

Sky Pension Plan

Climate change report 2023

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Introduction

The Trustee of the Sky Pension Plan presents its annual report under the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the “Regulations”) for the year ended 30 June 2023.

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

The TCFD framework requires disclosures in four broad categories:

- **Governance** around climate-related risks and opportunities
- **Strategy:** the actual and potential impact of climate-related risks and opportunities on the strategy and financial plans of the scheme
- **Risk management:** how the scheme identifies, assesses, and manages climate-related risks
- **Metrics and targets:** the metrics and targets used to assess and manage climate-related risks and opportunities

This report sets out the Plan’s approach to compliance in each of these four areas



Section 1: Governance

The Trustee has identified climate change, alongside other Environmental, Social and Governance (ESG) factors, as an important risk and opportunity which requires sustained, long-term oversight and management. The Trustee has ultimate responsibility for setting the Plan's strategy, policies, and actions in this area.

The Trustee has delegated the day-to-day management for ensuring that the established policy for monitoring climate-related risk and opportunities is integrated in the Trustee's investment strategy, risk management and decision making to the Investment Sub-Committee Committee (ISC). The ISC meets four times a year, and has led the work associated with identifying and measuring the impact of climate-related risks on the Plan's investments.

The main parties that support the Trustee and ISC in implementing its policies in relation to climate change and Sustainable Investment and risk management more widely are:

- **Investment Consultant (WTW)** – Help the Trustee to formulate investment beliefs and to reflect these in the Plan's investment policies and strategy. The investment consultant also helps the Trustee with conducting scenario analysis, advises on how climate-related risks and opportunities might affect the Plan over the short, medium and long term and provides ad hoc specialist advice on a variety of pension matters, including risk management. The Trustee expects their investment consultant to incorporate assessment and consideration of climate related-risks and opportunities as part of their ongoing roles. As part of the annual assessment of the investment adviser against the agreed Investment Consultant Objectives, the Trustee expects them to advise on ESG and climate factors as part of overall strategy considerations
- **Defined Contribution (DC) Consultant (Buck)** – responsible for supporting the Trustee and other parties in ensuring that there is effective governance, risk management and internal controls in operation. In particular, the DC consultant is responsible for the maintenance of various governance policy documents and the Plan's risk register.
- **Investment Managers** – Responsible for managing climate change risks and opportunities within their funds, where applicable. This includes the selection of assets as well as the managers' stewardship activities. The Trustee receives reporting from the investment consultant on an annual basis to assess the underlying managers' competencies. This provides an assessment of the managers' approach to ESG integration and stewardship activities.
- **The Plan Actuary (WTW)** - The Trustee also takes advice from the Plan's Actuary WTW, who performs valuations of the Plan's GMP underpin liabilities.

The key overarching investment policies are detailed in our Statement of Investment Principles which can be found online here: <https://www.skypensionplan.com/useful-resources/useful-documents>

The Trustee has considered how sustainability and ESG factors should be taken into account in the selection, retention and realisation of long-term investments. This includes climate change which the Trustee recognises can present potentially material risks to the portfolio but could also potentially present new investment opportunities. The Trustee reviews the SIP at least every three years and without delay after any significant change in investment policy.

Alongside the SIP the Trustee has agreed a series of sustainable investment beliefs, and these are included in Appendix A to this report.

As part of the day-to-day management of the assets, the Trustee has largely delegated to the investment managers to consider climate risk as part of their overall management process. As a result, the Trustee expects the Plan's investment managers, where appropriate, to have integrated ESG factors as part of their investment analysis and decision-making process and will review managers with respect to relevant matters including performance and risk as well as ESG factors. The ISC may also meet with investment managers from time to time – for example, in connection with the selection

of a new investment platform provider and review of the investment funds, the Trustee met with Schroders and Legal & General Investment management and received presentations about their respective multi-asset investment solutions. These presentations included details and examples of our ESG factors, including climate change, were integrated into the managers' investment processes.

The Trustee received training in 2022 which covered climate risks and TCFD requirements, including training on scenario analysis and climate metrics. The training sessions and the regular ISC and Trustee Board meetings provide an opportunity for the Trustee to assess competency, receive updates on climate-related risks and opportunities and discuss output from the processes with relevant advisors. The sessions also provide a forum for open dialogue between the Trustee and their advisors and provide the opportunity to question or challenge information provided to the Trustee. The Trustee seeks to ensure an appropriate amount of time and resource is allocated to overseeing all risks and opportunities relevant to the Plan, including climate-related risk and opportunities.

The Trustee maintains a risk register which is reviewed at least annually. Responsibility for the risks lies with the Trustee, which has included risks arising from climate change on the risk register during the year (such as a failure to adequately assess and manage the risk to member outcomes resulting from the impact climate change may have on the Plan's investments) and has reviewed these risks during the current Plan year.

Section 2: Strategy

The Trustee believes that part of its fiduciary duty is to manage climate change and associated risks and opportunities within the Plan's investment funds. Climate change is a financially material consideration, and the Trustee has determined that climate change could have a negative or a positive impact on the Plan from the point of view of the returns available on its investments and the potential impact on members' retirement outcomes.

The Trustee has looked at the potential effects of climate change over a range of identified time horizons for the Plan.

Short Term – 5 years.

Rationale: Transition risks are expected to impact the Plan first, for example:

- Introduction and/or fluctuations in carbon prices;
- Policy/regulatory changes;
- Changes in consumer behaviour.

This is also representative of a member reasonably close to retirement with a short time horizon for investment.

Medium Term – 15-20 years.

Rationale: This time horizon aligns with the industry decarbonisation targets in order to support the goals of the Paris Alignment and the Trustee expects the majority of all climate-related transition risk to have been realised within the next 10 years. This is also representative of a member in mid-career with a medium term time horizon for investment.

Long Term – 30+ years.

Rationale: This time horizon is consistent with the 2050 timescale referenced in the Paris Agreement and the sponsoring employer's net zero objective. The Trustee expects physical risks to become an increasingly large part of climate risk over the longer term. For example the following could impact the funds:

- Extreme weather events;
- Sea level rises;
- Food price inflation;
- Population migration.

This is also representative of a member in the early stages of their career with a long term time horizon.

As part of its analysis around the climate risk faced by the Plan, the Trustee has split out the following elements of this risk:

Transition risks – This relates to the risks and opportunities arising from efforts made to transition towards a net-zero economy (both domestically and globally) in order to limit climate change. These risks and opportunities are generally expected to occur in the short-to-medium term. Risks arising could include regulatory or societal changes rendering parts of the business of invested companies

worthless – for example, fossil fuels ‘in the ground’ which become economically unviable to extract due to a lack of a suitable market or due to regulations preventing their extraction.

Opportunities include early investment in assets which are likely to benefit from climate change adaptations, such as green energy providers. The Trustee is actively looking to mitigate the risks and take advantage of the opportunities which occur in order to improve the likelihood of meeting the Trustee’s short- and medium-term investment goals.

Physical risks – This relates to the direct effects of climate change on the Plan and its members. These risks are expected to be longer-term in nature, but they are also expected to be limited in scope to the effects of climate change-related weather and other natural events on the businesses of invested companies, and the effect of changing temperatures on the mortality of Plan members. These could have varying effects on members pots and the investment strategy of the Plan, but the direction and size of the effects is unlikely to be clear for a considerable period of time.

Climate Scenario Analysis

The Trustee has carried out climate change scenario analysis in partnership with its investment consultant. The aim of this analysis was to help the Trustee to quantify the potential effects of climate change on the Plan’s assets, and the potential impact on member outcomes from the Plan. The Trustee considered four separate scenarios which are in part defined through their success, or otherwise, in meeting the Paris Agreement target of a sub-2.0°C temperature rise.

These scenarios have been considered as the Trustee believes that they cover a plausible and comprehensive range of climate outcomes over the long-term:

1. A clear transition narrative that describes the socioeconomic pathway, both globally and regionally, from climate policies implemented and resulting in technological and societal shifts that occur.
2. Modelled emissions pathways, (typically communicated using the Representative Concentration Pathways developed by the IPCC) resulting from the implementation of public policies and technologies resulting in the level of temperature rise.
3. A set of economic costs and benefits resulting from physical and transition risks and opportunities.
4. The impact on financial returns at the asset class level.

The Trustee understands that WTW made a series of simplifying assumptions to shield the analysis from being obscured by other factors. The Trustee is aware of the limitations of the climate scenario analysis, such as the reliance on third parties for the maintenance of accurate data, validation of assumptions, and the information available at the date of the analysis. Further details of the assumptions used in the scenario analysis are given in Appendix D.

All the analysis was conducted as at 31 March 2023. Analysis was carried out for each “popular” DC arrangement in the Plan – that is any lifestyle strategy or self-select fund with at least £100m invested or which holds at least 10% of the Plan’s DC assets. In practice this would only cover the Plan’s Pre-2021 default strategy (Cash Lifestyle) and the underlying funds; however the Trustee also carried out analysis on the current default (New Cash Lifestyle).

While each of the scenarios selected reflect pathways, it is broadly acknowledged that there is material uncertainty in all aspects of climate scenario modelling. It is not yet known which energy transition pathway will transpire and it could look quite different to those modelled. The projections served to illustrate the possible future range of long-term returns from different asset classes and their inter-relationship, but it is recognised that no economic model can be expected to capture perfectly future uncertainty, particularly the risk of extreme events. The projections also served to illustrate the potential variability, but it is recognised that these are subjective, and arguments could be made for different outcomes. The scenario analysis takes no account of developments after the date of its presentation to the Trustee.

The following scenarios were used in the analysis:

	Lowest Common Denominator	Inevitable Policy Response	Global Coordinated Action	Climate Emergency
Description	A “business as usual” outcome where current policies continue with no further attempt to incentivise further emissions reductions. Socioeconomic and technological trends do not shift markedly from historical patterns.	Delays in taking meaningful policy action result in a rapid policy shift in the mid/late 2020s. Policies are implemented in a somewhat but not completely co-ordinated manner resulting in a more disorderly transition to a low carbon economy.	Policy makers agree on and immediately implement policies to reduce emissions in a globally co-ordinated manner. Companies and consumers take the majority of actions available to capture opportunities to reduce emissions.	A more ambitious version of the Global Coordinated Action scenario where more aggressive policy is pursued and more extensive technology shifts are achieved, in particular the deployment of Negative Emissions Technologies at scale.
Temperate rise	~3.5°C	~2.0°C	~2.0°C	~1.5°C
Renewable energy by 2050	30-40%	80-85%	65-70%	80-85%
Physical risk level (longer term)	High	Low – Medium	Low	Low
Transition risk level (shorter term)	Low	High	Low – Medium	Medium – High

The equity-focussed nature of the Plan’s lifestyle strategies means that members are projected to be worse off in each of the scenarios we have considered when we assume climate change impacts materialise through time, as the impacts are expected to be felt through reduced fund returns. Younger members are naturally more exposed than older members under these assumptions, while they are

members of the Plan, due to longer holding periods and the physical risks that are incurred further into the future.

Detailed results are shown in Appendix B.

Given the size of the GMP underpin assets and liabilities relative to the DC assets (the GMP underpin assets amounted to less than 1% of the total Plan assets as at 30 June 2023) no detailed scenario analysis has been carried out to consider the potential impact on the assets, liabilities and funding position of the underpin section of the Plan. However, in the valuation of the underpin section being carried out as at 30 June 2023, the Plan Actuary will consider how climate-related risks might manifest themselves within the Plan, and adopt assumptions for the funding of the Plan which are intended to contain an appropriate degree of prudence taking into account these risks.

Identifying risks and opportunities over different timeframes

The following table summarises the risks and opportunities the Trustee has identified over the short, medium and long term time horizons.

Time horizon	Primary types of risk	Key risk exposures	Opportunities	Mitigating actions
Short: 5 years	Regulatory Reputational Transition	The Trustee is exposed to regulatory risks, including fines, if it does not comply with evolving regulatory requirements. Climate related shocks in a single year are the biggest risk to DC pension pots for older members.	Can potentially take advantage of some opportunities in terms of potential climate transition fund options.	The Plan has recently switched its core equity and multi-asset funds to the LGIM Future World fund series, which specifically takes account of ESG factors (including climate change) in its investment process.
Medium: 15-20 years	Reputational Transition	The life expectancies of individual members may be materially impacted by climate change and the transition to a low carbon society. This is a risk to members both pre and post retirement.	Can potentially take advantage of some opportunities in terms of potential climate transition fund options.	These funds are used within the Lifestyle strategies, and are designed to better manage ESG risks, including climate-related risks.
Long: 30+ years	Transition Physical	Younger members will be exposed to long-run physical costs resulting from a failure to address climate change appropriately. The life expectancies of individual members may be materially impacted by climate change and the transition to a low carbon society. This is a risk to members both pre and post retirement.	Life expectancies of members may be improved with a well implemented transition.	The Plan has also recently switched its fixed income funds to the LGIM Future World Annuity Aware fund, which, like the equity and multi-asset funds, takes account of ESG factors, including climate change, in its investment process. The Plan also offers an actively managed climate-focussed equity fund, the Schroders Global Climate Change Fund, as a self-select option. Given the ESG funds now implemented, the Trustee will consider how best to implement, measure and monitor a Net Zero target for the Plan’s popular DC arrangements.

Section 3: Risk Management

Risk management is of fundamental importance to pension scheme management as all pension funds are exposed to multiple risks. Climate change is a key risk and opportunity and therefore receives particular attention as part of the ongoing risk management processes.

The Trustee seeks to identify, assess and mitigate relevant risks, including those related to climate change, through its established governance structure detailed in Section 1. The risk register, includes climate change as a specific risk. This clearly details the size and likelihood of the risk, the controls in place and the actions the Trustee takes to manage, mitigate, and exploit both this risk and opportunity. The risk register is monitored on an ongoing basis and reviewed by the Trustee at least annually.

The climate change scenario analysis presented to the Trustee, mentioned in Section 2, provides a holistic overview of the potential impacts of climate change and how they may affect the Plan's investment strategy (across assets, liabilities, and covenant). This is an important risk management tool for a top-down risk and opportunity assessment. The ISC and Trustee will also monitor the carbon exposure of the funds using a range of metrics including total carbon emission and carbon intensity, as a proxy for climate risk. This is covered in more detail in Section 4 of this report.

The Trustee conducts an annual review of the Investment Managers' policies, processes, and actions in the area of Sustainable Investment, which includes a focus on climate change. The Trustee's policy is to delegate to the investment managers stewardship activities such as the exercise of rights attaching to investments, including voting rights, and engagement with relevant persons about matters including ESG considerations.

Whilst the Trustee's policy is to delegate a number of stewardship activities to the investment managers, the Trustee recognises that the responsibility for these activities remains with the Trustee. The Trustee has also identified the following stewardship priorities; climate change, modern slavery and diversity & inclusion. The Trustee expects the investment managers to cast votes on their behalf in a manner that is consistent with the agreements of the relationship and the Plan's SIP. These votes and engagement are documented on an annual basis as part of the Plan's Implementation Statement.

Managing climate risks

The Trustee has agreed a risk management plan consisting of risk measurement, risk mitigation, risk monitoring and strategic actions, as well as frequency of risk monitoring (scenario analysis and sustainable investment reporting). Following the move of the Plan's assets to the LGIM investment platform the Trustee will consider and agree the frequency of monitoring of climate metrics.

The SIP and Sustainable Investment beliefs outline the Trustee's policies on ESG and climate factors, and climate risk is considered among other significant financial risks outlined in the Plan's SIP.

The Trustee reviews the investment managers' and advisers' approaches to ESG and climate as part of its annual sustainable investment reporting.

Scenario analysis will be carried out at least every three years, or more frequently if there are changes to the investment options which are likely to impact on the results of that analysis.

Climate risk has been added to the risk register, and assessed annually, (such as a failure to adequately assess and manage the risk to member outcomes resulting from the impact climate change may have on the Plan's investments).

The Trustee will also monitor the investment managers' activities around engagement on climate change with investee companies, and on their records on voting on these issues, as part of its ongoing governance activities.

The Trustee regularly reviews its risk management processes to confirm they continue to be suitable and fit for purpose in light of the evolving nature of climate risk to the Plan.

Section 4: Metrics and Targets

Introduction and overview

The Trustee agreed to monitor and report on the following five carbon metrics:

1. Absolute emissions: **Total Carbon Emissions (“tCO₂e”)** - measure of carbon emissions attributable to the Plan’s investments.
2. Carbon Intensity: **Carbon Footprint (tCO₂e / \$ invested)** - measure of how many tonnes of CO₂ emissions each million invested causes. This metric has been chosen as the Trustee expects it to become one of the industry-standard carbon intensity metrics - this should help with comparability over time and between different funds. Carbon Footprint is also the preferred metric of the DWP, helping to ensure regulatory alignment. This is the approach the Trustee’s advisors have internally adopted for other similar pension schemes.
3. Alignment: **% of assets with approved Science based targets (“SBTi”)** - forward looking measure of the percentage of assets with targets validated by the Science-Based Targets Initiative. The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF) enabling companies to set science-based emissions reduction targets. In principle an implied temperature rise metric would be the best measure of portfolio alignment as these metrics explicitly consider future pathways to a well below-2 degree world. Currently however, we do not believe these are appropriate for measurement and target setting because the results are not robust given the significantly different outcomes for the same portfolio produced by particular choices of methodology and scenarios/assumptions. We therefore think a % of assets with approved SBTi targets or a % of assets aligned with 1.5 and 2 C degrees provides a good measure until methodologies improve. The Trustee’s Investment Consultant has explained the methodology and assumptions behind the SBTi to the Trustee, and further detail is given in Appendix C.
4. Additional: **% of assets invested in climate opportunities** – this has been chosen so as to capture investment opportunities as well as risks. It will consider how much of each fund is invested in holdings such as renewable energy and low carbon products and solutions.
5. Additional: **Data coverage** – measure of the proportion of the Plan’s assets for which the Trustee has data provided by the investment manager, and is a key area in which the Trustee is striving for improvement over the coming years, in order to have more confidence in the emissions data being reported. The Trustee believes that improved data quality and coverage is an area that the Trustee can most influence its investment managers and improvements would allow better decision making on future carbon metrics.

The Trustee has obtained data directly from the investment managers for each popular DC arrangement, and for the New Cash Lifestyle option. In addition, whilst the move to the LGIM investment platform and LGIM funds (as noted on page 9) did not take place until shortly after the Plan year end, the Trustee has also obtained data from LGIM in respect of the funds to which the previous BlackRock and Schroders investments have now been switched.

The Trustee has agreed to not include Scope 3 in the calculations as this level of scope is highly estimated, leading to an increased unreliability of the output. The regulations do not require scope 3 emissions to be included in the first TCFD disclosure. We will move towards reporting scope 3 data once it becomes more reliable but will continue to monitor with our advisors and seek to influence where we can.

Details of the metrics obtained as at 31 March 2023 are given in Appendix C. In some cases the investment manager has not been able to provide all the data requested. The Trustee will use the Plan’s influence with the managers to improve both the data coverage and data quality of their reporting on climate metrics.

Targets

The Trustee has agreed to focus on the alignment metric as a primary target, and has set a target for 50% of the portfolio holdings (for the funds being reported on) to be covered by the SBTi within a 5 year time frame (starting 31 March 2023). On a weighted average basis the proportion of the funds covered by the SBTi as at 31 March 2023 was 38%. Had the funds already been moved to the respective LGIM funds equivalent SBTi coverage level at that date would have been 43%.

The Trustee has also agreed to work towards a target of Net Zero by 2050, in respect of Scope 1 and 2 emissions for the popular DC arrangements. Now that the Plan's assets have been switched to the LGIM platform, and specific ESG fund solutions have been implemented (as noted in this report), the Trustee will consider, in conjunction with the investment manager and its investment consult, how best to implement, measure and monitor this objective.

Appendix A – Sustainable Investment beliefs

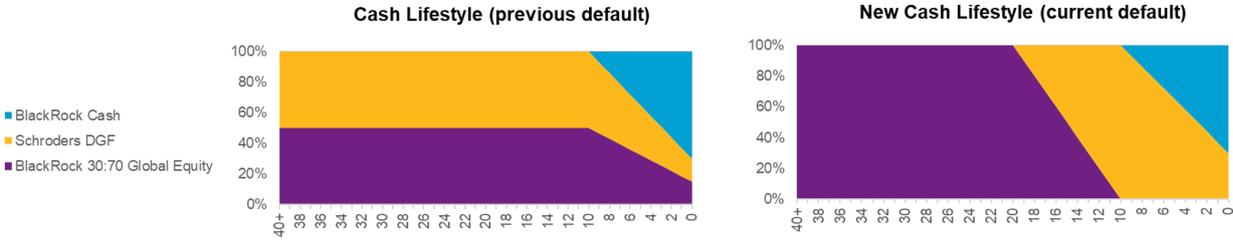
Area	Belief statements
1. Governance	ESG and sustainable investment are important factors to consider in relation to the Plan, in order to improve risk and return, manage reputational risk as well as enact a positive societal change. The Trustee recognises this is the start of a process to move towards improved practice in these areas.
2. Governance	ESG integration poses risks and opportunities that should be dealt with alongside other investment matters within the ISC and fed back to the Trustee Board, but working parties can be established for specific projects and tasks where necessary.
3. Governance	Ensuring good stewardship of assets by managers is an important part of the Trustee's fiduciary duty towards members, and we should ensure our investment managers are exercising strong stewardship, including engagement and shareholder voting.
4. Governance	It is important to engage with members about their investment, and it may appropriate to seek member feedback on the extent of integration of responsible investing they would like to see within the investments of the Plan. However the Trustee retains ultimate responsibility in designing the investment strategy and choosing funds to make available to members.
4. Strategy	Engagement is more effective in achieving better outcomes relative to exclusions. There is limited evidence at this time that investment strategies that apply exclusions based on a social motivation, which could include the avoidance of tobacco, gambling and controversial weapons, will outperform. Therefore the Trustee will consider these as part of wider ESG and SI considerations.
8. Risk Management	Environmental, social and governance (ESG) factors have the potential to impact financial outcomes.
9. Risk Management	The Trustee believes consideration should be given to E, S and G factors. This includes identifying and managing exposures to a wide range of big picture themes, including climate change and then looking to prioritise where possible.
10. Metrics/Targets	The Trustee should look to set any targets and metrics independently but with consideration given to the employer's approach.

Appendix B – Scenario Analysis

For the scenario analysis on the Lifestyle options we have taken four example members of different ages and at different stages of the Lifestyle strategy, to illustrate the potential impact on the value of their investments over different time horizons. The data used for these example members is shown below, and this has been derived from broadly average data across the Plan membership.

	Current age	Retirement age	Current salary	Current Fund value	Contribution rate as a %age of salary	Assumed future salary increases
New joiner (lower earner)	25	65	£25,000	£0	9%	CPI + 1%
New joiner (future leader)	25	65	£40,000	£0	15%	25-40: CPI + 6% 40-50: CPI + 2.5% 50-65: CPI + 1%
Mid career	45	65	£55,000	£50,000	11%	CPI + 1%
Near retirement	60	65	£60,000	£70,000	13%	CPI + 1%

The following charts illustrates the design of the two Cash Lifestyles, showing how each member’s funds will change over time. It is worth noting that the scenario analysis assumes the design of the lifestyle will not change over time.



Impact on fund value at retirement

The tables below show the potential impact on the members projected fund value at retirement for the four groups of members across the four climate scenarios, relative to a “base case”. This is shown for both the Current Cash Lifestyle (previous default) and the New Cash Lifestyle (current default). Further information on the base case can be found in the appendix of this report.

Younger members are impacted materially under all the climate scenarios, with the Least Common Denominator scenario resulting in the biggest impact, due to the high cost of the physical risks impacting on their investments later in their career.

Members in their mid-career are most exposed to the Inevitable Policy Response. These members are also expected to be negatively impacted under all other scenarios considered.

Older members are least exposed to the various scenarios, as they have a short time horizon in the Plan. Under the New Cash Lifestyle, older members are negligibly exposed to most scenarios. Under the previous Cash Lifestyle, older members are more exposed to the Inevitable Policy Response, Global Co-ordinated Action and Climate Emergency scenarios, although this exposure is minimal.

New Cash Lifestyle (current default)				
Impact on expected pot size	New-joiner (lower earner)	New-joiner (future leader)	Mid-career	Near retirement
Base Case	0.0%	0.0%	0.0%	0.0%
Least Common Denominator	-10.0%	-8.0%	-2.0%	0.0%
Inevitable Policy Response	-8.0%	-7.0%	-7.0%	0.0%
Global Coordinated Action	-7.0%	-5.0%	-3.0%	0.0%
Climate emergency	-6.0%	-5.0%	-4.0%	-1.0%

Cash Lifestyle (previous default)				
Impact on expected pot size	New-joiner (lower earner)	New-joiner (future leader)	Mid-career	Near retirement
Base Case	0.0%	0.0%	0.0%	0.0%
Least Common Denominator	-10.0%	-8.0%	-3.0%	0.0%
Inevitable Policy Response	-8.0%	-6.0%	-8.0%	-1.0%
Global Coordinated Action	-6.0%	-5.0%	-3.0%	-1.0%
Climate emergency	-6.0%	-5.0%	-4.0%	-2.0%

Short-term: One-off shock

What matters for investors is when in each scenario the market decides to price in the lower cashflows. Once sufficient investors adjust their long-term expectations a tipping point is reached and the market prices move suddenly and materially. To recognise this timing uncertainty we show the impact of scenarios in two ways:

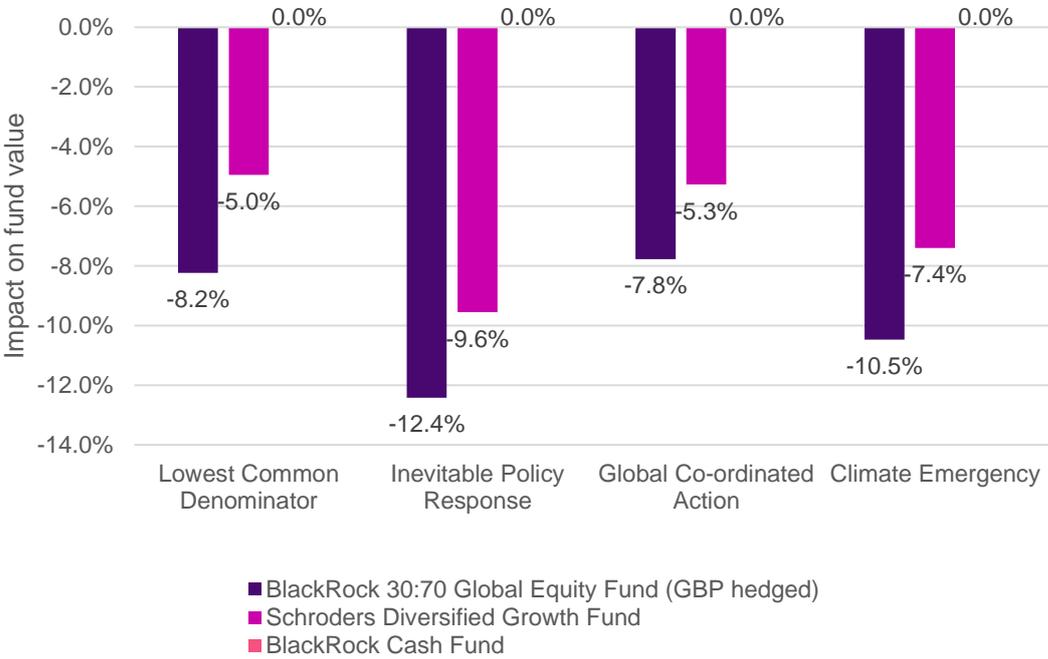
- Short-term: A one-year projection where the full impact is experienced as a one-off shock to returns that results from the sudden change in sentiment
- Medium to long-term: The impact on returns from the underlying impairment of fundamental cashflows, using a drag on returns

An instantaneous one-off shock

Our analysis over the short term assumes that the impact on the investments occurs as an instantaneous shock.

In practice, it is rare for investors to price in the right long-term expectation immediately. Typically, markets overreact as sentiment becomes bearish and/or investors want to receive a risk premium until they have bottomed out the right long-term expectation. Analysis of a range of other markets suggests that on average market prices are twice as volatile as justified by subsequent outcomes. We allow for such an overreaction in our calculation of the one-off shocks from each scenario.

We note that our assumptions assume a zero impact for the BlackRock Cash Fund in a shock scenario.



Short-term: Member impact from market shock

Our analysis over one year assumes that the impact on the investments occurs as an instantaneous shock. The size of the impact is influenced by the size of the members investment and how they are invested under the different scenarios. We show the impact as a percentage of a member’s salary, i.e. how would they feel such a shock if it impacted directly on one year’s salary.

- “New joiners” have no money invested at the start of the year so the impact of an instantaneous shock is negligible for both lifestyles.
- “Mid-career” is assumed to have £50,000 invested at the start of the year with an annual salary of £55,000. This strawman has a relatively high climate risk. For both lifestyles, the analysis highlights that the Inevitable Policy Response (IPR) poses the greatest risk to outcomes for mid-career members, followed by the Climate Emergency scenario. All scenarios pose a material risk of loss for mid career members, this is increased for the New Cash Lifestyle as the member is assumed to be invested 100% in the BlackRock 30:70 Global Equity Fund (GBP hedged) which has relatively higher climate risk than the Schroders DGF.
- “Near retirement” is assumed to have £70,000 invested at the start of the year with an annual salary of £60,000. For the New Cash Lifestyle, the strawman is invested 65% in Schroders DGF and 35% in the BlackRock Cash Fund. The climate risk is reduced across all scenarios compared to the other members, showing that the strategy helps to reduce climate risk for members in the years immediately prior to retirement.
- Under the Cash Lifestyle (previous default) “near retirement” is assumed to be invested in a mixture of the Schroders DGF, BlackRock 30:70 Global Equity Fund (GBP hedged), and the BlackRock Cash Fund. The climate risk is reduced across all scenarios but remains significant under the Inevitable Policy Response and Climate Emergency scenarios.

Fund value loss as a % of salary	New Cash Lifestyle (current default)				Cash Lifestyle (previous default)			
	New-joiner (lower earner)	New-joiner (future leader)	Mid-career	Near retirement	New-joiner (lower earner)	New-joiner (future leader)	Mid-career	Near retirement
Base Case	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Least Common Denominator	0.0%	0.0%	-7.6%	-3.5%	0.0%	0.0%	-6.3%	-4.7%
Inevitable Policy Response	0.0%	0.0%	-11.5%	-5.6%	0.0%	0.0%	-9.8%	-7.3%
Global Coordinated Action	0.0%	0.0%	-7.3%	-3.7%	0.0%	0.0%	-6.3%	-4.6%
Climate emergency	0.0%	0.0%	-9.8%	-5.2%	0.0%	0.0%	-8.6%	-6.4%

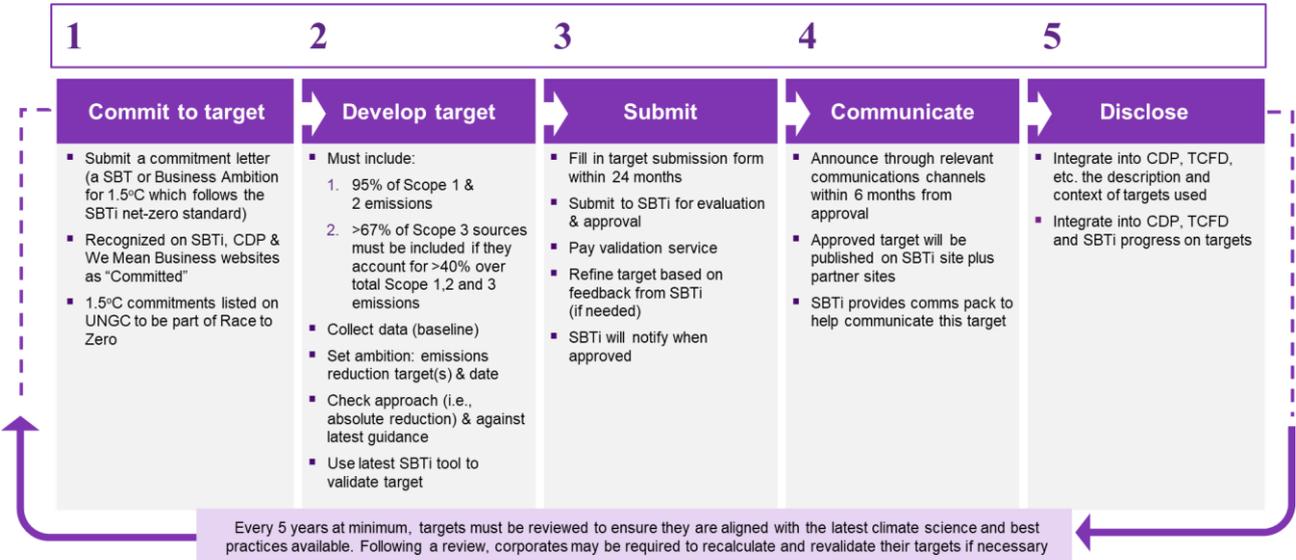
Appendix C – Climate Metrics

Fund	Scope 1 & 2 Total emissions (tonnes CO2e)*	Scope 1 & 2 Carbon footprint (tonnes CO2e/\$invested)	Portfolio alignment metric	Additional metrics
BlackRock 30:70 Global Equity Index	44,850	64.7	SBTi coverage: 38%	% invested in climate opportunities: Not provided Data coverage: 97% Data is 86% reported, 11% estimated, 3% not reported
BlackRock Cash	46	0.48	SBTi coverage: 1% up from 0% since 31/12/22	% invested in climate opportunities: Not provided Data coverage: 78% Data is 77% reported, 1% estimated, 22% not reported
Schroders Diversified Growth Fund	17,895	34.2	SBTi coverage: 45%	% invested in climate opportunities: 1.3% * Data coverage: 62% (further breakdown not provided)
LGIM Future World Global Equity Index Fund	25,160	38.2	SBTi coverage: 55.3%	% invested in climate opportunities: 3.4% ** Data coverage: 96.4% (further breakdown not provided)
LGIM Future World Multi-Asset Fund	53,127	88.3	SBTi coverage: 35.9%	% invested in climate opportunities: 3.3% ** Data coverage: 88.0% (further breakdown not provided)
LGIM Sterling Liquidity Fund	1,235	11.5	SBTi coverage: 6.0%	% invested in climate opportunities: 0.2% ** Data coverage: 44.4%

* Defined by Schroders as % revenue exposure to renewable energy

** Defined as “green revenues” by LGIM: represents the proportion of revenues derived from low-carbon products and services associated with the benchmark, from the companies in the benchmark that have disclosed this as a separate data point

Methodology: SBTi five-step process



Source: [Source: SBTi Corporate Manual \(December 2021\)](#)

Appendix D – Scenario Analysis: Methodology and assumptions

Climate change and our response to it will have financially material impacts on the cashflows available from all financial assets. Scenario analysis, as a risk management tool, allows us to isolate the impact of climate change and thus understand the potential impact. It is necessary, however, to understand how the impact of climate change is integrated into the “base case” investment assumptions.

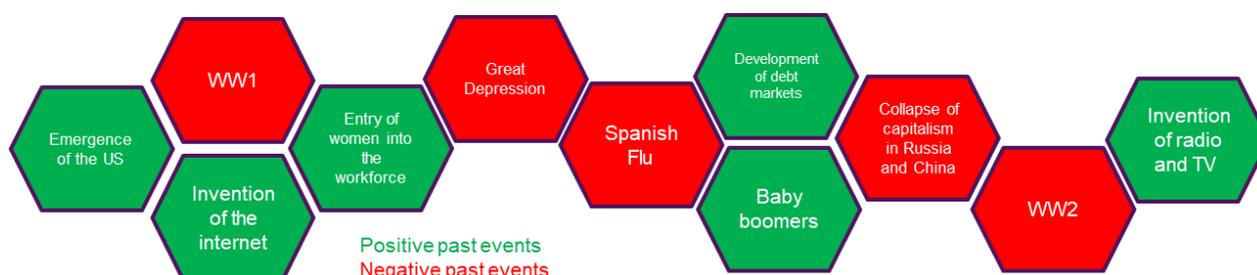
The investment return assumptions have been calibrated from the long-term historical experience across a wide range of countries. By using the historical track record as the basis for forward-looking assumptions, we are assuming that either:

- Future events and their impact on markets will be the same as the past.
- Future events are unknowable, but their potential impact on markets will rhyme with the impact of historical events.

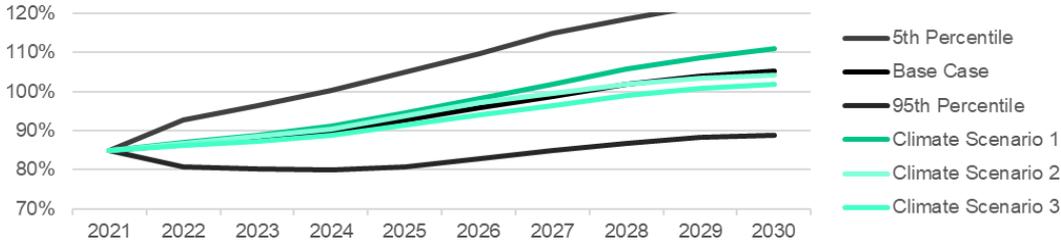
The first of these is clearly an implausible assumption. Many of the historical events are either unlikely to occur again (e.g. hopefully the world wars) or factually cannot occur again (e.g. inventions, entry of women into the workforce). The historical track record would need to be (arbitrarily) adjusted to remove the impact of these unrepeatable events, but would then need to be adjusted to add in the events both known (e.g. climate change) and unknown (e.g. future unspecified inventions) that we expect to occur in the future.

We therefore make the second of these assumptions and, in practice, our assumption set assumes that future returns will be lower than suggested by the historical track record reflecting a belief that:

- Markets are more expensively priced than they were in 1900
- A number of the historic tailwinds for markets (debt, demographics, globalisation) are likely to turn into headwinds in the immediate future and new headwinds such as climate change will emerge



The investment model needs to be able to identify the specific risks attributable to climate change within the wide distribution of outcomes from the model.



The potential impacts of climate change on assets that need to be captured in the scenarios can be split into two categories:

- Physical Risk – direct impacts from climate change such as flooded property (asset side) or deaths arising from extreme weather (liability side).
- Transition Risk – the indirect impacts arising as a result of changes in society to combat or adapt to climate change, such as costs for businesses from meeting regulations (asset side).

Transition costs are likely to be incurred earlier than physical costs, as society moves to attempt to avoid the long-term physical damage of climate change. We expect that the higher the transition costs, due to a greater effort to transition to a low carbon economy, the lower the eventual physical costs as the physical consequences are reduced. The scenarios used span the range of plausible outcomes for physical and transition risk and the trade-off between the two. The costs of each at an index level have been based upon figures sourced from MSCI with judgement being applied by the investment consultant as to current market pricing, the extension of these base figures to all asset classes and their attribution over time.

The scenarios are derived on the basis of all other things being equal, which is unlikely to be the case in practice. For example, the climate transition could lead to higher levels of investment, employment and productivity-enhancing innovation. These second order effects and feedback loops are hard to estimate with certainty and represent the reason why the climate scenarios cannot be a substitute for using the base investment model for risk management purposes. The temperature rises used in the scenarios are the assumed eventual increases over the long-term, compared to pre-industrial levels, on the assumption that the temperature would stabilise at this level and not continue increasing.

How policy uncertainty is reflected in the scenarios

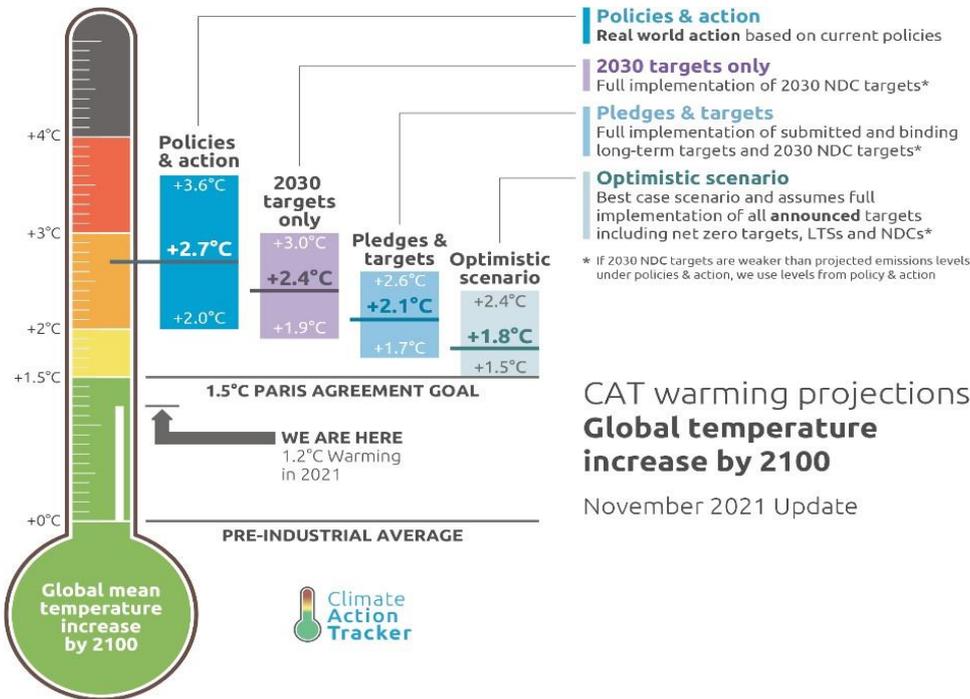
Climate scientists use models to estimate the impact of policies on the total amount of warming. The use of different models and/or different parameterisations of these models mean different stakeholders can easily come up with different figures. The models show a funnel of doubt for total warming so the choice of different descriptive statistics (percentiles, time horizons etc) will also contribute to different temperature rise figures.

The policies to model are also subject to uncertainty, which requires careful distinguishing between:

- Pledges and targets – e.g. ‘net-zero by 2050’
- Policies designed to meet targets – e.g. banning the sale of combustion engines after 2035
- The successful implementation of otherwise of the policies and whether they will have the intended effect even if they are successfully implemented

Independent organisations such as the Climate Action Tracker keep track of individual country’s targets and policies. The Climate Action Tracker uses a ‘global thermometer’ to illustrate the effect of all countries aggregated to provide a consistent global picture.

The climate scenarios we have considered are built from a ‘bottom-up’ approach, rather than starting with a given temperature rise. However, they do span the range of uncertainty shown opposite. For example, the Least Common Denominator scenario is consistent with a 3.5 degree, taking a very prudent view of the effectiveness of the current policies. The Global Co-ordinated Action scenario assumes implementation of current pledges and targets and Climate Emergency is at the optimistic end of the optimistic scenario shown.



CAT warming projections
Global temperature increase by 2100
 November 2021 Update

Appendix E – Glossary of Terms

Term	Description	Formula for corporate holding (if applicable)
Absolute Emissions Metric: Total GHG emissions (tCO ₂ e) (scope 1 & 2)	Total amount of greenhouse gas emissions (“CO ₂ equivalents”) (as mandated by the Kyoto Protocol) emitted by the underlying portfolio companies, attributed to the investor based on the total investment in each company.	$\sum_n^i \left(\frac{\text{Current value of investment}_i}{\text{Investee company enterprise value}_i} \right) \times \text{investee company's scope 1 and 2 emissions}_i$
Emissions Intensity Metric: Carbon Footprint (tCO ₂ e / EVIC £m) (scope 1 & 2)	An intensity measure of emissions that assesses the level of greenhouse gas emissions (as mandated by the Kyoto Protocol) arising from £1 million investment (based on Enterprise Value Including Cash) in a company.	$\frac{\sum_n^i \left(\frac{\text{Current value of investment}_i}{\text{Investee company enterprise value}_i} \times \text{investee company's scope 1 and 2 emissions}_i \right)}{\text{Current value of all investments (£ millions)}}$
Alignment Metric: % of assets with approved science based targets (“SBTi”)	The proportion of either emissions or of the portfolio which is covered by Science Based targets as verified by the Science Based Targets Initiative (“SBTi”). The Science Based Targets initiative (SBTi) is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF) enabling companies to set science-based emissions reduction targets.	
Additional Metric: Data coverage / Data quality	Data coverage is the proportion of the Plan’s assets for which the Trustee has data. Data quality is an assessment of the quality of the data used to prepare the Plan’s climate metrics e.g. percentage of portfolio modelled directly as opposed to through use of proxies, or percentage of data that is reported by companies versus estimated.	
Carbon emissions	The six main greenhouse gases (GHGs), defined by the Kyoto Protocol (Carbon dioxide (CO ₂); Methane (CH ₄); Nitrous oxide (N ₂ O); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs); and Sulphur hexafluoride (SF ₆)).	
Scope 1 Greenhouse Gas Emissions	Scope 1 emissions refer to all direct GHG emissions, or in other words, emissions from sources that are owned or controlled by the operating company.	
Scope 2 Greenhouse Gas Emissions	Scope 2 emissions refer to all indirect GHG emissions stemming from the consumption of purchased electricity, heat or steam.	

Term	Description	Formula for corporate holding (if applicable)
Scope 3 Greenhouse Gas Emissions	Scope 3 emissions are all indirect emissions not covered in Scope 2. This includes both upstream and downstream supply chains, such as the extraction and production of purchased materials and fuels, flight emissions, waste disposal and investments.	
Net zero	As noted by the Intergovernmental Panel on Climate Change (IPCC), net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Anthropogenic in terms of climate change refers to the impact humans have had on climate change, primarily through emissions of greenhouse gases.	
Enterprise Value Including Cash (EVIC):	Defined as the sum of market capitalisation of shares and book values of total debts and minority interests at fiscal year end. No deductions of cash or cash equivalents are made to avoid potential negative enterprise values. This is the recommended denominator metric for carbon attribution according to the GHG Protocol, the global standard for carbon accounting endorsed by the European Union and the DWP.	