Our approach to climate change

Taking action on climate change is one of the key priorities in our approach to sustainability

We are pleased to present these climate-related disclosures which have been prepared on a basis consistent with the four pillars and eleven recommended disclosures as set out in June 2017 by the Financial Stability Board's Task Force on Climate-Related Financial Disclosures (2017 TCFD Annex). In October 2021, the Financial Stability Board released additional guidance implementing the recommendations of the Task Force on Climate-related Financial Disclosures (2021 TCFD Annex), which supersedes the 2017 TCFD Annex. Whilst we have considered these in our disclosures, we acknowledge that we will require more time to implement the 2021 TCFD Annex and therefore intend to apply the recommendations more fully in our 2022 report, in line with the Listing Rules (Disclosure of Climate-Related Financial Information) (No 2) Instrument 2021 as published by the FCA.

The table below summarises how we comply with the recommendations of TCFD and where the relevant disclosures can be found in this report.

TCFD Recommendations	Description	Section
Governance		
Board's oversight of climate-related risks and opportunities	The M&G plc Board is responsible for setting our strategic approach to ESG (including climate) and our ESG values and principles. The terms of reference for both the Audit Committee and the Risk Committee have been updated to consider all ESG oversight.	ESG governance page 87
Management's role in assessing and managing risks and opportunities	Management of actions and opportunities arising from the assessment of ESG risks (including climate) are discussed at the Executive Risk Committee, chaired by the Chief Risk and Compliance Officer. Management of actions and opportunities arising from the assessment of ESG risks are also discussed by the Executive Committee as required.	Climate change and TCFD page 46
Strategy		
Climate-related risks and opportunities over various time horizons	In the short to medium term, the transition to net zero poses challenges to us as investors in terms of its impact on asset valuations. It also presents opportunities to channel capital into climate solutions. In the medium to long term, our operations and investment portfolios will be exposed to physical risks resulting from extreme weather events and to the impact of climate change on other environmental systems such as biodiversity and water, and through them on health, living standards and social stability.	Climate change and TCFD page 47
The impact on the organisation's businesses, strategy, and financial planning	As part of our strategic priority, One M&G, we have implemented steps to deliver on our 10 point sustainability plan, including developing our pathway to net zero. In building climate considerations into our overall strategy we are building out our product range, with an increased focus on integrating ESG factors. We are also altering the nature of assets in which we invest, particularly through our position on thermal coal and from growth in environmental impact investing.	Climate change and TCFD page 47
Resilience of the organisation's strategy, based on different climate-related scenarios	We have also analysed the potential impact on our portfolio of various climate transition scenarios in our scenario analysis on page 55. In our joint capacity as an asset manager and an asset owner, we are developing our resilience by transitioning to net zero through a mix of portfolio decarbonisation, investee engagement and ESG integrated investment approaches. The resilience of our balance sheet to climate risk has also been assessed as part of the ORSA.	Climate change and TCFD pages 51-53
Risk management		
Processes for identifying and assessing climate-related risks	Climate-related risks and other ESG factors are identified and assessed under a new bespoke Risk Management Framework which further enhances how we identify a complex range of ESG risks and is now being integrated across our business. We also combine a range of other approaches to help us identify, understand and articulate climate risk, including academic research, industry-shared learning, scanning tools and relevant data sources, scenario analysis and best practice guides.	Principal Risk page 73 Sustainability and ESG Risk Management pages 79-82

TCFD Recommendations	Description	Section
Processes for managing climate-related risks	We have established a new ESG Risk Governance structure across the business. This includes the setup of three discrete Risk Management Working Groups across our three lines of defence, focusing specifically on ESG (including climate) risk issues. We also ensure effective risk controls, policies and practices are in place to mitigate and reduce ESG risks, provide oversight of progress made against key objectives and flag any barriers to success.	Risk management pages 79-82
Integration of climate risks into the organisation's overall risk management	We consider climate change to be one of the thematic sustainability priorities within ESG risk with oversight from second line Risk & Resilience teams. Our bespoke ESG Risk Management Framework was implemented in 2021 and is now being integrated across the business. We take a holistic view of climate change risks, focusing on transition, physical and liability risks across a range of timeframes (Short-term: < 3 years; Medium-term: 3-10 years; Long-term: 10+ years).	Risk management pages 79-82
Metrics and targets		
Metrics to manage climate-related risks and opportunities	To assess climate-related risks and opportunities, we focus on all our operational and Scope 1 & 2 investment portfolio carbon emissions. We intend to phase in Scope 3 emissions as data becomes more robust and are developing further metrics to monitor and manage climate-related risks.	Climate change and TCFD page 54
Greenhouse gas emissions	Our total operational emissions in 2021 were 52% lower than 2020. Although partly affected by COVID-19 this also reflects our commitment to purchase renewable electricity, with 98% of our electricity use provided by renewable energy. This year we are also able to report our Scope 1 & 2 financed carbon portfolio emissions for equities and debt securities. These are set out in our climate metrics on page 54.	Climate change and TCFD page 50
Targets to manage climate-related risk and opportunities	We have committed to becoming carbon net zero in our own business operations by 2030 at the latest. We've also committed to achieving carbon net zero across our investment portfolios by 2050 to align with the Paris Agreement. In 2021 we published initial interim targets towards this goal for our asset manager, and will publish interim targets for our asset owner in 2022.	Climate change and TCFD page 47

Progress in reporting in 2021

Our reporting under the TCFD framework is evolving in line with our response to managing climate-related risk and opportunities. This year we have undertaken our first detailed bottom up climate scenario analysis covering equity, debt securities and real estate portfolios and developed our Net Zero Investment Framework portfolio metrics aligned to the Partnership for Carbon Accounting Financials (PCAF). We have published our position statements to protect biodiversity and support a just transition to a low carbon, sustainable economy and society. In 2021 we have extended our overall ESG reporting through publishing Sustainable Accounting Standards Board (SASB) aligned disclosures along with our annual Communication on Progress (COP) in alignment with the UN Global Compact's reporting framework.

Priorities for 2022

During 2022 we will continue to implement steps to deliver our 10 point sustainability plan, including progress towards the net zero carbon commitments for our business.

For our investment portfolios a key priority in 2022 will be the publication of interim net zero targets as an asset owner, which will incorporate and build on the commitments we have made as an asset manager in 2021 with the inclusion of targets for externally managed assets. Alongside this, both asset owner and asset manager will begin implementing our policy to phase out of thermal coal investment.

We are conscious that the management of climate-related risks and opportunities, including meaningful delivery against emissions reduction targets, is heavily dependent on the availability of reliable carbon data and methodologies. As major owners and investors in private assets, we will continue our efforts to develop new methodologies for measuring private asset emissions. This will help us increase the assets under management covered by our interim net zero targets.

Shareholders will be given the opportunity to vote on our climate transition roadmap through a "Say on Climate" resolution at the AGM in May 2022.

The role of management on climate

As part of our overall ESG strategy we have developed an ESG Risk Management Framework and Policy, which defines our approach to identifying, managing and assessing ESG risks, including climate. Management of actions arising from the assessment of climate-related risks and opportunities, such as the results of the scenario analysis performed across our investment portfolio, are discussed at the Executive Risk Committee, chaired by the Chief Risk and Compliance Officer. In addition to this, climate risks are also escalated within risk reporting, which is provided to both the Risk Committee and equivalent subsidiary Committees, with further escalation to the Board (and subsidiary Boards) as required. Management of actions arising from the assessment of climate risks and opportunities are discussed by the Executive Committee, as required.

All sustainability disclosures and reporting are presented to the Management Disclosure Committee (MDC) for approval, prior to the Group Audit Committee. The MDC is chaired by the Chief Financial Officer.

Our sustainability objective, with regards to ensuring that customers and clients can invest purposefully, joining us on our mission to help to fix the planet, is sponsored by the Chief Customer and Innovation Officer.

Our Environmental Policy is sponsored by our Chief People and Corporate Affairs Officer. This policy supports our goal to achieve net zero by 2030 across our operational activities.

As part of our overall ESG strategy, as set by the Board, the responsibility for ESG investment policy, on the asset management side, has been assigned to the Chief Investment Officer (CIO). Effectiveness of climate investment strategy is reported to the Executive Investment Committee, which the CIO chairs.

Management, as members of the Group Executive Committee, report directly into the Chief Executive, allowing material climate and other ESG issues and policy decisions to be escalated to the Board accordingly. In discharging their responsibilities, management attend various committees and initiatives to enable information sharing between business units and to monitor climate-related issues.

One example of these committees is the monthly Investment Leadership team meeting, in which material ESG issues (including climate-related) and ESG policy decisions are escalated for decision by the CIO.

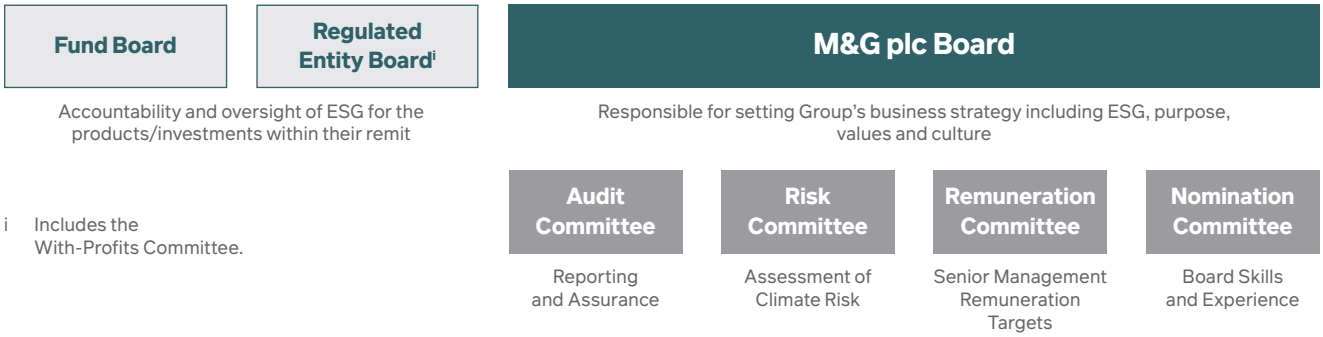
Remuneration

Our Executive Committee all have sustainability objectives within their personal performance management scorecards, which are cascaded within each of their organisations as appropriate.

The executive LTIP arrangements for 2021 include a 7.5% weighting attributed to sustainability, focusing on reducing the Company's Scope 1, 2 and 3 emissions, relative to the 2019 base year.

More information on the Role of the Board in ESG governance
Page 87

Board oversight



i Includes the With-Profits Committee.

Executive oversight

Our climate strategy and targets

Strategy

Climate change, biodiversity loss and ecosystem collapse are now recognised as a global risk in terms of likelihood and impact, affecting all geographies, sectors and economies. Addressing these risks requires a systemic shift in global production and consumption, and in the way the financial sector allocates capital. Insufficient action today increases the risk of much greater policy action in the future, disorderly transitions and market shocks.

We recognise that the actions required to address these risks are likely to have a material impact on our business, clients, customers and shareholders.

Climate has been an area of focus during 2021, and has helped shape new propositions within our Planet + range of sustainably-focused products. Our Business Plan takes into account demand when forecasting AUMA and therefore will indirectly include the short term impact of growing demand for ESG integrated products. In additional to this all market indicators used in the Business Plan and to derive forecasts over the projection period, including relevant market returns are assumed to include all currently available information regarding the effect of climate risk on specific sectors.

Due to the horizon of the Business Plan (3 years), only the short-term transition risks are considered relevant.

Physical and transition climate risks have also been assessed as part of our Own Risk Solvency Assessment (ORSA). This included stress-testing our solvency coverage ratio across 3 climate scenarios, covering different climate pathways over a 30 year time horizon, with varying levels of transition to a low carbon economy (including nil transition).

Under each of the scenarios tested, the results remained within our solvency risk appetite, demonstrating our resilience as a business.

Our priority, as part of our 10 point sustainability plan, is progress towards our net zero carbon commitments. This is the most significant way we can directly reduce our contribution to climate change as a business. This forms part of our key strategic priorities under One M&G for 2022.

Our net zero commitments are supported by a number of initiatives, from implementation of our coal policy, to updating our product range, continuing to transition our existing European funds to SFDR Article 8/9 standard on sustainable investing.

As an international savings and investments business we aim to use our influence in the financial services sector to press for change, through a combination of leveraging investor power and collaboration with regulators and organisations helping to fight climate change.

Our net zero commitments

The Inter-Governmental Panel on Climate Change (IPCC) has concluded that to keep global warming under 1.5°C, carbon emissions will have to be cut by 45% between 2010 and 2030 and reach net zero by or before 2050. That is why we have committed to being carbon net zero in our own operations by 2030 at the latest, and to achieve carbon net zero investment portfolios by 2050. When referring to our investment net zero targets this includes Scopes 1, 2 and 3 carbon emissions (including investments, operations, supply chain).

Thermal coal is the single largest source of CO_2 in the power sector and one of the largest contributors to climate change. It is therefore a priority in our climate planning due to its material impact. In order to limit global warming to 1.5°C, the IPCC indicates that combustion of thermal coal needs to be phased out by 2030 in OECD and EU countries and by 2040 (latest) in developing countries, with around 80% of the reduction occurring within the next decade.

As an asset owner and asset manager we have committed to play our part by phasing out thermal coal from our public listed investments to these timescales. You can read more about this on page 51.

In setting a later target for developing countries, we recognise that the effects of addressing climate change should not be disproportionately borne by the poorest. We believe that the costs and benefits of the transition to a more sustainable economy should be shared fairly between generations, communities and regions, a position set out in our Just Transition statement published in 2021.

Our operational targets

We aim to become carbon net zero by 2030 across our corporate operations. The impact of our corporate emissions is relatively small compared to that of our investment portfolios, but we aim to lead by example and therefore have set ourselves net zero targets, aligned with the Paris Agreement. When referring to our operational net zero targets these are defined as below:

- reduce our Scope 1 & 2 (market based) carbon emissions from our direct operations by 46% by 2030 from a 2019 baseline. The remainder of our Scope 1 & 2 emissions will then be offset.
- reduce our Scope 1 and 3 business travel carbon emissions by 46% by 2030. Similarly the remaining emissions will be offset.
- engaging with suppliers on science based emissions targets, with an aim to cover a minimum of 67% of our Scope 3 supply chain emissions by 2030.

We have also committed to purchase 100% renewable electricity across our operational estate by 2025.

> "Embedding the principles of sustainability throughout our business means embracing constant change, at a pace far greater than any we have experienced in our 170-year history."
>
> **John Foley**
> Chief Executive

How climate risk is built into our operations

Reporting

For our corporate activities we report on our Scope 1, 2 & 3 emissions on at least an annual basis and obtain third party verification across Scope 1 & 2 and most applicable Scope 3 emissions (see pages 49-50).

Culture

We have rolled out mandatory training for all colleagues to raise awareness of the actions the business is taking to address key issues around sustainability, including climate, and how they can support these behaviours. In 2021 we also launched a campaign "Carbon Zero Heroes", where colleagues shared their climate stories and have developed an internal hub which hosts sustainability information and resources that all colleagues can access.

Risk assessments

We have an Environmental Policy which is applicable to all of our offices internationally which details the requirements we have set for our own environmental footprint from the operation of our buildings, business related travel and our supply chain. During 2021 we engaged with each of our offices on their environmental performance to understand opportunities for improvement.

We also maintain an environmental management system certified to ISO14001 across much of our UK estate and will extend the scope of the certificate to include more UK offices in 2022. Our other office locations align with the principles of our environmental management system.

Our UK environmental management system includes a sustainability risk assessment for our corporate operations. As part of this process we understood our impact linked to home working as a new material source of carbon emissions. As a result we have purchased carbon off-sets which cover our business travel and estimated colleague homeworking emissions in 2021. We also launched a green energy switching service for our UK colleagues.

We are committed to procuring high quality off-sets externally verified by Gold Standard and Verified Carbon Standard and support the Oxford Principles for Net Zero Aligned Carbon Offsetting.

Office energy use

In 2021 we reduced our emissions in relation to office energy use by significantly more than our annual target of 4.2%, due to reduced occupancy relating to COVID-19 and through continued adoption of energy attribute certificates (EACs) and green tariffs. In 2021 98% of our electricity use was provided by renewable energy (74% via procurement and 24% via EACs). The remaining 2% could not be covered due to a limited availability of green energy in those locations. We will continue to target reductions in our Scope 1 & 2 emissions from our offices, whilst also working towards our 100% renewable electricity commitment. Our office selection now includes requirements around energy use and type as well as increased use of tools such as green lease clauses to enable better provision of environmental data.

During 2021 we made changes to our offices to reflect how our colleagues will use our spaces moving forward.

We have also completed lamp replacements in our Bath office switching to LED, expected to reduce lighting energy use by 40% in that office.

Waste

We aim to reduce the volume of waste each of our offices generate, maximise recycling rates and minimise the amount we send to landfill. Our UK operational recycling rate for 2021 was 66%. We have a zero waste to landfill commitment for our UK offices where we have operational control and promote this as best practice for all other offices.

Travel

In 2021 our business travel emissions were 96% lower than our 2019 baseline, and represented 16% of our operational emissions. The reduced emissions from business travel were largely due to ongoing travel restrictions across the world during 2021 as a result of COVID-19.

While travelling will be necessary in some circumstances, we are encouraging colleagues to maintain reduced levels of business travel emissions through continued use of technology and adoption of lower carbon modes of travel. To support this, where colleagues use our central travel booking system we will provide colleagues with carbon impact data at point of booking to help them make informed decisions.

For our company fleet we have implemented an ultra-low emission vehicle policy for all company cars and aim to transition our car fleet to fully electric vehicles by 2026.

CDP

In 2021 we achieved a rating of B (2020: A-) from CDP, which assesses how businesses are responding to climate risk and opportunities. Our rating represents a fall from the previous year and aligns with the average score for the financial services sector as CDP continue to evolve their disclosure and scoring system in response to market needs and the rising urgency of the environmental challenges.

Suppliers

The goods and services we procure are a significant source of Scope 3 emissions for our corporate operations. Throughout 2021 we met with a selection of our suppliers which make up 68% of our supply chain carbon emissions (based on a 2019 baseline) to understand their sustainability plans and how their operations impact on our Scope 3 carbon emissions.

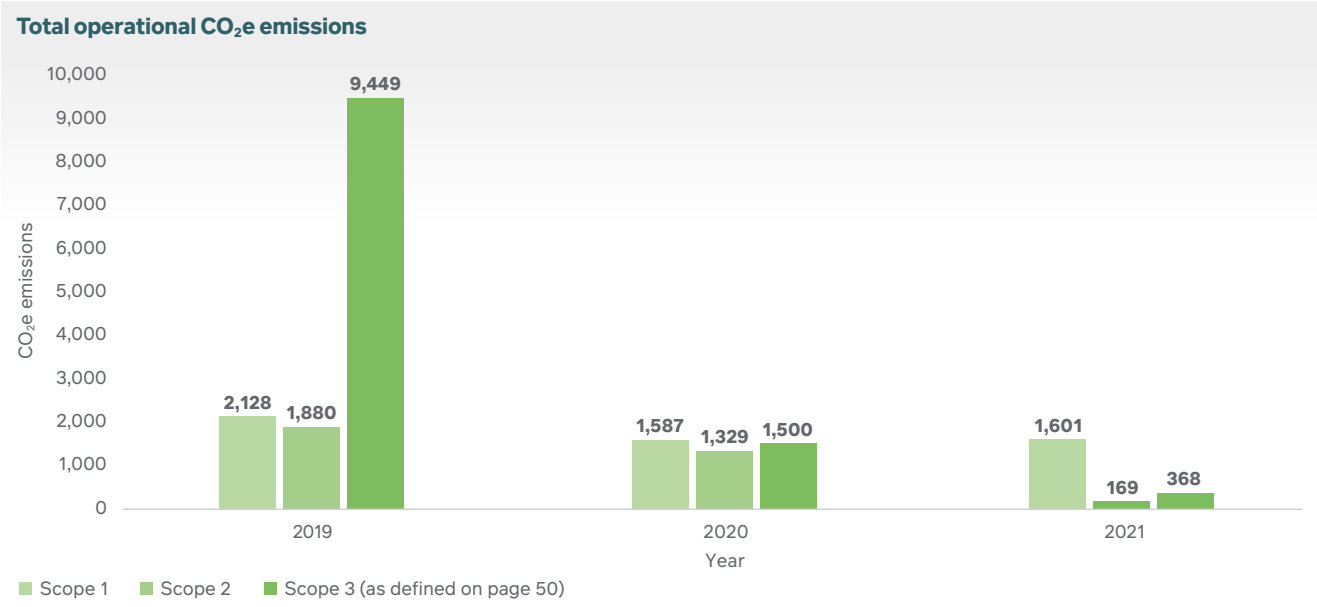
We have updated the sustainability requirements in our Supplier Code of Conduct and now require all suppliers to have clear procedures in place to ensure direct and indirect environmental impacts associated with goods and services are understood, measured and managed. All our supply chain decisions that involve a market assessment now include environmental factors as part of the decision-making criteria.

Enforcement actions

No fines or regulatory actions occurred during the year for environmental incidents.

Progress towards net zero

In 2021 overall our operational emissions have reduced, this is as a result of lower business travel and lower building occupancy, due to ongoing restrictions associated with COVID-19 and our purchase of renewable electricity. Whilst this has aided in our journey towards achieving our emissions targets for business operations this year the challenge moving forward will be to maintain the progress we have made, through the initiatives highlighted in how climate risk is built into our operations.



Our operational performance for the year

Similarly in 2021 our office environmental performance has continued to be impacted by the COVID-19 pandemic. Many of our offices, particularly in the UK, have not been fully operational throughout the year as staff continued to work from home. Inconsistent occupancy levels have resulted in unusual performance patterns compared with a typical year.

	2021	Restated 2020[i]	Restated 2019[ii]
Global carbon emissions – Scope 1 & 2 (market based) (tCO_2e)	**1,769***	2,916	4,007
Energy use for electricity and fuel (MWh)	**21,604**	19,417	25,686
Water consumption across occupied estate (m^3)[iii]	**17,516***	12,250	32,385
UK waste from operational activities (tonnes)	**141***	188	365
UK waste from operational activities – Scope 3 emissions (tCO_2e)	**92***	169	502
Travel emissions (business travel – Scope 3 and company vehicles – Scope 1&2) (tCO_2e)	**348**	1,752	9,852

* KPMG has provided limited assurance over selected metrics in 2021 (as indicated by * here) in accordance with "International Standard on Assurance (UK) 3000" – "Assurance Engagement other than Audits or Reviews of Historical Financial Information (ISAE (UK) 3000)" and, in respect of the greenhouse gas emissions, in accordance with "International Standard on Assurance Engagements 3410" – "Assurance Engagement on Greenhouse Gas Statements (ISAE 3410)", issued by the International Auditing and Assurance Standards Board. The assurance statement can be found on our website.

i 2020 data has been re-stated to include updated data. Previously modelled data included a small number of proxied data points.

ii 2019 data has been re-stated to calendar year. Previously disclosed October 2018 to September 2019 in the 2019 annual report.

iii The increase in water consumption is the result of an increase in the number of offices reporting consumption – 22 in 2021, up from 13 in 2020.

Greenhouse Gas Emissions Statement

We have compiled our global greenhouse gas (GHG) emissions in accordance with the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018.

GHG emissions are broken down into three scopes; we have included full reporting for Scope 1 & 2, and selected Scope 3 reporting as best practice. Scope 1 emissions are our direct emissions from the combustion of fuel, fugitive emissions and company-owned vehicles. Scope 2 emissions cover our indirect emissions from the purchase of electricity (including use of company electrical vehicles), heating and cooling. We have reported our Scope 2 emissions using both the location and market-based methods in line with the GHG Protocol Scope 2 Guidance. Our Scope 3 footprint includes business travel booked through our central travel management company, car travel in colleague owned cars, global water consumption (where data is available) and UK waste generated from our occupied properties with operational control.

We continue to review the extent of our Scope 3 reporting and increase coverage where practicable. Please refer to our Basis of Reporting for further detail on our methodology, which can be found on our website.

		2021		2020		2019	
		UK	**Total**	UK	Total	UK	Total
Scope 1 (tCO_2e)	Natural gas, oil (generators), vehicle fleet, refrigerants	**1,531.28**	**1,600.57***	1,454.58	1,587 .03	1,936.40	2,127.56
Scope 2 (tCO_2e) Location based	Electricity, Purchased heat and steam	**2,237.37**	**4,215.02***	2,208.00	3,214.14	4,213.00	5,848.90
Scope 2 (tCO_2e) Market based	Electricity, Purchased heat and steam	**2.56**	**168.50***	188.73	1,328.68	105.00	1,879.90
Scope 1 & 2 (tCO_2e)[i]	[i] when reporting totals market-based emissions are used	**1,533.84**	**1,769.07***	1,643.31	2,915.72	2,041.40	4,007.46
Energy	EAC volumes (MWh)	**43**	**3,555**				
	Energy use (kWh)	**17,837,006**	**21,919,921***	16,782,421	19,416,554	22,940,668	26,205,149
	tCO_2e per FTE (Scope 1 & 2)		**0.31***		0.52		0.74

		2021	2020	2019
Scope 3 (tCO_2e)	Air travel (booked through central travel booker)	**251.96***	1,281.00	8,946.00
	Land travel (booked through central travel booker)	**20.56***	46.30	126.60
	Water (global where available data)	**2.65***	4.22	11.18
	Waste (UK only)	**92.35***	169.00	365.00
	Total	**367.52***	1,500.52	9,448.78
	Global Scope 1, 2 and 3 (tCO_2e)	**2,136.59***	4,416.24	13,456.24

Reporting period:	1 January 2021 to 31 December 2021
Baseline year:	2019
Independent Assurance:	KPMG has provided limited assurance over selected environmental metrics (as indicated by *) in accordance with "International Standard on Assurance (UK) 3000" – "Assurance Engagement other than Audits or Reviews of Historical Financial Information (ISAE (UK) 3000)" and, in respect of the greenhouse gas emissions, in accordance with "International Standard on Assurance Engagements 3410" – "Assurance Engagement on Greenhouse Gas Statements (ISAE 3410)", issued by the International Auditing and Assurance Standards Board. The assurance statement can be found on our website.
Consolidation (boundary) approach:	Operational control
Consistency with financial statements:	M&G plc owns and manages assets which are held on its balance sheet in the financial statements over which it does not have operational control due to fund governance structures. These are excluded from the scope of reporting under the operational control approach.
Emission factor:	Scope 1 and 3 reporting uses the UK DEFRA 2021 GHG Conversion Factors. Scope 2 calculations use the IEA GHG 2021 Conversion Factors for location-based reporting. Market-based reporting uses supplier emission factors for our UK REGO-backed supply and RE-DISS factors where available.
Accounting methodology:	The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, as amended in 2004. UK Government Conversion Factors for greenhouse gas (GHG), 2021 – for energy conversion from passenger vehicles
Materiality threshold:	5%
Data restatements:	See footnotes on page 49 for restatements made to prior years.

Climate and our asset manager

Climate targets and commitments

As an asset manager we have committed to achieve carbon net zero investment portfolios by 2050, across our total assets under management, and to align with keeping global warming to 1.5°C.

In 2021, as a founding member of the Net Zero Asset Managers Initiative, we published our initial interim net zero target for 2030 to reduce Scope 1 & 2 carbon emissions by 50% for £58 billion in public listed equities and debt securities, using 2019 as the baseline year. The £58 billion committed represents 20% of our total AUM as an asset manager, excludes our real estate portfolios and is managed on behalf of our internal asset owner. Scope 3 emissions are not included at this stage due to poor data availability.

By focusing initially on this pool of assets, we will develop best practices in alignment to net zero and be in a good position to add further assets under management over time.

Pathway to net zero

Our journey towards our net zero target has four main tracks:

- Engaging with investees to ensure they have science based, carbon transition plans aligned with the goals of the Paris Agreement.
- Engaging with clients and customers to encourage a move towards Paris-alignment of mandates and fund objectives.
- Increasing capital directed to climate solutions, companies and projects.
- Transitioning portfolios, or if unsuccessful, divesting.

These will be supported by:

- Collaboration with regulators and other organisations to improve climate data reporting and standardise measurement methodologies.
- Collective action to accelerate investee alignment to the Paris Agreement climate goals.
- Continuous development of our own processes, data and reporting to enable us to deliver effectively and accountably.

Similarly for our direct real estate investments we are focusing on the following areas to achieve net zero:

- Reducing operational and embodied carbon emissions from our properties.
- Taking our occupiers on the net zero journey to align to our 2050 climate commitment.
- Reducing emissions through onsite renewable energy as well as procurement of green electricity.

We are one of the founding signatories of the Better Buildings Partnership (BBP) Climate Change Commitment, which supports our net zero commitment across our real estate portfolio.

Net zero investment framework

Our new Net Zero Investment Framework (NZIF) draws on our work as a member of the Paris Aligned Investor Initiative and the Institutional Investor Group on Climate Change (IIGCC) to establish actions, metrics and methodologies to enable us to decarbonise our portfolios, reduce climate-related risk and allocate more to climate solutions. We do not take a linear approach to decarbonisation because this can create unintended consequences: such as incentivising divestment to pass the problem onto someone else, and missing out on transition related opportunities. We believe that encouraging intensive emitters to put in place robust transition plans and invest in climate solutions is a more responsible and effective approach.

Coal

Phasing out thermal coal from our investment portfolios is key to achieving our net zero targets. Our position on thermal coal is a forward-looking approach which supports investee companies which have credible science based thermal coal phase-out plans compatible with IPCC recommended timelines. During 2021, we have performed extensive screening and analysis of our portfolios to understand our exposures and flag investees of concern. We have been engaging actively with these investee companies to identify those which cannot or will not align to our position and are thus candidates for divestment from April 2022. In parallel, we have been working with clients and our regulator to secure the required consent to implement this policy across our mutual fund ranges and segregated mandates.

Client engagement

We are committed to supporting all our clients to make informed climate decisions and increasing the numbers and proportion of those committed to net zero by 2050, which will in turn enable us to expand the coverage of our own net zero targets. A number of our segregated clients have set, or are setting net zero targets for their assets at scheme level, and we are working with them to align their mandates.

Data and analysis

Across the asset management industry, the biggest challenge in understanding climate risk and measuring progress is availability of reliable corporate targets and emissions data: particularly Scope 3 emissions data, and data for private assets.

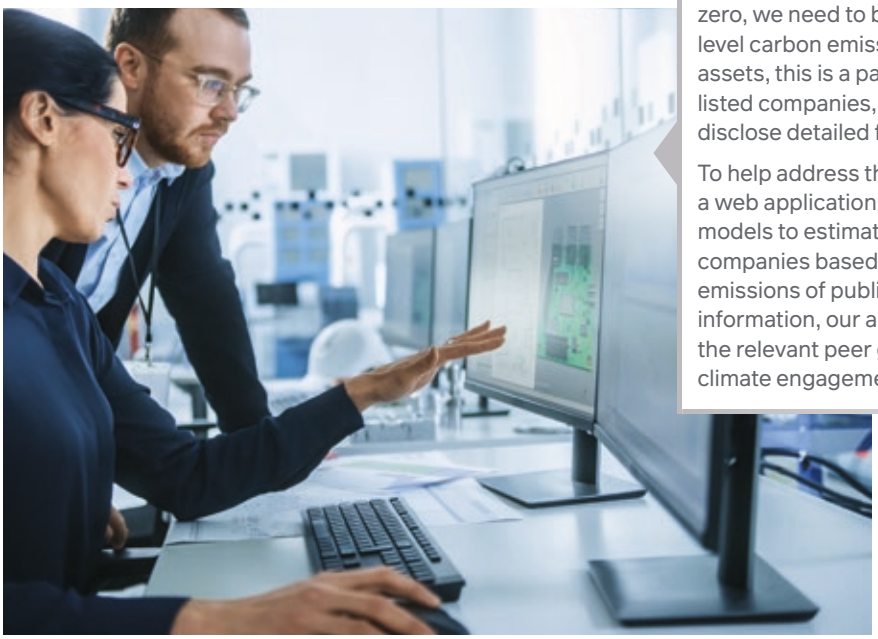
In a bid to overcome this challenge we have developed a wide range of proprietary tools. These are available to our analysts and investment teams to help them identify, understand and assess climate risks for different types of assets, drawing on a database of ESG information refreshed daily by our data vendors.

In 2020 we developed a proprietary Integrated ESG Scorecard which acknowledges the qualitative nature of many ESG considerations within the context of a structured and disciplined framework. With this scorecard, we are able to perform climate vulnerability assessments for over 1,400 companies, looking at the potential risks and opportunities from possible transition scenarios. We have also developed a separate scorecard for asset-backed securities transactions.

Other tools include:

- Our Climate Dashboard which collates quantitative outputs alongside artificial intelligence (AI) to deliver contextual climate information.
- Our Portfolio Analysis Tool which allows fund managers to visualise their portfolios against existing or prospective ESG benchmarks, including NZIF climate metrics, and can provide a forecast trajectory of emissions across portfolios.

We have also recently developed an AI based tool to estimate emissions of privately owned companies which do not publish carbon data.



One M&G

Filling carbon data gaps

In order to understand and manage climate risk in our investment portfolios, and guide our transition towards net zero, we need to be able to assess and monitor portfolio level carbon emissions closely. As major investors in private assets, this is a particular challenge because unlike public listed companies, private companies generally do not disclose detailed financial and environmental data.

To help address this problem, we built the "Carbonator", a web application that combines multiple machine learning models to estimate Scope 1 and 2 emissions of private companies based on the business features and reported emissions of public listed companies. Armed with this information, our analysts can compare the estimates against the relevant peer group and use the results as a basis for climate engagement with an investee company.

Across our real estate portfolio our current environmental data management programme captures environmental performance data (including energy and carbon) on all assets where we have operational control on energy use, water and waste. We also engage with occupiers to gather the environmental data for assets where they have operational control. This data is subject to a rigorous quarterly review process and annual collation by our external consultants.

Sustainable investment opportunities

In 2021 we grew our Planet + range of sustainably-focused products to 20, with c.£5 billion in AUMA. These offer customers a wide choice of ESG-screened, sustainable and impact strategies across different asset classes and themes. The M&G Climate Solutions Fund, for example, aims to offer customers capital growth and income by investing in companies tackling the challenge of climate change through clean energy, green technology or the circular economy.

The M&G Global Sustain Paris Aligned Fund only invests in companies which have science-based targets to reach net zero by 2050, or which have significantly lower carbon intensity than the fund's benchmark.

The Catalyst team deployed over £650 million on behalf of the asset owner into sustainability-focused private investments by the end of 2021, with a further £633 million committed. These included companies aiming to mitigate or reduce climate risk, such as carbon-neutral transport solutions, and carbon capture and storage. An example is our investment in Storegga Geotechnologies, which you can read more about on page 39.

During the year, Infracapital, our private infrastructure equity arm, held a final close of its latest greenfield infrastructure investment strategy, raising €1.5 billion from a global investor base. Of this, more than 50% of the capital has been allocated to businesses at the forefront of supporting the decarbonisation agenda and digital connectivity in Europe including EV battery storage, electric buses, and thermal battery energy solutions.

Next steps

Our key priority for 2022 is the integration of the NZIF and scenario analysis output into decision-making across our investment teams. Leveraging our NZIF data platform, we will work on building bottom up transition plans to enable us to set targets for sub portfolios, sectors, financing transition and engagement.

Our other priorities include:

- Scaling our portfolio emissions climate targets through client engagement.
- Implementation of our coal policy.
- Continuing engagement with our Climate Hotlist investee companies to understand their climate transition plans.
- Growing our Planet+ range of sustainably-focused strategies.

In terms of direct real estate investments, we are strengthening our consideration of physical and transition risks (specifically energy efficiency and net zero carbon performance) by undertaking work to set interim targets at fund levels.

Following on from scenario analysis, we are undertaking a detailed physical risk review of our highest risk investments and going forward will be working to enhance our capabilities to pre-screen potential investments for climate risk.

Climate and our asset owner

Climate targets and commitments

As an asset owner, sustainability is a key part of our decision-making. Our belief is that businesses and behaviours that reflect ESG best practices, including proper consideration of climate related risk and opportunities, are better positioned to deliver sustainable success over time horizons that meet the needs of our savers and policyholders.

In September 2021 we joined the UN-convened Net Zero Asset Owners Alliance (NZAOA), the global institutional investor group acting to help limit global warming to 1.5°C as outlined by the Paris Agreement. As an NZAOA member we are committed to transition £128 billion of our investment portfolios to net zero carbon emissions by 2050.

In 2021 we began the process of implementing our position on thermal coal to meet our 2030 and 2040 commitments. This work has been performed alongside our asset manager, M&G Investments.

Pathway to net zero

To provide transparency on how we are delivering on our climate commitments, we have also become a signatory of the Principles for Responsible Investment (PRI), the UN-backed organisation promoting the integration of ESG factors in asset ownership decisions. Our responsible investment activities will be assessed by PRI annually from 2023.

In 2021 we became signatories of the Financial Reporting Council Stewardship Code, which sets high stewardship standards for those investing money on behalf of UK savers and pensioners, and those that support them. We have made our first submission to the Code, outlining how we comply with its 12 principles that demonstrate effective investment stewardship, and we will be making our second submission in 2022.

Integrating climate risk into asset allocation/ manager selection

We consider climate risk as a key investment risk when setting our asset allocations, alongside other investment risks. We therefore incorporate climate risk analysis into our investment assumptions and modelling processes, which are used to generate strategic asset allocations.

We have processes in place internally to monitor and report on the effectiveness of our climate investment strategy to the Executive Investment Committee for PAC.

We conduct scenario analysis in order to assess the exposure to climate-related risks of our assets under management across asset classes and geographies. This analysis enables us to assess the exposure of our portfolio to climate risk on a forward-looking basis using various scenarios. We then convert exposures into risk measures for different asset classes and regions in aggregate, whilst remaining cognisant of significant heterogeneity within each asset class.

In addition to scenario analysis, we also consider measures of climate vulnerability and adaptability when we assess country risk. Such measures help us modify and make more precise the risk premium and volatility assumptions we use for portfolio construction. Countries categorised as high climate risk exposures are given higher volatility assumptions, impacting their allocation within our risk budget. Within the regions we consider, both Asian and other emerging markets appear as higher risk from a climate perspective.

Where there is sufficient heterogeneity among companies listed in a particular market, we take into account the performance of these on various ESG measures, of which climate metrics are a key component. We may then construct a customer benchmark index to ensure the portfolios are tilted in such a way as to better optimise their climate risk exposures.

We may also employ techniques such as portfolio exclusion (e.g. companies deemed to be in breach of the United Nations Global Compact Principles on the environment), and encourage engagement from our asset managers with companies we invest in to change their behaviour to reduce their exposures to climate risk.

ESG risks including climate are also integrated into the asset owner's manager selection and ongoing investment due diligence through the initial screening process; investment due diligence meetings; and mandate design. One example is our £5 billion Catalyst mandate, which has climate risk at its forefront.

In 2021, we worked alongside our asset manager, M&G Investments, as it committed to reduce carbon emissions by 50% by 2030 for £58 billion in public listed equities and debt securities, all of which represent funds managed on our behalf as an asset owner.

Next steps

As a result of our NZAOA membership we have committed to publish interim targets every five years. Our priority for 2022 is to develop an appropriate NZAOA interim carbon emission reduction target for 2030 and will continue to build on this with the addition of targets for our externally-managed portfolios. The target will be science based and in line with the Paris Aligned Investment Initiative Net Zero Investment Framework and NZAOA Target Setting Protocol. We are currently embedding the monitoring and reporting required for the NZAOA.

Climate metrics

Over the past 12 months we have made significant progress, enabling greater transparency through an expanded set of climate-related metrics, which build on the weighted average carbon intensity (WACI) disclosed in our 2020 sustainability report, to include financed carbon emissions across equities and debt securities. WACI published in our 2020 Sustainability Report is not directly comparable due to differing methodology and having historically been calculated in USD. Calculation of these metrics is an important step forward in our commitment to improving transparency and monitoring progress towards our climate commitments and targets.

Financed carbon emissions and weighted average carbon intensity have been calculated in line with the approach prescribed by the Partnership for Carbon Accounting Financials (PCAF), utilising data sourced from Morgan Stanley Capital International. More information on the basis of these calculations and limitations is set out in the supplementary information on page 316 and results should be interpreted taking these limitations into consideration.

The coverage of these metrics represent 59% of total AUMA, excluding real estate and cash.

	Overall	Equities	Debt securities
Financed Carbon Emissions – Scope 1 & 2 (mn tCO_2e)	12.41	7.41	5.00
Financed Carbon Emissions/AUM – Scope 1 & 2 (tCO_2e/£m invested)	100.60	109.23	90.06
Weighted Average Carbon Intensity (tCO_2e/£m sales)	244.00	250.42	238.37

Emissions data has been compiled for our direct real estate assets, however due to the work involved to collate this data the most recent figures available are for the year ended 31 December 2020. These have been calculated as follows:

- Scope 1: Emissions from the combustion of fuel e.g. from use of gas to heat buildings.
- Scope 2: Indirect emissions from electricity consumption or other energy generated by third parties.
- Scope 3: Indirect emissions from our value chain e.g. occupier energy consumption, emissions from materials purchased, and our supply chain emissions.

The carbon emissions below represent 100% of the direct real estate equity portfolio held by our internal asset owner as at 31 December 2020. The asset manager figures account for 90% of direct real estate 2020 AUM of £32 billion (excluding cash). Carbon emissions are not provided for indirect externally managed funds and for a limited number of discretionary funds where we continue to engage with investors to enable gathering this data

	Asset Manager	Asset Owner
GHG Emissions Scope 1 & 2 (tCO_2e)	82,892	35,157
GHG Emissions Scope 1, 2 and 3 (tCO_2e)	689,868	351,558

Climate impact on our investment portfolio

We have conducted detailed work with analytics providers on scenario analysis to evaluate how various climate scenarios could affect the future value of our AUMA. These climate scenario models serve as a lens to assist better awareness and understanding showing physical and transition risks present across our holdings. This will better equip us to integrate climate into decision-making and enact mitigation and adaptation planning in our portfolios, while working toward our net zero commitments.

High level methodology

M&G procured the services of two third parties to undertake scenario analysis at the asset/counterparty level: Baringa Partners for financial assets (listed equities and public debt securities); and Marsh for real estate asset modelling. Physical risk for each was supported by the Cross Dependency Initiative (XDI). Both third parties are industry-leaders, and have extensive experience undertaking climate scenario modelling.

Limitations

Scenario analysis involves making a wide range of assumptions about the future state of the world and translating these assumptions into company and security impacts. All scenario analysis is, by its nature, uncertain. Climate scenario analysis in particular is limited by the complexity of projecting future climate states and challenges sourcing reliable and complete data required to complete counterparty-level modelling. Details of the modelling assumptions applied and limitations is set out in the supplementary information on pages 314-318 and results should be interpreted with these in mind.

Key outputs

The equities and debt securities climate change model provides outputs based on three scenarios:

- An orderly 2°C scenario, predicting a 1.6°C temperature rise by 2081-2100 as a result of immediate climate action.
- A disorderly 2°C scenario, in which climate action is not taken until 2030.
- A 4°C scenario, which predicts an average temperature change of 4.3°C by 2081-2100, assuming no global response to climate change.

The model produces key outputs of Value at Risk and Temperature Alignment for each year of the projection period.

The real estate asset modelling output is limited to Representative Concentration Pathway (RCP) 2.6 and 8.5 only, as produced by the IPCC. These broadly align to the orderly 2°C scenario and a 4°C scenario. The output of this model is limited to Value at Risk due to the nature of the investments.

Value at Risk identifies how much of an asset's value could be lost based on global carbon prices, major electrification and damage to physical assets as a result of extreme weather. The model quantifies the extent to which physical and transitional climate risks impact the value of our equity, debt securities and real estate assets, including anticipating default rates on loans.

The temperature alignment metric indicates an asset's alignment to a particular future temperature change. The equities and debt securities climate change model uses companies' historical emissions data to predict future emissions intensity, and compare these projected figures against sector- and region-specific pathways, to provide a temperature alignment metric for each asset. This metric is a valuable tool in identifying outliers in portfolios, and when aggregated to portfolio level can be a useful tool in setting strategy and investment decisions.

Asset selection

Modelling every counterparty on a bottom up basis across all funds is not yet feasible at this stage due to the availability of corporate climate information. We have however ensured that the models have good coverage across all key funds and biggest counterparties, and cover three of our most significant asset classes: equities, debt securities and real estate. Where appropriate, we have proxied missing data points against industry, sector and geographical averages to improve asset coverage.

For the asset owner, we have modelled the largest with-profits portfolio (where our PruFund Growth product is invested) and our largest shareholder annuity portfolio. Coverage by asset is not complete, in particular we have only modelled our publicly listed assets (where data is available) and our property portfolio. Little data is currently available for our private and alternative assets. We will develop our capabilities as models are enhanced and data collection improves.

In total, the models covered around 63% of total AUMA, excluding cash.

The equity and debt securities results represent 1,755 distinct counterparty/security exposures covering c.£184 billion of AUMA. The assets modelled cover all sectors and geographies to which we have significant exposure.

Our Real Estate results represent 876 distinct assets.

Further enhancements

For future iterations of our TCFD scenario analysis, we will aim to:

- More fully model our balance sheet, incorporating consideration of liabilities (and perhaps capital position) alongside our asset portfolios in each climate scenario.
- Improve data coverage across asset classes other than equities, debt securities and property. We are a diversified investor with a material portion of our asset portfolios invested in alternative and private assets which are not currently included in our scenario analysis modelling due to current data limitations.
- Carry out scenario analysis across asset portfolios other than the ones specified in this report.

Ultimately, the objective of this scenario analysis is to highlight upcoming trends and inform users on how our business is exposed to future climate change risk at a counterparty, sector, and portfolio level. These results can then be integrated into our business strategy. In order to do this more effectively, the scope of the analysis should be as wide and comprehensive as possible.

Whilst working to improve coverage we are also developing an approach to embed insights from scenario analysis within wider strategic investment decision-making. Over time this will improve our resilience to the effects of physical and transitional climate risk.

Equities and debt securities climate change model results

Under all 3 scenarios, equity valuations fell to varying degrees over time. Equities are most severely hit in the 2°C scenarios with the timing of the shock immediate in an orderly transition and delayed to c.2030-2035 in a disorderly transition.

In contrast, under the 4°C scenario equities perform relatively well. Without the need to adapt and transition impacts are limited to those companies which are most exposed to physical risk.

In a similar way to equity valuations, the model predicted a fall in the value of corporate debt securities across the three scenarios, with severity and timing depending on the scenario in question. However the impacts are less severe than those modelled for equities.

For both equities and corporate debt securities the 4°C scenario results in the least impact on valuations. This is because we have concentrated on modelling first order impacts on companies, (e.g. carbon prices) and not necessarily modelled potential second order impacts (such as demand factors driven from GDP changes). This model is also limited by the 2050 timeline, after which, the effects felt as a result of physical risk may be more severe.

The shocks in value to government debt securities followed the same trend as the shocks to the corporate debt securities, however the 4°C scenario (in which physical risk plays a key impact) is more significant in respect of sovereigns.

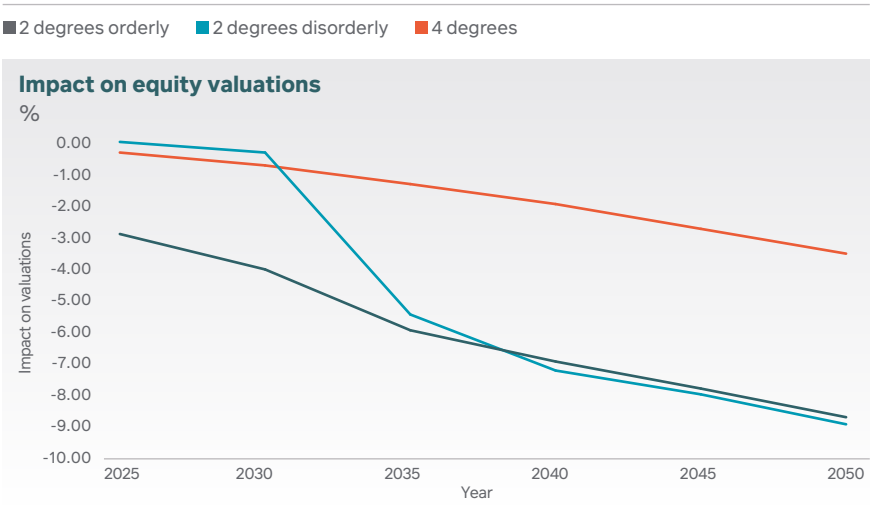
The results for our public equity and debt security investments as an asset owner form a subset of this analysis and are set out on pages 316.

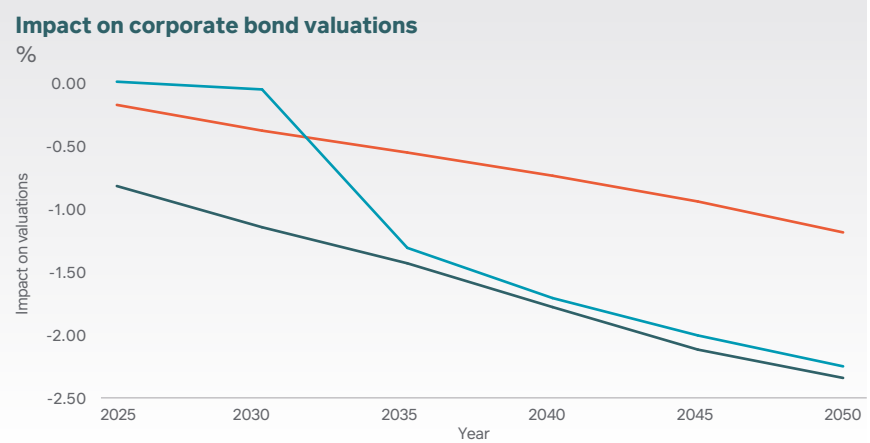
Real estate asset modelling

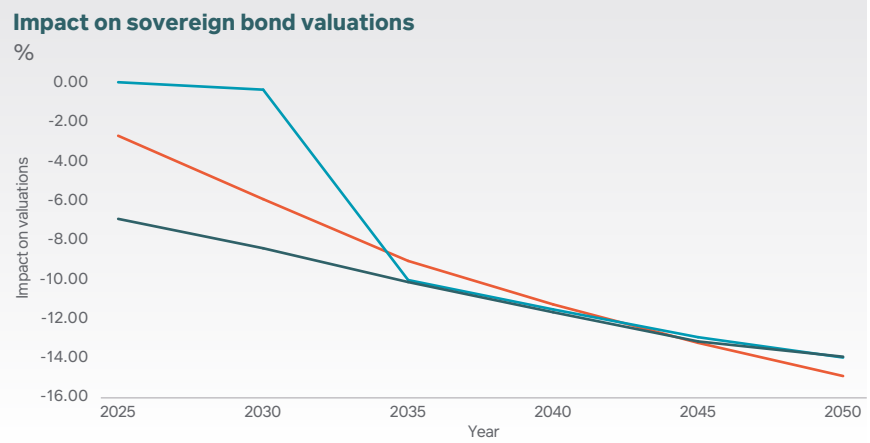
Under each scenario assets were rated low, medium or high risk (high risk being at least 1% marginal value at risk by 2100). The key conclusions of our real estate analysis are as follows:

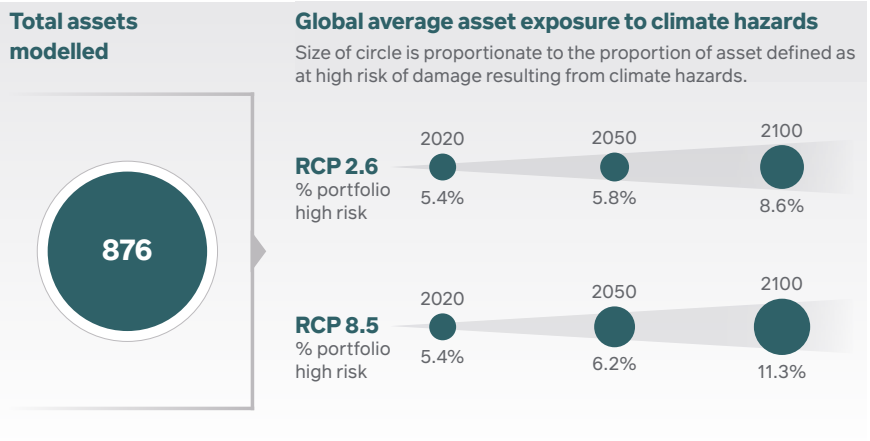
- Under an orderly 2°C scenario (RCP 2.6) between 5.8% and 8.6% of assets will be rated high risk by 2050 and 2100 respectively.
- Under a 4°C scenario (RCP 8.5) these percentages increase to 6.2% and 11.3%.

Further detail on our real estate analysis is set out on pages 317 to 318.









Climate stewardship and engagement

Why and how we engage

As an active investor, and stewards of our customers' assets, we have a responsibility to use our expertise to identify climate risks and opportunities, and to use our influence and our votes to press for positive change. In particular, we believe investors have an important role to play in encouraging businesses with high fossil fuel exposure to meet long-term energy and infrastructure needs in a more sustainable and responsible manner.

Engagement as an asset manager

Central to our NZIF are our own dedicated Climate Hotlist and Thermal Coal engagement programmes to encourage investee companies to adopt science based emissions targets and robust plans to achieve these.

Climate

Our climate engagement programme focuses on a target Climate Hotlist of 100 investee companies, updated every six months based on highest emissions and largest M&G-wide exposure. We have a specific engagement strategy for each company with a clear objective, key performance indicators to determine progress to delivery, and a timetable for engagement, tracked by our engagement dashboard. Overall, we expect companies to commit to reaching net zero in line with the Paris Agreement, and to provide credible targets and metrics for how they will do so, preferably evidenced by the Science Based Targets initiative (SBTi). We also specifically engage on strategy, disclosure, stranded asset risk, goals and targets to achieve decarbonisation.

If we find that investee companies are not making adequate progress on these objectives we will use our vote to hold Directors to account. As a last resort, if we feel that investees cannot or will not commit to Paris-alignment, we can divest from the company.

We also work with the Climate Action 100+ (CA100+) programme of leading institutional investors to engage collectively with major emitters. Through the course of 2021, M&G Investments continued to participate in CA100+ collective engagement groups.

We represent the over 600 investor members of CA100+ in engagement with various investee companies, covering industries such as mining and manufacturing, and are active members of working groups on two multinational energy companies, and a large chemicals company.

The groups have continued to concentrate on the updated CA100+ Benchmark, and to keep pressure on the companies' disclosure weaknesses. In addition, we sit on the IIGCC Corporate Programme Advisory Group, which helps set future CA100+ priorities, the IIGCC Escalation Working Group and we recently joined the Net Zero Stewardship Working Group.

Coal

Our dedicated coal engagement programme is currently targeting investee companies with thermal coal exposure where it is not clear that they have a science based, time bound phase out plan. If after engagement we feel that investees cannot or will not commit to a credible phase-out plan by 2030 for OECD and EU countries, or 2040 for developing countries, they will become candidates for divestment.

Engagement as an asset owner

We view engagement with investee companies as a key method of improving corporate sustainability, including climate change policy, emissions and related disclosures, but as an asset owner we do not engage directly. Instead, we rely on the asset managers that we appoint, including our internal asset manager, M&G Investments. We currently ask our asset managers to carry out engagement on our behalf in line with our engagement priorities.

We expect the managers of our active equity strategies to engage actively on our behalf, in line with our ESG priorities, especially investing to mitigate the impact of climate change. We also expect the managers of our fixed income strategies to engage actively as well, although such opportunities will be fewer. We do not currently expect managers of our passive equity strategies and our alternative and property assets to engage actively.

We also intend to improve both the monitoring process of how our asset managers engage, as well as engagement outcomes.

Using our influence to lead change

Regulatory consultation

We actively engage in consultative processes with our regulators as they develop climate-related initiatives, both in our own right, and through investor organisations such as the Investment Association and UK Sustainable Investment and Finance Association (UKSIF). Notably in 2021 we have contributed to consultations on the FCA's new rules to extend the TCFD disclosures regime and its proposals for a new Sustainability Disclosures Requirements (SDR) regime. As a member of the Association of British Insurers' (ABI) Board subgroup on Climate Change and a core member of its climate working group, we have been instrumental in defining the ABI's Climate Change Roadmap, and led the ABI's Race to Zero roundtable with colleagues across the sector.

Leveraging investor power

Through our membership of the IIGCC, Paris Aligned Investor Initiative, and service on IIGCC working groups, we are helping form a more harmonious and considered approach to assessing asset class frameworks for 1.5°C degree alignment with respect to decarbonisation and climate solutions.

Powering Past Coal Alliance

To help accelerate the phase-out of thermal coal, M&G plc has joined a coalition of governments, businesses and organisations in the Powering Past Coal Alliance (PPCA) and has contributed to its policy brief "Financing the just transition beyond coal".

Collaboration with CDP

Improving carbon data for private assets is a priority for us, and we have worked with the global disclosure organisation the Carbon Disclosure Project (CDP) on a pilot to develop greater climate transparency for private equity and leveraged loans. We hope that this can encourage more widespread estimation of private asset emissions moving forward.

Additionally we are also collaborating with CDP on water security and holistic water transition issues, which pose global systemic risk and are closely linked to climate change. We represented an investor's perspective on this topic at COP26 in the Blue Zone Water Pavilion and at the Marrakesh Partnership Global Climate Action Water event, and our film "Water Pressures" outlining our experience as investors in South Africa is available to see on our website.