Committee in November 2020. The asset breakdown is very similar to the "Alternative Asset Allocation" analysed by Mercer. The only differences between the two are:

- An additional 4% weight in UK Equities in the SAAB, with no allocation to Small Cap
- 0.5% less weight in Infrastructure, with 0.5% more allocated to Private Debt
- 1% less in Infrastructure, placed into Sustainable Infrastructure

Given the minimal changes between the two, we suggest that Mercer's analysis of the "Alternative Asset Allocation" is likely to be a reliable proxy for the Final SAAB.

[4] Mercer's model assumes a 17% loss in global GDP by 2100 under a 4°C scenario. This is based on bottom-up inputs for three major 'perils' – coastal flooding, wildfire and agriculture. The 17% figure is likely to be an under-estimate given this does not consider climate change tipping points, for example, which when incorporated in modelling efforts create more severe physical risk outcomes.
[5] The "Strategic Asset Allocation" was DPF's SAAB at the time of the first Climate Risk Report (February 2020). The SAAB was updated at the start of 2021 to the weightings found in Table 4.2.1.1.

TABLE 4.2.1.1 ASSET ALLOCATION VARIANTS ANALYSED

ASSET CLASS CATEGORY	ASSET CLASS	CURRENT ASSET ALLOCATION (%)	STRATEGIC ASSET ALLOCATION (%)	ALTERNATIVE ASSET ALLOCATION (%)	FINAL SAAB
Growth	UK Equity	17.4%	16.0%	8.0%	12.0%
	North America Equity	10.1%	12.0%	-	-
	Europe Equity	8.6%	8.0%	-	-
	Japan Equity	6.5%	5.0%	5.0%	5.0%
	Asia Pacific ex-Japan	5.3%	4.0%	-	-
	Small Cap	-	-	4.0%	-
	Emerging Markets	5.1%	5.0%	5.0%	5.0%
	Global Sustainable Equities	-	3.0%	29.0%	29.0%
	Private Equity	3.0%	4.0%	4.0%	4.0%
Income	UK Real Estate	7.0%	8.0%	8.0%	8.0%
	Europe Real Estate	1.0%	1.0%	1.0%	1.0%
	Infrastructure	5.6%	6.8%	7.5%	6.0%
	Sustainable Infrastructure	0.7%	1.8%	3.0%	4.0%
	Private Debt	1.4%	3.0%	2.5%	3.0%
	Global HYD	3.8%	2.5%	3.0%	3.0%
Protection	Global Investment Grade Credit	-	6.0%	6.0%	6.0%
	UK Investment Grade Credit	6.0%	-	-	-
	US Treasury	2.1%	2.5%	2.5%	2.5%
	UK Gilts	9.2%	9.5%	9.5%	9.5%
	Cash	7.3%	2.0%	2.0%	2.0%
	Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

CLIMATE SCENARIO ANALYSIS FINDINGS

Key Finding One: A 2°C outcome, according to this model, continues to be the best climate scenario for DPF from a returns perspective. A 4°C outcome is the worst scenario of the three considered.

TABLE 4.2.1.2 ANNUALISED CLIMATE CHANGE IMPACT ON PORTFOLIO RETURNS – TO 2030, 2050 AND 2100[6]

		CURRENT ASSET ALLOCATION	STRATEGIC ASSET ALLOCATION	ALTERNATIVE ASSET ALLOCATION
2°C	2030	0.15%	0.25%	0.72%
	2050	0.02%	0.08%	0.36%
	2100	-0.03%	-0.01%	0.10%
3°C	2030	-0.02%	-0.01%	0.03%
	2050	-0.07%	-0.06%	0.01%
	2100	-0.09%	-0.09%	-0.07%
4°C	2030	-0.06%	-0.06%	-0.07%
	2050	-0.11%	-0.12%	-0.13%
	2100	-0.14%	-0.16%	-0.18%

≤ -10 bps > -10 bps, < 10bps ≥ 10 bps

According to Mercer's model, a 2°C scenario, given all three asset allocations, leads to superior economic outcomes relative to other climate change scenarios. The model suggests that a 2°C scenario would by 2030 see both the Current Asset Allocation and the Strategic Asset Allocation experience positive return benefits of 2% and 3% respectively on a cumulative basis, whilst this rises to 9% when considering the Alternative Asset Allocation.

A 2°C outcome is particularly favourable for the Alternative Asset Allocation, which experiences a positive return in all three timeframes considered. This contrasts to the Current Asset Allocation and Strategic Asset Allocation which both experience negative returns as the timeframe extends beyond 2030. For example, in a 2°C Scenario to 2100, the Current Asset Allocation and Strategic Asset Allocation respectively experience a -0.03% and -0.01% annual climate change return, whilst the Alternative Asset Allocation achieves 0.1% climate-related outperformance.

Modelling out to 2100 under a 4°C scenario, climate change impacts continue to be a drag on returns. All three asset allocations experience negative returns under this scenario. This is due to the model's assumption that this level of warming would result in increased physical risks (such as extreme weather events and resource scarcity) which act as a drag on returns.

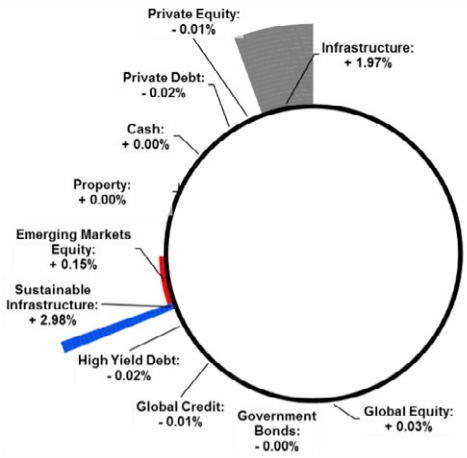
These results suggest that the Fund's final Strategic Asset Allocation Benchmark (SAAB) is likely to perform well in a 2°C scenario – better than the Fund's previous or intermediate SAAB – but, similar to the other asset allocations, may experience negative returns under a 4°C scenario. This corroborates our previous assertion that the Fund, alongside policy-makers, companies and other investors, has an incentive to work towards a 2°C scenario.

[6] Extract from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated prepared for and issued to LGPS Central Limited for the sole purpose of undertaking climate change scenario analysis for Derbyshire Pension Fund. Other third parties may not rely on this information without Mercer's prior written permission. The findings and opinions expressed are the intellectual property of Mercer and are not intended to convey any guarantees as to the future performance of the investment strategy. Information contained herein has been obtained from a range of third-party sources. Mercer makes no representations or warranties as to the accuracy of the information and is not responsible for the data supplied by any third party.

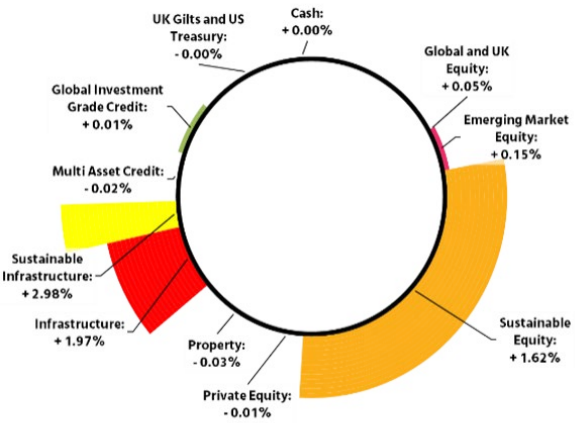
FIGURE 4.2.1.2 ANNUALISED ASSET CLASS CLIMATE CHANGE IMPACT ON RETURNS BY CLIMATE CHANGE SCENARIO[7]

2°C SCENARIO, 2030

Current Asset Allocation

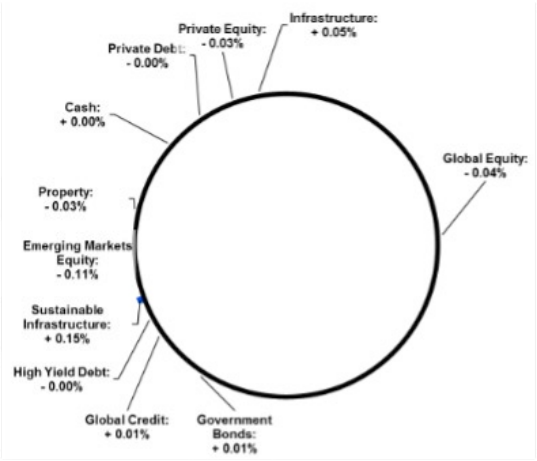


Alternative Asset Allocation

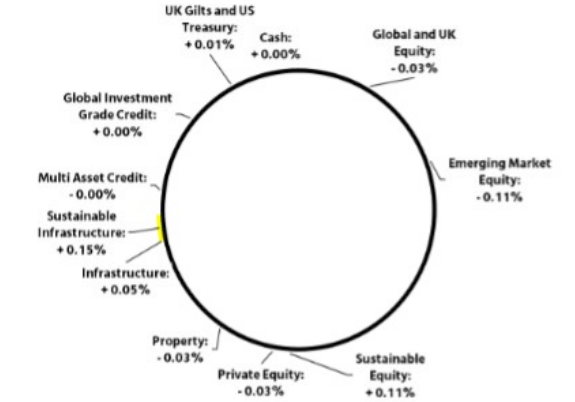


3°C SCENARIO, 2030

Current Asset Allocation

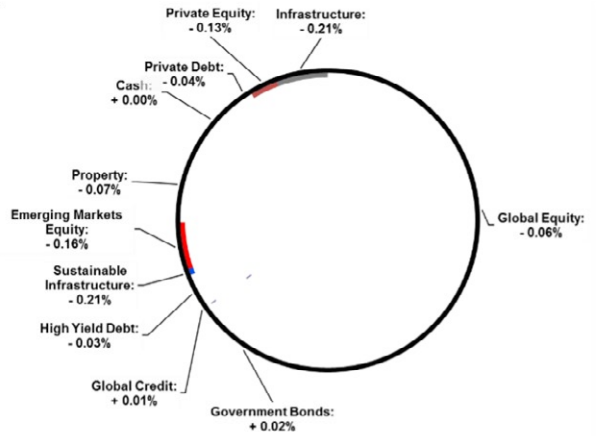


Alternative Asset Allocation

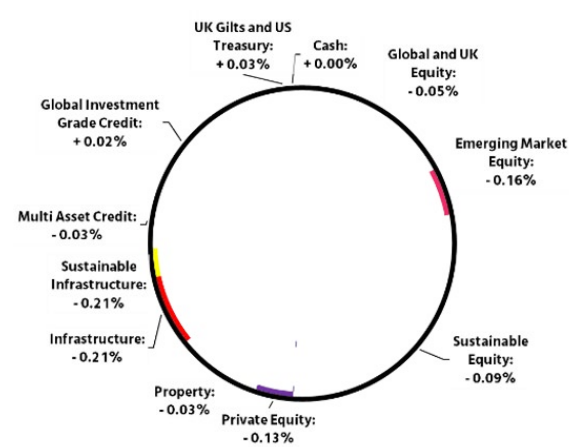


4°C SCENARIO, 2030

Current Asset Allocation



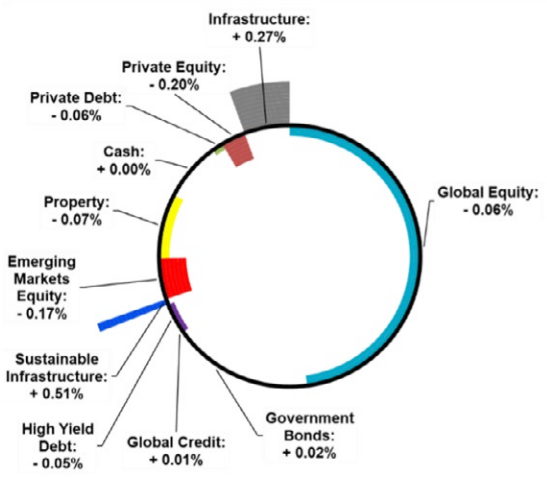
Alternative Asset Allocation



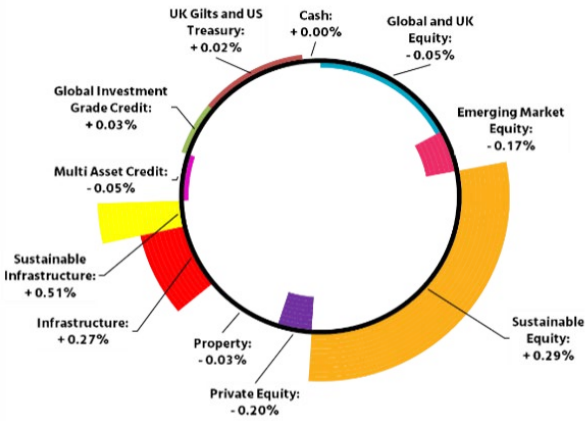
[7] Extract from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated prepared for and issued to LGPS Central Limited for the sole purpose of undertaking climate change scenario analysis for Derbyshire Pension Fund. Other third parties may not rely on this information without Mercer's prior written permission. The findings and opinions expressed are the intellectual property of Mercer and are not intended to convey any guarantees as to the future performance of the investment strategy. Information contained herein has been obtained from a range of third-party sources. Mercer makes no representations or warranties as to the accuracy of the information and is not responsible for the data supplied by any third party.

2°C SCENARIO, 2100

Current Asset Allocation

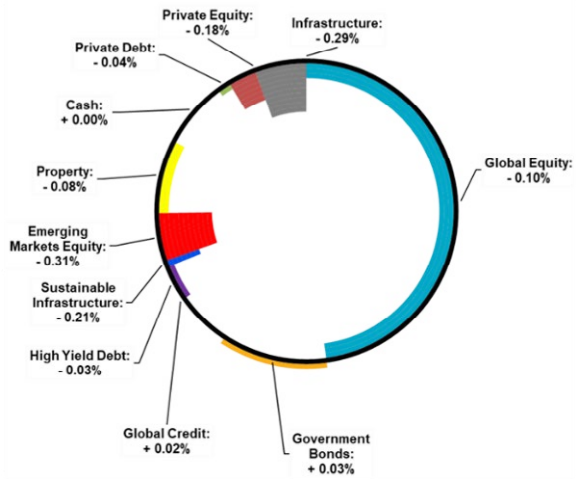


Alternative Asset Allocation

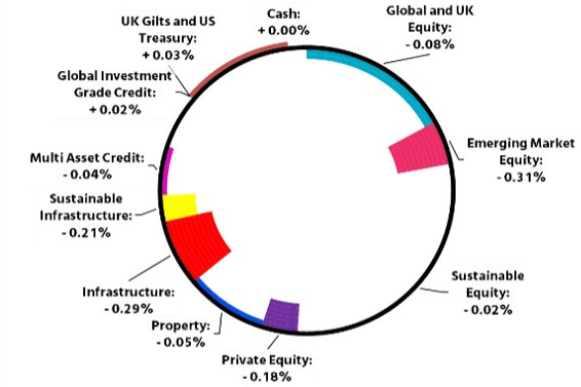


3°C SCENARIO, 2100

Current Asset Allocation

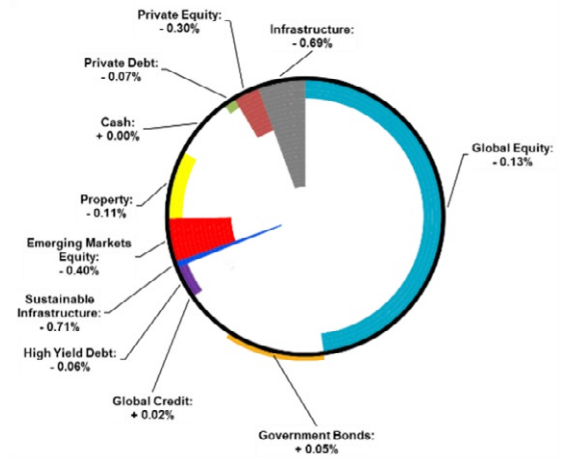


Alternative Asset Allocation

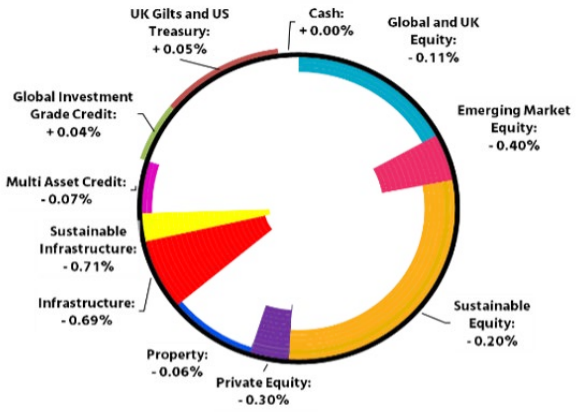


4°C SCENARIO, 2100

Current Asset Allocation

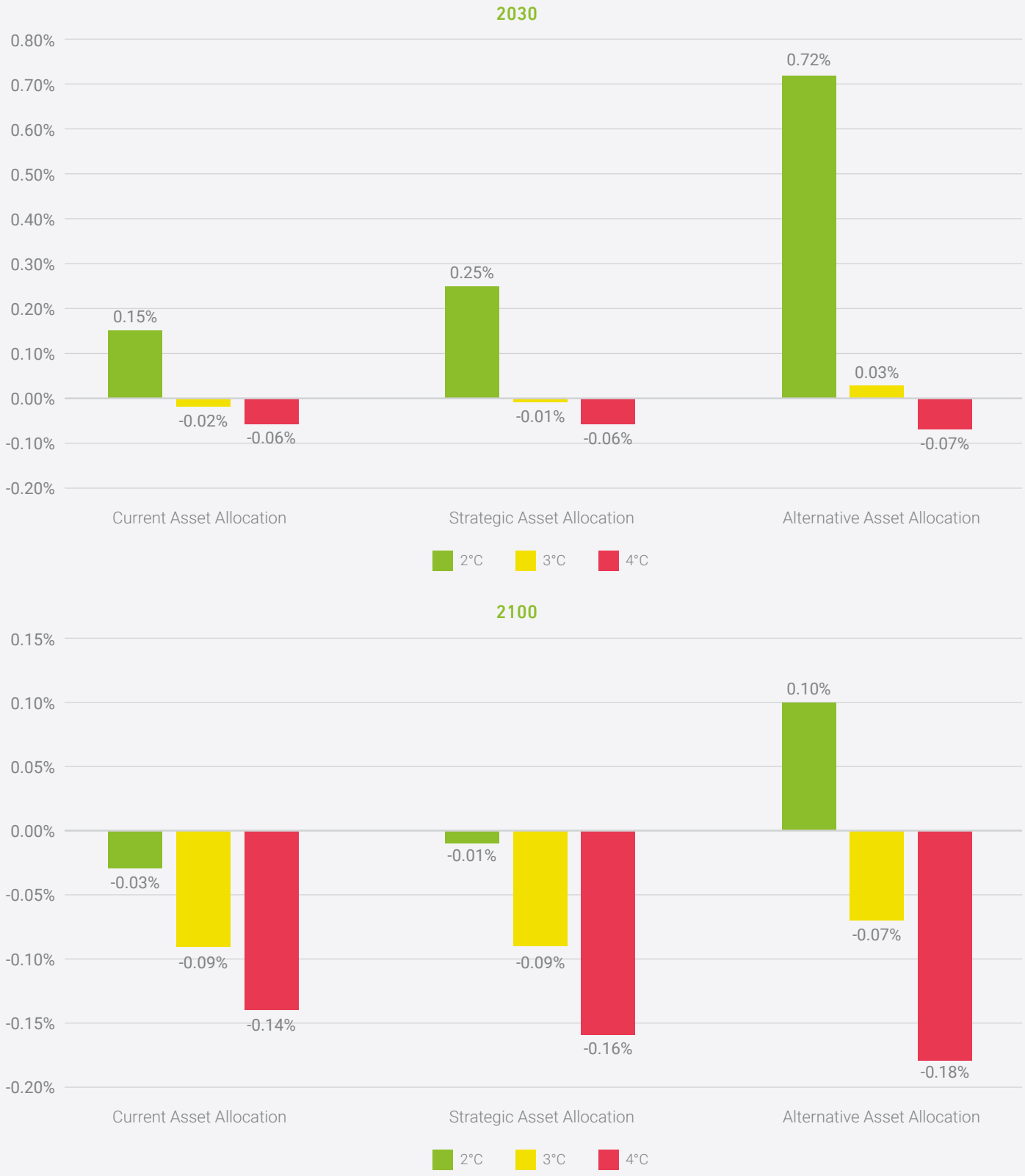


Alternative Asset Allocation



Key Finding Two: In a 2°C Scenario, the Alternative Asset Allocation is the preferred strategy from a climate change perspective over the Current Asset Allocation and Strategic Asset Allocation.

Figure 4.2.1.3 Annualised Total Portfolio Climate Change Impact on Returns, by Climate Change Scenario[8]



[8] Extract from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated prepared for and issued to LGPS Central Limited for the sole purpose of undertaking climate change scenario analysis for Derbyshire Pension Fund. Other third parties may not rely on this information without Mercer's prior written permission. The findings and opinions expressed are the intellectual property of Mercer and are not intended to convey any guarantees as to the future performance of the investment strategy. Information contained herein has been obtained from a range of third-party sources. Mercer makes no representations or warranties as to the accuracy of the information and is not responsible for the data supplied by any third party.

Of the three asset allocations analysed, the alternative asset allocation is best positioned to capture the upside or "low carbon transition premium" in a 2°C scenario through its increased allocations to infrastructure and listed Global Sustainable Equities. The additional upside generated through these allocations is significant; in a 2°C scenario to 2030 the Alternative Asset Allocation experiences a +7% cumulative outperformance over the Current Asset Allocation, and +6% cumulative outperformance over the Strategic Asset Allocation.

The positive outlook for infrastructure stems from Mercer's expectation that policy changes in a 2°C scenario would drive a period of significant investment and low carbon transformation in this asset class. Sustainable Infrastructure further benefits from expected exposure to technology solutions such as renewable assets. Global sustainable listed equities are expected to minimise low carbon transition policy-related risk and provide protection against stranded asset risk through a reduction in exposure to fossil fuel reserves and high carbon emitting companies. Additionally, the asset class also captures upside through greater exposure to solution providers.

We can infer from these results that the Fund's Final SAAB is, based on Mercer's model, likely to deliver consistently better results to 2030, 2050 and 2100 in a 2°C scenario than the Fund's previous SAAB.

Considering Figure 4.2.1.3, the annual downside in a 3°C and 4°C scenario is broadly similar for all strategies modelled, whereas the upside in a 2°C scenario is meaningfully greater in the Alternative Asset Allocation. The slightly higher downside observed in a 4°C Scenario to 2100 in the Alternative Asset Allocation is due to the greater allocation to infrastructure which yields increased exposure to the physical risks of climate change. However, as this impact is only slightly worse, it does suggest that the strategy benefits from being a diversified portfolio. This indicates that when compared with the previous SAAB, DPF's final SAAB is likely to add significant upside in a 2°C scenario, whilst yielding similar downside in a 4°C scenario. Given this, we commend the Fund for its work in exploring additional allocations to Global Sustainable Equities and Sustainable Infrastructure over the past 12 months and opine that these changes are likely to benefit the Fund from a climate change perspective.

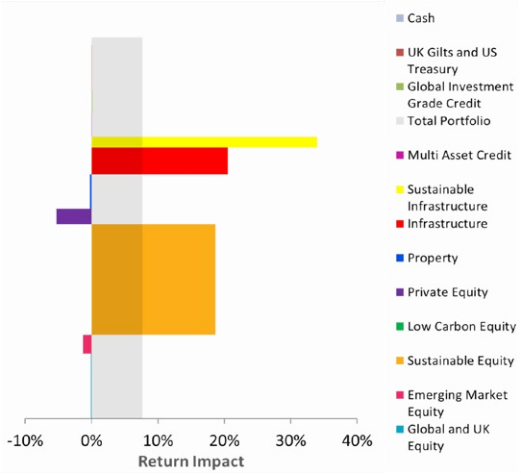
When the strategies are stress tested for (1) sudden pricing in of a 2°C scenario and (2) sudden pricing in of a 4°C scenario, we find corroboration of Key Finding 1 (that lower temperature scenarios benefit the Fund from a returns perspective) and Key Finding 2 (that the Alternative Asset Allocation would perform better than the Current Asset Allocation or Strategic Asset Allocation in a 2°C scenario).

In Stress Test 1, we find that the Alternative Asset Allocation generates a positive point in time impact of +7.7%. This is significantly higher than the equivalent results of +0.8% for the Current Asset Allocation and +1.8% for the Strategic Asset Allocation. This result is largely driven by the greater allocations to global sustainable equity and infrastructure in the Alternative Asset Allocation.

In Stress Test 2, the alternative asset allocation experiences an impact of -2.9% which is slightly higher than the -2.0% and -2.4% experienced by the Current Asset Allocation and Strategic Asset Allocation respectively. The increased allocation to infrastructure in the Alternative Asset Allocation is responsible for the result, as well as the sustainable listed equities reacting more negatively under this scenario than global developed equity. The result is consistent with Key Finding 1, i.e. that a 4°C scenario is according to this model a negative outcome for the Fund from a returns perspective.

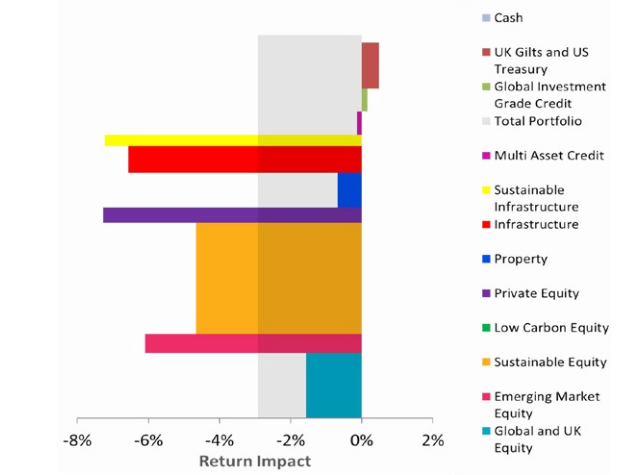
ALTERNATIVE ASSET ALLOCATION

Figure 4.2.1.4 Stress Test #1, Low Carbon Transition: Total Portfolio and Asset Class Impact (point in time impact <1 Year)[9]



ALTERNATIVE ASSET ALLOCATION

Figure 4.2.1.5 Stress Test #2, Physical Risks: Total Portfolio and Asset Class Impact (point in time impact <1 Year)[9]



[9] Extract from Mercer Limited's (Mercer) report "Climate Change Scenario Analysis" dated prepared for and issued to LGPS Central Limited for the sole purpose of undertaking climate change scenario analysis for Derbyshire Pension Fund. Other third parties may not rely on this information without Mercer's prior written permission. The findings and opinions expressed are the intellectual property of Mercer and are not intended to convey any guarantees as to the future performance of the investment strategy. Information contained herein has been obtained from a range of third-party sources. Mercer makes no representations or warranties as to the accuracy of the information and is not responsible for the data supplied by any third party.

4.2.2 ALTERNATIVE ASSET CLASS REVIEW

At the present time, the complexity and uncertainty of climate change means there is a paucity of data on which a portfolio assessment can be based. This is most pertinent for unlisted asset classes where datasets are not sufficiently complete to facilitate the carbon risk metrics analyses used to observe climate risk within public equity portfolios. This section aims to address this gap and provide a set of alternative techniques that an Asset Owner could utilise to conduct climate risk analysis within unlisted portfolios. The commentary is not designed to be a complete and exhaustive list, rather it seeks to provide a repository of potential steps, some of which the Fund could consider enacting to further manage the risk of climate change. Further detail on each of the asset classes can be found in Appendix 1.

ASSET CLASS	FIXED INCOME	PRIVATE EQUITY	INFRASTRUCTURE	PROPERTY
TRANSITION RISK	Reduced credit rating and in extremis default risk of issuers that finance high carbon assets and activities.	Contingent on the policy response to climate change, private equity companies in high emitting sectors face asset impairment, large operating costs and stranded asset risk.	Policy and technology advancements could reduce the value of some infrastructure assets that are less suitable in a low carbon world, or in some cases it could render assets redundant.	Core property that is poorly rated on energy efficiency standards is likely to underperform highly rated assets. Older property assets likely to need capital injection to improve energy efficiency.
PHYSICAL RISK	Eroded value of corporate debt that finances companies and assets which suffer repeated and persistent damage from climate-related weather events.	Lower valuation of assets, reduced profitability, increased risks to supply chains and potentially increased insurance and regulatory costs.	Higher insurance costs and lower valuation of assets located in climate vulnerable locations. Lower valuation of some assets due to higher investment and adaptation maintenance costs.	Higher insurance costs and decline in value of property assets that are at high risk from climate-related weather events.
CHALLENGES	• Availability of consistent and reliable climate change data. • Lack of climate focused investment products.	• Limited amount of publicly disclosed information	• Lack of data, analytical tools and services. • No established standard for conducting physical climate risk analysis	• Data extraction • Proliferation of green buildings certification schemes
EMERGING REGULATION	1. EU Green Bond Standard 2. Green Bond Principles	• No regulation specifically aimed at private equity	1. UK Net Zero by 2050	• UK Minimum Energy Efficient Energy Standards • EU Taxonomy • Renovation Wave • Energy Performance of Buildings Directive
INITIATIVES	1. Climate Bond Initiative	1. Initiative Climat International (iCI) 2. One Planet Private Equity Funds Initiative (OPPEF)	1. SteelZero 2. LED	1. RE100 2. EP100
WHAT CAN BE DONE?	1. Engagement 2. Beyond Ratings 3. Data Providers	1. Annual Questionnaire 2. ESG KPIs 3. Climate Change Reporting 4. ESG Data Provider	1. Annual Questionnaire 2. ESG KPIs 3. Physical Climate Risk Assessment 4. Global Real Estate Sustainability Benchmark (GRESB) 5. ClimateWise Transition Risk Framework	1. Regular ESG Risk Assessment 2. Engagement 3. GRESB 4. Carbon Risk Real Estate Monitor (CRREM) 5. MSCI Real Estate Value at Risk

4.3 Risk Management

4.3.1 CLIMATE STEWARDSHIP PLAN SCOPE

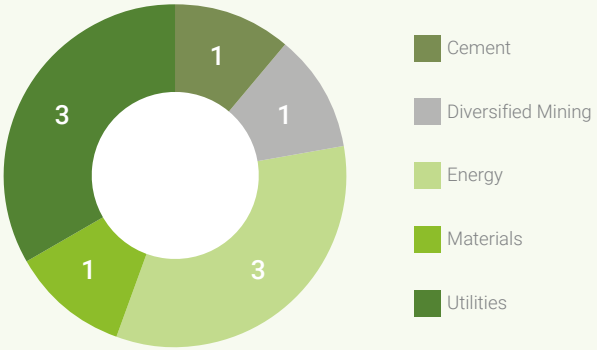
Based on the findings of its 2020 Climate Risk Report the Fund has developed a Climate Stewardship Plan ("CSP"). The CSP identifies the areas in which stewardship techniques can be leveraged to further understand and manage climate-related risks within the Fund. It is split into two main sections.

PART 1: COMPANY ENGAGEMENT

The Fund monitors engagements with a focus list of nine investee companies that are of most relevance to DPF's climate risk. The sectors included in the Fund's CSP are detailed in Figure 4.3.1.1. For each of the nine companies, the CSP identifies the rationale, objectives, and strategy of the engagement activity. A progress update based on the identified measures of success will be provided annually as part of the Fund's Climate Risk Report.

Reflecting the largely externally-managed nature of DPF, the engagement and dialogue is undertaken by the Fund's portfolio managers and suppliers. The Fund utilises the Climate Stewardship Plan as a tool to monitor these actions.

Figure 4.3.1.1 Sectors included in the Fund's CSP



PART 2: MANAGER MONITORING

The Fund monitors its major appointed investment managers to ensure that climate-related risk is fully integrated into the investment process. Table 4.3.1.1 provides a high-level summary of the key manager monitoring issues the Fund aims to address.

TABLE 4.3.1.1 MANAGER MONITORING ISSUES

ASSET CLASS	TOPIC
EQUITIES	• The influence of climate factors on sector positioning • Stewardship activities with companies identified in the 2020 Climate Risk Report
FIXED INCOME	• Approach to assessing climate risk in the absence of reported GHG emissions data • Engagement with the most intensive carbon issuers • Extent of investment in green bonds
REAL ASSETS	• Physical risk resilience • GRESB participation

4.3.2 COMPANY ENGAGEMENT UPDATE

We have reviewed ongoing engagements with the nine investee companies identified in the Fund's Climate Stewardship Plan (CSP). For each company, we provide below the context of the engagement, including the rationale, objectives and strategy, alongside issuing the first annual progress update as at 15th July 2021. Further detail can be found in Appendix 2. The Climate Action 100+ Benchmark is used as a key tool to monitor progress throughout the Fund's CSP. We therefore provide below a high-level summary of this initiative, before assessing each of the nine companies in turn.

CLIMATE ACTION 100+ (CA100+)

CA100+ is an investor-led initiative set up to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. The engagement initiative currently encompasses 167 companies that are estimated to collectively emit more than 80% of industrial GHG emissions globally. Investor participants, including LGPSC Central, have committed to engage these high emitters to:

- Implement a **strong governance** framework which clearly articulates the board's accountability and oversight of climate change risk;
- Take action to **reduce GHG emissions** across the value chain, consistent with the Paris Agreement's goal of limiting global average temperature increase to below two degrees Celsius above pre-industrial levels, aiming for 1.5 degrees. Notably, this implies the need to move towards net-zero emissions by 2050 or sooner; and
- Provide enhanced **corporate disclosure** in line with the final recommendations of the Task Force on Climate related Financial Disclosures (TCFD) and sector-specific Global Investor Coalition on Climate Change (GIC) Investor Expectations on Climate Change guidelines (when applicable), to enable investors to assess the robustness of companies' business plans against a range of climate scenarios, including well below two degrees and improve investment decision-making.

In September 2020, CA100+ introduced a Benchmark Framework which identifies ten key indicators of success for business alignment with a net zero emissions future and goals of the Paris Agreement . Assessments for each CA100+ company against the ten indicators were published on 22 March 2021 and offers comparative assessments of individual focus company performance against the three high-level commitment goals.

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 six carbon performance trajectories:

- No or unsuitable disclosure
- Not Aligned
- International Pledges
- Paris Pledges
- 2 Degrees
- Below 2 Degrees

TABLE 4.3.2.1 COMPANIES INCLUDED IN THE CLIMATE STEWARDSHIP PLAN

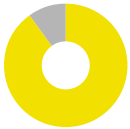
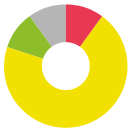
COMPANY	SECTOR
bp	Energy
ExxonMobil	Energy
LafargeHolcim	Cement
nrg	Utilities
RioTinto	Diversified Mining
Shell	Energy
RWE	Utilities
SASOL	Materials
TATA POWER	Utilities

In the upcoming months DPF have several asset allocation changes planned. This includes exiting the US Equity, European Equity and Asia-Pacific equity portfolios, alongside consolidating the Japan Equity portfolio into a maximum of four strategies. DPF have also terminated several Emerging Market Equity investments and recycled the proceeds into the LGPS Central Emerging Market Equity Active Multi Manager Fund. As a result, a number of the companies listed in the Fund's Climate Stewardship Plan will either no longer be held by the Fund in the future, or will not be material enough in terms of climate risk to warrant inclusion in the Plan. Given this, we recommend removing ExxonMobil, Holcim, NRG Energy, RWE, Tata Power and Sasol and replacing them with companies identified in the updated Carbon Risk Metrics analysis in Section 4.4. Table 4.3.2.2 provides a list of the companies we recommend adding to the Fund's Climate Stewardship Plan moving forward. DPF may also want to consider further additions upon the next Carbon Risk Metrics Review.

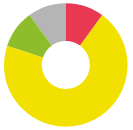
TABLE 4.3.2.2 RECOMMENDED ADDITIONS TO THE CLIMATE STEWARDSHIP PLAN

COMPANY	SECTOR
CRH	Materials
tsmc	IT
GAZPROM	Energy

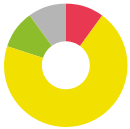
As a result, the proposed forward Climate Stewardship Plan includes the following: BP; CRH; Gazprom PA; Rio Tinto; Shell; and Taiwan Semiconductor Manufacturing.

COMPANY	TPI MQ	TPI PARIS ALIGNMENT	CA100+[10]	COMPANY CONTEXT	ENGAGEMENT OBJECTIVES	ENGAGEMENT STRATEGY	MEASURES OF SUCCESS
BP	4*	Not Aligned		• Multinational oil & gas company • Net Zero by 2050 Ambition • Greenhouse gas reduction targets covering scope 1, 2 & 3 emissions	1. Achievement of high-level CA100+ objectives 2. Account for climate risks in financial reporting	Collaborative engagement through CA100+ with EOS and LGIM as co-leads	1. Partial achievement of all CA100+ objectives 2. BP recently announced they will lower their long-term oil and gas price assumptions 3. Pledged to increase low carbon investment tenfold 4. Pledged to cut oil & gas production by 40%
EXXON MOBIL	3	Not Aligned		• World's largest publicly traded oil & gas company • High GHG emissions compared to peers • Slow to address climate issues • Strategy remains "business as usual" • 2021 AGM saw shareholder revolt over lack of climate strategy	1. Greenhouse gas emissions reduction and renewable energy uptake	Direct Engagement by Wellington	1. Wellington ESG team voted against several resolutions at the 2021 AGM to send a message on climate change
HOLCIM	4	Not Aligned		• Global building materials and solutions company • Supported TCFD recommendations since 2017 • Appointed Chief Sustainability Officer in 2019 • In 2020 received an investor letter calling for Paris aligned accounts	1. Paris Aligned accounts 2. Achievement of high-level CA100+ objectives	Collaborative engagement by the CA100+ focus group	1. Responded constructively to the investor letter on Paris-aligned accounts 2. Granted shareholders a 'Say on Climate' vote at their 2022 AGM 3. Committed to Net Zero by 2050

[10] The following key is utilised for the pie charts above. Red represents "no criteria met". Yellow represents "partial, some criteria met". Green represents "all criteria met". Where grey is shown it is because an indicator is not currently assessed.

COMPANY	TPI MQ	TPI PARIS ALIGNMENT	CA100+[10]	COMPANY CONTEXT	ENGAGEMENT OBJECTIVES	ENGAGEMENT STRATEGY	MEASURES OF SUCCESS
NRG	4	Below 2 Degrees		• American energy company • Progressive climate change strategy compared to American peers • 2021, NRG Energy reduced its carbon footprint by 55%, achieving its 2025 target	1. Climate Change 2. Waste Management	Direct Engagement by Wellington	1. Recommended a vote for a shareholder proposal requiring NRG Energy to produce a report documenting their expenditures on political activities
RIO TINTO	4	Not Aligned		• Diversified mining company • No exposure to coal • Net Zero by 2050 ambition (though scope 3 emissions omitted)	1. Achievement of the high level objectives of the CA100+ initiative	• Direct engagement by LGIM • Joint investor engagements with the Investor Forum	1. First diversified miner to completely exit from fossil fuels 2. LGIM supported shareholder proposals on strengthened emissions targets and improved reporting on climate lobbying
SHELL	4	Paris Pledges		• Multinational Oil & Gas company - in 2020 announced ambition to reduce scope 1 and 2 emissions to Net Zero by 2050, and reduce scope 3 by 65% by 2050	1. Set and publish Paris-aligned targets 2. Reflect its Net Zero ambition in its operational plans and budgets 3. Set a transparent strategy on achieving its 2050 target	• Collaborative engagement by CA100+ focus group • direct engagement by LGIM • Paris-aligned financial accounting investor initiative	1. First energy company to allow investors a 'Say in Climate' 2. 30% support for shareholder proposal requesting Shell to set and publish targets for GHG emissions reduction in line with Paris

[10] The following key is utilised for the pie charts above. Red represents "no criteria met". Yellow represents "partial, some criteria met". Green represents "all criteria met". Where grey is shown it is because an indicator is not currently assessed.

COMPANY	TPI MQ	TPI PARIS ALIGNMENT	CA100+[10]	COMPANY CONTEXT	ENGAGEMENT OBJECTIVES	ENGAGEMENT STRATEGY	MEASURES OF SUCCESS
RWE	3	Below 2 degrees		• German multinational energy company • Currently suing the Netherlands for compensation payments in relation to the country's coal-phase out plans	Achievement of the high-level objectives of the CA100+ initiative	• Collaborative engagement by the CA100+ focus group • Direct engagement by EOS	1. Pledged to become carbon neutral by 2040
SASOL	4	Not Assessed		• International integrated chemicals and energy company • In 2019, investors filed a shareholder resolution arguing that Sasol's climate change plan lacks transparency and does not align with the Paris Agreement	Achievement of the high-level objectives of the CA100+ initiative	Engagement by LGIM	1. In November 2020, LGIM voted against the re-election of the Lead Independent Director of Sasol, partly to send a message on climate change

[10] The following key is utilised for the pie charts above. Red represents "no criteria met". Yellow represents "partial, some criteria met". Green represents "all criteria met". Where grey is shown it is because an indicator is not currently assessed.

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 equities and corporate fixed income portfolios as at 31st March 2021. The results are compared to a baseline of data collected in the first Climate Risk Report, which used holdings data from 31st July 2019. The analysis seeks to identify and assess how the portfolio carbon risk metrics have changed within this timeframe.

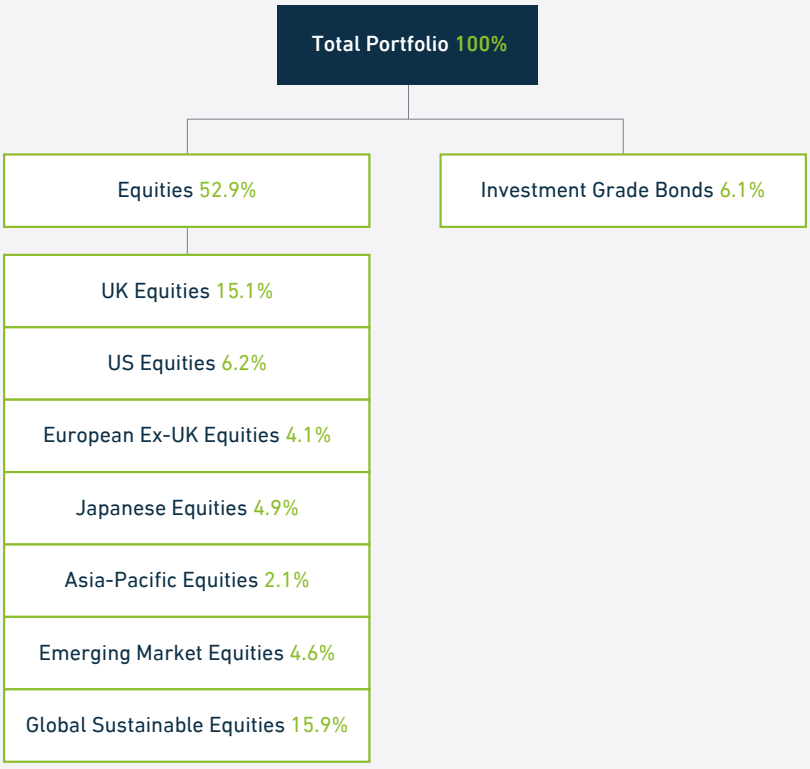
The analysis is limited to the equities and investment grade corporate bond portfolios as unlisted asset classes do not have sufficiently complete and comparable data to facilitate carbon risk metrics analysis at this time.

TABLE 4.4.1.1: SCOPE OF CARBON RISK METRICS ANALYSIS AS AT 31ST MARCH 2021

ALLOCATION AS A % OF TOTAL PORTFOLIO	52.9%
NUMBER OF STRATEGIES ANALYSED	24
INDIVIDUAL COMPANIES INCLUDED	4,679

The analysis is based on a dataset provided by MSCI ESG Research LLC (MSCI)[11]. Table 4.4.1.2 provides an overview of the types of carbon risk metric utilised. We are aware that the raw numbers are not a complete guide to climate risk and have published elsewhere our views on the limitations of carbon footprinting[12]. We believe, however, 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.

Figure 4.4.1.1 Portfolios Included in the Carbon Risk Metrics Analysis



[11] Certain information @ 2021 MSCI ESG Research LLC. Reproduced by permission. Attention is drawn to Section 8.0 Important Information.
[12] https://www.responsible-investor.com/articles/carbon-footprint-piece In collaboration with other asset owners.

TABLE 4.4.1.2: CARBON RISK METRICS USED

CARBON RISK METRIC	DEFINITION	USE CASE	LIMITATIONS
PORTFOLIO CARBON FOOTPRINT (WEIGHTED AVERAGE CARBON INTENSITY)	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 who 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 opportunity so that an organisation can review its preparedness for anticipated shifts in demand.	There is no universal standard, 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. The latter assesses the carbon performance trajectory of companies.	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 is not also updated very frequently, which can make some assessments outdated.

4.4.2 TOTAL EQUITIES

TABLE 4.4.2.1 OVERVIEW OF DPF TOTAL EQUITIES CARBON RISK METRICS[13]

	2019			2021			% DIFFERENCE BETWEEN 2019 AND 2021	
	PF	BM	+/-[14]	PF	BM	+/-	PF	BM
Carbon Footprint (tCO_2e/$m revenue)	149.2	182.8	-18.4%	114.5	158.02	-27.5%	-23.3%	-13.6%
Weight in Fossil Fuel Reserves	10.30%	11.72%	-1.4%	6.53%	8.73%	-2.2%	-3.8%	-3.0%
Weight in Thermal Coal Reserves	2.42%	3.23%	-0.8%	2.63%	3.73%	-1.1%	0.2%	0.5%
Weight in Coal Power	0.50%	1.17%	-0.7%	0.42%	1.12%	-0.7%	-0.1%	-0.1%
Weight in Clean Technology	30.35%	33.22%	-2.9%	33.3%	37.8%	-4.5%	2.9%	4.5%

We provide comments on the Carbon Risk Metrics results at the Total Equities level. The Total Equity portfolio comprises all the listed equity portfolios we were able to cover in the analysis and are included in Figure 4.4.1.1.

The analysis provided in the subsequent sections is based on data from 31st March 2021. The results, therefore, present a snapshot of the Fund's carbon risk at a point in time. Given that manager positions are in constant fluctuation based on their assessment of relative value, the carbon risk metrics are likely to change in the future as the impact of portfolio alterations are felt. The following analysis should be interpreted with this in mind.

The carbon footprint of the Total Equities portfolio has decreased by 23.3% between 31st July 2019 and 31st March 2021. This is driven by the improved carbon efficiency of several of the Fund's underlying portfolios and a significant allocation to a new Global Sustainable Equity portfolio. Most notably, the carbon footprints of the US Equities, European Ex-UK Equities and Total Asia-Pacific Equities decreased by 7.8%, 14% and 36.2% respectively. Of the underlying regional equity portfolios, only the Total Japan Equities and the Total Emerging Market Equities portfolios became more carbon intensive. The latter was particularly significant, with an increase in the Total Emerging Market carbon footprint of 30.1%, from 245.2 tCO_2e/$m revenue to 318.9 tCO_2e/$m revenue, making it the most carbon intensive regional portfolio within the Fund. However, it should be noted that subsequent to the period-end, Derbyshire has divested from several emerging market investments and recycled the proceeds into the LGPS Central Emerging Market Equity Active Multi Manager Fund. This is expected to reduce the carbon footprint of the Total Emerging Market Equities portfolio. As of 31st March 2021, the Total Global Sustainable portfolio is the Fund's most carbon efficient regional portfolio. With a carbon footprint of 50.7 tCO_2e/$m revenue, the Total Global Sustainable portfolio achieves a carbon outperformance of 68% over its benchmark.

DPF CLIMATE STRATEGY TARGET

TABLE 4.4.2.2 TOTAL EQUITIES CARBON FOOTPRINT RELATIVE TO THE 2020 WEIGHTED BENCHMARK[15]

	2021 PORTFOLIO	2020 WEIGHTED BENCHMARK	+/-
Total Equities Carbon Footprint (tCO_2e/$m revenue)	114.5	182.8	-37.4%

With a view to supporting the Fund in achieving its 2025 climate target of reducing the carbon footprint (Scope 1 and 2) of its listed equity portfolio by at least 30% relative to the weighted benchmark in 2020, we have assessed the Total Equities portfolio carbon footprint against this benchmark. As shown in Table 4.4.2.2, the Total Equities portfolio carbon footprint is 37.4% more carbon efficient than the 2020 weighted benchmark. As a result, the Fund has met its carbon footprint target four years ahead of plan.

In relation to the Fund's second climate target to "invest at least 30% of the Fund portfolio in low carbon and sustainable investment by the end of 2025", the Fund has invested/ committed 19% of its portfolio in low carbon and sustainable investments as of 31st March 2021. This is expected to be in excess of 30% by late 2021/ early 2022.

[13] Source: MSCI Inc. Figures subject to rounding. Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission
[14] Please note that for all tables within section 4.4 of the report we utilise "+/-" to denote both percentage change and percentage point change. For clarity, percentage change is used only for the portfolio carbon footprint. The remaining metrics (fossil fuel exposure, thermal coal exposure, coal power exposure and weight in clean technology) are compared via percentage point change. This is done to avoid distorting the numbers and allow for cleaner comparisons.
[15] Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission

The exposure of the Total Equity portfolio to fossil fuel producers decreased by 3.8% between 31st July 2019 and 31st March 2021. This is largely driven by the new Global Sustainable Equities portfolio, and to a lesser extent the UK Equities portfolio. The Total Global Sustainable portfolio has a low exposure of 1.4% to fossil fuel producers and contains a relatively large proportion of the total Equities AUM (30% of the Total Equities allocation is within Sustainable Equities) meaning this portfolio has a material impact at the Total Equities level. The exposure to fossil fuel reserves in the UK Equities portfolio decreased by 5.3%, from 17.6% to 12.3%. The Total Equity portfolio's exposure to thermal coal marginally increased by 0.2% between July 2019 and March 2021. However, the benchmark weight in thermal coal increased by 0.5%, meaning that the Fund's weighting fell relative to the benchmark. Whilst five of the six underlying regional equity strategies experienced increases to their thermal coal exposure, the new Total Global Sustainable Equities portfolio has a very low exposure which offsets the aforementioned rises.

Following the TCFD Recommendations we have assessed the weight of each listed equity portfolio that is in 'Clean Technology' as of 31st March 2021. The Total Equities weight in clean technology has increased by 2.9% between 2019 and 2021, however this still remains below the benchmark. This trend is echoed in all but one of the underlying portfolios. The most notable increase is within the US Equities portfolio which increased its exposure to green revenues by 5.5%. We reference in Table 4.4.1.2 the limitations to the Clean Technology metric and we recommend both (i) reviewing 12 months hence any improvements in the supply of datasets that attempt to identify companies' exposure to low-carbon technologies and (ii) discussing this year's results with external fund managers during monitoring processes in order to get a more granular view. We also note that these metrics are likely to change following the allocation of additional AUM into Global Sustainable Equities.

As of 31st March 2021, 288 companies in the Total Equities portfolio are ranked by the TPI. 65% of these companies are classed as having a management quality of Level 3, 4 or 4* (187 companies). This suggests the Fund's appointed portfolio managers are, on average, investing in above average to 'best in class' companies in terms of climate risk management. The number of companies aligned with the Paris Agreement, however, is significantly lower than the proportion with good management quality (Figure 4.4.2.4). We suggest that the targeting of Paris-alignment through company engagement (to be executed via the Fund's portfolio managers and service providers) would further improve the management of carbon risk within the Fund.

Table 4.4.2.4 lists the five greatest contributors to the Total Equity portfolio carbon footprint. Four of these names are included in the Fund's Climate Stewardship Plan, and we recommend that the Fund continues to use this as a tool for monitoring company engagement and manager stewardship activities.

TABLE 4.4.2.3 OVERVIEW OF DPF EQUITY PORTFOLIO CARBON RISK METRICS AS OF 31/03/2021[16]

	PORTFOLIO CARBON FOOT-PRINT (TCO_2E/$M REVENUE)			WEIGHT IN FOSSIL FUEL RESERVES (%)			WEIGHT IN THERMAL COAL RESERVES (%)			WEIGHT IN CLEAN TECHNOLOGY		
	PF	BM	% DIFF	PF	BM	% DIFF	PF	BM	% DIFF	PF	BM	% DIFF
Total UK Equities	124.4	127.2	-2.2%	12.3%	13.22%	-1.0%	4.6%	4.94%	-0.4%	22.8%	23.8%	-0.9%
US Equities	120.7	139.7	-13.6%	3.5%	4.75%	-1.3%	0.8%	2.03%	-1.2%	31.5%	36.6%	-5.1%
European Ex-UK Equities	139.9	-	-	5.6%	-	-	0.3%	-	-	35.5%	-	-
Total Japan Equities	68.6	89.4	-23.3%	7.1%	9.60%	-2.5%	6.1%	8.92%	-2.8%	44.6%	53.3%	-8.7%
Total Asia Pacific Equities	148.5	252.0	-41.1%	6.8%	7.89%	-1.1%	4.0%	3.38%	0.6%	33.5%	43.1%	-9.6%
Total EM Equities	318.9	320.9	-0.6%	9.6%	9.42%	0.2%	3.5%	3.04%	0.5%	37.3%	40.9%	-3.6%
Total Global Sustainable Equities	50.7	159.3	-68.1%	1.4%	6.47%	-5.0%	0.6%	2.77%	-2.2%	38.7%	37.8%	0.9%

[16] Source: MSCI Inc. Figures subject to rounding. Please note the carbon risk metrics data shown above is based on the asset allocation as of 31st March 2021. Moving forward, several asset allocation changes are planned within the Fund which will likely alter the metrics. This includes DPF exiting the US Equity, European Equity and Asia-Pacific equity portfolios, alongside consolidating the Japan Equity portfolio into just four strategies. DPF have also terminated several Emerging portfolios and recycled the proceeds into the LGPS Central Emerging Market Equity Active Multi Manager Fund.

Figure 4.4.2.1 Portfolio Carbon Footprint[17]

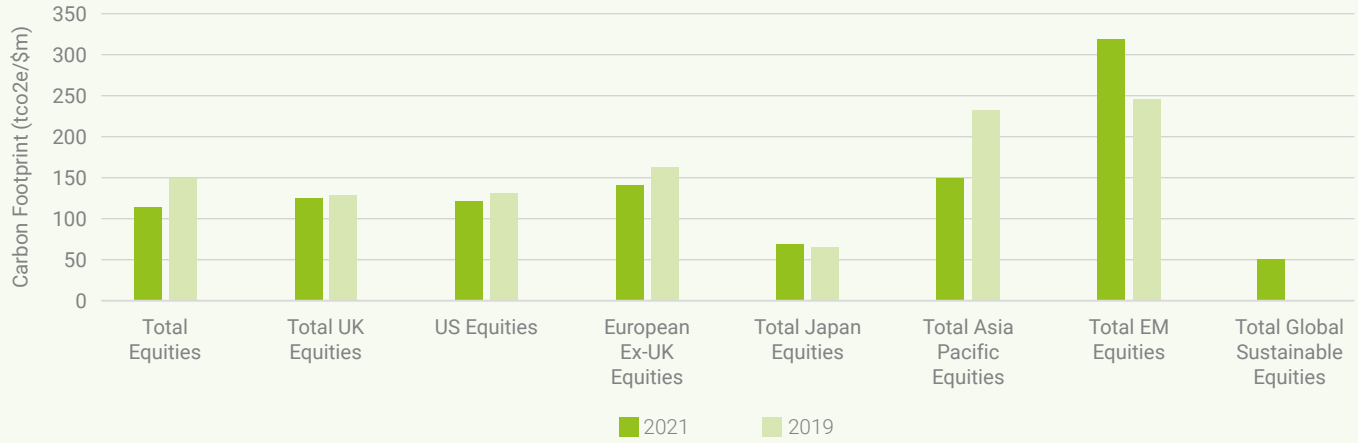


Figure 4.4.2.2 Portfolio Exposure to Fossil Fuel Reserves[18]

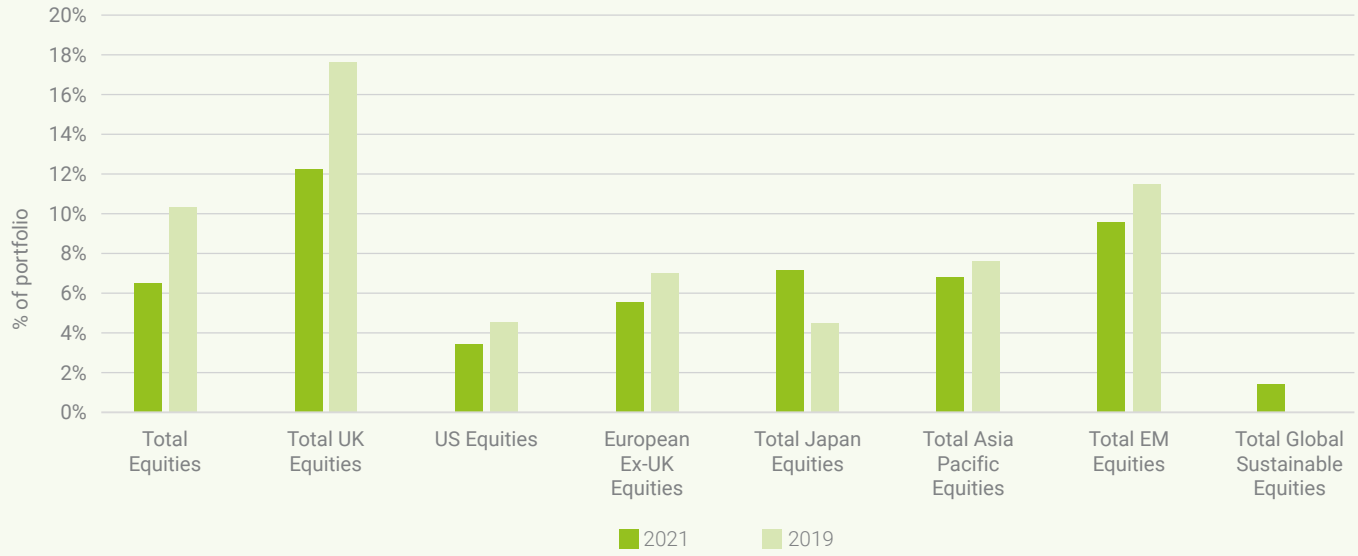
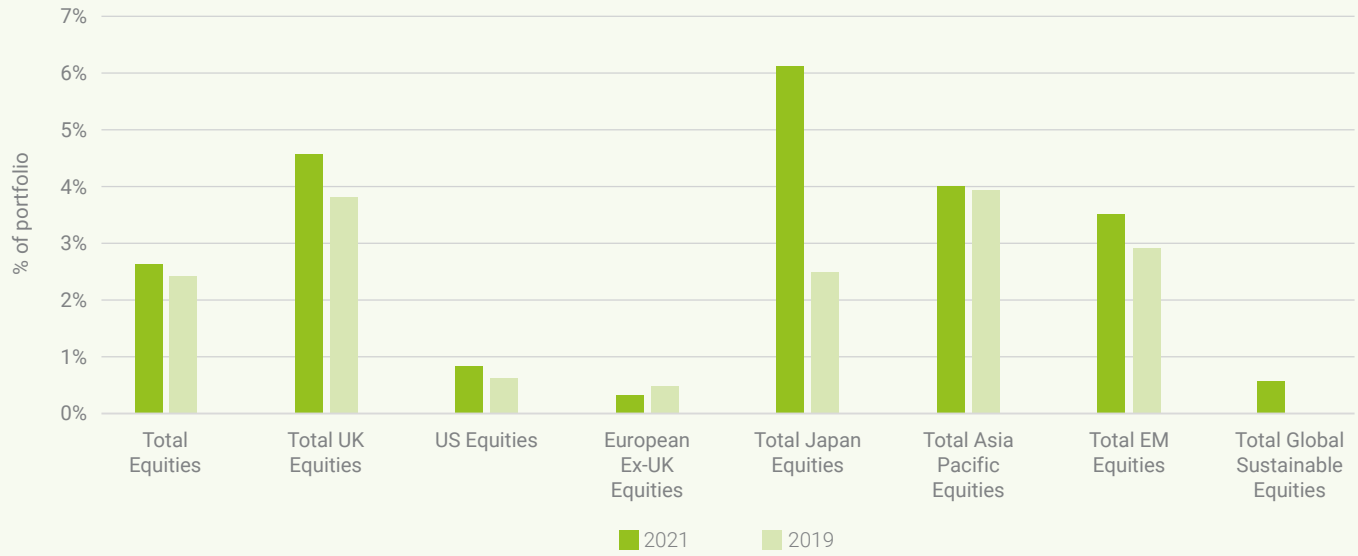


Figure 4.4.2.3 Portfolio Exposure to Thermal Coal Reserves[19]



[17] Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission
[18] Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission
[19] Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission

Figure 4.4.2.4 Portfolio Weight in Clean Technology[20]

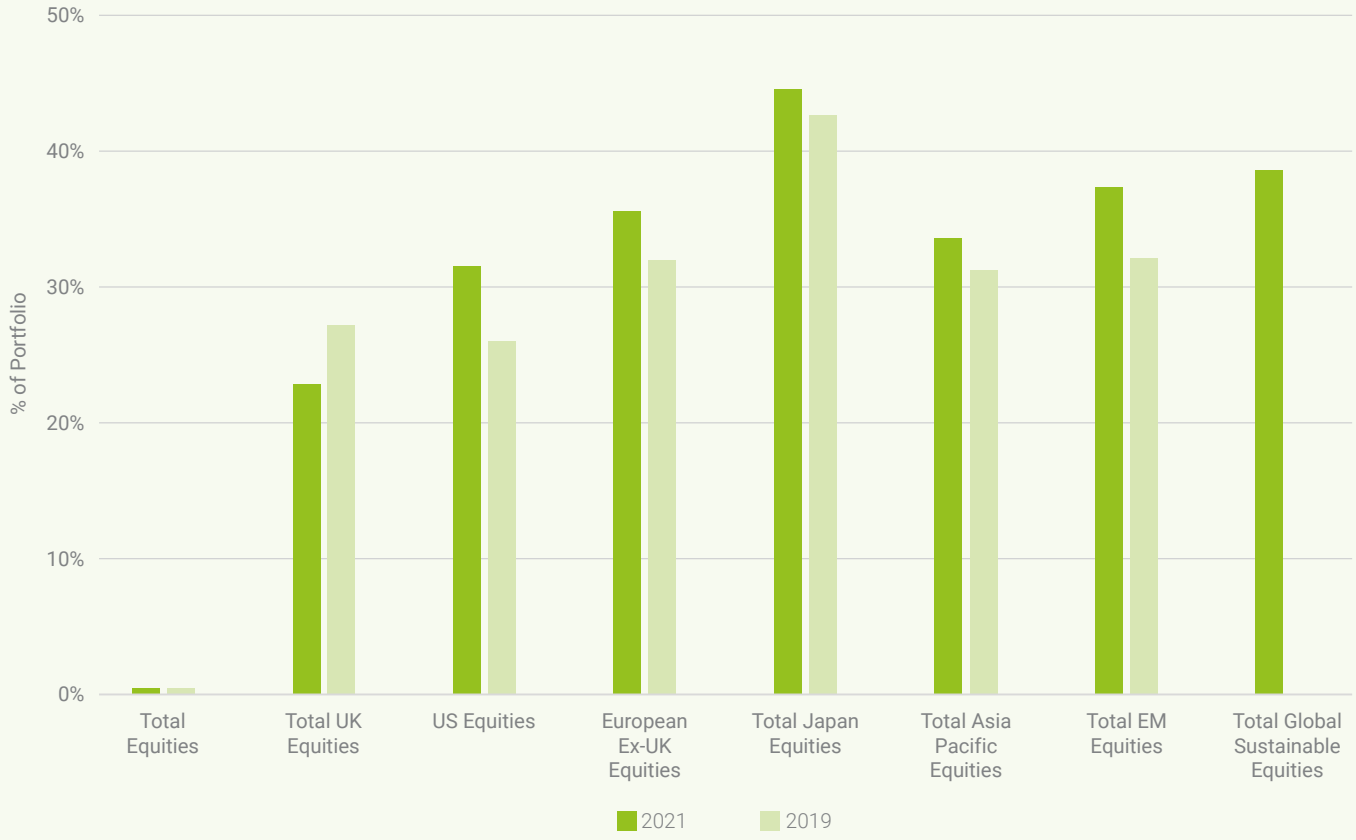
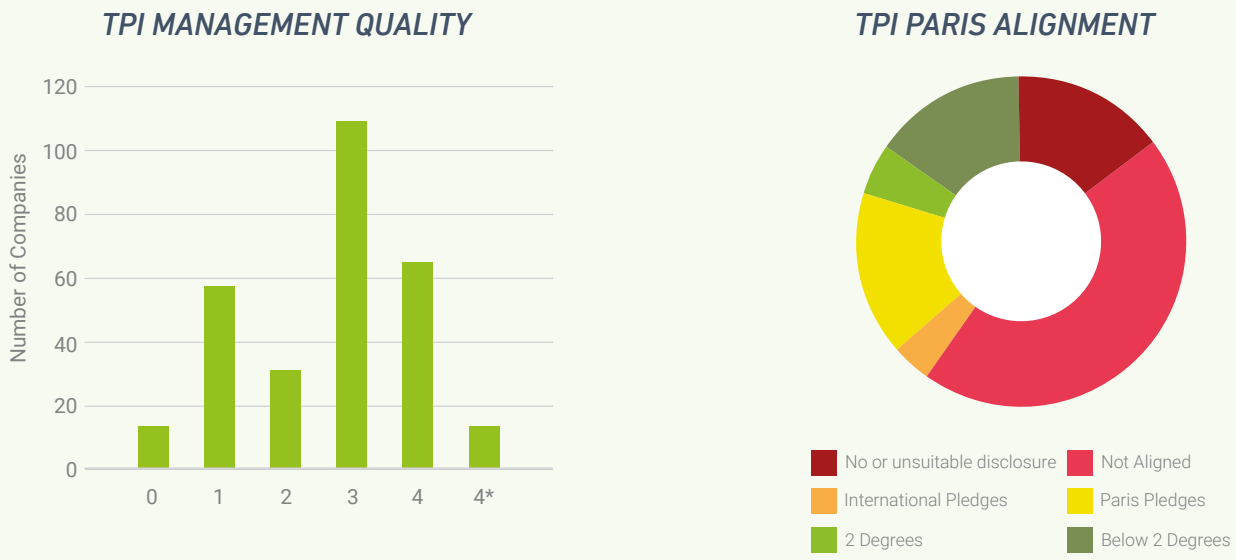


Figure 4.4.2.5 Total Equities TPI Assessment



[20] Certain Information @ 2021 MSCI ESG Research LLC. Reproduced by permission

4.4.3 INVESTMENT GRADE CORPORATE BONDS

We provide below the carbon risk metrics for the Fund's Investment Grade Bond portfolio. As of 31st March 2021, the carbon footprint for the portfolio is 135.9 tCO_2e/$M revenue which is 20.05% lower than the benchmark. The portfolio's fossil fuel exposure is 4.19% which is less than in the benchmark. Only 0.56% of the portfolio is exposed to issuers who own thermal coal.

TABLE 4.4.3.1 OVERVIEW OF DPF INVESTMENT GRADE BONDS PORTFOLIO CARBON RISK METRICS AS OF 31/03/2021

	PORTFOLIO	BENCHMARK	+/-
Portfolio Carbon Footprint (tCO_2e/ $m revenue)	135.9	170.0	-20.05%
Weight in Fossil Fuel Reserves	4.19%	4.70%	-0.51%
Weight in thermal coal reserves (%)	0.56%	0.58%	-0.02%
Weight in coal power (%)	0.44%	0.92%	-0.48%
Weight in clean tech (%)	9.2%	14.9%	-5.69%

5.0 Conclusion

In this, DPF's second 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 DPF's climate risk management and supported the Fund in shaping its strategic approach to climate risk. In this second report we focus on providing the Fund with a progress update.

We find that DPF has made significant enhancements to its published documentation and governance arrangements in the past year. The Fund has implemented 11 of the 12 recommendations issued in the first Climate Risk Report including, developing a Climate Strategy, formulating a Responsible Investment Framework, and publishing its first TCFD-disclosures report. In our view, the Fund's approach to RI, including climate risk management, is above industry average standards and significantly in excess of the regulatory minimum. We suggest that the Fund maintains this current level of practice and implements any recommendations that are still outstanding from the first report.

The Climate Scenario Analysis suggests that of the three asset allocations analysed, the alternative asset allocation is best positioned to capture upside or "low carbon transition premium" in a 2°C scenario. From this result, we can infer that the Fund's Final SAAB is, based on Mercer's model, likely to deliver consistently better results from a climate perspective to 2030, 2050 and 2100 in a 2°C scenario than the Fund's old SAAB.

The Risk Management section outlines the scope of the Fund's Climate Stewardship Plan and provides the first progress update against the nine investee companies recommended for engagement. We find that over the past year engagement progress with these companies has been steady, with several companies having strengthened their climate change commitments as a result. For example, Lafargeholcim has committed to a 'Say on Climate' vote, whilst Royal Dutch Shell and BP have ratcheted the ambition of their emissions reduction targets.

The updated Carbon Risk Metrics implies that the existing management of carbon risk in the Fund continues to exceed that of the benchmarks. The Total Equities carbon footprint decreased by -23.35% between 31st July 2019 and 31st March 2021. At the latter date, the Total Equity carbon footprint was 27.54% more carbon efficient than the benchmark. Exposure of the Total Equity Portfolio to fossil fuel reserves also decreased between 2019 and 2021. As of 31st March 2021, the carbon footprint of the Investment Grade Bonds portfolio is 135.9tCO_2e/$m revenue.

As per the carbon risk metrics results, the Total Equities portfolio carbon footprint is 37.4% more carbon efficient than the 2020 weighted benchmark. As a result, the Fund has commendably met its carbon footprint target four years ahead of plan.

We encourage the Fund to repeat its Carbon Risk Metrics analysis annually and consider repeating its Climate Scenario Analysis in 2022 or 2023.

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 riskreturn 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.

Nonfinancial 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 longterm 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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