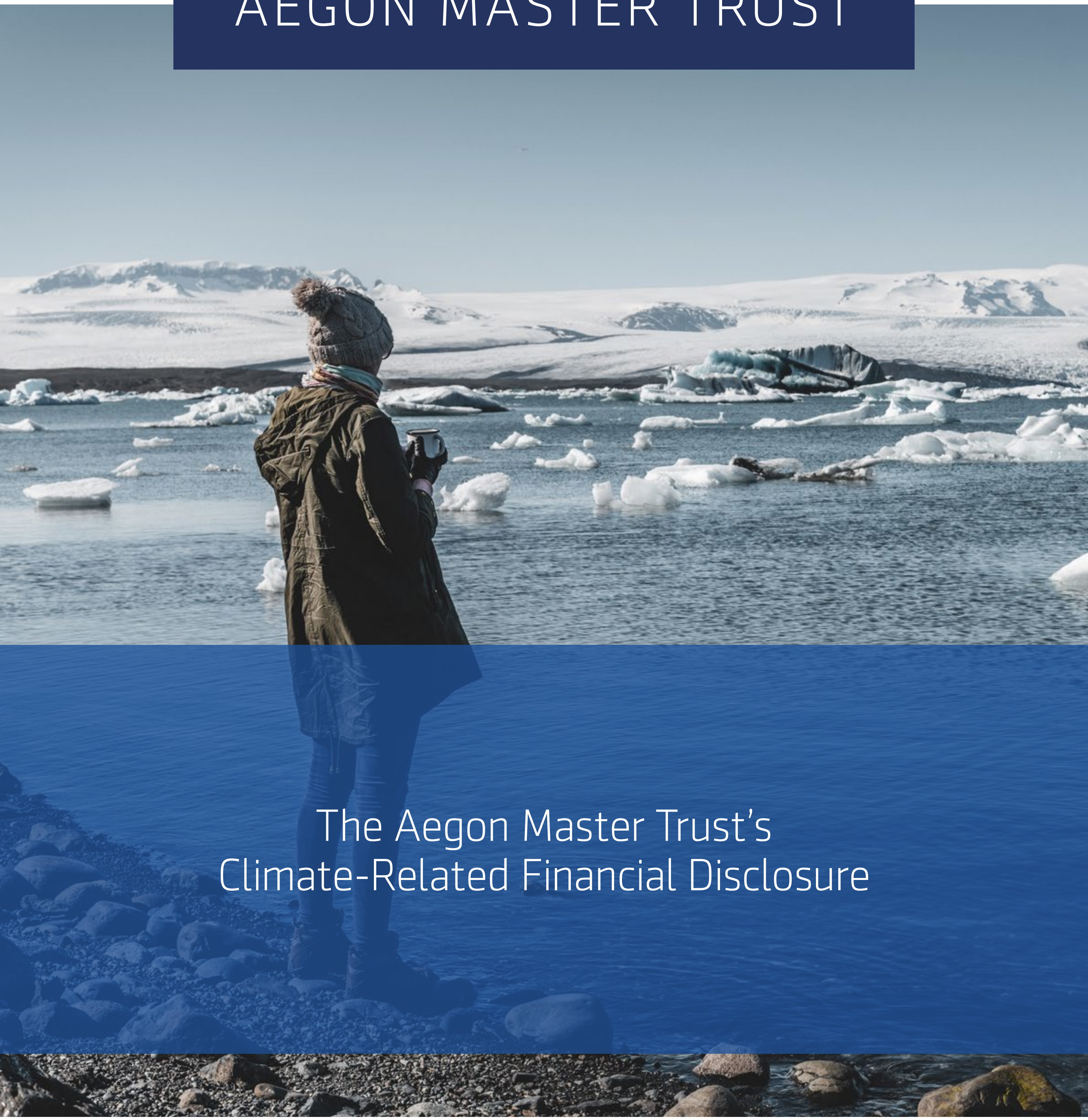
AEGON MASTER TRUST



The Aegon Master Trust's
Climate-Related Financial Disclosure

Important note:

Any assertion made in this document represents the Trustees' own opinion and not that of AEGON UK.

No member, beneficiary or other third party should place reliance on any forward-looking statement made in this report. No statement made in this document is intended to be construed as nor should be taken to constitute financial, legal or other commercial advice.

Neither the Trustees from time to time nor AEGON UK accept any responsibility for any act or omission made as a consequence of any opinion, or any other statement set out in this document.

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Executive summary

In 2021, the Department for Work and Pensions (DWP) introduced the Occupational Pension Schemes (Climate Change Governance and Reporting) Regulations 2021 (the Climate Reporting and Governance Regulations). This report discloses how we, the Trustees of the Aegon Master Trust (the 'Scheme'), addressed climate change-related risks and opportunities over the Scheme year 2021-22, based on the requirements in the above regulation, the related DWP statutory guidance[1] and recommendations made by the Taskforce on Climate-related Financial Disclosures (TCFD).

Governance

We, as Trustees, are responsible for maintaining oversight of climate-related risks and opportunities and related Scheme governance activities. We are assisted by our investment service provider Aegon, investment adviser Isio, default asset manager BlackRock, and climate data provider MSCI.

We have taken the following key steps to adapt the Scheme for effective climate governance:

- Articulated our environmental, social and governance (ESG) beliefs and added these to the Statement of Investment Principles since 2021, placing a specific emphasis on climate-related risk.
- Welcomed Graeme Griffiths, ex-Chief Operating Officer of the United Nations-supported Principles for Responsible Investment (PRI) as a new Trustee of the Scheme and member of the Investment Sub-Committee (ISC) in 2021, building our expertise to respond to the climate challenge.
- Undertaken training on climate-related risks in the form of teach-ins to ensure that we have the required knowledge and understanding of the DWP requirements, facilitated by third parties like Aegon.
- Commissioned Isio to conduct a climate assessment of our main default arrangement Aegon BlackRock LifePath Flexi, which represents approximately 86% of Scheme assets[2] .

[1] Governance and reporting of climate change risk: guidance for Trustees of occupational schemes. Data source, GOV.UK, June 2021.

[2] As at 31 December 2021.

Strategy

As Trustees, we are thinking strategically and holistically about the climate-related risks and opportunities that are relevant to the Scheme. We have identified climate-related risks and opportunities over short (1-5 years), medium (5-10 years) and long-term (10+ years) time horizons, performing scenario analysis and assessing potential impacts on our investment strategy. We have undertaken the following actions:

- We assessed the potential impacts on the Scheme's "popular arrangement"[3], Aegon BlackRock LifePath Flexi under three climate scenarios: an orderly transition to keep global temperature increase to 1.5°C above pre-industrial levels, a disorderly 1.5°C transition and a 3°C 'hothouse' scenario.
  Key findings from this exercise were:
  - Negative returns are expected across all three scenarios, relative to current asset valuations, due to negative climate-related impacts over time.
  - Limited data coverage affects the decision-usefulness of the scenario analysis results at the present time.
  - Physical risk is likely to be underestimated by current models.
- In addition, we have undertaken the following actions:
  - Stewardship – Asked Aegon UK to design and send out an annual due diligence questionnaire to all our asset managers, including a specific section on climate risks, mitigation and approaches.
  - Capital allocation – Supported the transition of Aegon BlackRock LifePath Flexi to ESG-screened and optimised index strategies, representing over 80% of assets for growth-stage savers, and added three new funds with sustainability characteristics to our Aegon Master Trust fund range.
  - Industry advocacy – Leveraged industry expertise via Aegon to encourage climate action through industry initiatives like the Institutional Investors Group on Climate Change and the Net Zero Asset Owner Alliance.

Risk management

Climate change presents unique and interconnected challenges and therefore requires a strategic approach to risk management. We have taken the following steps to to identify, assess and manage climate-related risks:

- Identified and assessed risks via a Risk Register, including analysis of broader ESG-related risks.
- Developed a Climate Risk Dashboard, based on guidance from The Pensions Regulator for the whole of the Scheme portfolio, which we will update on an annual basis. This forms the basis for identifying and disclosing climate risks relevant the whole Scheme in the report.
- Identified climate-related risk through two categories: risk of physical damage / business interruption from changing weather patterns (physical risk), risks from the transition to a greener economy (transition risk), as well as climate-related investment opportunities relevant to Aegon BlackRock LifePath Flexi.
- Monitored and engaged asset managers on their climate-related voting and active ownership practices.

[3] As per DWP Statutory Guidance: A popular arrangement is considered to be one in which £100m or more of the scheme's assets are invested, or which accounts for 10% or more of the assets used to provide money purchase benefits (excluding assets which are solely attributable to Additional Voluntary Contributions).

Metrics and targets

In line with the DWP statutory guidance we selected three metrics to report against: total carbon emissions, carbon footprint and data quality for the Scheme's popular arrangement, Aegon BlackRock LifePath Flexi. Emissions metrics are categorised using 'scopes' defined by the Greenhouse Gas Protocol. Scope 1 (direct) includes emissions from sources owned or controlled by the reporting entity. Scope 2 (indirect) includes emissions from electricity, steam and heating consumed by the reporting entity. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Data quality is defined as the proportion of scope 1 and scope 2 greenhouse gas emissions data that is verified, reported, estimated or unavailable.

Data sourced from MSCI and provided to us by BlackRock via Aegon indicates that we have reduced the carbon emissions intensity[4] of growth-stage funds within Aegon BlackRock LifePath Flexi by 22.8% against 2019 levels, and the carbon emissions intensity by 28.2% of 'at retirement' funds since 2019 levels. This means we are moving in the right direction to meet our target of halving the carbon footprint of our main default strategy by 2030 and reaching net zero emissions by 2050. At the time of reporting, we only have data coverage of 63% for scope 1 and 2 for Aegon BlackRock LifePath Flexi, but we expect this to improve as issuer-level disclosures increase. Incomplete data coverage means findings need to be considered with caution. Progress and strategy may change in the future to reflect new information.

[4] Carbon emissions intensity refers to tonnes CO2e generated per $M of company sales.

Foreword

The scale and urgency of the climate crisis was clearly set out in the latest Intergovernmental Panel on Climate Change (IPCC) report, described by the UN Secretary General as 'code red for humanity'.

Science, spearheaded by the IPCC's research, tells us we need to halve CO2 emissions by 2030 and get to net zero by 2050 in order to limit global warming to around 1.5°C above pre-industrial levels. The world is currently not on track to meet this goal, despite a growing number of government and private sector commitments. Governments acknowledged the urgent need to take bolder action at the United Nations Climate Change Conference (COP26) in Glasgow, to keep 1.5°C warming by the end of the century a possibility.

We, the Trustees, want to help Members make informed decisions about their pension investments and ensure that the Scheme default – which most Members are invested in – is aligned with the science. As part of this, we are determined to provide increasing information on climate-related risks and opportunities in the funds they hold. We are already taking steps to both consider and manage climate risk in funds available through the Scheme default and self-select ranges and will continue to enhance our approach.

We believe that it is our role to ensure the funds we make available to our Members take into account the many decades they will invest into them.

We picture how a young Member, starting their working life today, will need to rely on their pension fund over fifty years from now – a timeframe that will include momentous change.

We thus believe investing is about taking a holistic and long-term view. We are indeed looking to make sustainable investment options available across the funds we offer. While we place a major emphasis on managing climate-related risks, we will also seek out the best opportunities for Members to benefit from structural demand for climate solutions.

As part of our strategy, we have set the challenge for the Scheme default fund, Aegon BlackRock LifePath Flexi, to be net zero carbon emissions by 2050. We are committed to targeted reductions throughout that period, including halving carbon emissions in this fund by 2030. We are already tracking progress towards this goal and working closely with Aegon, and the asset manager for our default arrangement, BlackRock. Finally, the Trustees strongly feel industry collaboration will be critical to make the systemic shifts required. We welcome the industry-wide standardisation of climate-related disclosures, based on the TCFD recommendations, and mandated by the DWP, which will bring added transparency for better decision-making across the investment industry. We are also very supportive of industry engagement around shared goals through leading industry groups and alliances which Aegon and our asset managers are members of.

[5] IPCC, Sixth Assessment Report: Climate Change 2022: Mitigation of Climate Change – Summary for Policymakers, Summary for Policymakers (ipcc.ch), p. 21.

Introduction and context

Climate change and the Scheme

Climate change presents a unprecedented and complex set of systemic risks.

The repercussions on how investments are assessed and managed are present here and now. We, the Trustees, believe investors and the wider financial services industry have an important role to play in helping deliver the goals of the United Nations Framework Convention on Climate Change Paris Agreement. We can do so by identifying and mitigating climate risk in our Scheme, encouraging stewardship and supporting the flow of capital towards climate solutions. We believe this is essential to support the transition to a low-carbon economy.

We believe there are significant climate-related risks which the Scheme is exposed to, from the potential impact on asset valuations from physical damage and disruption to significant policy and regulatory change associated with the transition to a greener economy. To better understand these impacts, we have commissioned MSCI to carry out some exploratory scenario analysis under a range of different climate scenarios on our behalf. The analysis is quantitative and provides valuable insight into our potential exposure to climate-related risks. However, there are limitations in our current capabilities, as well as in the ability of the industry to understand financial risk from climate change, including data availability and modelling constraints.

We plan to build on this initial analysis over the coming years and anticipate that both our own capabilities, the quality of data and climate risk analysis across the investment industry, and regulatory expectations on climate disclosures will evolve.

The average global temperature has already increased by around 1.1°C since pre-industrial times.[6] It is estimated that without any additional action taken to curb greenhouse gas emissions, global warming may hit 4.1°C by the year 2100.[7] The 'Global Warming of 1.5°C' special report by the IPCC outlined the impacts in a world that warms by 1.5°C versus one that warms by 2°C[8]. Although the temperature increase seems small, the impacts on the climate, on humans and on our industries and economy would be significant and intersect with financial decision making. Extreme weather events can result in physical damage and operational losses for companies, while those with large exposure to fossil fuel activities that fail to transition could face stranded assets. As mentioned in the foreword, in order to limit global warming to 1.5°C by the end of the century, economies must reach net zero CO2[9], with significant reductions required this decade.[10] For a pension scheme, this will require the decarbonisation of investment portfolios over this time horizon or sooner, which has informed our decision to set a net zero target.

[6] IPCC estimate global warming between 1850-1900 and 2010-2019 of 1.07°C (0.8-1.3; likely range), Climate Change 2021: The Physical Science Basis. Contribution of Working Group Intergovernmental Panel on Climate Change. Data source: IPCC.ch, January 2021.

[7] See section 2.2: Scenarios – 'No Additional Action', Results of the 2021 Climate Biennial Exploratory Scenario (CBES). Bank of England, May 2022.

[8] Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Data source, IPCC.ch, May 2018.

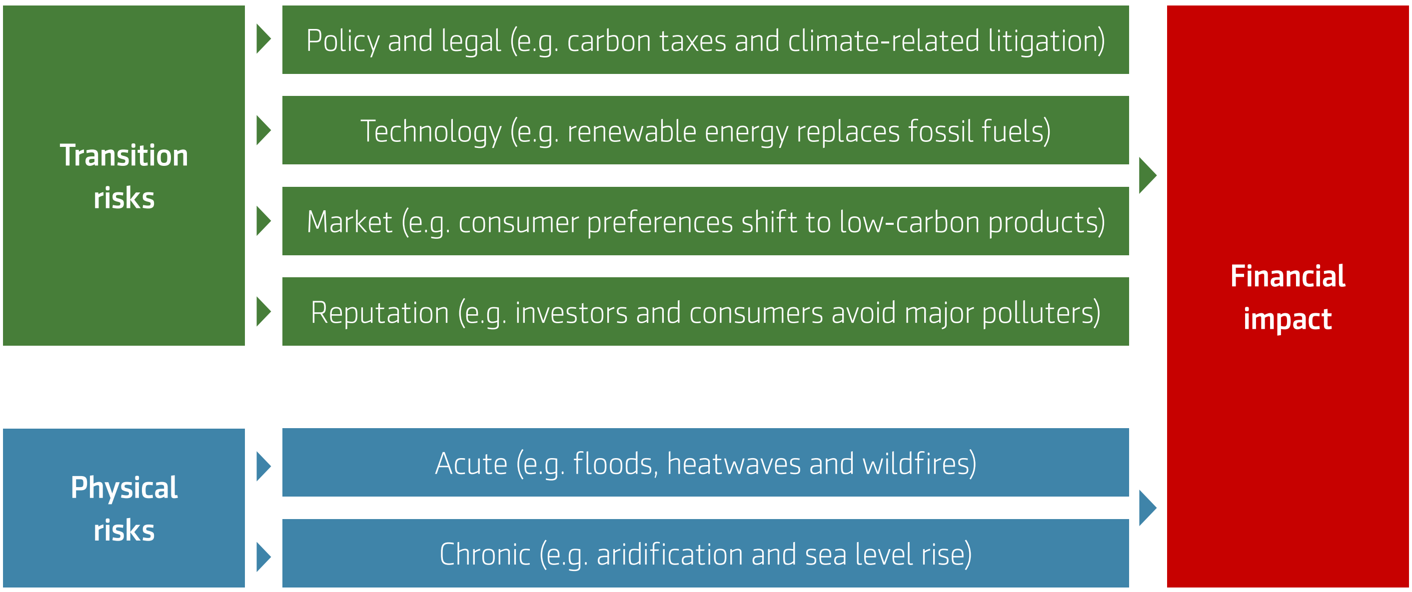
[9] In Summary for Policymakers Climate Change 2021: The Physical Science Basis. Contribution of Working Group I . Data source, IPCC.ch, January 2021.

[10] IPCC, Sixth Assessment Report: Climate Change 2022: Mitigation of Climate Change – Summary for Policymakers, Summary for Policymakers (ipcc.ch), p. 21.

How we define climate-related risks

It is critical that we can identify and manage the risks from climate change that our Scheme's underlying assets are exposed to, in order to develop a resilient investment strategy. Climate-related risks can be grouped into two key categories: physical risk and transition risk. Physical risk measures the financial impact of damage to physical assets like infrastructure, buildings and supply chains due to more frequent or severe weather events like flooding, droughts and storms that occur as global average temperatures rise.[11] This could include business disruption from acute and chronic extreme weather, as physical risk from rising temperatures and sea levels which continue to increase.[12]

As per the TCFD recommendations, transition risks can be grouped into policy and legal, technological, market-related and reputational risks.[13] With help from MSCI, we have conducted climate scenario analysis using so-called Integrated Assessment Models (IAMs), which combine socio-economic, energy and climate models to quantify the financial impact of climate change on the value of our portfolios.[14] These account for climate change impacts from a combined physical and transition risk perspective.



[11] Governance and reporting of climate change risk: guidance for Trustees of occupational schemes. Data source, GOV.UK, June 2021.

[12] Climate risk and response: Physical hazards and socioeconomic impacts. Data source, McKinsey.com, January 2020.

[13] Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures, Data source, FSB-TCFD.org, June 2017.

[14] See 'integrated assessment of risks,' NGFS Scenarios Portal, Data source, NGFS.net, June 2022.

Evolving climate data

In order to understand the climate-related opportunities and risks of our current investment strategy, we have acquired climate data through our service provider, Aegon. The qualitative nature and difficulty in representing climate change in traditional financial terms has given rise to specialised data products and companies focusing on this area. Extensive data collection, research and analytical capability is required to provide credible and evidence-based data and disclosures.

Aegon concluded that data provision required more resource and expertise than could be obtained in-house at this stage. Instead, they tendered and vetted external subject matter experts. Climate data used by the SCHEME in this report is sourced from MSCI, based on an in-depth assessment of market coverage as well as the ability to provide data solutions for asset owner clients.

We recognise that climate data suffers from a lack of transparency, standardisation and maturity of methodologies across the market.

Climate risk may be dependent on an asset's geographical location, sector, supply chain, structure and many other factors which can be difficult to capture across a large universe of companies and investments.

Climate data disclosure from underlying companies is in its infancy, and rarely independently audited. Climate models, including scenario analysis, rely on assumptions and fast-evolving methodologies. Over time, we expect reliability of data and metrics to improve with longer track records, more sophisticated regulation, and evolving scientific conclusions. In the meantime, we will continue to work with our advisers and service providers to seek best-in-class data that represents our portfolios, and encourage them to maintain dialogue with data and analytics providers to stay abreast of the latest developments.

An overview of the Scheme's investment arrangement

Throughout the report we discuss the Scheme investment portfolio, as well as our largest default investment arrangement, Aegon BlackRock LifePath Flexi, specifically in the 'Strategy' (scenario analysis) and 'Metrics and Targets' sections on this report, in line with DWP Statutory Guidance.

Among other responsibilities, the Trustees provide default investment funds for Members who have not selected where to invest their contributions. Aegon BlackRock LifePath Flexi is the core default fund, accounting for 86% of total assets, and the Scheme also offers two other versions of LifePath as alternative default fund options: Aegon BlackRock LifePath Retirement and Aegon BlackRock LifePath Capital. The Aegon BlackRock Cash fund is also used as a default option, as described below. These alternative default options only account for around 4% of total assets which is why we have not dedicated separate analysis in this report for these options. We also offer 'bespoke' fund ranges in cases where Participating Employers may wish to select a different range of investment fund options and/or a different default fund for their employees. In these cases, the Trustees and Participating Employer seek appropriate investment advice to create a 'bespoke' fund range.

The Scheme's investment portfolio comprises all investments across these default and bespoke options, as well as any investments in our Aegon Master Trust fund range 'self-select' funds, which Members may have chosen as an alternative investment option to the default strategies.

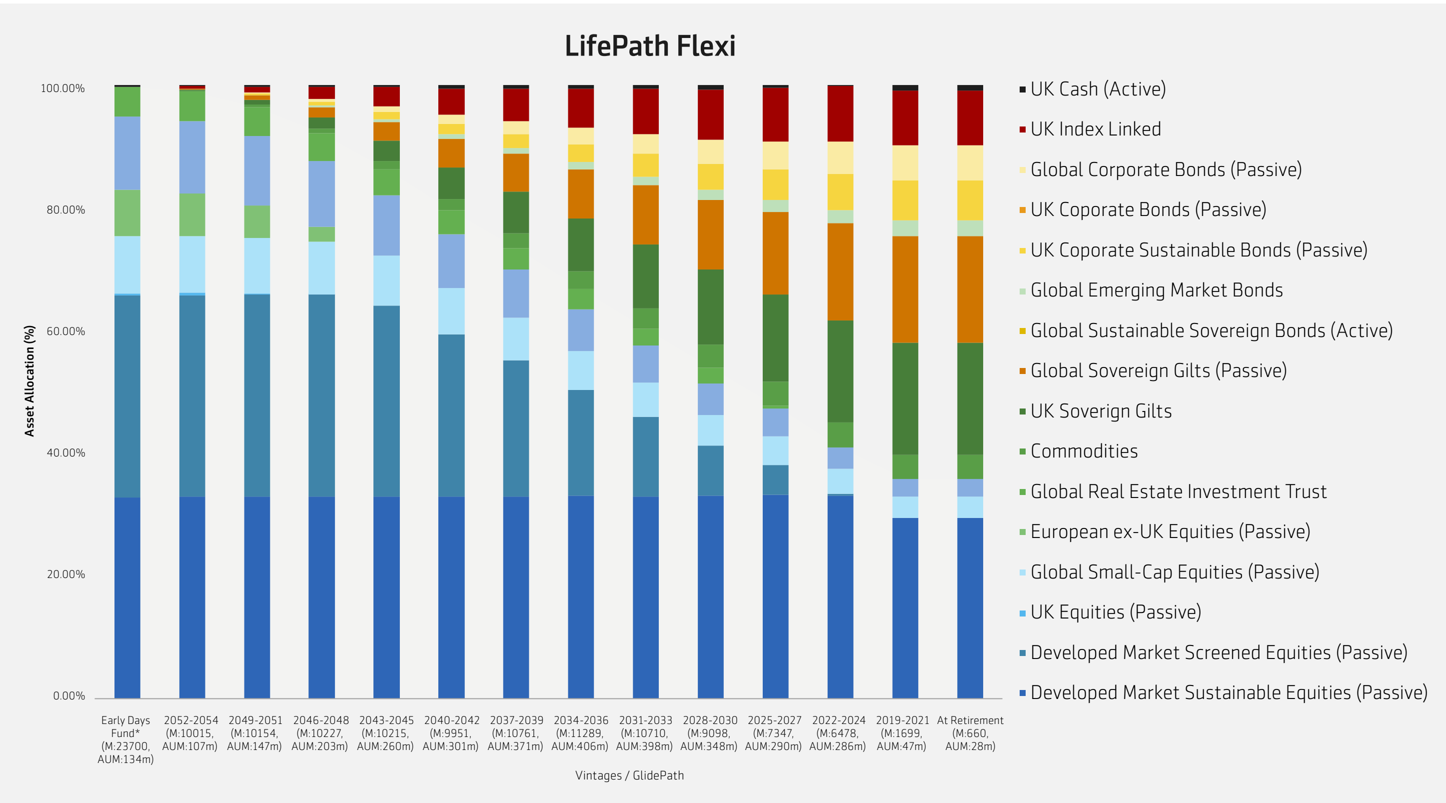
Aegon BlackRock LifePath Flexi default arrangement

The asset allocation of the largest default arrangement of the Scheme, Aegon BlackRock LifePath Flexi, varies depending on how far away a particular Member is from retirement. As retirement approaches, the equity weighting reduces as the gradual switch from riskier assets like equities (stocks and shares) early in a Member's working life, moves to less risky assets as the Member nears retirement. This process is termed 'lifestyling', and is demonstrated in the figure below, which Members are transitioned through as the risk and growth potential of their investments are gradually reduced over a 33-year period.

Leading up to the projected retirement date, the fund's strategy moves to a more cautious asset mix which is expected to be more stable for generating income from the Member's pension when they retire. Approximately 86% of all Members within the Scheme are invested in this default arrangement.[16]

Throughout this report, we discuss climate metrics that reflect the investment portfolios of Scheme Members who are invested at different stages of the Aegon BlackRock LifePath Flexi default arrangement. Asset allocation will depend on a Member's stage in their journey to retirement.

Figure 1. Aegon BlackRock LifePath Flexi asset allocation of funds over a Member's working life. Fund years represent the fund a Member will currently be invested in, reflective of the year in which a Member is expected to retire.[15]



[15] Figure based on Aegon asset allocation data as at 31 December 2021. *Early Days fund asset allocation remains the same for all Members retiring after 2054.

[16] As at 31 December 2021.

Alternative Scheme default arrangements

Another 4% of Scheme Members are invested in alternative Scheme default arrangements.[17] These include: Aegon BlackRock LifePath Retirement, Aegon BlackRock LifePath Capital and Aegon BlackRock Cash.

Aegon BlackRock LifePath Retirement:
Designed for Members planning to buy an annuity at their Target Retirement Date.

Aegon BlackRock LifePath Capital:
Designed for Members planning to take their savings as a one-off cash sum.

Aegon BlackRock Cash:
In which Members may be temporarily invested should another fund be closed / suspended due to new monies and .

Table 1. Summary of alternative default arrangements

The alternative default arrangements have different climate risk factors in their underlying fund structures. However, the asset manager, BlackRock, has an extensive stewardship team and adopts a robust approach to engagement across their investment estate.

[17] As at 31 December 2021.

Aegon Master Trust fund range

Around 9% of Scheme Members are invested in core Aegon Master Trust fund range 'self-select' options.[18] These are funds that Members have chosen to invest in and manage how much is invested in each of their selected funds. The self-select options do not have a path which moves Members into lower-risk investments as they approach retirement. Instead, this needs to be reviewed by individual Members if they want to de-risk over time. The Scheme offers 14 self-select funds:

- Aegon BlackRock 30/70 Currency Hedged Global Equity Index
- Aegon BlackRock Corporate Bond
- Aegon BlackRock Diversified Growth
- Aegon BlackRock Emerging Markets Equity Index
- Aegon BlackRock Market Advantage
- Aegon BlackRock Over 15 Years Gilt Index
- Aegon BlackRock Over 5 Years Index-Linked Gilt Index
- Aegon BlackRock Cash
- Aegon BlackRock Pre-Retirement
- Aegon BlackRock UK Equity Index
- Aegon BlackRock World (ex-UK) Equity Index
- Aegon HSBC Islamic Global Equity Index
- Aegon LGIM Ethical Global Equity Index
- Aegon Property
- Ballie Gifford Positive Change
- HSBC Developed World Sustainable Equity Index
- Ninety One Global Multi-Asset Sustainable Growth Fund

Three funds with sustainable investment credentials – Baillie Gifford Positive Change, HSBC Developed World Sustainable Equity Index, and Ninety One Global Multi-Asset Sustainable Growth – were made available to Members from January 2022. This was a part of the Trustees' commitment to include specialist funds which invest in line with sustainable and/or responsible investment themes, as part of our ESG Beliefs. To support this selection, our service provider, Aegon, helped to identify potential fund options. We also received an additional assessment from our investment adviser, Isio, covering several fund characteristic criteria, to help inform us before we selected the new funds.

[18] As at 31 December 2021.

Governance

In this section, we will:

- explain how the Trustees maintain oversight of climate-related risks and opportunities which are relevant to the Scheme; and
- describe the roles of service providers who are undertaking, advising and/or assisting the Trustees with Scheme governance activities, relating to climate-related risks and opportunities.[19]

Board oversight

As Trustees of the Scheme, we understand that we have ultimate responsibility for ensuring effective governance and management of climate-related risks and opportunities. This is particularly important given that the assets are managed by third-party asset managers with their own proprietary approaches and strategies, including climate-risk management. Effective oversight, dialogue and monitoring of those managing the assets is therefore a key tool for our climate-risk management approach and we exercise systematic oversight of these parties accordingly.

The Aegon Master Trust Investment Sub-Committee (ISC) was established in March 2021 to provide focus and expert oversight on each of the areas that are essential to the successful management of the Scheme.

We believe the sub-committee structure maximises the effectiveness of our Board's time, while ensuring the requisite amount of governance and oversight necessary to manage climate-related risks. Since its establishment, the ISC has considered responsible investment and climate-related agenda items at least quarterly, and on an ad-hoc basis, including: the selection of three ESG-integrated and thematic funds as part of the review of the asset managers for the core self-select fund range; a climate assessment of Aegon BlackRock LifePath Flexi; and updates on our net zero target (see Table 2 and Figure 2). Following a meeting of the ISC, the ISC Chair updates the Aegon Master Trust Board (at the next Board meeting) on the matters that were considered. This update may be verbal or in writing, on matters discussed, recommendations and key actions agreed, including in relation to climate change.

ISC Responsible Investment Agenda Items	
Date	**Agenda topic(s) relating to responsible investment**
April 2021	ESG Beliefs Discussion (Isio) Aegon's Responsible Investment Roadmap (Aegon)
July 2021	Self-select Range ESG Fund Addition Project (Aegon)

[19] Climate Change Governance and Reporting Regulations, schedule 1 para 27(a), (b) and (c).

ISC Responsible Investment Agenda Items	
Date	**Agenda topic(s) relating to responsible investment**
October 2021	Self-select Review Pre-Discussion (Aegon) Trustees' ESG Beliefs (Aegon) ESG Non-Binding Target Update (Aegon)
November 2021	Annual review of LifePath (Isio) BlackRock's Annual Update – Stewardship Summary (BlackRock) ESG Non-Binding Target (Isio)
December 2021	Isio's Climate Assessment of LifePath (Isio)
February 2022	Competition and Markets Authority (CMA) Objectives Recommendations (Isio) LifePath Net Zero Objective – Update (Isio) Draft Scheme Climate Change Report (Aegon) Asset Manager Scorecard (Aegon)

Table 2. Notable responsible investment agenda items discussed at ISC meetings over the 2021-22 reporting period.

Please bear in mind that the value of investments may go down as well as up and the final value of a member's pension pot may be less than has been paid in. There's no guarantee funds will meet their objectives. Funds investing in a single asset class, for example UK equities, should only be used as part of a diversified portfolio. Any charts are for illustrative purposes only, and we reserve the right to change funds' asset allocations and charges. You should get financial advice if you're not sure whether an investment or product is right for you.

Organisational diagram

Service providers highlighted here as having climate-related responsibilities assist Trustees with undertaking governance activities in respect of managing climate-related risks and opportunities. Other service providers, including legal advisers, auditors, and the scheme secretary, also undertake scheme governance activities. However, these persons do not undertake activities relevant to assessing and managing climate-related risks and opportunities at the present time.

Key: Aegon Master Trust (AMT) — Other service providers — Service providers to the AMT with climate-related responsibilities

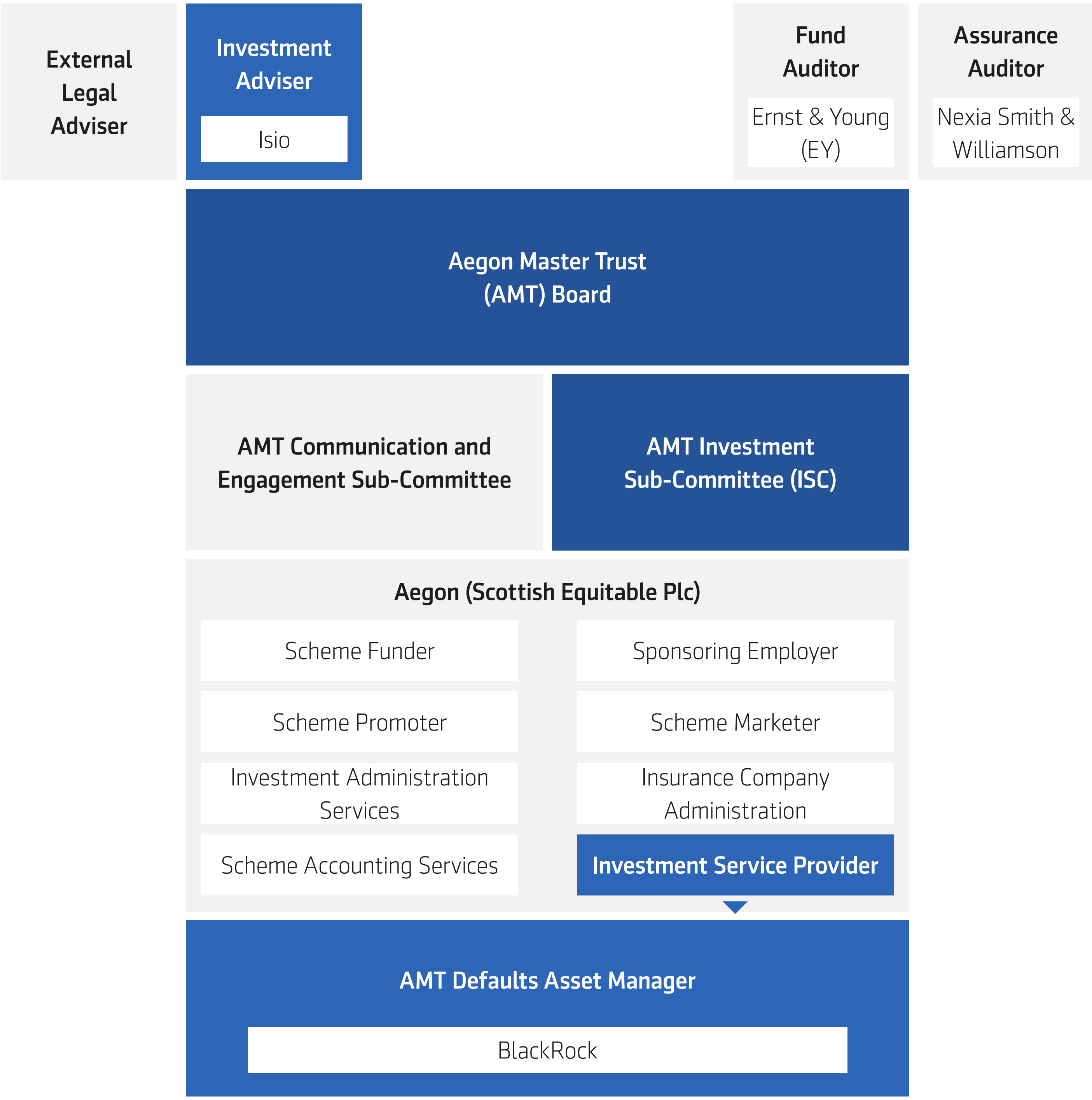


Figure 2. Scheme governance structure

Roles and responsibilities

In relation to the Scheme's investment strategy, the roles and responsibilities of the investment service provider, investment adviser, default asset manager and climate data provider are outlined below.

The investment service provider, investment adviser and asset manager will undertake, advise and assist with, respectively, governance activities in respect of identifying, managing and assessing climate-related risks and opportunities.

Category	Investment Service Provider/Scheme Funder
Organisation	Aegon
Responsibilities	Help us set investment strategy aligned with the Scheme's goals, objectives, and beliefs including responsible investment strategy, net zero target and related product developments. Provide us at least yearly with: • data and insights regarding fund performance and risk, including on climate risk and scenario analysis. • data around asset manager fees and transaction costs, applying our agreed value for money framework. • monitoring and insights on our behalf on asset manager responsible investment approaches and on climate-related risk management, voting & engagement, and associated progress.
Proactivity	Aegon use their intellectual property and market insights to make relevant suggestions on enhancements where appropriate. Aegon use their dedicated responsible investment expertise to offer training to Trustees on TCFD and climate-related risks and reporting.
Legislative	Help us ensure required documents fit the regulatory regime and align with any legislative changes e.g. TCFD reporting.

Category	Investment Adviser
Organisation	Isio
Responsibilities	Advise on the overall investment strategy and provide ESG assessment, including the Climate Assessment of Aegon BlackRock LifePath Flexi. Responsible for providing advice to the Trustees on this matter, and the TCFD report. Assess appropriateness of the default arrangement and the Aegon Master Trust fund range, particularly in the context of the net zero target and ESG beliefs, and provide us with advice on these offerings.
Proactivity	Provide ideas and an independent view on ideas stemming from the Investment Service Provider, where required.
Legislative	Inform us of any regulatory developments impacting the investment strategy and wider fund range, and how they should be addressed, e.g. TCFD reporting.

Category	Default Asset Manager
Organisation	BlackRock
Responsibilities	Responsible for day-to-day management of the Scheme's default investment arrangements. BlackRock identifies and manages climate risks and opportunities. The team exercises voting rights and engages with companies on climate risks and opportunities. BlackRock reviews climate policies, processes, resources and expertise to support climate integration and objectives of the Scheme.
Proactivity	Input on climate strategy for investments, support climate transition of assets where needed, and share risks related to reaching net zero targets.
Legislative	Support data and information requests related to regulatory regime.

Category	Climate Data Provider
Organisation	MSCI
Responsibilities	Provide climate data to Aegon for TCFD reporting purposes. Generate reports relating to greenhouse gas emissions data and conduct scenario analysis on the climate-related risk exposure of the portfolio. Make estimations of company greenhouse gas emissions where reported data is not available.
Proactivity	Support with understanding of key metrics, methodologies and data limitations.
Legislative	Support data and information requests related to regulatory regime.

Table 3. Climate roles and responsibilities of the service providers and investment adviser related to the Scheme investment strategy with responsibilities relating to climate-related governance activities.

Governance of climate strategy in action

The Trustees are supported by an Executive team, in particular the Managing Director for Investment Solutions at Aegon UK. The Managing Director receives training from the Responsible Investment function. Thought leadership from the Responsible Investment function ensures that the Executive team assisting the Trustees has a good understanding of climate change and its impacts. For the governance of the Scheme's climate strategy, governance activities are as follows:

Trustees: In 2021, we set a non-binding climate target for the Scheme's main default fund, Aegon BlackRock LifePath Flexi to be net zero by 2050 and halve emissions by 2030, relative to a 2019 baseline. We have also asked Aegon to enhance the monitoring of asset managers on responsible investment and climate, and reviewed Isio's analysis of the climate approach of Aegon BlackRock LifePath Flexi.

Investment Service Provider: The implementation of our net zero target is overseen by Aegon's Management Investment Committee who report into the Investment Sub-Committee. Day-to-day integration of the Scheme's responsible investment considerations is carried out within the Aegon investment business, supported by several Aegon forums and committees. Aegon also plays a role in supporting engagement and monitoring of asset managers on their climate targets and implementation as well as undertaking wider industry advocacy to support universal decarbonisation. Manager monitoring scorecards and heatmaps will be reported to the Investment Sub-Committee on an annual basis by Aegon's Responsible Investment function.

Investment Adviser: Isio, as our investment adviser, monitors the credibility and progress of Aegon in achieving these targets and advises us on further action.

Asset Manager: The net zero strategy is implemented by the Scheme's asset managers through their investment processes and activities. This includes transitioning assets into strategies that consider sustainability criteria, setting their own climate pathways and developing their climate-risk management to meet our requirements. The Scheme will not appoint asset managers who fail to integrate responsible investing into their overall decision-making processes. Those that we do appoint will be required to report on their voting and engagement activities.

Data Provider: MSCI is a provider of critical decision support tools and services for the global investment community.[20] Their capabilities in research, data and technology enable financial services providers to understand and analyse key risks, including climate-related risks. They have data coverage of over 10,000 companies across global equity and fixed-income markets. Data is provided to Aegon, who review the information before sharing with the Trustees.

Investment beliefs

Investment beliefs are guiding principles which inform the investment strategy, design of the default arrangements and the number and type of other investment options we make available to Members. One of our guiding investment beliefs is that 'As long-term investors the fund range should incorporate a sustainable investing framework'.

We re-evaluate our beliefs as part of a review of our Statement of Investment Principles at least every three years, or sooner if we consider that a review is needed for other reasons. For example, in September 2021, the Scheme's Statement of Investment Principles was revised to include ESG Beliefs, outlined below.

[20] MSCI Reports Financial Results for Fourth Quarter and Full Year 2021. Data source, MSCI.com, January 2022.

ESG beliefs

We have agreed our ESG beliefs and have a responsibility to ensure that these are embedded across the Scheme's fund range. The activities and other elements described in the ESG Beliefs are the minimum level of active ESG integration and engagement we expect from Aegon and the underlying asset managers. Our policy is to only select new funds that align with these beliefs (unless there is a stated reason why achievement of the criteria is not possible). These are:

Risk management

- We believe that active consideration of ESG factors will lead to improved outcomes for Members and better management of risk.
- We wish to take a broad approach to ESG integration, considering all three factors of ESG. Within the environmental factor, specific focus will be placed on climate-related risk.

Investment approach

- ESG factors which are financially material should be integrated into the overall management of the default arrangement, with the aspiration for these to be across all asset classes.
- The self-select fund range should include specialist funds which invest in line with sustainable and/or responsible investment themes.
- We will only select asset managers that integrate ESG factors within their overall decision making – this applies for the default and self-select funds reporting and monitoring.

Reporting & monitoring

- We will monitor key ESG metrics within investment portfolios to understand the impact of our investments.

Voting & engagement

- We expect asset managers to vote in accordance with our beliefs and will monitor the outcomes of managers' voting engagement actions and activity.

Collaboration

- We expect managers to engage actively with other market participants to raise ESG investment standards and facilitate best practices. We also expect managers to participate in common codes such as the United Nations-supported PRI and TCFD and be able to demonstrate their on-going progress in raising ESG standards.

Improving climate understanding and knowledge

We recognise that there have been significant developments in climate science and understanding of the impacts of climate change, which is also reflected in the development of climate-related regulations, frameworks and standards. As a result, market expectations and requirements on climate risk-management have increased. Trustees of schemes that are subject to the Climate Governance and Reporting Regulations require knowledge and understanding in relation to these complex risks and their management.

This year, we welcomed Graeme Griffiths on our Board to provide additional climate expertise. Graeme previously worked as the Chief Operating Officer at the PRI and brings over 40 years of experience in responsible investments and asset management. Graeme now chairs the Investment Sub-Committee.

In order to develop our level of knowledge and understanding, we have requested a number of 'teach-in' sessions regarding TCFD climate reporting, delivered between the Scheme service provider (Aegon) and adviser (Isio). Climate risk teach-ins were delivered by Aegon and Isio to prepare us ahead of the reporting period in September 2021, and further to review the first round of climate risk metrics in March 2022. Further workshops on responsible investment topics have taken place, and individual Trustees have taken part in various webinars and educational sessions to improve their understanding on climate-related investment topics.

March 2021:
First in the series of two workshops on ESG and Investment Beliefs

April 2021:
Second in series of two workshops on ESG and Investment Beliefs

July 2021:
Talking TCFD roundtable

September 2021:
Teach-in from Aegon & Isio on TCFD and DWP's Taking Action on Climate Risk. Trustees agreed a net zero target and the metrics that they would like to report against in the upcoming TCFD disclosures.

March 2022:
The latest teach-in revisited the TCFD reporting requirements mandated by the DWP and progress made against these in light of better understanding of climate-related risks and opportunities. It also provided an opportunity for the Trustees to review the climate data points obtained in relation to LifePath Flexi and challenge their service providers on the limitations of the climate data (eg. Data coverage, benchmarks), and how this could be improved in further iterations of reporting.

Table 4. Trustees climate and TCFD-related training[21]

In addition to climate-specific teach-ins, Isio are mandated to provide an annual review of Aegon BlackRock LifePath Flexi, assessing the strategy's approach to ESG and stewardship, benchmarked against market best practice and assessed against regulatory requirements.

This provides us with education around how meaningful the ESG components of the Scheme are from a risk management and sustainability perspective, taking into account that we do not directly own the assets. We will continue to build our understanding of climate change.

Trustee oversight of investment adviser and service providers

Oversight of adviser

We completed an assessment form scoring Isio's performance against the Competition and Markets Authority's (CMA) objectives, alongside a review of Isio's self-assessment score presented at the Investment Sub-Committee in February 2022. With respect to Isio's ESG objective, we welcomed the knowledge and insights offered by the team on ESG and climate change. We felt confident about the market positioning of the Scheme's integration of ESG in Aegon BlackRock LifePath Flexi.

Oversight of other service providers

Service providers to the Scheme are assessed by Aegon on our behalf in advance of appointment and appropriate due diligence is carried out regularly to ensure that the services meet our standards. We commission our investment adviser, Isio, to undertake annual evaluations of the Aegon BlackRock LifePath Flexi strategy, with ESG considerations being one of the criteria. Last year, we also commissioned a climate impact evaluation of this default strategy to improve our understanding of how the asset manager, BlackRock, is integrating climate into the investment strategy.

The climate assessment conducted in December 2021 included an evaluation of Aegon BlackRock LifePath Flexi's investment approach/framework, risk management, voting and engagement, reporting, and collaboration, in line with our ESG beliefs. From these assessments, Isio provided us with a set of recommendations around monitoring, proposed actions, and regular review of progress made. We considered how financially material considerations such as climate-risk factors were integrated into BlackRock's fund management processes when constructing and reviewing the asset allocation of the default strategy.

In addition, Aegon exercises oversight of MSCI as part of their contractual arrangement. Aegon will regularly meet with MSCI to discuss the availability of climate data, insights from climate reports and implications. Further details on annual asset manager oversight and engagement conducted by Aegon can be found in the Strategy section of this report. Improvements in data quality and updates to methodologies are communicated to the Trustees via climate-related teach-in sessions.

[21] Government response: Taking action on climate risk: improving governance and reporting by occupational pension Schemes. Data source, GOV.UK, July 2021.

Strategy

In this section, we will set out:

- the climate-related risks and opportunities which the Trustees consider will have an effect on the Scheme's investment strategy over the short, medium and long term;
- the short, medium and long-term time periods which the Trustees determine are appropriate taking into account the Scheme's obligations to pay benefits;
- the impact of climate-related risks and opportunities which the Trustees have identified on the Scheme's investment strategy;
- scenario analysis which the Trustees have undertaken to determine:
- the potential impact on the Scheme's assets and liabilities of the effects of the global average increase in temperature and of any steps which might be taken (by governments or otherwise) because of the increase in temperatures, and
- the resilience of the Scheme's investment strategy, in at least two scenarios where the global average temperature increase selected by the Trustees is within the range of 1.5°C above pre-industrial levels to and including 2 °C; and if the Trustees have not been able to obtain relevant data for all the assets of the Scheme, why this is the case.

To align our investment strategy with keeping global temperature rise to 1.5°C above pre-industrial levels, we have set a 2050 net zero target for our key default, Aegon BlackRock LifePath Flexi. This includes the interim target of halving the carbon emissions intensity of the fund against 2019 levels by 2030. This portfolio represents around 86% of Scheme assets and is where we are initially focusing our climate strategy development, scenario analysis and reporting metrics. We expect that the scope of our target may widen to other areas of the Scheme over time.

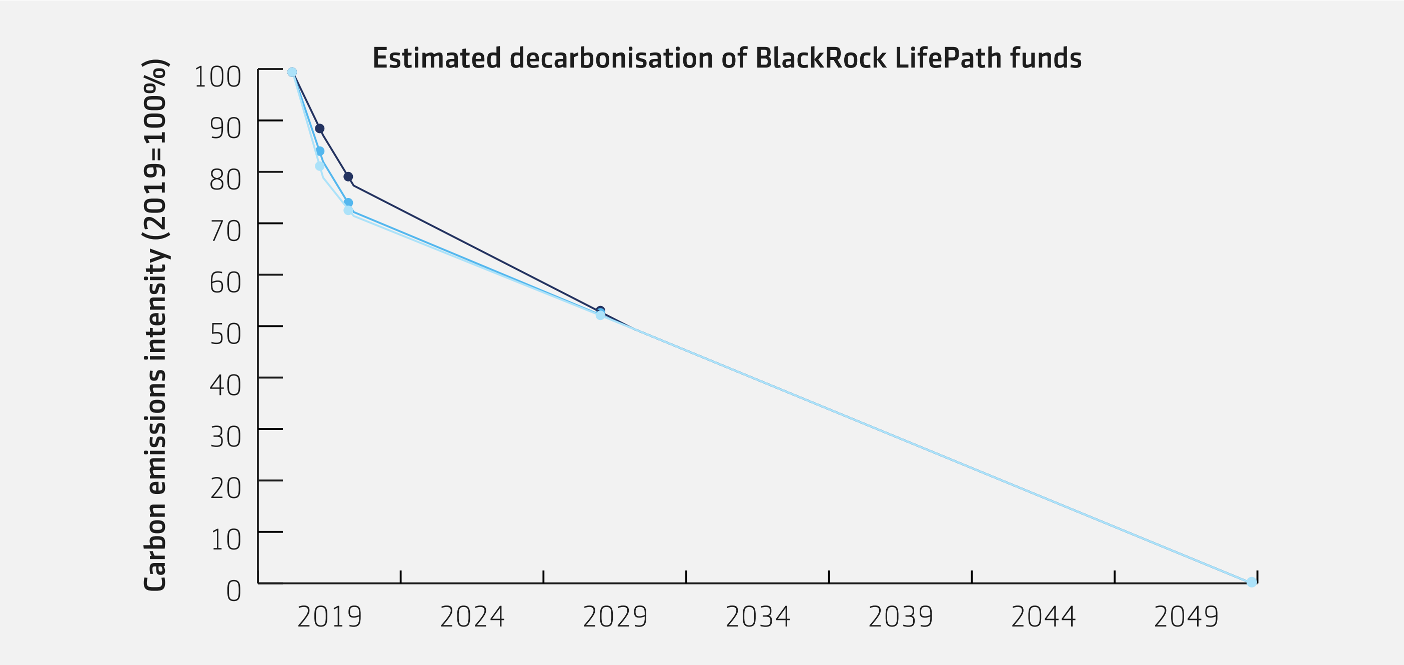


Figure 3. Ambition for decarbonisation of Aegon BlackRock LifePath Flexi funds 2019-2050.[22]

[22] Data may subject to change as climate data collection, methodologies and coverage of portfolios improves.

Building climate resilience into our investment strategy

Over the past year, our dialogue with Aegon has led to the development of several key areas of activity to support the achievement of our climate targets. This has been informed by the climate data obtained for the Aegon BlackRock LifePath Flexi default strategy, and the climate assessment conducted by the Trustees' investment advisor, Isio. Considering our role as Trustees and as an asset owner on behalf of our Members, we focus on three key levers for driving decarbonisation and effective climate action at the scale needed to support our net zero commitments: stewardship, capital allocation and industry advocacy.

Stewardship

Stewardship can help accelerate the decarbonisation of portfolios by sending clear signals to our asset managers and investee companies, and by supporting necessary systemic change.

Aegon is a Member of the Net Zero Asset Owner Alliance, which emphasises the key role asset owners like us can play in engaging their asset managers and aligning to the long-term interests of Members through stewardship: i) to increase asset manager ambition and accountability, and ii) to encourage asset managers to think systemically on our behalf.[23] Due to our funds being managed by several asset managers, we can implement stewardship through the selection, monitoring and engagement with asset managers, both directly and through our investment service provider. Our risk management section provides more detailed examples of how we are using stewardship to manage climate-related risks.

- Voting and engagement with companies held in our portfolios: We do not manage assets directly so rely on our asset managers to exercise voting rights on our Members' behalf. However, Aegon encourages asset managers to be active owners and promote positive responsible investment behaviours. We monitor stewardship activities and request a voting summary for all funds offered in the self-select range and in advised sections eligible to vote. We may engage asset managers relating to any vote cast against climate transition plans or disclosures that may not align with our policies as necessary.

  Similarly, we expect asset managers to be transparent about their engagement efforts, including outcomes and their approach to escalation when companies fall short.
- Monitoring: Based on the data collected and best practices in the market, we have requested that Aegon implement systematic monitoring of Scheme asset managers on responsible investment and climate practices. This will help us benchmark asset managers' approaches and identify best practices on climate-related risks across the default and self-select fund ranges. This allows us to:
  - i. continually review the practices of asset managers involved in the Scheme;
  - ii. enhance our expectations for asset managers as the market develops over time and encourage asset managers to increase their level of ambition; and
  - iii. inform our understanding of how asset managers are integrating climate-related risks into investment decision-making.
- Engagement and collaboration: Insights generated from our monitoring inform our engagements with the Scheme asset managers. We believe that the most productive form of engagement is dialogue, in order to align our climate ambitions, as well as assess how asset managers are managing existing and emerging climate risks and opportunities in our portfolios.

[23] The Future of Investor Engagement: A call for systematic stewardship to address systemic climate risk, Data source, unepfi.org, April 2022.

Capital allocation

We recognise the urgent need for global economies to decarbonise, and stewardship is a valuable tool to encourage this. However, it can take a long time for engagement to show results and may not align to the timeframes which we have set to meet our targets. Capital allocation is a useful strategy, both for mitigating climate-related risks in our portfolios – by excluding or tilting away from certain companies or sectors and favouring others – and for accelerating carbon intensity reductions in our portfolios.

There are three strategies we are currently pursuing in relation to the capital allocation of funds within the Scheme:

- Aegon BlackRock LifePath Flexi integration of ESG optimised and screened building blocks. Working with BlackRock, we have achieved the following:
    i. additional ESG tilts and screens in the Aegon BlackRock LifePath Flexi strategy, across both equities and bonds. Through incorporating screens and tilts, we aim to improve the fund's ESG characteristics, including ESG scores and carbon metrics while ensuring that the risk/return profile is unchanged.[24]
    ii. better data and analytical capabilities to understand where we stand today in terms of portfolio carbon emissions and how this is measured going forwards.
- Aegon BlackRock LifePath Flexi climate target. Backed by the data, BlackRock have made progress towards forming a climate target that considers the various asset classes held within Aegon BlackRock LifePath Flexi (including equities, bonds and liquid alternatives – REITS and commodities) and the evolving nature of the asset allocation over time (de-risking to retirement). The next steps will be for BlackRock to finalise the wording of their climate target and seek approval from their internal governance committees over 2022-23.
- New Aegon Master Trust fund range 'self-select' options. As per our commitment to include specialist funds which invest in line with sustainable and/or responsible investment themes, we made the following three funds available to Members via our self-select fund range from January 2022. We have plans to conduct a more comprehensive review of funds made available to Members through this range in the next year, in order to further integrate ESG risk management and explore climate-related investment opportunities.
    i. Baillie Gifford Positive Change – an actively managed equity fund, in which the manager selects 25-50 specific companies that they believe can deliver positive change in key areas like the environment, social inclusion and healthcare.
    ii. HSBC Developed World Sustainable Equity Index – a passive fund that invests in global equities by tracking the performance of the FTSE Developed ESG Low Carbon Select Index, which seeks to achieve a reduction in carbon emissions and fossil fuel reserves exposure, and an improvement of the FTSE Russell ESG rating, against that of the FTSE Developed Index.
    iii. Ninety One Global Multi-Asset Sustainable Growth – an actively managed, sustainable focus fund that offers multi-asset diversification by investing in a broad range of global assets. The asset manager aims to selectively invest in companies and countries that aim to either minimise their harmful effects, or to benefit society and the environment.

[24] BlackRock ESG Performance Update, Q1 2022

Industry advocacy

The Aegon BlackRock LifePath Flexi default arrangement invests mainly in passive, index-tracker strategies. This brings some constraints due to not having a divestment option as a potential stick when engaging with individual companies. However, there are ways that passive investors can increase pressure, for example by joining up with like-minded shareholders to drive change. Aegon is leveraging industry expertise on behalf of Trustees to collaborate on targets like our default net-zero goal. Through Aegon, we are supporting universal decarbonisation via industry initiatives like the Institutional Investors Group on Climate Change and the Net Zero Asset Owner Alliance.

Strategy to address climate-related risks over the short, medium and long term

Given the age distribution of our Scheme Members invested in Aegon BlacRock LifePath Flexi, ranging from those retiring in 2021-22 to those retiring beyond 2070, we recognise the need to consider both immediate and long-term investment horizons. However, we are aware of the limitations to the tools we have at our disposal today to identify climate-related risks and opportunities, beyond the use of scenario analysis.

We have therefore focused on identifying risks and trends over the next 5 to 10 years that the Scheme will consider in our investment strategy, as well as the implications for our long-term strategy in an evolving market in the lead up to 2050.

Table 5 below outlines the short, medium and long-term time horizons that we have identified as relevant to the Scheme's investment strategy. We will review this strategy on a yearly basis.

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
Short term	1-5 years	**Policy & Legal Risks** Enhanced emissions-reporting obligations; mandates on and regulation of existing products and services. **Products and Services Risks** Costs to transition to lower emitting investment products. **Market Risks** Re-pricing of assets e.g. including fossil fuel reserves. **Reputational Risks** Aligning with the interests of our Members is a core part of our duty as Trustees. ...	In the short term we will focus on understanding how our Members' investments can support and align with the transition to a low-carbon economy. We will review the self-select fund range and engage with BlackRock on decarbonisation of the Aegon BlackRock LifePath Flexi default strategy. We are currently asking our asset managers how they assess physical and transition risk for the firms in which they invest. Over the next couple of years, we want to see how asset managers identify the companies that are transitioning ahead of their peers, as well as evidence of engagement with laggard companies. ...

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
		… **Products and Services Opportunities** Development of climate mitigation and adaptation investment solutions; development of new financial products through research & development and innovation. **Market Opportunities** Further diversification of financial instruments e.g. green bonds.	… Ultimately, we need to understand how asset managers will respond to those who fail to react, including through rebalancing of portfolios, stronger exclusionary criteria and divestment. The Aegon Master Trust fund range will continue to expand to include funds that incorporate climate change and ESG factors as part of their objectives. Investment choices will enable our Members to capitalise on opportunities presented by the transition, as well as mitigate the risks that may present themselves in traditional investment strategies. We expect that data quality will improve over this period. The UK is the first G20 country to make the disclosure of climate-related risks mandatory. From 2022, over 1300 of the largest UK companies will be required to report on climate-related risks, in line with TCFD recommended disclosures.[25] We anticipate a shift in focus to the verification of company emissions reporting and regulation of climate data provision towards the end of the period. Tools for scenario analysis will mature and this will be reviewed at least once every three-year period.

[25] UK to enshrine mandatory climate disclosures for largest companies in law. Data source, GOV.UK, October 2021.

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
Medium term	5-10 years	**Policy & Legal Risks** Enhanced emissions-reporting obligations; mandates on and regulation of existing products and services. **Products and Services Risks** Costs to transition to lower emitting investment products. **Market Risks** Significant re-pricing of assets e.g. including fossil fuel reserves. **Reputational Risks** Aligning with the interests of our Members is a core part of our duty as Trustees. **Products and Services Opportunities** Development of climate mitigation and adaptation investment solutions; development of new financial products through R&D and innovation. **Resource Efficiency Opportunities** Reduced operating costs of companies through efficiency gains and increased production capacity. ...	We will expect all our asset manager partners to demonstrate sophisticated qualitative and quantitative analysis to support climate-related risk management. We expect asset managers will support the decarbonisation of markets and reflect this in their investment strategy, monitoring and engagement frameworks, and approach to industry advocacy. We expect further guidance from the industry on how less liquid assets may be managed as part of a DC portfolio, as the focus shifts from short-term cost to long-term value creation. This is in recognition that illiquid assets provide the opportunity to generate more impactful sustainability outcomes, as well as long-term investment returns. As before, we will compare our scenarios against outcomes and adjust assumptions in light of the latest science. In line with our ambition to halve carbon emissions in the Aegon BlackRock LifePath Flexi default by 2030, we will monitor BlackRock on their commitments to further ESG integration and portfolio decarbonisation, as their analytical capabilities develop. ...

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
		… **Market Opportunities** Access to new/different asset classes like infrastructure, providing opportunities to diversify and build resilience into investment portfolio, while assessing cost implications of these.	… We expect to develop more sophisticated decarbonisation pathways in line with better data disclosure from companies. This will assist us in meeting our goal to halve the emissions intensity of the portfolio compared to 2019 during this period, and to map out our subsequent pathway to net zero.

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
Long term	10+ years	**Wide-ranging transition risks (policy)** Transition to a net-zero world will require significant policy intervention as governments seek to drive the necessary actions from companies and citizens, including measures such as carbon pricing and restrictions, or outright bans on polluting activities. **Wide-ranging transition risks (technology)** Transition risks also encompass technological risk as the world shifts away from fossil fuels and carbon-intensive methods towards sustainable alternatives such as renewables and electric vehicles, causing potential 'stranding' of high-carbon assets. **Wide-ranging physical risks** Physical risks refer to the many different and interconnected impacts that come with a warmer world, including extreme weather and rising sea levels, which can damage assets and cause disruption to supply chains and company operations. …	We expect asset managers to support sustainable mitigation and adaption strategies through their investments, to support Members as they invest and retire into a world greatly affected by the climatic impact of investment decisions we make today. By this point in time, it is reasonable to expect that markets will be fully pricing in transition risks under warming scenarios where we meet the goals of the Paris Agreement and will start to price in locked-in physical impacts. Under failed transition scenarios we expect markets will begin pricing more severe physical impacts exacerbated by inaction over the preceding ten years. We are conscious of the size and scale of the challenges that we are all collectively dealing with, the complexity of understanding different climate change scenarios, and that a great deal of additional insight, learning and integration lies ahead. …

Time Horizon	Period (years)	Climate-related Risks and Opportunities	Impact on Investment Strategy
Long term	10+ years	... **Wide-ranging physical risks** Physical risks refer to the many different and interconnected impacts that come with a warmer world, including extreme weather and rising sea levels, which can damage assets and cause disruption to supply chains and company operations. **Climate opportunities** The world must channel significant sums of capital towards mitigation and adaptation over the coming decades, and this brings major opportunities for companies providing products and services that help address climate change.	... We expect the requirement to align to net zero by 2050 will result in significant changes in the portfolio compared to today and we will look to capitalise on opportunities that the low-carbon economy will present.

Investment strategy across asset classes

Given that Aegon BlackRock LifePath Flexi has an approximate 79% asset allocation to corporate issuers and only a 21% allocation to non-corporate issuers, we are comfortable at the present time that our strategy is mostly focused on addressing the risks and opportunities that companies will experience over our given time horizon.
We expect to be able to develop our strategy in relation to non-corporate issuers over the medium-term as data provision across asset classes expands.

Investment Strategy and Asset Allocation	
Asset Class (Aegon BlackRock LifePath Flexi)	**2021 weight**
Equities and equity-like	70%
Fixed income	30%
Issuer Type (Aegon BlackRock LifePath Flexi)	
Corporates, i.e. companies	79%
Sovereigns, i.e. governments	18%
Other Exposure	3%

Table 6. Strategic allocation of Aegon BlackRock LifePath Flexi in 2021

Current limitations to climate strategy

Evaluating our climate strategy through TCFD reporting has raised the question of how we reconcile the long-term investment horizons of Scheme Members and our responsibility to deliver outcomes consistent with a sustainable future, with a market that is not yet pricing climate-related risks consistently, or in full. Our long-term investment horizons do not always align to current short-term pricing mechanisms of financial markets, particularly in relation to climate change. This has multiple implications, including:

1. To date, climate risk has only partially been captured in market pricing mechanisms. Climate-related risks such as stranded asset risk may result in significant repricing of assets if this is not ushered in smoothly by government measures and gradual adjustments rather than a sudden climate response.[26]
2. Particularly as long-term investors, we face the ‘tragedy of the horizon’, as coined by Mark Carney in his 2015 speech.[27] The negative impact of investing in assets that are contributing to greater atmospheric CO2 levels, and therefore accelerating the global temperature rise, remains largely unpriced. This makes it harder for investors to mitigate these risks today, despite the detrimental impact this poses to the future value of portfolios. It is also difficult to do so: systemic risks are not only hard to capture, but difficult to understand conceptually as investors are unaccustomed to compounding impacts that do not stabilise over time.

To address these issues, access to new asset classes, and private markets in particular, could be an opportunity to better align long-term investment horizons, to diversify portfolios and to build resilience to climate-related risks.

[26] Weathering Climate Change Data source, pgim.com, Spring 2021.

[27] Breaking the tragedy of the horizon – climate change and financial stability – speech by Mark Carney England Data source, Bank of England, September 2015.

Long-term investment horizons are typically more prevalent in private markets, which also present the ability to direct capital at new innovations and new types of sustainable business models, but liquidity premia and cost implications remain obstacles to incorporating these into pensions:

- There are limited opportunities to access multi-asset solutions that invest in alternatives and provide daily liquidity to pension funds, which would buffer DC Schemes against the potential exit of large clients.
- Pensions are also constrained by the weight currently placed on short-term pricing considerations by market actors. The 'the race to the bottom' in large DC pension provision has rightly driven costs for Members down, significantly below the charge cap, but this may come at the expense of long-term value creation. Paradoxically, this focus on short-term value is the antithesis of sustainable investing, which, particularly in alternative markets, requires patient capital that a pension provider should be well-placed to provide.

Climate-related scenario analysis

This year, MSCI data and scenario analysis capabilities allowed us to run our inaugural quantitative climate scenario analysis exercise. This exploratory analysis assessed the potential impacts on our Members' investments in the Aegon BlackRock LifePath Flexi default portfolio under so-called 1.5°C 'orderly', 1.5°C 'disorderly' and 3°C 'hothouse' transition scenarios (see Figure 4).

The two 1.5°C scenarios represent pathways in line with limiting global warming to 1.5°C above pre-industrial levels, as recommended by the scientific community. Both the 'orderly' and 'disorderly' transition scenarios project decarbonisation between 2020 and 2050, reaching carbon neutrality in 2055 and continuing into negative emissions until the end of the century. Whereas orderly transition starts earlier, disorderly involves delayed action and more drastic intervention to reach carbon neutrality. The two scenarios further differ in the use of low-carbon technologies, with the disorderly scenario using more low-carbon sources of technology in various sectors and the orderly scenario using more carbon capture and storage.

We also chose to model a 3°C scenario in line with research from Climate Action Tracker which, under current policies and pledges from public and private sector actors, points towards a 2.5-2.9°C warming outcome above pre-industrial levels by the end of the century.

The scenario analysis combines data on climate risks and opportunities categorised as physical or transitional (policy and technological risks). This is then translated into an aggregated climate Value-at-Risk (VaR) metric for each of the three transition scenarios. Climate VaR is an attempt to estimate the change in value of a portfolio under different scenarios and represents the potential cost of climate change. More information on the scenarios, data and methodological limitations, and VaR can be found in the Appendix.

1.5°C Orderly Transition	1.5°C Disorderly Transition	3°C Failed Transition Scenario
• Transition impact due to policy measures and technology drivers • Transition is assumed to occur as smoothly as possible • Carbon capture and storage are developed • Locked-in physical impacts of 1.5°C • Integrated Assessment Model: REMIND NGFS 1.5°C	• Transition impact due to policy measures and technology drivers • Shift to low-carbon technologies results in sentiment shock and stranded assets • Locked-in physical impacts of 1.5°C • Integrated Assessment Model: REMIND NGFS 1.5°C	• Some transition impact -existing policy regimes are continued with the same level of ambition until 2030 when slow decarbonisation occurs • Severe physical impacts over time – both gradual physical changes, as well as more frequent and severe extreme weather events • Assumes temperature rise of 3°C by 2100. • Integrated Assessment Model: REMIND NGFS 3°C

Figure 4. Three transition scenarios from MSCI to capture possible temperature paths. Please see the Appendix for definitions and further information relating to the Integrated Assessment Models (IAMs) used for scenario analysis.

Resilience to climate-related scenarios

Significant changes in policy, investment and behaviour will be necessary to change the global warming trajectory to a Paris-aligned outcome. Whichever way these changes come about – or if they do not – there are likely to be significant changes in financial markets over the coming decades with material impact on our investment portfolios.

Our data provider, MSCI, combines the impacts of the transition and physical climate scenarios to produce an aggregated climate VaR measure for the Aegon BlackRock LifePath Flexi portfolio, based on the three transition scenarios discussed above.

Table 7. Scenario Analysis Output for Aegon BlackRock LifePath Flexi

DWP Guidance and Regulations Metrics	Aggregated Climate VaR (2080 baseline)	Data Coverage (estimated & reported)
Orderly transition (1.5°C)	-14%	46%
Disorderly transition (1.5°C)	-34%	46%
Failed transition, a 'hot-house' world (3°C)	-11%	46%

The exercise found that Aegon BlackRock LifePath Flexi assets are materially exposed to physical and/or transition risks under the three scenarios. The analysis looks at the underlying portfolio investments in aggregate, in order to understand the exposure of the total portfolio value to climate risk.

The VaR measure is relative to a baseline scenario which is 'climate-uninformed', i.e. one where existing policies and past physical impacts are assumed to have been priced in by markets, but no future transition policies or physical risks are accounted for.

- **Return expectations across all the scenarios considered are lower than the baseline** due to negative climate risk impact over time.
- **Limited data coverage** and **developing methodologies** limit decision-usefulness of the metrics at the present time. We expect to see further developments in climate scenario modelling and data coverage across all asset classes in future years. More information about the data and methodological limitation can be found in the Appendix.
- **Failed transition** pathway currently indicates least value-at-risk from climate change. We expect the physical risk of a failed transition to be much greater than currently estimated. The failed transition climate VaR highlights some of the areas of improvement in climate scenario analysis.
- Continuing climate risk education and informing high-level climate-related risk mitigation strategies through ongoing analysis will play a critical ongoing role as methodologies develop.

Table 8. Key takeaways from the scenario analysis of Scheme portfolio.

Data and methodological limitations

There are several challenges in translating climate-related information into financial risk analysis. These include the quality, consistency, and completeness of the underlying data, which is often self-reported by underlying investee companies, or estimated where no data is made available on the holdings. For example, we are unable to provide analysis specific to different asset classes at the present time. The calculations used for forward-looking metrics, such as VaR, are also subject to methodological choice and assumptions, so should not be relied on in isolation.

As mandatory climate risk reporting is rolled out across the industry, and asset managers increasingly build out products that meet sustainability criteria demanded by investors, we expect to see further development of climate data providers and increased oversight of this by industry bodies.

The continued evolution of climate science and improving understanding of impacts also means models and scenarios need regular review, to ensure that they are based on the latest knowledge.

It is also important to note that IAMs oversimplify the process of the complex technological change and innovation, as well as the relationship between climate change and economic measures such as gross domestic product. Given the inherent uncertainty of some climate impacts and the difficulty of predicting the timing and nature of government policy responses, assumptions should be interrogated on a regular basis. New risk data would be reflected in the outputs of our scenario analysis, as models are refined and improved. As a result, we may see material change to our scenario analysis results in future years – despite us sustaining our decarbonisation efforts – as we move towards our 2030 target.

Key challenges with climate data on investment portfolios relate to methodologies for forward-looking metrics (like climate VaR or implied temperature rise), metrics for different asset classes (such as corporate or sovereign debt, private assets/small cap), data availability/coverage, and lack of consistent methodologies to assess companies' transition plans and climate risks.

Through Aegon's Responsible Investment Team, the Trustees maintain indirect but ongoing dialogue with our key climate data provider, MSCI, on several topics including the following relating to climate scenario analysis:

1. **Physical risk and transition risk methodologies** under review in line with best industry practice and latest research on transition pathways.
2. **The time horizons used for VaR discounting** and enhancing alignment with those set out by the Trustees (short, medium and long-term).
3. **Integrating risks and impacts in the supply-chain and demand** factors into physical risk analysis.

Table 9. Dialogue with data providers on scenario analysis metrics and methodologies

Evolving climate strategies

The scenario analysis of the Scheme is not fixed, and will change as climate science evolves, the market responds to climate change, and as the Scheme develops. For example, the membership demographics will evolve to reflect asset returns and declining population growth rates, which is expected to result in a greater proportion of assets for Members closer to retirement. However, this is subject to change depending on the Member distribution of Schemes that may enter the Scheme arrangement.

Through that evolution we may see a rise in fixed income allocation, which would potentially lead to changes in the data needed and available to assess climate metrics and VaR (please refer to Metrics and Targets below for a discussion on climate data).

Some climate metrics are still predominantly apportioned to equity ownership, so the change in asset allocation in the Scheme where other asset classes beyond listed equities play a more prominent role will also shift the results of the Scheme as well as posing challenges to the attribution methodologies of these metrics. A shift in asset allocation can also lead to further review of the management strategies available in fixed income, which has historically been a slower asset class to adapt to ESG integration.

Risk management

In this section we will explain:

- the processes which the Trustees have established to identify, assess and manage climate-related risks which are relevant to the Scheme; and
- how these processes are integrated into the Trustees' overall risk management of the Scheme.[28]

We, the Trustees, are committed to giving climate risks due consideration, in order to protect and grow returns for our Members. In addition, we firmly believe a forward-looking approach is required to capitalise on the structural growth opportunities the climate transition brings. Although we focus on risks that climate change brings for the Scheme, we also recognise that better climate risk management is about being good stewards of our Members' assets, which ultimately may bring positive benefits to society.

Risk identification and assessment

We identify and assess risk regularly via a Risk Register. The Aegon Risk function reviews risk ratings and the actions that are being taken if a specific risk is not on target. Each quarter Aegon produces a heat map of any risk(s) that are not on target, with associated commentary for the Scheme Board. As part of this process, we have been considering the following risks:

1. Aegon is materially behind in embedding ESG into the investment proposition and key funds;
2. Bespoke default and alternative investment strategies (selected by employers) do not have suitable ESG characteristics.

The first risk was deemed on target for 'low likelihood' and 'impact'. The second risk was identified as having a moderate 'impact' with a 'possible likelihood' and was not on target in the first quarter of 2022.

As a result, the Board agreed to shift assets for six out of ten of the bespoke sections into the main default fund and core self-select range by the end of 2023, to bring this risk back on target. We intend to explicitly integrate climate-related risks into the Scheme's existing risk framework in 2022-2023, in collaboration with our investment adviser and service provider.

This year, we developed a Climate Risk Dashboard tailored for the whole of the Scheme portfolio, adapting guidance from The Pensions Regulator, to identify and better manage key areas of climate risk.

[28] Climate Change Governance and Reporting Regulations, schedule 1 para 27(k), (l) and (m).

Scheme Investment strategy and implementation				
Climate Metric (Scheme Portfolio)[29]	**% coverage**	**2021**	**2022**	**2023**
Carbon footprint (tCO2e / $M invested)	46.4%	67.9	-	-
Selected additional (mandatory) climate change metric monitored (split by asset / sub-asset class) – one of:				
Portfolio temperature alignment (°C)	46.0%	3.4°C	-	-
Data quality (% data coverage of total portfolio)	-	46.4%	-	-
Additional Metrics Monitored				
Weighted average carbon intensity (WACI) (tCO2e / $M sales)	46.4%	132	-	-
% of investments with approved Scienced Based Target initiative (SBTi) targets (1.5°C aligned net zero targets)	46.4%	0.3%	-	-
Investment value-at-risk from physical impacts (physical risk climate VaR)[30]	46.0%	-8.8%	-	-
Investment value-at-risk from transition impacts (aggregate climate VaR)[31]	46.0%	-11.5%	-	-
% of investments aligned with climate opportunities	46.1%	3.6%	-	-

[29] Climate metrics relate to Scope 1 (S1) and Scope 2 (S2) CO2e (see definition of CO2e in 'Metrics and Targets').

[30] MSCI Aggressive Physical Risk Scenario

[31] MSCI 2°C AIM CGE Scenario

Targets Monitored	
Commitment #1	Net zero emissions across in-scope Scheme defaults by 2050
Ambition #1	Halving emissions across in-scope Scheme defaults by 2030

Table 10. Risk dashboard reflecting the whole Aegon Master Trust portfolio including defaults and self-select funds. The dashboard will be updated on an annual basis. Climate data trends may change as disclosure and coverage improve.

The asset breakdown of Aegon BlackRock LifePath Flexi in the report section 'Climate Data at Aegon BlackRock LifePath Flexi Default Level,' shows that our strategy should focus on corporate issuers (equities and company bonds), given that they represent around 75% of total assets under management. We are thus focusing on transitioning equities to climate-aligned holdings, while continuing to challenge BlackRock to set climate targets across all asset classes. Our strategy on fixed income will follow as climate data improves for sovereigns and other issuers. We were able to validate this prioritisation approach following a climate-risk exposure analysis that Aegon commissioned with Ortec Finance, which showed that equities are indeed more sensitive to re-pricing shocks across multi-asset portfolios. We note that climate metrics were only available for about 46% of the portfolio, covering only corporate issuers. Working closely with MSCI and our asset managers will help increase data coverage going forward, allowing us to make more informed decisions.

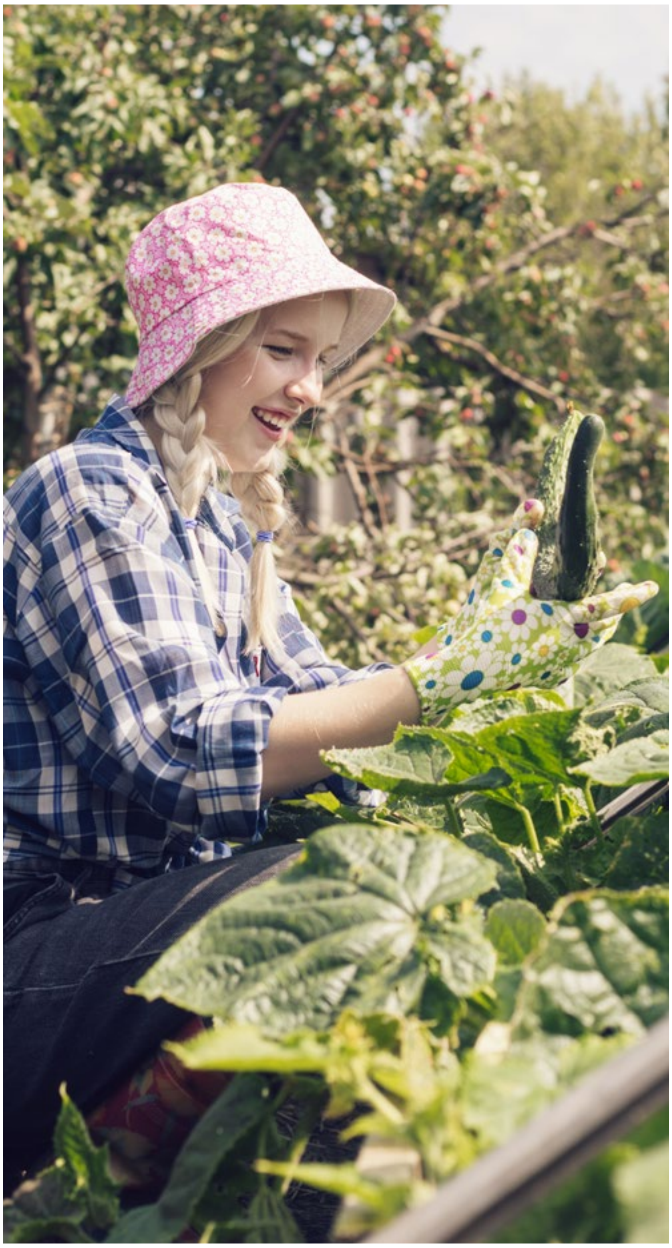
We conducted further analysis through three categories: transition risk, physical risk and opportunities for the Aegon BlackRock LifePath Flexi default portfolio. The significance of transition risks was assessed under three scenarios using the MSCI tool, a 1.5°C orderly transition, a 1.5°C disorderly transition and a 3°C failed transition scenario. Similarly, physical risks were reviewed under aggressive and average scenarios. We continue to explore new avenues to assess and manage the exposure of these investment portfolios to both physical and transition risks associated with climate change. Risks are viewed under different time horizons, outlined in the Strategy section of this report to complement operational and strategic planning. We will endeavour to maintain consistency in our approach to assessing these risks over time and will continue to consider these risks in proportion to other investment risks identified by the Scheme.

Integration and management

In this section we will explain how the Trustees establish and maintain processes to enable us to effectively manage climate-related risks which are relevant to the Scheme, and how these processes are integrated into the Trustees' overall management of the Scheme.[32]

Moving 80% of early growth-stage assets to ESG tilts and screens reflects our commitment to better managing and acting on climate risk. Significant climate risks and opportunities can be identified and assessed at any point during the annual business planning cycle. They are also formally integrated in our governance and processes so we are able to make the most informed management decisions.

- Aegon carries out a biennial Business Environment Scan (BES), with annual updates for significant changes. The BES process looks at significant risks and opportunities from a financial and reputational perspective, including explicit considerations of climate change and biodiversity loss. Previous findings indicate that climate risk is material and therefore needs to be carefully managed for our Members.
- Isio produces an annual review of Aegon BlackRock LifePath Flexi, which includes an assessment of how high-level ESG factors are integrated. In addition, Isio also produced a more detailed Climate Impact Assessment report in December 2021, delving into Aegon BlackRock LifePath Flexi climate policies and assessing BlackRock, as the manager of the default strategy, Aegon BlackRock LifePath Flexi. As part of Isio's review, they concluded that although climate-related information is assessed for individual Aegon BlackRock LifePath funds, within Aegon BlackRock LifePath Flexi strategy, there was little evidence of the risks and opportunities being assessed at an overall strategy level, for example through climate scenario modelling. We recognise that BlackRock is currently developing processes for assessing risk and opportunities at a strategy level, and Aegon's scenario analysis will support this.
- BlackRock continually monitor the portfolio for systematic risks associated with the transition to a low-carbon economy. Climate-specific data is provided for LifePath funds, and we expect the level of detail to increase over the next year with the development of Aladdin Climate, helping us to better manage climate risk. Going forward, we have asked for regular updates from BlackRock as they roll out changes to better manage climate risks and opportunities, including scenario modelling. Close alignment and communications will in turn allow us to better implement our strategy across the Scheme portfolio.



[32] Climate Change Governance and Reporting Regulations, schedule 1 para 27(l), (m).

Stewardship to help manage climate-related risks

As part of managing climate-related risks, we believe that stewardship is critical and this means monitoring and engaging our asset managers to ensure that Members' assets are managed wisely. We outline our full stewardship strategy in the 'Building climate resilience into our investment strategy' section of this report, but you can find some key highlights relating to climate-related risk management below.

Case Study: Climate-related shareholder proposals

- In our Implementation Statement we provide examples of significant votes, in line with our ESG Belief to monitor the outcomes of manager's voting and engagement actions, to illustrate climate stewardship in action. For example, in March 2021 we met with BlackRock to understand and challenge BlackRock's stewardship work, as the most significant of the asset managers within the Master Trust offering. We welcomed the update to BlackRock's voting guidelines, to include an expectation for companies to disclose a plan for how their business model would be compatible with a low-carbon economy, and the shift to supporting shareholder climate resolutions where BlackRock consider them to have merit. In this context, a low-carbon economy is considered as one where global warming is limited to well below 2°C, with net zero global greenhouse gas emissions by 2050.

Case Study: Asset manager oversight

- As part of our annual stewardship activities, we have commissioned Aegon to issue a responsible investment questionnaire to asset managers across our self-select and default fund ranges. While it covers a wider range of issues, we have ensured that there is a dedicated section addressing climate-related risks and opportunities.
- We will use this information to develop a responsible investment and climate scorecard across our asset managers, to assess the quality of their responsible investment practices. Practically, this resource may be used to inform fund selection for the self-select fund range.

Metrics and targets

In this section, we will set out:

- how the Trustees obtained scope 1 and scope 2 greenhouse gas emissions attributable to the Scheme's assets; used the data obtained to calculate their selected absolute emissions metric, emissions intensity metric and additional climate change metric; used the metrics calculated to identify an assess climate-related risks and opportunities to the Scheme; if the Trustees were not able to obtain data to calculate metrics for all of the assets of the Scheme, why this is the case; and
- the target which the Trustees have set for the Scheme in relation to one of the metrics which they have selected to calculate.[33]

Climate metrics

As required by the DWP regulations, we are this year reporting on three key climate metrics, which will help us monitor progress against our climate targets. We have procured detailed analytical capability from MSCI, significantly improving our ability to report on a range of different climate metrics and target across our default portfolio, as well as facilitating access to climate data on self-select fund ranges and other default options, including Aegon BlackRock LifePath Capital and Aegon BlackRock LifePath Retirement.

We believe that climate metrics are a valuable tool to assess climate-related governance, strategy and risk management across the Scheme and to hold us, as Trustees, accountable to the targets we have set on behalf of our Members.

We recognise there is more to do to strengthen our reporting capabilities and we also expect MSCI's climate analytics to evolve over time, particularly when it comes to data coverage for the portfolio. Cash and sovereign bond coverage is particularly poor at present.

We recognise other limitations relating to the reliability of the metrics used, including the quality of issuer disclosures, uncertainty associated with some of the underlying methodological assumptions, and the still very poor levels of Scope 3 emissions disclosure (which for sectors such as oil and gas constitute most of the emissions).

We will continue to monitor MSCI and engage with them through our service provider, Aegon, as part of their centralised responsible investment activities. We would like to see an improvement in disclosure and quality of climate data for companies, as well as greater transparency and consistency of emissions reporting across other asset classes, geographies and sectors.

[33] Climate Change Governance and Reporting Regulations, schedule 1 para 27(n) and (o)

Which areas of the portfolio are we reporting on?

The climate metrics and targets apply to the popular arrangement offered by the Scheme, as specified by the DWP Guidance on Governance and Reporting of Climate Change Risk. For the Scheme this is the Aegon BlackRock LifePath Flexi default arrangement, which the majority of Scheme Members are invested in.

Which metrics are we reporting on?

In line with DWP guidance, we have selected three climate metrics to report against. We have chosen to report on data quality as our additional climate metric due to the limitations to climate data at the present time. We may choose to review this metric over time as data quality improves.

1. Absolute emissions metric: total carbon emissions
2. Emissions intensity metric: carbon footprint
3. Additional metric: data quality

Our climate metrics report uses carbon dioxide equivalents (CO2e) as a unit of measurement, which standardises the climate effects of various greenhouse gases.[34] The emissions metrics used are apportioned to Enterprise Value Including Cash (EVIC), meaning that we allocate 'ownership' of greenhouse gas emissions across the total capital structure of the issuing company (equity and debt). Data quality focuses on verified, reported, estimated and unavailable proportions of the Aegon BlackRock LifePath Flexi default, as per DWP guidance. Considerations around other data limitations are not captured within this metric but are discussed below.

DWP metric category	Climate metric[35]	Definition	Asset classes covered	Emission scopes	Data provider
Absolute Emissions	Total Financed Carbon Emissions (tonnes CO2e)	Measures the carbon emissions for which an investor is responsible through their total overall financing. Emissions are apportioned across all outstanding shares and bonds (% Enterprise Value including cash).	Listed equity and fixed income	Scope 1 & 2	MSCI
Emissions Intensity	Financed Carbon Footprint (tonnes CO2e/$M invested)	Measures the carbon emissions for which an investor is responsible, per USD million invested, through their total overall financing. Emissions are apportioned across all outstanding shares and bonds (% Enterprise Value including cash).	Listed equity and fixed income	Scope 1 & 2	MSCI

[34] Governance and reporting of climate change risk: guidance for Trustees of occupational schemes. Data source, GOV.UK, June 2021.

[35] Climate metrics relate to Scope 1 (S1) and Scope 2 (S2) CO2e.

DWP metric category	Climate metric[35]	Definition	Asset classes covered	Emission scopes	Data provider
Additional Metric	Data Quality (%)	Emissions – Reported (%): Scope 1 and 2 emissions reported directly by companies and collected by MSCI. Emissions – Estimated (%): Scope 1 and 2 emissions estimated by MSCI using sector analysis. Emissions – Verified (%): Scope 1 and 2 reported emissions that are audited for accuracy by the data provider. Emissions – Not covered (%): No scope 1 or 2 emissions data reported/estimated.	All asset classes. Data coverage gaps may result from lack of available data for a particular asset class, e.g. sovereign debt.	Scope 1 & 2	MSCI

Table 11. Summary of climate metrics for our default arrangement Aegon BlackRock LifePath Flexi.

Climate Data at Aegon BlackRock LifePath Flexi Default Level

The Trustees received climate data from Aegon in March 2022. The Trustees reviewed the data with their investment adviser Isio and responded to Aegon with the following requests, which have since been provided for inclusion in this report.

- To provide clear definitions and formulas of metrics and to include an absolute emissions metric, alongside carbon intensity metrics and the emissions coverage metric (data quality).
- To apportion climate metrics reported using EVIC (Enterprise Value Including Cash) rather than market capitalisation, in alignment with methodologies recommended in the DWP Guidance.
- To obtain climate data for a benchmark that accurately reflects the asset allocation of Aegon BlackRock LifePath Flexi default.
- To work with MSCI and BlackRock to improve coverage where possible, especially where portfolio funds were not available on the MSCI platform.
- To obtain data for multiple Aegon BlackRock LifePath funds that represent Members at different stages in their journey towards retirement.

	Climate Metric	31 December 2021[36]	
DWP metric category		Portfolio	Benchmark: 70:30 Blend[37]
Absolute Emissions	Total Financed Carbon Emissions (S1+S2 tonnes CO2e)	141,708	508,767
Emissions Intensity	Financed Carbon Footprint (S1+S2 tonnes CO2e)/$M Invested)	32.8	117.8
Additional Metric (Data Quality)	Scope 1 & 2 Emissions – Estimated or Reported (%)	62.6%	97.6%
	Scope 1 & 2 Emissions – Not Covered (%)	37.4%	3.4%
	Scope 1 & 2 Emissions – Verified (%)	0%	0%

The above climate metrics relate to greenhouse gas emissions generated by the Aegon BlackRock LifePath Flexi default arrangement in aggregate. These quantitative measures help us to identify, manage and track our Scheme's exposure to financial risks and opportunities.[38] Equivalent climate metrics for a benchmark portfolio are also displayed above.

The benchmark portfolio represents a blend of equity and fixed-income indices that roughly approximate the strategic asset allocation of Aegon BlackRock LifePath Flexi. The metrics are displayed here to generate a comparison between the climate metrics specific to Aegon BlackRock LifePath Flexi and a non-ESG portfolio.

[36] Asset allocation of Aegon BlackRock LifePath Flexi portfolio as at 31 December 2021.

[37] Blended benchmark 70:30 split (equity : fixed-income) between MSCI All Country World Index and Bloomberg Barclays Global Aggregate Index, reflecting basic asset allocation split of the portfolio as at 31 December 2021.

[38] Department for Work and Pensions (2021) Governance and reporting on climate change risk: guidance for trustee of occupational Schemes, Governance and reporting of climate change risk: guidance for Trustees of occupational Schemes (publishing.service.gov.uk) p. 36.

While this analysis is helpful to begin to understand the climate impact of the default, we remain mindful of a few key limitations to current data which we expect to improve over time:

- Data coverage for Aegon BlackRock LifePath Flexi is around 63% for scope 1 and 2 emissions. Care is needed when analysing climate metrics of a portfolio with incomplete coverage. The coverage gaps are mostly a consequence of poor data coverage across particular asset classes like sovereign debt, commodities and real estate. We anticipate portfolio coverage to increase as data disclosures and methodologies improve over the Scheme's short- and medium-term horizons.
- MSCI do not verify emissions data, and their estimated emissions are based on companies within a sector that self-report. There may be some inaccuracies in the reported emissions data used to calculate the above metrics, as a result of lack of industry-wide company emissions auditing and regulation. Please refer to Table 12 for further discussion on limitations to climate metrics.
- We have used a non-ESG benchmark[39] for data comparison that reflects the asset allocation of the Aegon BlackRock LifePath Flexi arrangement.

Climate data at different stages on the journey to retirement

While the above data is helpful to understand the climate profile of the whole of Aegon BlackRock LifePath Flexi and to track progress against our net zero target, the default arrangement is composed of funds that de-risk as a Member approaches retirement. The stage at which a Member is in their journey towards retirement will affect the asset allocation of their individual portfolio. For example, a Member invested in the Aegon BlackRock LifePath Early Days fund will be invested in a portfolio of equity and equity-like instruments. A Member invested in the Aegon BlackRock LifePath At Retirement fund will be invested in predominantly fixed-income and similar instruments with a smaller equity component.

What does this have to do with climate data?

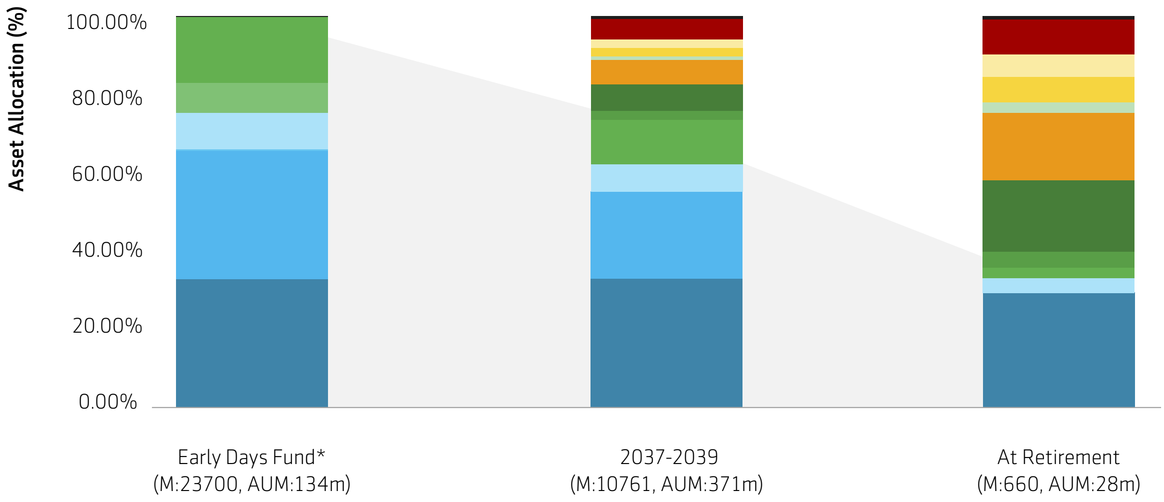
There are a number of reasons why climate data will vary depending on the asset allocation of a portfolio, including:

- Greater ESG integration in growth stages of portfolios with higher allocation to equities, resulting in a less carbon-intensive profile.
- Higher allocation to fixed income during de-risking phase. Fixed income has been lagging behind equity with regards to the number of ESG integrated funds available in the market, but increasingly corporate bond funds are applying ESG screens. The Global Corporate Bond fund used within Aegon BlackRock LifePath Flexi for instance will be replaced with a screened equivalent by end of Q3 2022, and we expect this to cause an improvement in our climate metrics.
- Risk-adjusted returns vary across asset classes, pathways and time horizons. In general cash and corporate bonds are most resilient to transition risks, whereas listed equities and real estate are least resilient due to their sensitivity to re-pricing shocks.

We have mapped the different carbon-intensity profiles of three Members aged 30, 55 and 65 in Figure 5 below to demonstrate how carbon metrics differ across different Members depending on the different risk profiles and asset classes they are invested in.

39 Blended benchmark 70:30 split (equity : fixed-income) between MSCI All Country World Index and Bloomberg Barclays Global Aggregate Index, reflecting basic asset allocation split of the portfolio as at 31 December 2021.

Aegon BlackRock LifePath Flexi asset allocation



Aegon BlackRock LifePath Funds	Aegon BlackRock LifePath Flexi Early Days Fund			Aegon BlackRock LifePath Flexi 2031-33 Fund			Aegon BlackRock LifePath Flexi Retirement Fund		
Date	31-Dec-2019	31-Dec-2020	31-Dec-2021	31-Dec-2019	31-Dec-2020	31-Dec-2021	31-Dec-2019	31-Dec-2020	31-Dec-2021
Scope 1 & 2 emissions coverage	98.2%	99.4%	99.3%	67.3%	68.1%	66.8%	43.2%	47.3%	47.9%
Sales carbon emissions intensity (S1+S2 tonnes CO2e/ $M sales)	157.2	137.8	122.3	170.3	140.6	123.9	182.6	145.1	131.1
Financed carbon footprint (S1+S2 tonnes CO2e/ $M Invested)	n/a	55.8	45.9	n/a	54.4	42.9	n/a	52.9	41.9

- UK Cash (Active)
- UK Coporate Sustainable Bonds (Passive)
- Global Real Estate Investment Trust
- UK Equities (Passive)
- UK Coporate Bonds (Passive)
- UK Index Linked
- Global Emerging Market Bonds
- Emerging Market Equities (Passive)
- Developed Market Screened Equities (Passive)
- Commodities
- Global Corporate Bonds (Passive)
- UK Soverign Gilts
- European ex-UK Equities (Passive)
- Developed Market Sustainable Equities (Passive)
- Global Small-Cap Equities (Passive)

As demonstrated by the above data, we have already begun portfolio decarbonisation against 2019 levels across Aegon BlackRock LifePath Flexi funds, in line with our target. The sales carbon intensity of the Aegon BlackRock LifePath Flexi Early Days fund has declined by 22.8% against 2019 levels, and the sales carbon emissions intensity of At Retirement funds has declined by 28.2% since 2019 levels.

Climate data limitations

Table 13. Key messages on climate data:

Climate data and metrics on investment portfolios is an evolving field with a wide range of calculation and collection methodologies, company reporting requirements and practices. It therefore presents challenges to investors seeking a combination of consistency, coverage and quality.

What we are doing about this	
We are currently working with MSCI to understand gaps in the data coverage of the portfolio and how this can be improved.	The Trustees are pleased to know that MSCI methodologies are reviewed in line with new research and industry best practices.
Additional Considerations	
Data Coverage	Improved Metrics
Coverage of the Aegon BlackRock LifePath Flexi portfolio currently stands at roughly 63%. MSCI's data covers around 10,000 companies. We expect to see greater attention to coverage of fixed-income components of portfolios over coming years as disclosures and methodologies evolve.	To date, MSCI have used a company's market capitalisation as the measure to normalise carbon footprint metrics. In line with industry developments, we have transitioned to carbon metric measures using EVIC. This is in line with DWP recommendations for carbon intensity calculations, in order to better attribute emissions across both equity and fixed-income components of portfolios.

Please refer to the Appendix for further information on data and methodological limitations in relation to climate metrics and scenario analysis.

Target setting

As Trustees of the Scheme, we have agreed to a set a net zero target and interim target for the Aegon BlackRock LifePath Flexi default arrangement of the Scheme. Our ambition is to halve the carbon footprint of Aegon BlackRock LifePath Flexi by 2030 against a 2019 baseline, and we have committed to achieving net zero emissions in the portfolio by 2050. Please refer to Table 13 to see progress to date for emissions intensity reductions.

The Trustees agree that:

- The net zero target is aligned with our fiduciary duties and ESG Beliefs described in the Statement of Investment Principles.
- We intend to demonstrate targeted reductions and consider further interim targets.
- We will regularly review the scope of the target, considering the performance against that target of current in-scope assets and the improvement of available climate data across asset classes.

Scope of target

The strategic asset allocation of funds within the Aegon BlackRock LifePath Flexi portfolio will evolve over time. BlackRock intend to define the climate target for the individual funds by the type of issuer held, regardless of the current allocation to that specific asset class. To effectively monitor climate emissions, issuer types are categorised and defined as follows:

- Corporate issuers (equities, corporate bonds, and REITs) – climate target applies
  - Corporate issuers are directly responsible for carbon emissions.
  - Emissions data is reliable and is consistently used for emissions targeting.
  - Exposures can be tilted toward similar products with higher ESG characteristics (i.e., ESG funds).
- Sovereign issuers (governments and related entities) – climate target does not apply
  - Standards for defining sustainability in the sovereign space are far less established than for corporates.
  - However, we will monitor other metrics such as the ESG ratings of the sovereign issuers in which we invest.
- Other exposures (commodities) – climate target does not apply
  - No carbon emission data is available or applicable in this area.

Metric chosen to track target

We find it valuable to draw on climate risk knowledge that exists in our service provider, Aegon. Through dialogue we will often share joint targets – for instance the commitment for default funds to be net zero carbon emissions by 2050 is a shared goal.

We have chosen the same carbon emissions intensity metric – carbon footprint (tonnes CO2e/$M invested) –currently used by Aegon to track their net zero progress: BlackRock use a different carbon intensity metric to measure progress against the climate targets introduced for Aegon BlackRock LifePath Flexi. This is defined as carbon emissions relative to a company's sales and is the metric used when reporting the 22.8% carbon emissions intensity reduction of Aegon BlackRock LifePath Flexi Early Days fund and 28.2% of At Retirement since 2019 levels.

We are collaborating with Aegon to ensure that climate targets set across the Aegon BlackRock LifePath Flexi funds by BlackRock are suitable and align to our shared goal of decarbonising the entire default.

We believe it is wise to maintain flexibility to change our emissions intensity metric in the future, in line with industry standards and best practices. As mentioned earlier in this report, the carbon emissions reduction may differ depending on years away from retirement, reflecting the different strategic asset allocation in each phase.

Table 14. Key takeaways relating to Aegon BlackRock LifePath Flexi climate targets

- By integrating ESG-oriented strategies into Aegon BlackRock LifePath Flexi, the Aegon BlackRock LifePath Early Days fund has achieved a 22.8% reduction in carbon emissions intensity (relative to sales) since 2019.
- Aegon have engaged with BlackRock to establish a climate target for Aegon BlackRock LifePath Flexi. The target is expected later in 2022 based on the approach above, and will only apply to corporate issuers, which represent around 75% of total assets under management. Issuer type is a helpful way split out assets as it will be more reflective of the holdings for which climate data is currently more accessible (corporate issuers), and those where data is more difficult to obtain (sovereigns).
- Besides capital allocation, implementing stewardship (voting and engagement) and industry advocacy will support achieving our net zero target.

Looking ahead

We hope this report has provided insight into how we manage climate risks for our Members. It is clear to us climate management and associated disclosures are fast-changing areas. Consequently, we will continue to review and assess our performance yearly, in line with new data, our Members' expectations, and regulatory requirements. Work is already underway to continue to build our understanding of climate risks and put processes in place to address them.

Climate risks categorisation

- We understand that there are limitations in considering climate change risk within the broader category of ESG-related risks. Given the magnitude of expected climate impacts, we are planning to categorise climate change as a standalone investment risk in our Statement of Investment Principles. Raising the profile of climate risk will help us better prioritise risk areas.
- In addition, we will continue to update and assess the climate metrics we receive and use, both in terms of methodological robustness and coverage for our Members' assets.

We acknowledge data availability is currently a key limitation across the financial industry. Looking ahead, we plan to perform climate scenario analysis annually. We intend to build on the work performed to date through a quantitative analysis of climate risk as data quality and coverage, as well as modelling tools, improve. We will then be able to integrate results from scenario analysis into our investment strategy more comprehensively.

Continued engagement

- We started the process of assessing our asset managers against defined climate criteria this year. We will rate responses and produce asset manager scorecards which will inform our expectations and drive our engagement with them. We will consider escalation measures, should asset managers not show the climate leadership we expect.
- We expect the low-carbon transition to create opportunities for long-term investors, and we will continue to explore these with Aegon and our asset managers.
- In addition, we will continually review and respond to recommendations from the DWP and TCFD, as regulation and best practice evolve.

We will also continue to support Aegon in engaging with industry bodies, to learn and drive industry change. For example, we expect to be able to support collaborative industry engagement with our portfolio's top carbon emitters, as part of Aegon's climate strategy.

Appendix – Climate scenario analysis

Physical Value-at-Risk modelling

The first component of climate VaR analysis is physical risk. Our data provider, MSCI, has established a physical VaR measure to quantify the effect of different physical risk 'hazards' on companies. This refers to different global warming-induced weather patterns like flooding, wildfires, droughts and their effects on the facilities that a company directly owns, like offices or factories. Companies with facilities in climate sensitive regions or long-lived fixed assets are those that are most at risk under this metric, due to greater exposure to extreme weather patterns which may increase in frequency or severity over time.

MSCI have used the same 'aggressive' physical risk assumptions across all three of the scenarios we discuss in the report and in the appendix below.

This explores the severe downside risk across the distribution of potential costs resulting from extreme weather events. Due to variance driven by uncertainty from the climate system and other modelling uncertainty, we expect the average physical risk scenario to significantly underestimate the likely damage and disruption that the world has already committed to through historic emissions. We have therefore chosen the worst-case physical risk option for all three of our scenarios. We note that the modelling and understanding of the physical risk impacts of climate change are still developing, and not without challenges in the range of investments held by the Scheme.

Transition Value-at-Risk modelling

Transition VaR modelling is an even more uncertain and complex exercise than physical risk modelling. Using MSCI's scenario analysis tool, transition VaR attempts to estimate the likely trajectory of human economic activity over a 50-year horizon and quantify how a Member's portfolio is likely to be impacted. MSCI ESG Research uses outputs from four Integrated Assessment Models (IAMs) in the Transition VaR models:

Regional Model of Investment and Development (REMIND): Numerical models that represents the future evolution of the world economies with a special focus on the development of the energy sector and the implications for our world climate.

Asia-Pacific Integrated Model/Computable General Equilibrium (AIM/CGE): Model developed to analyze the future of climate change mitigation and its impact on economic conditions.

Global Change Assessment Model (GCAM): Model composed of five main systems: energy, water, land, economics and climate, linked to a climate model exploring climate change mitigation policies including carbon taxes, carbon trading, regulations and accelerated deployment of energy technology.

Integrated Model to Assess the Global Environment (IMAGE): Model that simulates the environmental consequences of human activities worldwide. It represents interactions between society, the biosphere and the climate system to assess sustainability issues such as climate change, biodiversity and human well-being.

The transition scenarios considered are based on IAMs which are used to estimate the economic, societal and environmental effects of different climate scenarios and pathways. The models simulate and quantify financial impact over time by making a range of assumptions about the relationship and feedback effects between human activity and the earth system we depend on.

Climate Scenarios

Both the 'orderly' and 'disorderly' transition scenarios project decarbonisation between 2020 and 2050, reaching carbon neutrality in 2055 and continuing into negative emissions until the end of the century. Whereas orderly transition starts earlier, disorderly involves delayed action and more drastic intervention to reach carbon neutrality. The two scenarios further differ in the use of low-carbon technologies, with the disorderly scenario using more low-carbon sources of technology in various sectors and the orderly scenario using more carbon capture and storage.

The 3°C 'hothouse', or failed transition, scenario projects a plateau in emissions between 2020 and 2030 and then a linear decrease until the end of the century with global temperatures rising to 3°C above pre-industrial levels by 2100.

Different scenarios, or temperature (and emissions) pathways, come with different combinations of risks. For example, a scenario where the world genuinely tries to limit the global temperature rise to 1.5°C would bring significant near-term transition risk given the forceful policy intervention required to stay within the associated carbon budget, while mitigating physical impacts over the longer term. Conversely, a world that drags its feet and breaches 2°C would experience less transition risk in the shorter term but is likely to result in catastrophic physical outcomes over a longer time horizon.

Key challenges with climate data on investment portfolios relate to methodologies for forward-looking metrics (like climate VaR or implied temperature rise), metrics for different asset classes (such as corporate or sovereign debt, private assets/small cap), data availability/coverage, and lack of consistent methodologies to assess companies' transition plans and climate risks.

Through Aegon's Responsible Investment Team, the Trustees maintain indirect but ongoing dialogue with our key climate data provider, MSCI, on several topics including the following relating to climate scenario analysis:

4. **Physical risk and transition risk methodologies** under review in line with best industry practice and latest research on transition pathways.
5. **The time horizons used for VaR discounting** and enhancing alignment with those set out by the Trustees (short, medium and long-term).
6. **Integrating risks and impacts in the supply-chain and demand** factors into physical risk analysis.