TCFD - Strategy & Risk Management

Scottish Borders Council Pension Fund

February 2026

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Content of this report

- Introduction - TCFD Recap
- 2025/26 ESG Project Plan Recap
- Timeframes & Scenarios Modelled
- Scenario Analysis Results
- Climate Opportunities
- Climate Dashboard

Implementation of TCFD

This paper focuses on Strategy and Risk Management

Governance

- Responsibilities agreed
- Governance frameworks updated
- Training received
- ESG policies / beliefs reviewed

Strategy

- Climate risks / opportunities considered
- Scenario analysis undertaken
- Review should include funding and covenant information

Risk Management

- Incorporate climate risk into risk frameworks
- Review your investment managers
- Consider materiality of risks across asset classes.

Metrics & Targets

- Disclose metrics
- Set targets against metrics
- Review and improve

- Annual disclosure - actions taken on all 4 areas of TCFD recommendations.
- This is the Fund's second climate scenario analysis review. Based on corporate pension scheme regulations, updated analysis should be undertaken every 3 years, or if there is a significant change in strategy.
- While there is still no regulatory requirement for LGPS schemes, the Fund will publish its third annual TCFD report in Q3 2026.

2025/26 ESG project timeline

Completed

- ✓ Regular training on ESG and TCFD
- ✓ Updated ESG Policy
- ✓ Climate governance documentation agreed
- ✓ Selection and ongoing monitoring of metrics and targets
- ✓ Include climate change within advisor objectives
- ✓ Signatory to UK Stewardship Code 2020

March 2026

Q1 2026 Committee meeting

- Updated climate scenario analysis to account for new strategy and updated assumptions
- Annual Sustainability Integration Assessment

April 2026 and beyond

Q2 2026 and beyond

Third TCFD report submission (Non-regulatory)

Ongoing monitoring of metrics and targets

Update climate scenario analysis as required

Scenario analysis - Executive summary

Analysis completed

We have considered four different scenarios (e.g. assuming different levels of action taken to manage carbon emissions) over various time periods, alongside a 'climate neutral' baseline scenario

Key findings

The estimated return "drag" over the next 10 years is expected to be in the range of 0.5% to 2.0% p.a. depending on scenario

Key risks

The Fund's equity allocation is most exposed to the impact of climate related intervention

Opportunities

As illiquid assets run-off over time, the Fund can consider sustainable / ESG tilts within liquid and illiquid mandates including credit

Timeframes and Scenarios

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Timeframes

	Short term 3 years	Medium term 10 years	Long term 20 years	Very Long term 50 years
Investment Horizon	• Actuarial review cycle • Review of target asset allocation • Possible de-risking of the asset allocation	• Review of long-term objectives • Possible de-risking of the asset allocation • Review of illiquid mandates	• Approximate duration of the Fund's liabilities	• Fund is open to new members and accrual • Longest term liabilities are 50yrs +
Climate Horizon	• Setting and measurement of decarbonisation targets • Improvement in data quality • Government responses to COP27	• Companies monitor progress towards 2050 net zero • World measures outcomes against the 2030 Sustainable Development Goals and 2030 biodiversity goals	• Physical damages from climate change continues to ramp up, towards mid-century, most severe under current policies. • Continue to measure against 2050 net zero targets.	• Long term physical damages incurred, most severe under current policies. • Impact of Net Zero by 2050 targets.

Overview of the selected climate scenarios

Isio's climate scenarios are taken from the four representative scenarios defined by the **Network for Greening the Financial System (NGFS)**.

Net Zero 2050

- Aligns with the most ambitious target of the Paris Agreement, a <1.5°C scenario this century (50% likelihood)
- Optimistic scenario, where climate policy is implemented immediately, from today
- Achieves net zero carbon emissions by 2050. Some regions, e.g. EU and US, achieve net zero across all GHGs by that date
- Physical risks are minimised, however transition risks are extremely high

Delayed transition

- Aligns with the less ambitious target of the Paris Agreement, of a well below <2°C scenario this century (67% likelihood)
- Emissions do not peak until 2030, with strong climate policies then needed to align with the Paris Agreement outcome
- There is regional variation in climate ambition
- Physical risks remain lower (vs high carbon scenarios), whilst transition risks incurred later than in Net Zero 2050

Fragmented world

- Fails to achieve the Paris Agreement, resulting in a >2°C scenario this century
- Generally, there is delayed and divergent climate policy ambition, globally
- Net zero targets are partially achieved, with those falling short continuing along a business as usual (or current policies) pathway
- Transition risk is high in some countries (i.e. those achieving net zero targets), whilst physical risks increase in general given the ineffectiveness of the transition

Current policies

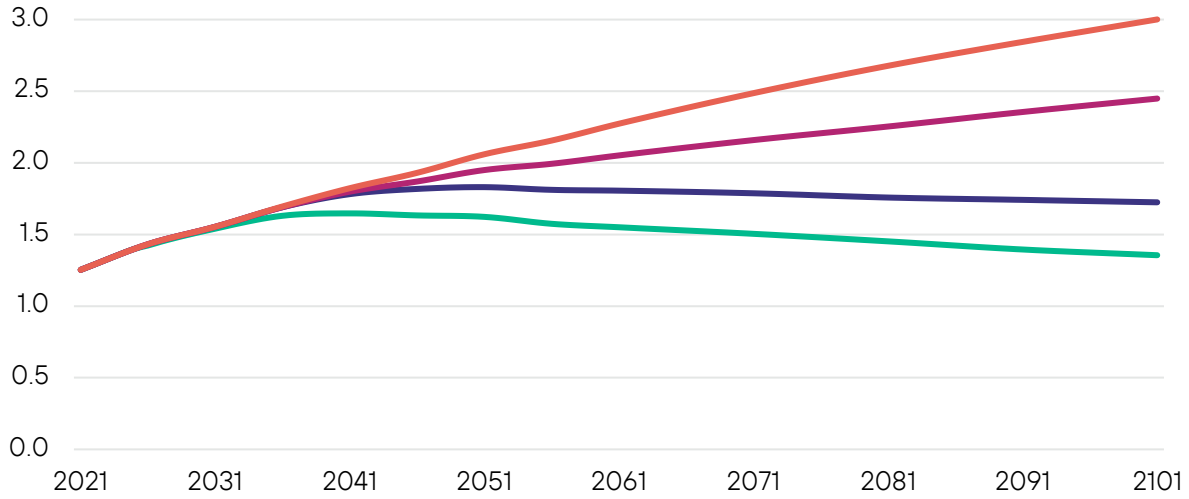
- Fails to achieve the Paris Agreement, resulting in a >3°C scenario this century
- The scenario assumes currently implemented policies remain in place, with no further climate ambition
- There is low regional variation in climate ambition, globally
- Very high physical risks result (equivalent to a "hot house world"), with irreversible changes in the climate system. Meanwhile, transition risks remain extremely low

Note: These scenarios encompass specific assumptions and descriptions provided by NGFS to illustrate potential future climate-related outcomes.

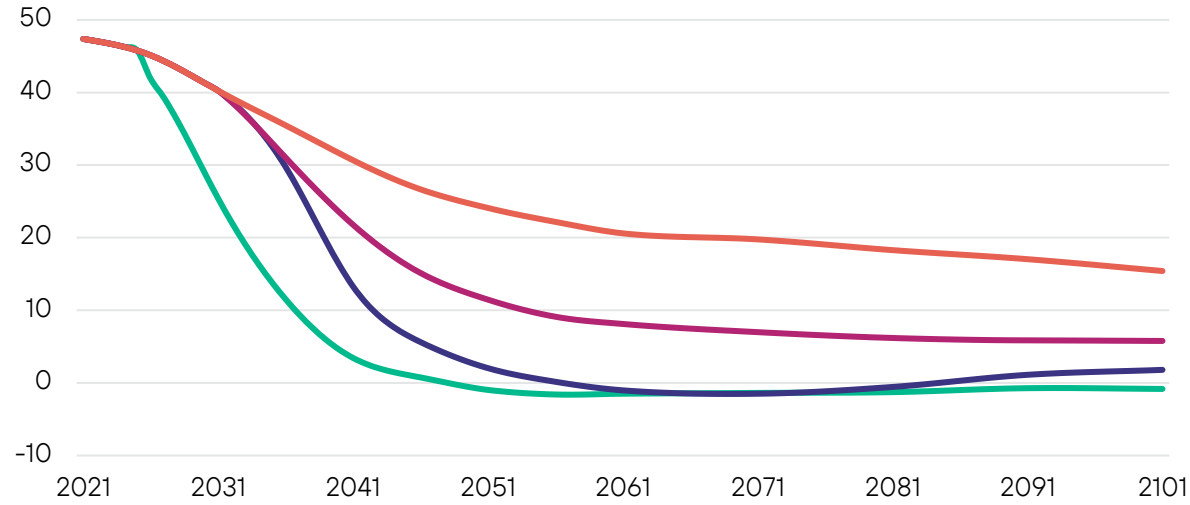
We also include a 'climate neutral' baseline scenario that assumes a continuation of the world today, with current policies in place and no costs associated with transitional or physical climate risk.

Scenarios – Underlying assumptions (2025)

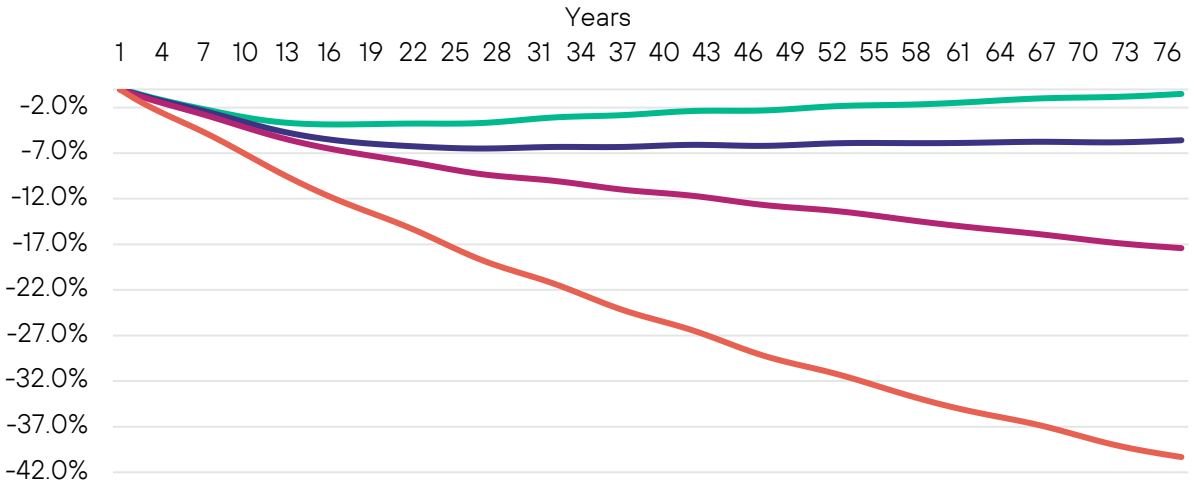
Temperature change (^{0}C)



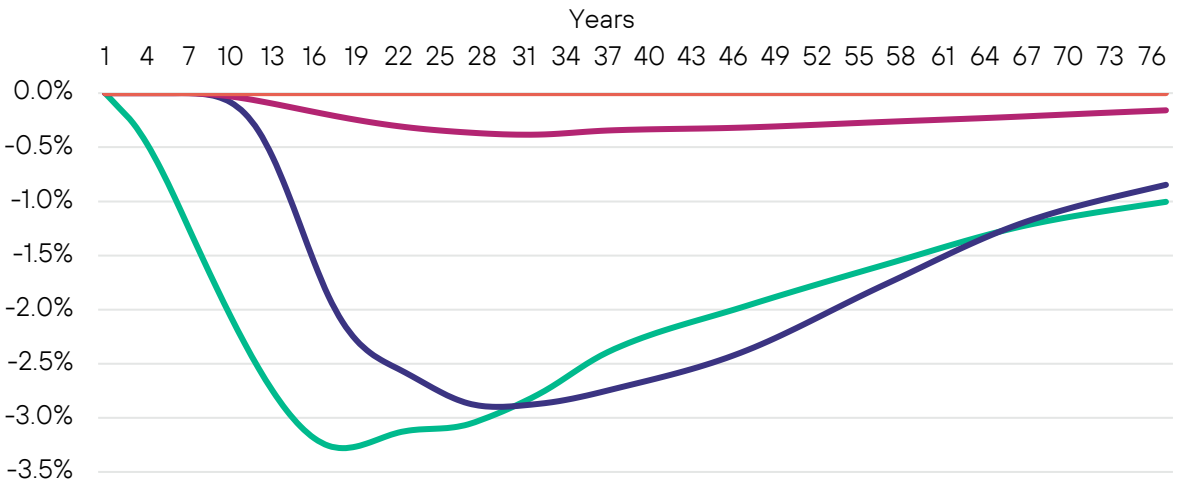
Global emissions (GtCO2e a year)



GDP Impact from Physical damages (% vs baseline)



GDP Impact from Abatement (% vs baseline)



Source: Moody's, NGFS. GDP impact measured relative to USD.

Net Zero 2050 | Delayed Transition | Fragmented World | Current Policies

Quantitative analysis – Modelling limitations

1 Tipping points

- Investor approaches to climate change scenario analysis are necessarily **simplified**
- Investor modelling uses linear equations to represent the climate system which cannot capture irreversible changes in the climate system, known as climate **tipping points**

2 Granularity

- We assume climate-related impacts are the same for each **asset class** as a whole, in reality, the actual underlying companies may perform better or worse than the global average
- Climate modelling simulates **large-scale systems**, small-scale localised impacts become harder to represent

3 Other limitations

- We cannot model "**unknown unknowns**" i.e. climate risk or technological progress not yet discovered
- Modelling involves very long time horizons and any **uncertainties** will compound over time

We note there are also other limitations, not mentioned here in order to focus on the key challenges only.

Scenarios Analysis Results

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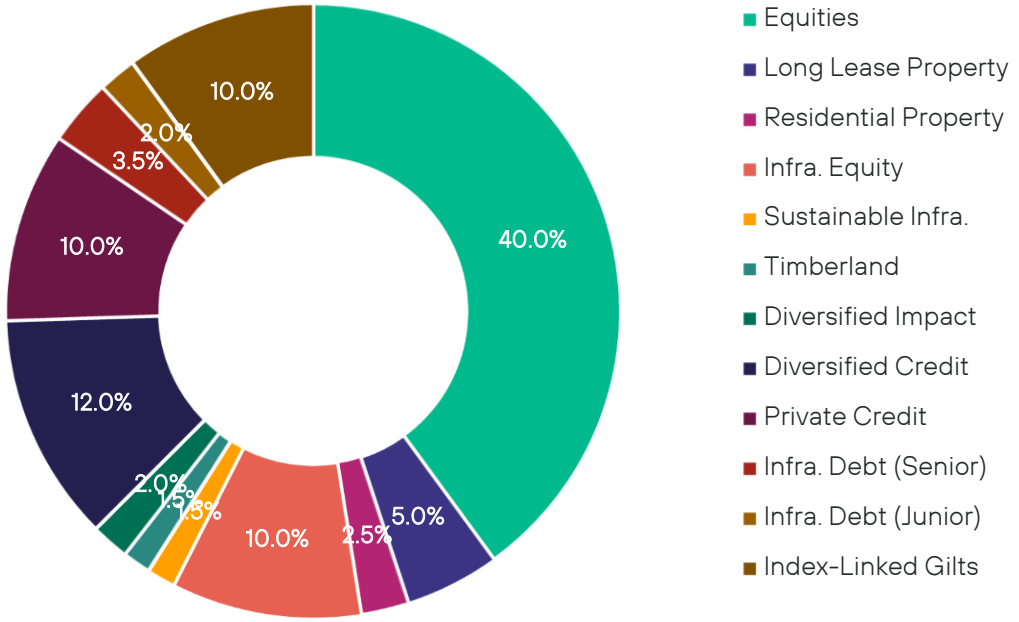
Current portfolio and assumptions

- Within this climate scenario analysis, we have modelled the target strategy outlined on the right, these allocations are modelled to stay static over time.

- The assets and liabilities have been analysed as at 31 March 2025, and have been adjusted for the following to align with the subsequently agreed strategic allocations:
  - The remaining allocation to Balanced Property (via the UBS Property) has been excluded from the portfolio.
  - The commitment to Diversified Impact (via the M&G Social Investment Fund) has been included in the portfolio.
  - The rest of the portfolio has been scaled accordingly to allow for the above adjustments.
  - We have modelled the following mandates on a climate-aware basis which includes an allowance for a "Greenium assumption".
    - L&G Future World Global Equity Index Fund
    - Baillie Gifford Global Alpha Paris Aligned Fund
    - Nuveen Global Timberland Fund
    - Quinbrook Renewable Infrastructure Fund



Asset impacts – Target investment strategy

The charts below show the modelled impact for each of the climate scenarios on the investment strategy.

Asset impacts – p.a. return drag relative to Baseline scenario

Scenario	Short-term 3 years	Medium-term 10 years	Long-term 20 years	Very Long-term 50 years
Net Zero 2050	-2.0%	-1.9%	-1.2%	-0.2%
Delayed Transition	-0.6%	-1.3%	-1.4%	-0.5%
Fragmented World	-0.9%	-1.2%	-1.1%	-0.8%
Current Policies	-1.4%	-1.8%	-1.8%	-1.7%

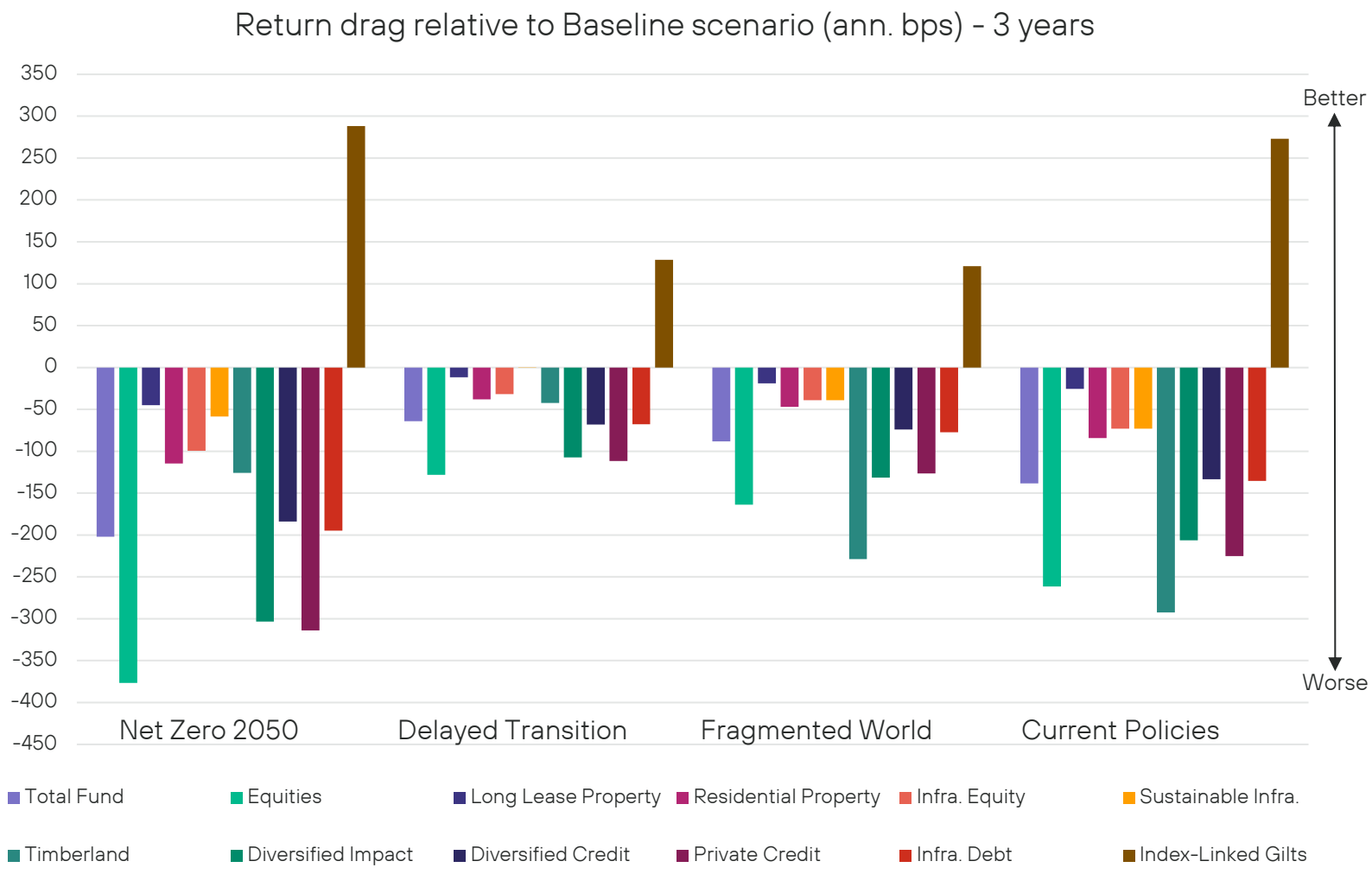
< -1.0% p.a. | -1.0% – 0.5% p.a. | -0.5% - 0% p.a. | > 0% p.a.

Key points

- Over the short term, the Net Zero 2050 scenario experiences the most return drag relative to the base scenario due to the immediate impact of transition costs incurred as the world decarbonises to achieve its Paris Agreement goals.
- Net Zero 2050 improves steadily over longer horizons as early transition costs decline while physical risks remain low. As climate stability strengthens and policy transparency increases, long-term asset values recover, making Net Zero 2050 the best-performing scenario over 50 years. We have included detailed longer-term analysis in the appendix.
- Conversely, over the longer term, the Current Policies scenario experiences the most return drag, relative to the base scenario, as physical climate risks compound over the longer term, resulting in increased drag on return.
- Over the short-term, transition costs are incurred, under Net Zero 2050. This reinforces the importance of having an investment strategy that invests in companies that are ready for the transition, so costs are minimised.

The Baseline scenario assumes no transition or physical impacts of climate change i.e. a climate neutral scenario.
Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown. Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
The model's projections are sensitive to the underlying methodology and assumptions. No guarantee can be offered that actual outcomes will fall within the range of simulated results. Due to the long projection period, the model's outcomes are particularly reliant upon the underlying assumptions. Therefore, more attention should be paid to the relative comparisons between different projections than to the absolute magnitude of the results.

Asset class impacts (short-term)



Key points

- These results isolate the impact against each asset class. In Net Zero 2050, transition costs show through more strongly in the short-term, as the world decarbonises to achieve the Paris Agreement goals. Physical risks are also apparent, reflective of nearer-term physical damages expected as a result of a rising temperature environment.
- Liquid markets experience first wave impacts, as low carbon risks and opportunities are quickly priced in. Equities are generally the most impacted. The investment return drag for the credit asset classes is less significant.
- Over the short term, return drag is smaller under the Delayed Transition and Fragmented World scenarios than under Net Zero 2050 or Current Policies, as transition costs are low as policy reaction is delayed, while physical risks also remain relatively low.
- While yields are expected to decrease as investors flock to safe assets. These scenarios are likely to be inflationary, further benefitting index-linked gilts. Timberland is resilient under Net Zero scenarios, but face risks in the higher temperature scenarios.
- Results for the Current Policies scenario show Long-lease property offers slight resilience through stable, inflation-linked income streams.

Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown.
Note that annualised return drags are shown but costs and impacts in reality won't be uniform. Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
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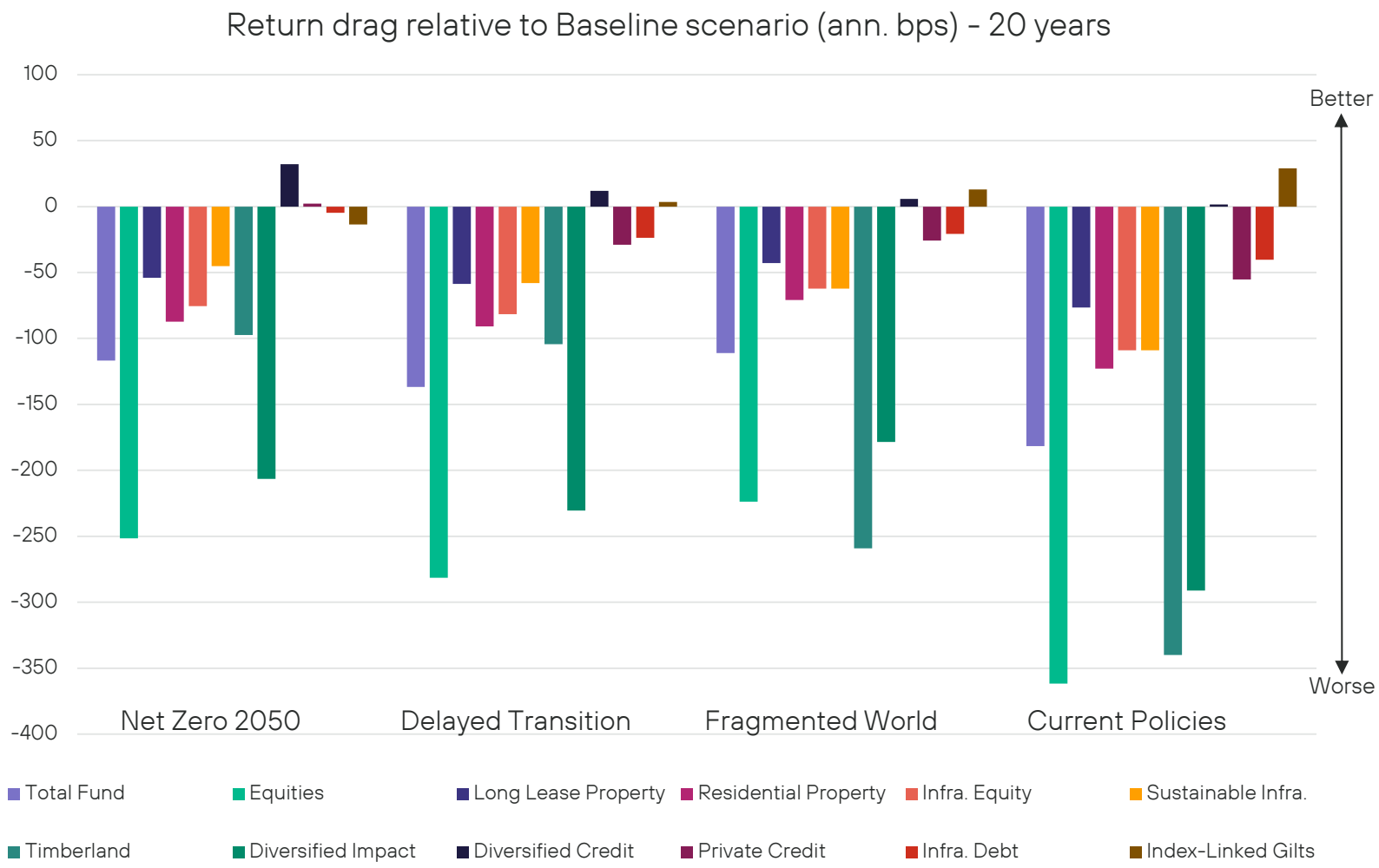
Asset class impacts (long-term)



Key points

- The long-term time horizon shows the intersection of decarbonisation risks (or transition costs) and physical risks.
- Under Net Zero 2050 which sees earlier adjustment and earlier long-term policy direction, as a result transition costs have already peaked and now reducing, and physical damages are limited. While the ramping up of physical damages under Current Policies becomes clear over this period, showing the greatest impact to return. While Delayed Transition and Fragmented World balances differing degrees of transition and physical risks.
- Index-linked gilts and credit (senior) assets remain relatively resilient due to a flight to safer assets, inflation-linkage and stable cashflows that offer protection against shifting market conditions.
- Physical risks under Fragmented World and Current Policies, as expected, have a notable return drag on Timberland, as rising temperatures and extreme weather events impact production and operations.
- We believe the investment management industry as a whole is less well positioned to adapt to the physical risks of climate change (with stronger emphasis being placed on decarbonisation), although some opportunities are beginning to come to market.

Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown.
Note that annualised return drags are shown but costs and impacts in reality won't be uniform. Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
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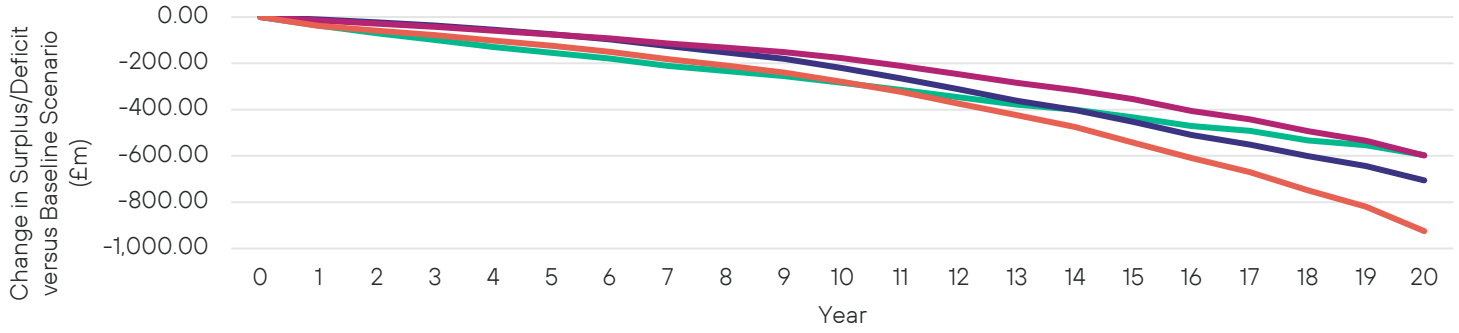
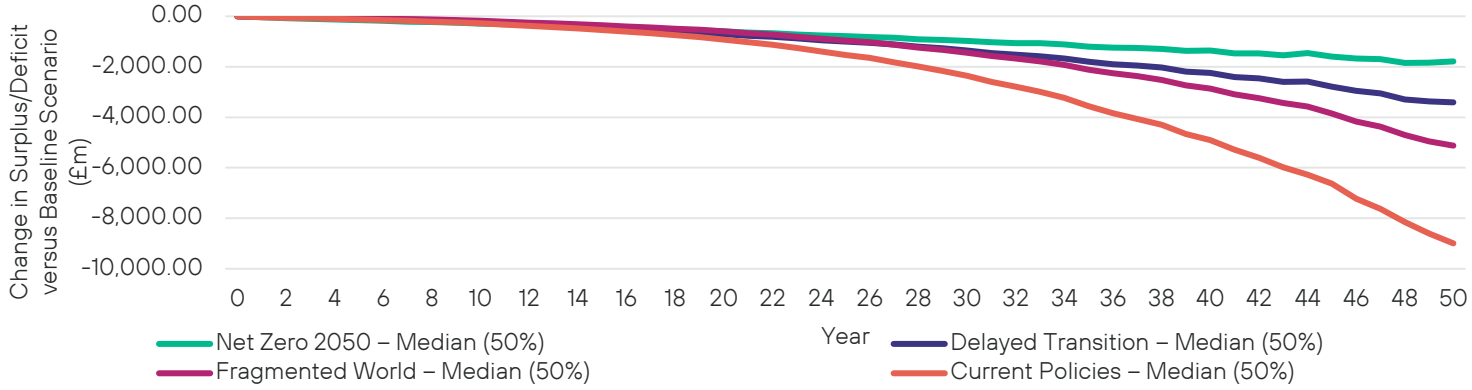
Funding level projections

The charts below show the modelled change in surplus/deficit under the Fund's investment strategy for each of the climate scenarios, relative to the Baseline scenario.

Long-term (20 years)



Very long-term (50 years)



Projected surplus/deficit (£m, median)

Scenario	3 years	10 years	20 years	50 years
Baseline	444	872	2,167	14,479
Net Zero 2050	345	588	1,571	12,695
Delayed Transition	407	652	1,462	11,070
Fragmented World	402	695	1,569	9,357
Current Polices	367	593	1,242	5,485

Key points

- The funding position is strongly impacted by the pathway followed and over varying timeframes.
- If the world fails to transition to a low carbon economy, over the longer term, the Current Policies scenario shows the impact on the funding position from significant, irreversible physical impacts. Over a 50-year period this is estimated to result in a c.£8,994m reduction in surplus, compared with Baseline (of £14,479m).

The Baseline scenario assumes no transition or physical impacts of climate change i.e. a climate neutral scenario.
Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown. Liabilities are modelled on a gilts +0.8% basis.
Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
The model's projections are sensitive to the underlying methodology and assumptions. No guarantee can be offered that actual outcomes will fall within the range of simulated results. Due to the long projection period, the model's outcomes are particularly reliant upon the underlying assumptions. Therefore, more attention should be paid to the relative comparisons between different projections than to the absolute magnitude of the results.

Scenario analysis – Key takeaways

- Over the short and medium term, the **costs associated with the transition to a lower carbon economy** are clear within the Net Zero 2050 and Delayed Transition scenarios. This reinforces the focus on investing in companies that are prepared for the transition, where transition risks are minimised.
- Over the longer term, the **costs relating to physical damages are significant** within the Current Policies scenario, with temperatures reaching a >3°C rise above pre-industrial levels by the end of the century.
- Whilst impacts under the Current Policies scenario are lower over the shorter term than under Net Zero 2050, consideration should be given to the **wider implications** of this scenario and impacts over the longer term. Short-term impacts have also notably increased under the Current Policies scenario since the previous analysis carried out in 2023, as physical risks have become more material over the near-term as the world fails to progress towards its Net Zero ambitions.
- The Equity, Diversified Impact and Timberland mandates have potentially the **greatest exposure to transitional and/or physical risk**. The allocation to equity is relatively large today but could reduce somewhat as the Fund matures and continued to de-risk over time. Conversely, it is expected the Fund's allocation to natural capital (e.g. timberland) will increase over time, given the Fund's ESG and impact objectives, therefore the results reinforce consideration of possible mitigation of physical risks over the longer term to the asset class, via engaging with the managers and investing in mitigation opportunities.

This analysis provides a base case for future discussions and to consider longer term opportunities.

Considerations

Note: The considerations presented here are based on our reflections and interpretations. They should be viewed as our informed opinions rather than definitive investment statements.

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Opportunities

	Sustainable Equity Funds	Sustainable Diversified Private Markets	Renewable Infrastructure	Natural Capital
Summary	A fund which invests in companies that meet certain sustainability criteria and align with ESG principles, meaning they consider not just financial profits, but also the broader impact of companies.	Investing directly in a diversified portfolio of private assets with a sustainable objective.	Investing directly in infrastructure assets that facilitate the carbon transition.	Investing directly in a diversified portfolio of real assets (forestry, agriculture, etc) that directly have a positive influence on biodiversity and non-living matter (soils, air, water etc).
Implementation route	Replace one or more of the current equity mandates.	Top-up existing mandate or commit to a second new mandate.	Re-commit to next vintage of existing mandate or new mandate to complement the existing renewable infrastructure exposure	Top up of existing timberland allocation or diversification through a new mandate.
Strategic fit	✓ High levels of liquidity ✓ Availability of diversified exposures to a variety of sectors and regions ✓ Tend to be low-cost and passive × May underperform traditional equity funds	✓ Higher return target typically with private equity × Long lock-up periods × Limited availability of sustainable private market assets, although we believe this is a developing area	✓ Can deliver robust and stable returns over the long-term ✓ Resilient to the carbon transition × Long lock-up periods × High allocation to illiquid assets	✓ Can deliver robust and stable returns over the long-term ✓ Resilient to the carbon transition ✓ Further diversification × Long lock-up periods × High allocation to illiquid assets

Mortality considerations

- **Longevity risk will also have an impact on funding under different climate scenarios.**

- Under the Current Policies scenario, we expect higher incidence of damaging storms, water shortages, higher pollution levels and reduced agricultural yields (leading to higher food prices). There may, therefore, be no (or limited/lower) long-term future improvements in mortality.
- Fewer deaths from warmer winters may more than offset any impact of heatwaves but the impact is likely to be marginal. Mortality will likely be higher, leading to a lower liability valuation.
- In contrast, under the Net Zero 2050 scenario, mortality will likely have the opposite effect with better air quality and improved health conditions which may lead to higher longevity (i.e. more people living longer) and thus increase the value of the Fund's liabilities.
- The Fund Actuary may want to provide quantitative analysis to assess the impact on mortality/longevity across the same or similar scenarios and Isio can follow up with them if this is of interest.

Climate Dashboard

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Climate dashboard

Low
Average
High

Risk	Time frame	Assets											Liabilities	Covenant
		Equities	Long Lease Property	Residential Property	Infra. Equity	Sustainable Infra.	Timberland	Diversified Impact	Diversified Credit	Private Credit	Infra. Debt	Index Linked Gilts		
Transitional (net zero scenario*)	Short term (3 years)												TBC	TBC
	Medium term (10 years)													
	Long term (20 years)													
	Very Long term (50 years)													
Physical (current policies scenario)	Short term (3 years)												TBC	TBC
	Medium term (10 years)													
	Long term (20 years)													
	Very Long term (50 years)													

Expected allocation change reflects the expected change in asset mix as the Fund's funding position improves and membership matures.
* The directional impacts under the Net Zero 2050 and Delayed Transition scenarios are likely to be similar, albeit the magnitude and timing is expected to differ.

Next Steps

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Next steps – TCFD report

The TCFD report lays out the Committee's governance processes and key findings with respect to climate change reporting, in line with the TCFD's expected framework for LGPS.

This is not yet a requirement for LGPS to complete this report – and the timescales for it becoming a requirement remain unknown – however the Committee have published annual TCFD reports over the last two years voluntarily.

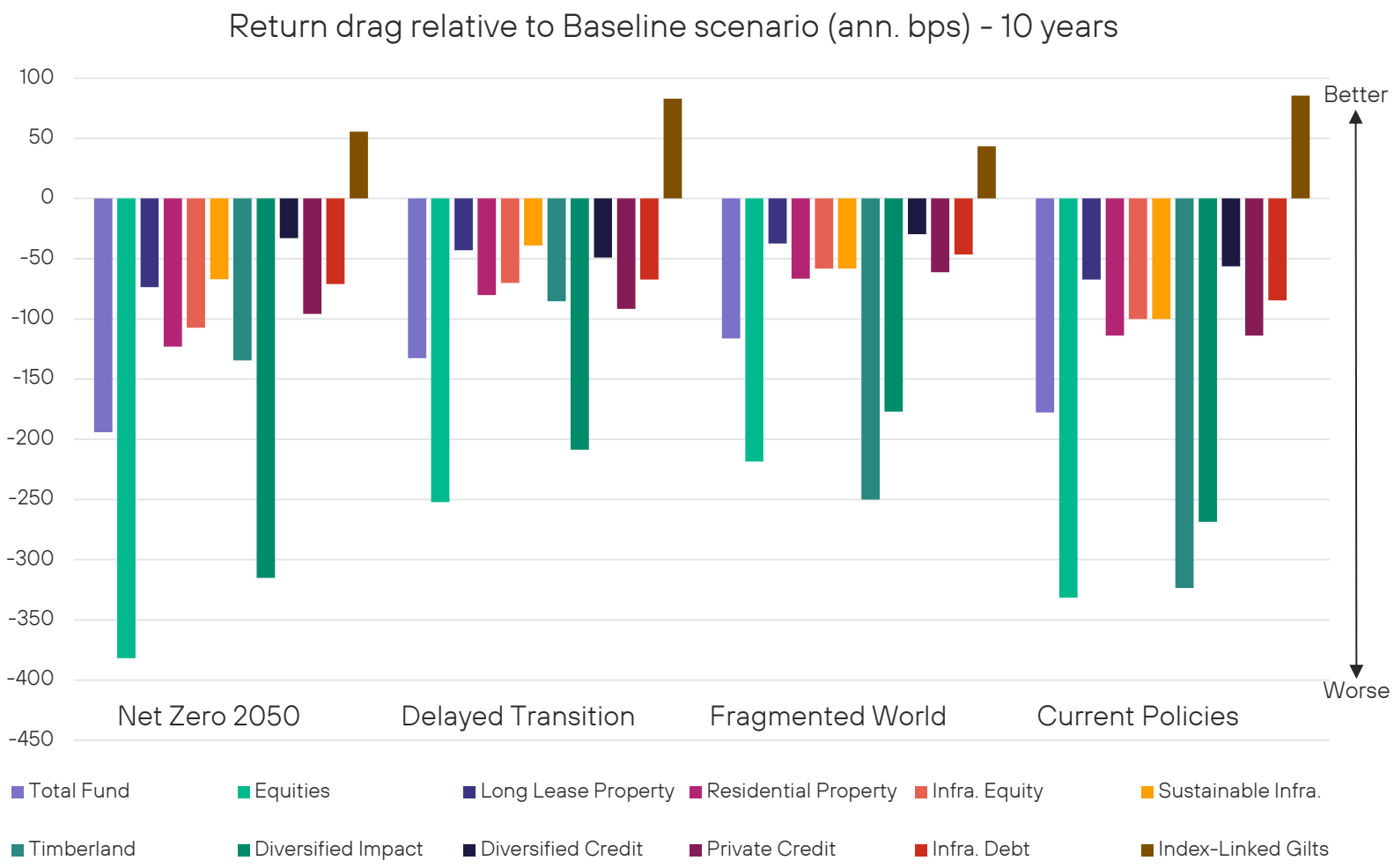
The Fund will soon complete its third TCFD report which will be made publicly available in line with the Fund's Report & Accounts timeframes.

The TCFD recommendations focus on four pillars of disclosure:

1. **Governance** – Committee governance relating to climate risks and opportunities
2. **Strategy** – The actual and potential impact of climate risks & opportunities on the Fund
3. **Risk Management** – How the Committee identifies, assesses and manages climate-related risks
4. **Metrics and Targets** – To identify and manage climate risks

Appendix

A1: Asset class impacts (medium-term)



Key points

- Relative to the Baseline scenario, as transitional and physical costs increase in the medium-term, some asset classes are impacted more than others. Physical damages become clearer under Current Policies.
- As with the other timeframes analysed, the equity assets have the strongest negative impact on returns.
- Net Zero 2050 creates the largest drag as accelerated transition costs weigh on equities and diversified alternatives, albeit this has already marginally reduced relative to the immediate impacts under the short-term, 3-year period.
- Returns under Current Policies are also impacted over the medium-term, driven by rising physical risks and increasing climate-related costs. Yields are expected to fall as investors shift toward safer assets and an increase in inflation, would support index-linked gilts, property and credit assets.
- Delayed Transition and Fragmented World show smaller impacts as both transition costs and/or physical risks are yet to fully come through.
- Timberland is affected more under Current Policies and Fragmented World due to escalating climate-related events but remains less so under Delayed Transition and Net Zero 2050, as physical damages are more limited.

Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown.
Note that annualised return drags are shown but costs and impacts in reality won't be uniform. Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
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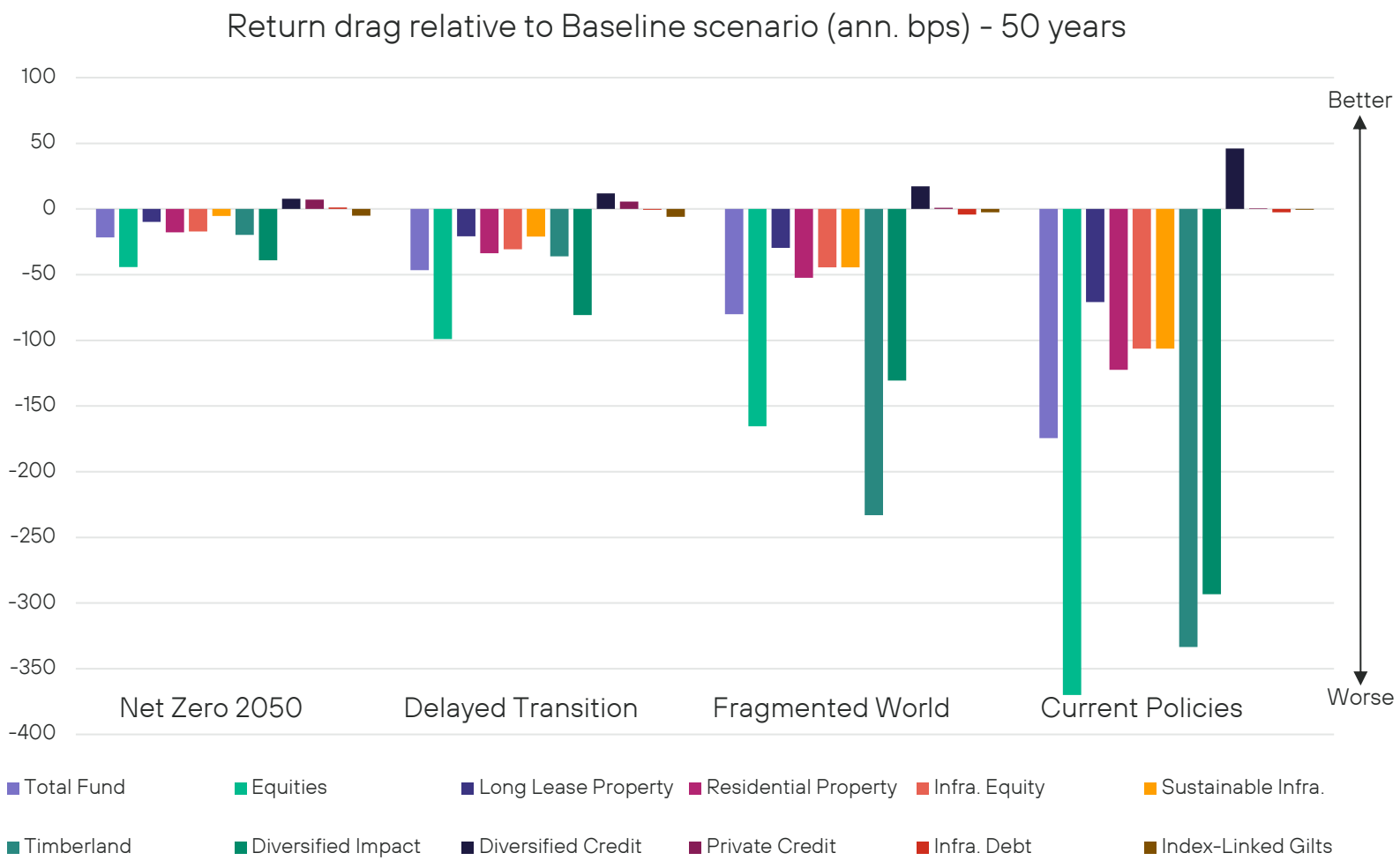
A1: Asset class impacts (very long-term)



Key points

- Over the very long term, the difference in return drag under the Delayed Transition scenario and an immediate transition to Net Zero (under Net Zero 2050) is somewhat limited as transition risk impacts have largely been absorbed earlier and under both scenarios physical damages are somewhat contained.
- The impact at Fund level is much more pronounced under the Current Policies scenario over the very long term as extreme physical risks have led to irreversible climate damage. As expected, extensive climate damage has material impact on the Fund's equity, timberland and diversified impact assets.
- Under Fragmented World, the return drag is higher relative to a Delayed Transition, due to higher physical risks coming through, although countered by lower transition costs over the period. This, as expected, particularly impacts equity and timberland, while other asset classes experience more modest long-term impacts with a flight to safer assets.
- Under the Net Zero 2050 scenario, early transition costs fade, while strong mitigation keeps physical risks low. As a result all asset classes experience relatively low return drag, making this the most favourable scenario over the 50 year period.

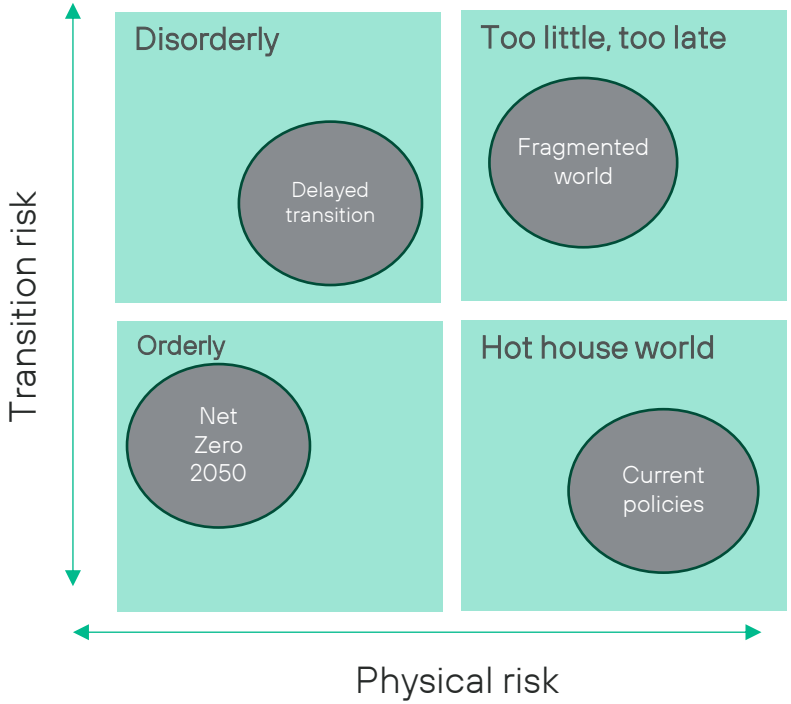
Source: Isio, Moody's. This is based on stochastic modelling, with the median outcome shown.
Note that annualised return drags are shown but costs and impacts in reality won't be uniform. Whilst we have modelled the potential physical and abatement costs over the next 50 years, in theory, markets may price these in sooner.
The model's projections are sensitive to the underlying methodology and assumptions. No guarantee can be offered that actual outcomes will fall within the range of simulated results. M&G Social Investment Fund has been modelled as Diversified Alternatives ("Diversified Impact" in chart), based on available asset class assumptions suitable for the allocation.

A2: Overview of transition and physical risks

Climate scenarios are hypothetical futures, which can apply **different levels of climate action** and explore how this translates into the price, availability and deployment of low carbon technologies. The resulting emissions and temperature pathways will therefore produce a unique combination of physical and transition risk with differing economic and financial impacts over time.

- **Transition risks –** risks arising from the transition to a low carbon economy, which are expected to be strongest in the short-term given climate-related regulatory developments, market trends and decarbonisation action. The timing and the speed of the transition are important in determining the extent of transition risks.

- **Physical risks –** risks arising from the physical impacts of climate change (including both sudden onset natural disasters and slower shifts in weather patterns), which are expected to scale up in the long-term - as atmospheric emissions increase global average temperatures, impacting on climate systems. This warming will make the climate more extreme and unpredictable, with impacts most severe under high emissions scenarios.



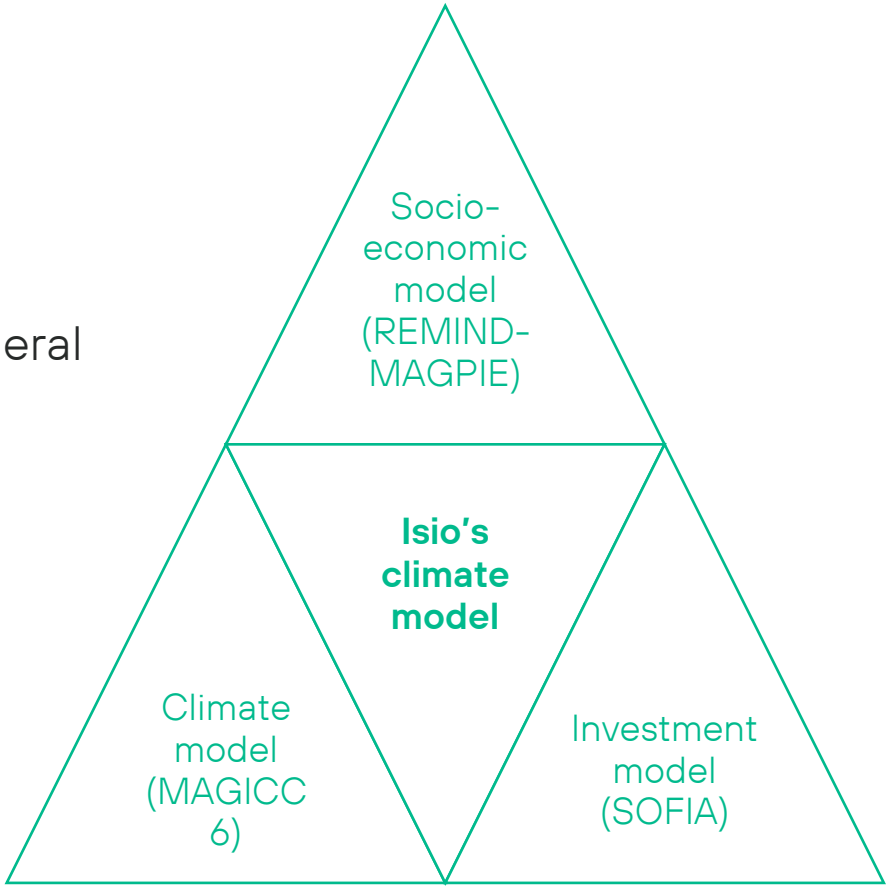
Source: Moody's; NGFS

A3: Isio's climate model building blocks

We have partnered with Moody's to deliver a climate change model. Isio's proprietary SOFIA model now incorporates a variety of **climate change scenarios**, in order to understand the potential impacts of rising transitional and physical costs associated with climate change, on a client's investment strategy and funding position (DB only).

An overview of the model, across **3 building blocks**:

1. Climate modelling is based on the MAGICC 6* climate model
2. Socioeconomic modelling is based on the REMIND-MAGPIE* general equilibrium model
3. The investment model is Isio's SOFIA model



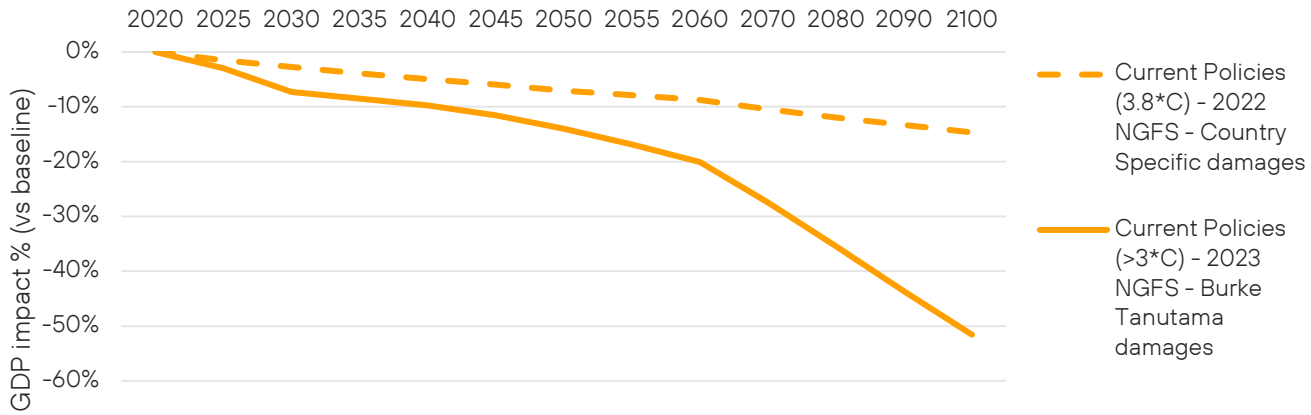
*We can provide further details on these models on request.

A4: Climate scenario modelling and physical risk

Assessing climate impacts for pension schemes is a developing area. The Institute and Faculty of Actuaries (IFoA) has released a paper demonstrating how current scenario modelling techniques exclude many of the most severe impacts we can expect from climate change.

Modelling Issues	**Complexity of the Earth's climate system, e.g. ability to model tipping points**	**Flawed underlying assumptions, e.g. physical risks already occurring**	**Difficult integration of climate and financial models**	**Limited consideration of tail risks, e.g. geo-political uncertainty leading to increased fossil fuel reliance**	**Limited granularity and understanding of asset-level risks**
Implications	1. Underestimation of climate risks may leave trustees more exposed to unforeseen climate risks and miss out on potential opportunities 2. Difficulty in integrating climate and financial models can hamper effective portfolio management strategies and portfolio climate-resilience 3. Inadequate consideration of climate risks at the asset level may increase stranded asset risk exposure.				
Responses	1. Stress test portfolios against a wider range of climate scenarios, including tail risks 2. Diversify risk assessment approaches 3. Enhance climate literacy of trustees and advisers 4. Collaborate with experts				

Latest thinking and development in the climate and pensions industries has led to a material scale up in the magnitude of modelled climate risks (particularly across physical risks).



Notes: Moody's interpretation of scenarios released by Network for Greening the Financial System (NGFS)

A5: How Isio's climate model deals with model limitations

Against the backdrop of the limitations highlighted in the previous slide, the enhanced iteration of our climate model aims to tackle these challenges through the implementation of the following changes:

- **Scale up physical costs**: This aims to address the underestimation of climate risks by better integrating the physical costs associated with various climate-related phenomena.
- **Model more extreme scenarios**: Acknowledging the computational constraints for extreme events and tipping points, our updated model strives to simulate a broader range of extreme scenarios.
- **Stress testing**: Our climate model will undergo rigorous stress testing to assess its robustness and resilience under various adverse conditions.
- **Qualitative analysis**: Recognising the limitations of purely quantitative approaches, our updated model incorporates qualitative analysis.

While our model currently lacks asset-level modelling and does not fully address climate-financial intersections, we anticipate future advancements in market developments.

A6: Return and volatility assumptions

Introduction to the assumptions

- These are our "best estimate" asset class return, volatility and correlation assumptions. We believe there is a 50:50 chance that the actual outcome will be above/below our assumptions.
- The assumptions are expressed in absolute terms over a 10-year period however the modelling period is longer than 10 years.

- **Return assumptions are:**
  - Annualised (i.e. geometric averages), rounded to the nearest 0.1%.
  - Expressed relative to the yield on fixed interest gilts (the annual yield at the 10-year tenor on the Bank of England spot curve). This yield was 4.8% at 31 March 2025.
  - Net of management fees.
  - Before tax. UK pension schemes are exempt from tax on investments. The impact of taxation may reduce returns for other investors.

- **Volatility assumptions** are based on the standard deviation of annual returns over a 10-year period, rounded to the nearest 0.5%.
- Bond volatilities are sensitive to the duration of the index. Our Fixed Interest Gilts (FIG) and Index-Linked Gilts (ILG) assumptions both relate to Over 15 Year indices, but the cashflow profile of the ILG index is considerably longer than the FIG index. Hence, the difference in volatilities does not necessarily mean that real yields are assumed to be more volatile than fixed yields, or visa versa.
- Please note that the assumptions have a subjective element, particularly for asset classes with less history and greater reliance on active management.
- These assumptions are the "baseline" assumptions, before climate impacts are accounted for with the non-baseline scenarios.

Return and volatility assumptions – 31 March 2025

Asset Class	Sector [1]	Return (%) [2]	Volatility (%) [3]	Greenium (%) [4]
Equity	Global Passive (climate-aware)	4.1	20.0	0.20 – 0.45
	Global Unconstrained Active (climate-aware)	5.0	21.0	0.10 – 0.23
	Global Unconstrained	5.0	21.0	0.10 – 0.23
	Global Core Active	4.5	20.5	0.10 – 0.23
Property	Long Lease Property	2.5	8.0	
	Private Rented Sector	3.0	13.0	
Credit	Direct Lending	4.2	10.5	
	Infrastructure Debt - Senior	2.0	6.0	
	Infrastructure Debt - Junior	3.3	9.5	
	Multi-Asset Credit (lower risk)	2.6	6.5	
Alternatives	Diversified Alternatives	6.0	18.0	
	Infrastructure Equity (higher risk)	4.9	15.0	
	Sustainable Infrastructure	4.9	15.0	0.00 – 0.40
	Timberland	4.5	15.0	-2.00 – 2.00
Gilts	Index-Linked Gilts (>15y) – Passive	0.0	12.3	-

Notes:
1. Includes active management except where specified as passive.
2. Expected return per annum, net of fees, relative to the yield on fixed-interest gilts.
3. Expected standard deviation of absolute annual returns.
4. Greeniums only allocated for 'climate aware' strategies used within the strategy and are scenario specific. Greeniums apply for first 15 years of modelling period only. There is no greenium for asset-backed securities.

Source: Isio

A7: Modelling methodology (1)

Data and sources

- Information on characteristics of the Fund's liability profile, including the split between membership types, was taken from information provided by Hymans Robertson in relation to the 31 March 2023 actuarial valuation, with liabilities rolled forward to 31 March 2025. The 31 March 2025 funding position was calculated by Isio based on the liability value from Hymans and asset value calculated by Isio.

Modelling principles

- SOFIA is a stochastic model that simulates a large number of possible future economic outcomes, in which financial conditions develop in a number of different ways, defined by assumptions for average outcomes, range of variability, and inter-dependency between different markets.
- The high-level market scenarios are generated by a third-party Economic Scenario Generator (ESG) provided by Moody's Analytics. The ESG is an industry-standard tool that is widely used by financial institutions (e.g. insurers, asset managers, and investment banks).
- Based on the scenarios generated by the ESG, SOFIA simulates asset-class returns calibrated to Isio's asset-class assumptions.
- SOFIA takes the initial starting position of the assets and the liabilities, and projects these values forward under the simulated scenarios, taking into account any relevant inflows and outflows.
- Different investment strategies are modelled in order to illustrate the effects of different allocations. In each case, SOFIA assumes that the strategy remains constant over the full projection period. Assets are annually rebalanced back to the original allocations.

Modelling results

- The results of the projections are shown by ranking the calculated results from best to worst in each year, and presenting the following outcomes:
- Median: this is the middle outcome and can be thought of as the "expected result". Half of the modelled outcomes are better than this and half are worse.
- Bad: this splits the results so that there is a one in five (20%) chance of having a worse outcome. This is a measure of risk.
- Very Bad: this splits the results at a one in twenty (5%) chance of having a worse result. This is a more extreme measure of downside risk.
- Good and Very Good (where shown): these illustrate possible positive outcomes at the 20% and 5% levels respectively.
- The "Value at Risk", where shown, is defined as the difference between the Median outcome and the Very Bad outcome, i.e. it represents the variability of funding outcomes and shows the magnitude of the possible downside from the expected result. Please note that this is not the same as the possible downside loss from the starting position.

A7: Modelling methodology (2)

Compliance statement

- This report, and the work relating to it, complies with "Technical Actuarial Standard 100: Principles for Technical Actuarial Work" ("TAS 100").
- This report has been prepared for the purpose of assisting the addressee in their review of the investment strategy. If you intend to use it for any other purpose or make any other decisions after considering this report, please inform Isio and we will consider what further information or work is needed to assist you in making those decisions.

Material assumptions

- Isio's central asset-class assumptions are assessed and revised at each calendar quarter-end. The assumptions used within this modelling exercise are set out in the Appendix.
- Certain assumptions are sourced directly from the Moody's Analytics ESG and available market data, or set via adjustments to these sources. Where required or deemed to be more appropriate, assumptions are entirely determined by Isio. The assumption setting process is subjective and based on qualitative assessments rather than a wholly quantitative process. Where judgement is required, input is received from Isio's internal asset-class research teams.

Limitations and risk warnings

- The only risk factors considered in our modelling are those that affect the values of pension schemes' assets and the financial assumptions used to value schemes' liabilities. Some of the risks that are not reflected include demographic risks (e.g. uncertainty of life expectancy), future changes to members' benefits, and legislative risks. The modelling results should therefore be viewed alongside those risks, as well as other qualitative considerations including portfolio complexity, governance burden, and liquidity risk.
- The model's projections are sensitive to the starting position and the econometric assumptions. Changes to the assumptions can have a material impact upon the output. There can be no guarantee that any particular asset class or investment manager will behave in accordance with the assumptions. Newer asset classes can be harder to calibrate due to the lack of a long-term history.
- The modelling analysis is based on portfolios containing a range of asset classes and different approaches to fund management. Clients should not make decisions to invest in these asset classes or approaches to fund management based solely on the modelling analysis.
- Portfolios that make use of derivatives are exposed to additional forms of risk and can experience losses greater than the amount of invested capital.
- No guarantee can be offered that actual outcomes will fall within the range of simulated results. Actual outcomes may be better than the simulated 95th percentile or worse than the simulated 5th percentile.

A7: Modelling methodology (3)

Liability basis

- Where the model illustrates a scheme-specific funding basis (e.g. Technical Provisions), the funding basis is calculated in the same way across all the investment portfolios modelled. We therefore focus on the effect of investment strategies on asset values and hence surplus/deficits, without the distorting effect of differing discount rates. However, in cases where the discount rate allows for a risk premium, the magnitude of the risk premium may depend on the proportion of return-generating assets in the portfolio, and therefore in practice the funding basis may be different under different investment strategies.

Contribution basis

- The model's projections may be based on either fixed or variable contributions:
- "Fixed contributions" means that the current schedule of deficit contributions is assumed to remain in place for the full projection period. The purpose of this is to illustrate pure investment risk, showing the effect of differing investment strategies without the distorting impact of different amounts of money being contributed. In practice, however, the long-term downside outcomes would be less likely to be reached, as poor intermediate outcomes would lead to a requirement for additional contributions after future valuations.
- "Variable contributions" means that the model simulates future actuarial valuations every three years, and calculates the future deficit contributions that might be required under the particular situations being projected. This illustrates the range of possible future contribution requirements.
- In addition to the deficit contributions, the model also calculates contributions required to fund future service accrual, if there are active members accruing additional pension entitlements. In this case a small amount of variability arises from the range of possible future inflation projections. Therefore the "fixed contribution" projections may still show minor differences in contributions between, for example, Median and Bad outcomes.

A8: Disclaimers

- This report has been prepared for the sole benefit of The Scottish Borders Council ('the Council') as Administering Authority of the Scottish Borders Council Pension Fund ("the Fund") and based on their specific facts and circumstances and pursuant to the terms of Isio Group / Isio Services Ltd's Services Contract. It should not be relied upon by any other person. Any person who chooses to rely on this report does so at their own risk. To the fullest extent permitted by law, Isio Group/ Isio Services Ltd accepts no responsibility or liability to that party in connection with the Services.
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- Isio Service Limited is authorised and regulated by the Financial Conduct Authority FRN 922376.
- Past performance is not a guide to the future. The value of assets can go down as well as up and you may not get back the amount you have invested.
- Please note that Isio may have an ongoing relationship with various investment managers/providers, some of which may be clients of Isio. This may include the Fund's existing investment managers. Where this is the case, it does not impact on our objectivity in reviewing and recommending investment managers to our clients. We would be happy to discuss this further if required.
- Isio's climate model has been developed in partnership with Moody Analytics and based on NGFS scenarios. Commentary is Isio's interpretation of results.

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