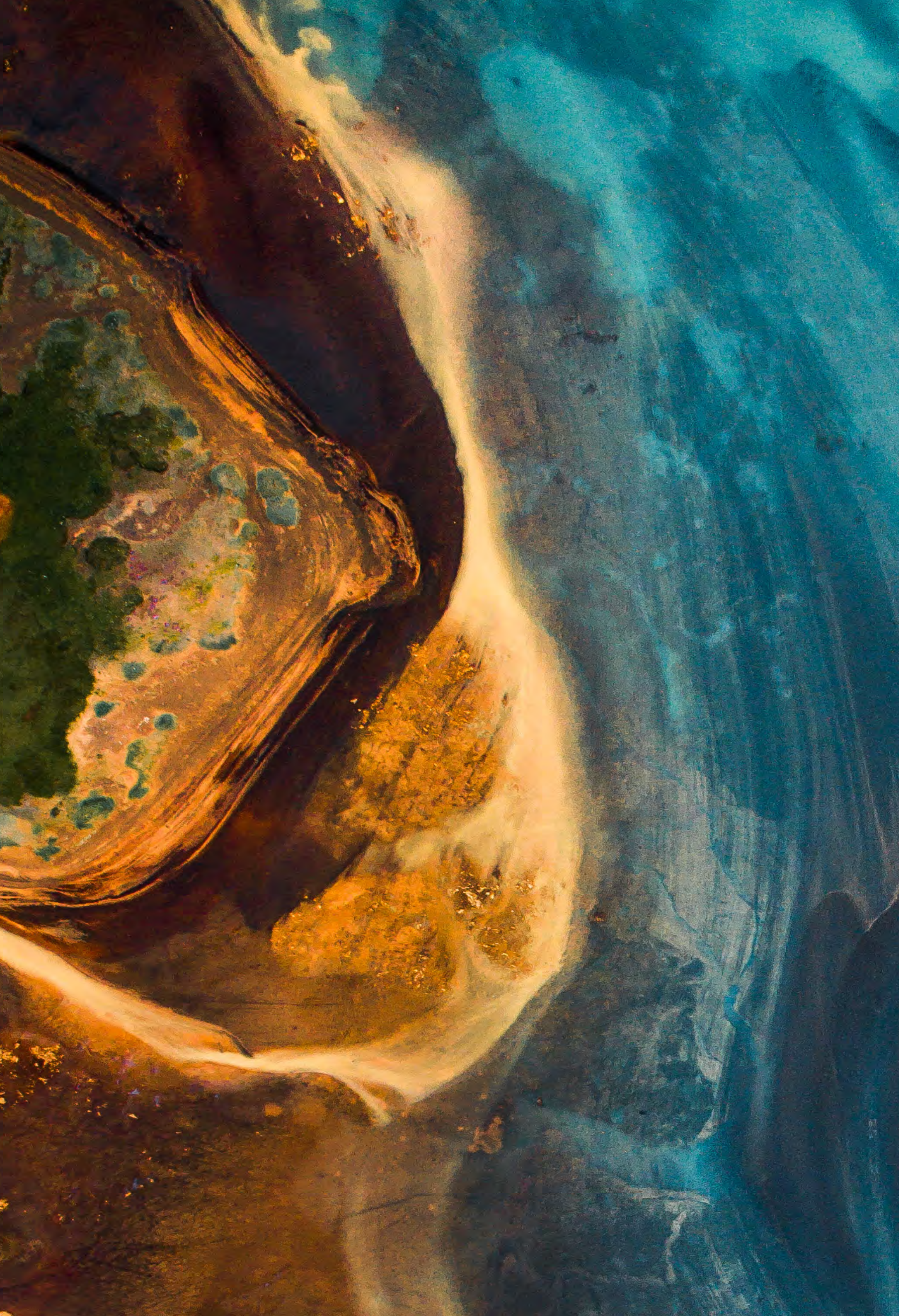
Rathbones 2021 Task Force on Climate-related Financial Disclosures report

April 2022

Rathbones
Look forward



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Introduction

Following the 2021 UN climate change conference, COP 26, the need for greater action to tackle climate change could not be clearer. Despite a pandemic-related economic slowdown, greenhouse gas (GHG) concentrations reached new highs in 2020, with globally averaged CO2 levels exceeding 410 parts per million[1].

The latest evidence from the Intergovernmental Panel on Climate Change (IPCC) is clear: unless action is taken, the world is not going to meet the Paris Agreement target of limiting global warming to 1.5°C above pre-industrial levels[2]. To meet this goal, global carbon dioxide emissions need to be reduced by 45% by 2030 from 2010 levels and reach net zero emissions by 2050[3].

Decarbonising the global economy will require a complete transformation of the way the world produces and consumes, cutting emissions across energy generation, transport and land use. This will involve a rapid increase in carbon-free sources of electricity, and related shifts in production methods and consumption patterns[4]. These shifts require a redeployment of capital in support of the transition, creating opportunities as well as risks. As stewards and allocators of capital we have a duty to understand how climate change can impact our clients' portfolios.

As a wealth manager with over £68.2bn in funds under management (FUMA), We recognise that climate risks can materially affect the performance and valuation of our investments. As stewards and allocators of capital we therefore have a duty to understand how climate change can impact our clients' portfolios. Companies that set ambitious targets and credible implementation plans in line with achieving net zero emissions will become increasingly attractive investment propositions. For Rathbones, this means using the voting and engagement tools at our disposal to help companies to move towards net zero as well as providing strategic advice to our clients. Those companies that fail to do so will find themselves at a competitive disadvantage, exposed to regulatory risks and prone to finding their assets stranded.

With this in mind, the group is committed to achieving net zero emissions across the wider business by 2050 or sooner, while Rathbone Greenbank Investments, our specialist ethical, sustainable and impact investment arm, aims to become a net zero emissions business by 2040. These commitments cover emissions associated with our operations, supply chain and, most importantly, our investments.

Given the scale of the problem, and the necessity for solutions to be global in scope, we believe in the power of collaborative engagements and we are members of the IIGCC and the CA100+ coalition.

In 2021, we published our first climate change statement[5], strengthened our voting policy to align with new regulation and deepened the integration of climate-related factors into the voting process[6]. Our policy now includes clear expectations – in line with the Task Force on Climate-related Financial Disclosures (TCFD) and the CA100+ Net Zero Alignment Indicators[7] – on how companies will be assessed against different criteria in order to determine the robustness and credibility of net zero decarbonisation strategies.

[1] https://public.wmo.int/en/media/press-release/carbon-dioxide-levels-continue-record-levels-despite-covid-19-lockdown
[2] https://news.un.org/en/story/2021/08/1097362
[3] https://www.ipcc.ch/sr15/download/
[4] https://www.unpri.org/sustainability-issues/climate-change/inevitable-policy-response
[5] https://www.rathbones.com/sites/rathbones.com/files/imce/climate_change_statement_130521.pdf
[6] https://www.rathbones.com/sites/rathbones.com/files/imce/rathbones_rim_voting_policy_21.pdf
[7] https://www.climateaction100.org/progress/net-zero-company-benchmark/methodology/

Rathbones at a glance

Rathbones provides individual investment and wealth management services for private clients, charities, trustees and professional partners. Our tradition of investing and acting responsibly has been with us from the beginning and continues to drive us forward. Our ambition is to be recognised as the UK's most responsible wealth manager.

15
UK locations and Jersey

1,967
employees

£68.2bn
managed by us for our clients

FTSE250
company listed on the London Stock Exchange

Data as at 31 December 2021

Size of Investment Management relationship value

Rathbone Unit Trust Funds

Understanding climate risk

Climate action failure has been identified by the World Economic Forum[8] as the most severe risk on a global scale over the next ten years. This risk, along with the impact of extreme weather associated with climate change, could have an impact on Rathbones' future risk profile.

Climate change risks are split into two categories: physical risks and transition risks.

Physical risks arise from the physical effects of climate change on businesses' operations, workforce, markets, infrastructure, raw materials and assets. Physical risks can be event-driven (acute), such as increased severity of extreme weather events (e.g. cyclones, droughts, floods, and fires). They can also relate to longer-term (e.g. chronic) shifts in precipitation and temperature and increased variability in weather patterns (e.g. increased melting ice causing sea level rise).

Transition risks result from policy, legal, technology and market changes occurring in the shift to a lower-carbon global economy. Transition risk also incorporates 'stranded asset risk', e.g. the risk that assets that could quickly become unusable or reduced in value. Transition risks include policy constraints on emissions, imposition of carbon taxes, water restrictions, land-use restrictions, market demand and supply shifts, and reputational considerations.

However, the transition to a low-carbon economy also generates opportunities. At Rathbones we seek to incorporate climate change risk mitigation as part of our strategic agenda.

Physical risk

Chronic hazards	Acute hazards
Sea-level rise	Precipitation
Temperature patterns	Extreme wind
Drought	Wildfires

Transition risk

Policy and legal risks	Technology risk
Reputation risk	Market risk
Value chain risk	Systematic risk

[8] https://www.weforum.org/reports/global-risks-report-2022

What are the TCFD recommendations

The Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board following a mandate from the G20[9]. Supported by prominent industry experts, the TCFD examined the physical, liability and transition risks associated with climate change, and ensure effective financial disclosures across industries. It has subsequently issued recommendations that aim to help companies provide decision-useful information on the impact of climate on their business.

The TCFD's 11 disclosure recommendations are spread across four pillars:

1	2	3	4
Governance	**Strategy**	**Risk management**	**Metrics and targets**
Disclose the organisation's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	Disclose how the organisation identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommendations:	Recommendations:	Recommendations:	Recommendations:
– describe the board's oversight of climate-related risks and opportunities – describe management's role in assessing and managing climate-related risks and opportunities	– describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term – describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning – describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	– describe the organisation's processes for identifying and assessing climate-related risks – describe the organisation's processes for managing climate-related risks – describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management	– disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process – disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks – describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets

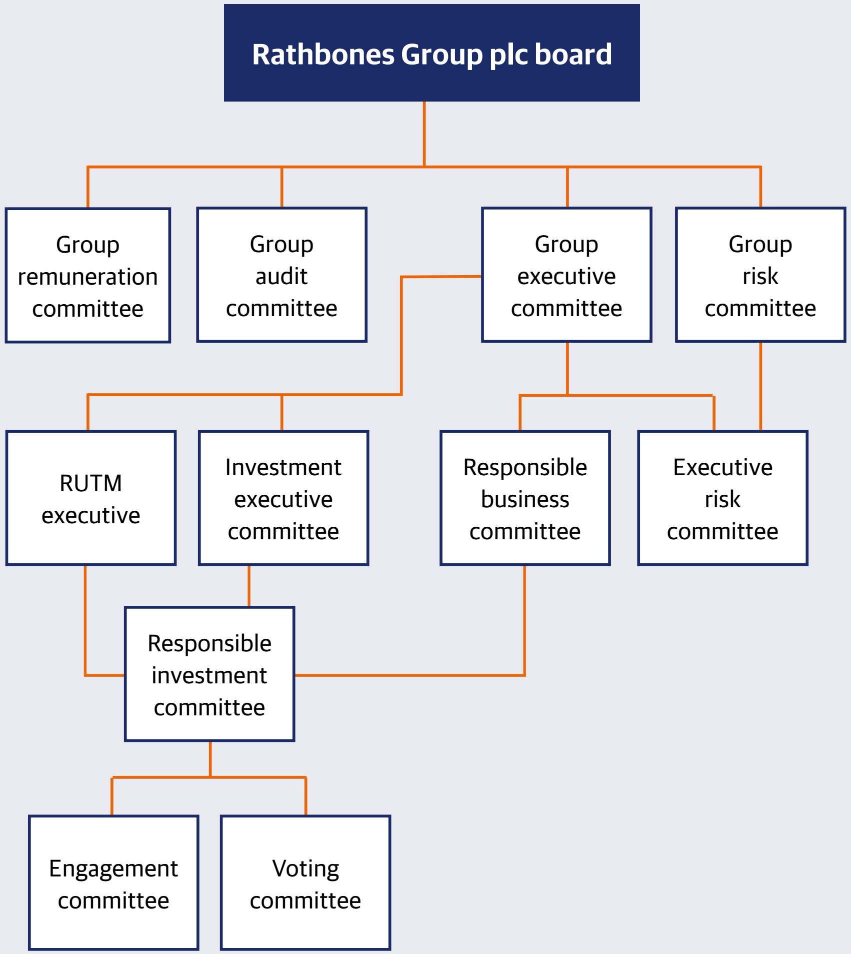
[9] https://www.fsb-tcfd.org/

Governance

Recommendation 1: Board oversight of climate-related risks and opportunities

We believe that everyone in the group has has a role to play in reducing risks, from the board and executive team, down to each of our employees. If an entire workforce can operate with accountability, this in turn enhances the effectiveness of risk management and decision making across the group. Our approach to risk governance, processes and infrastructure ensures that we are constantly evaluating both existing and emerging risks to our purpose, values and strategic objectives.

Final responsibility for managing climate risk, like all risks identified and managed by Rathbones, sits with the Rathbones board. The board is supported by several committees who maintain responsibility for the consideration and integration of climate risk in their area of specialism as appropriate. Details on the role of the committees and how they consider climate risk is provided overleaf.



The board: Climate change is considered as part of the overall management of risk within Rathbones. We consider short, medium and long-term risks that may impact the business. Oversight of the Rathbones risk framework, which includes climate change, starts with our board of directors. The board is responsible for setting the right tone for the business, supporting a strong risk management culture and, through our senior leadership team, encouraging appropriate behaviour and collaboration across the business.

The board regularly assesses the most significant risks and emerging threats to the group's strategy and receives updates at least twice a year via risk and responsible business papers. Oversight of risk management activities is also undertaken through the group risk and audit committees. They offer support to the board, setting a constructive tone in support of a strong risk culture, which is integrated into our company culture and which our people embrace as part of their day-to-day responsibilities. Board members bring experience from a variety of sectors such as finance, capital markets and audit, which provides them with the necessary skills required to consider any future implications of climate change on Rathbones. In 2021, the board reviewed and approved the firm's responsible business agenda, which included responsible investing and our net zero commitment.

Group risk committee: The group risk committee's principle roles and responsibilities are to provide oversight on the firm's risk appetite and framework. The committee's activities include reviewing reports from the risk team, discussing significant risk topics, advising the board on the risk aspects of proposed major strategic change, and receiving reports from first line risk owners on risk management and improvements to controls and processes. Updates on climate risk are tabled at least twice a year, including as part of the risk appetite and our internal capital adequacy assessment process (ICAAP) discussions.

Group audit committee: Our audit committee monitors and reviews the group's financial statements and related announcements. It also monitors the effectiveness of our internal controls. The committee reviews other statements, including our climate reporting, to ensure it is consistent with any reporting requirements. The review of our 2021 annual report and accounts included a review of our approach to TCFD by our auditors. Our TCFD disclosure is run alongside our annual reporting cycle and as such is shared with the audit committee at least twice a year.

Group executive committee: Our group executive committee (GEC) is chaired by the group CEO, who is supported by the senior management team. The key role of the committee is the day-to-day management of Rathbones. The committee actively reviews and assesses business performance supported by a range of committees that operate across the group. In 2021, this committee approved a budget to support the calculation of the carbon impact of our investment universe. This allowed us to measure our baseline ahead of setting net zero targets in October 2021. Our GEC receives a minimum of two updates a year on our responsible business programme, which includes the approach to managing our environmental impact.

Executive risk committee: The executive risk committee (ERC) is a standing committee of the group executive committee. It has responsibility for ensuring the effective management of risk throughout the group, in support of the business strategy and in line with the risk appetite approved by the board. The ERC discusses climate risk twice a year, covering topics such as our appetite for climate risk and the impact on our ICAAP.

Responsible business committee: Our responsible business committee is co-chaired by our group chief executive and the managing director of investment management. The committee oversees the four pillars of our responsible business programme: responsible investment; our people; society and communities; and our environmental impact. The key activities of this committee are to:

- identify emerging risks and opportunities related to the social and environmental impacts of the group
- provide oversight of the group's responsible business strategy and reporting
- oversee the group's policies and progress across our framework.

This includes understanding the impact of and reporting on climate risk, whilst supporting the business as we deliver on our overarching climate responsibility. Established in 2020, the committee meets at least four times a year and reports to the group executive committee and the board at least twice a year. This committee oversees our approach to net zero, receiving progress updates at each meeting. In 2021, this committee oversaw the work to understand our full footprint and set reduction targets aligned with the Science Based Targets Initiative methodology.[10]

Investment executive committee: Our investment executive committee (IEC) establishes, leads and communicates the Rathbones Investment Management (RIM) investment policy to all investment managers, delivering a clear and consistent message. Members review investment risk across the business and promote the investment process and internal research by reviewing the effectiveness of research and other outputs. The IEC meets 12 times a year and has oversight of the responsible investment committee and our investment governance framework and processes. Discussions around the impact of climate risk on our investment approach and our response are covered at most meetings.

Responsible investment committee: The responsible investment committee (RIC) constitutes senior practitioners from across RIM and Rathbones Unit Trust Management (RUTM) and is chaired by the stewardship director. The RIC is responsible for the formation and implementation of the four principles of our responsible investment policy: ESG integration; voting with purpose; engagement with consequences; and transparency. It reports directly to the investment executive committee for RIM and the executive committee for RUTM. The RIC's work overlaps with our stance as a responsible business more generally, and this committee updates the responsible business committee at each meeting. An assessment of progress against the core principles of the responsible investment policy is a rolling agenda item at these key committees. This includes ESG integration and delivery of our engagement and voting priorities, including our climate-related activities. In 2021, the RIC oversaw the work on our group exclusions, including our approach to companies whose revenues are based on thermal coal revenue and discussions around our fossil fuel statement.

Voting committee: The voting committee is focused on proxy voting at investee companies across the group, focused on the development and maintenance of our bespoke group voting policy. It oversees proxy voting according to a well-defined process. The committee seeks to ensure that Rathbones can help drive positive climate change within our investee companies and be long-term stewards to a more sustainable world. Voting decisions linked to climate factors will be considered at each meeting. The voting committee reports to the responsible investment committee.

Group engagement committee: The engagement committee seeks to implement the group engagement policy which includes a fundamental belief that it is Rathbones' responsibility to have an open dialogue with companies on a range of ESG issues, such as climate change. Reporting to the RIC, the committee decides on our multi-year engagement priorities, debates options for escalation, promotes new potential direct and collaborative engagements, and provides a vital coordination point for the various parts of the business. As one of the agreed priority areas, climate is a standing agenda item. This committee is chaired by our stewardship director.

[10] https://sciencebasedtargets.org/

Recommendation 2: Management's role in assessing and managing climate-related risks and opportunities

We have assigned climate-related responsibilities to several individuals and committees across the business.

Our group chief executive, Paul Stockton, has responsibility for bringing climate-related matters to the board. Through his position as co-chair of our responsible business committee, he oversees our responsible business programme, including our approach to achieving net zero emissions by 2050 and delivery of our near-term targets.

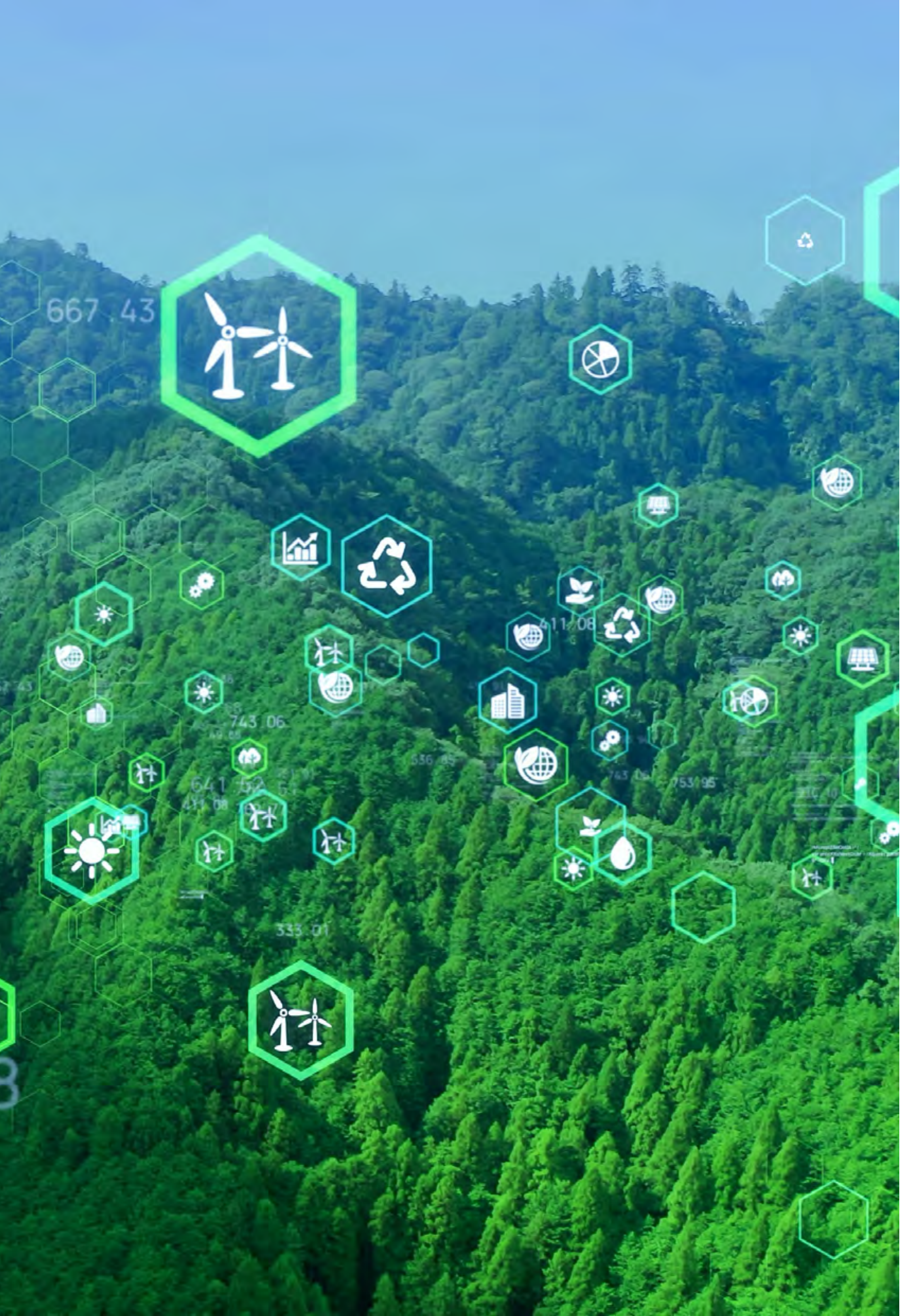
Meanwhile, our chief risk officer (CRO), Sarah Owen-Jones, is the senior management function responsible for climate-related financial risks, as designated in accordance with the Prudential Regulation Authority's Supervisory Statement on managing financial risks relating to climate change (SS3/19). The CRO reports to the non-executive of the board's risk committee. The CRO plays an important role in identifying and understanding the risks that Rathbones is exposed to. In 2021, this included discussion on our appetite for climate risk and responding to the PRA's survey on management of climate risk for the financial service sector. Building on the 2021 discussion around impact on our internal capital adequacy assessment process (ICAAP), March 2022 will see our executive risk committee receive a paper laying out the framework we use for the management of climate risk.

There are a number of teams involved in assessing, managing and reporting on our climate risk. Operationally, our finance, risk and compliance, research and investment teams, alongside our supplier management function and properties and facilities departments, all deliver programmes supporting our approach. At an organisational level responsibility for climate change-related matters lies with the company secretary and is led by our responsible business manager. We are committed to responding to our stakeholders' expectations, which is why we take our corporate responsibility seriously. Ensuring we have made a positive and lasting impact is an important part of this.

Employee engagement

Rathbones creates an open and transparent working environment where employees are encouraged to engage positively in risk management and support our key objectives. We want our employees to be risk-aware and feel empowered to make decisions that are in the best interests of our company, our clients, our broader stakeholders and the world around us. Risk management is therefore an integral part of everyone's day-to-day responsibilities and activities; it is linked to performance and development, as well as to the group's remuneration and reward schemes. We aim to create an open and transparent working environment, encouraging employees to engage positively in risk management in support of the achievement of our strategic objectives. In situations where ESG risks form a key part of an employee's role, these considerations will be incorporated into appraisal discussions and performance assessments. Remuneration will be influenced by various factors, depending on the role.

Our responsible business manager and company secretary have delivery of our responsible business programme, including our net zero commitment, included in their respective remuneration criteria. For our investment managers, we take a number of financial and non-financial factors into consideration when determining remuneration. All variable awards are subject to our risk adjustment to variable remuneration policy, through which we can adjust overall bonus pools across any schemes in consideration of current and future risks, both financial and non-financial. This policy allows us to adjust individual variable awards to take into account crystallised risk or adverse performance outcomes, such as misconduct. When we consider risk adjustments to variable remuneration, we do so to reflect the risk and performance of the firm, business area or individual employee. From 2022, ESG measures will be incorporated into the variable pay component for our group executive committee members, including our group CEO and group CFO. Our ESG measures include progress towards our near-term net zero targets.



Strategy

Climate change continues to be one of the biggest challenges of our times. The 2022 World Economic Forum Global Risks Report 2022 identifies climate action failure as the most severe risk on a global scale over the next ten years[11]. In 2021, climate-related risks gained even greater attention as Glasgow hosted COP26. Discussions on the role of finance in limiting temperature increase to no more than 1.5°C above pre-industrial levels occurred amidst a year of more extreme temperatures, rising sea levels and increasingly frequent extreme weather events. Given these threats, our stakeholders expect us to play a role in understanding and minimising the effects of climate change, both on our business and on society.

Recommendation 3: Climate-related risks and opportunities which Rathbones has identified over the short, medium, and long term

Risks

We have a well-established approach to risk management, which has continued to evolve in response to the firm's growth and external developments. Our risk governance, processes and infrastructure are designed to ensure that appropriate risk management is applied to existing and emerging challenges to the firm's day-to-day activities and strategic objectives. In 2022, we will continue to manage risk effectively, in accordance with our risk appetite, to support the long-term future of the firm. Climate risk is considered in our business and strategic risk category.

Emerging risks, which have the potential to impact the group, including the delivery of our strategic objectives, are monitored through our watch list. During the year, the executive committee continued to recognise and respond to a number of emerging risks and threats to the financial services sector as a whole and to our business in particular. Rathbones recognises the potential impacts on our business, including those associated with the transition to a greener economy (transitional risks) and the physical effects of climate change. We have identified climate change transition risk as a near-term risk. For more about our approach to risk management and control see our annual report and accounts, p46-53.

[11] https://www.weforum.org/reports/global-risks-report-2022

The transitional risks that we recognise as a group include, but are not limited to:

Transition risks — short term

Reputational risk	The impact on our reputation if we do not respond to growing interest, and call for action, from society, by addressing our role in and limiting the effects of climate change
Policy risk	The increasing amount of climate policy and regulation impacting our business, for example the FCA commitment to make TCFD mandatory
Litigation risk	An increase in the likelihood of litigation if we do not deliver on our fiduciary duty to clients by including material risks in our investment decisions

Transition risks — medium and long term

Client preference risk	Market risks associated with change in the product preferences of our clients
Investment risk	We may be impacted if we do not understand the risks and opportunities facing the companies in which we invest. A lack of understanding may impact the value of our portfolios, which could lead to the loss of clients

Meanwhile physical risks affecting our business or the companies in which we invest are classified into two categories:

Physical risks — medium and long term

Acute risks	For example, the effect of extreme weather on the ability to work as planned, such as worker health and safety being at risk due to extreme heat
Chronic risks	Where longer-term issues like rising sea levels would impact sites where businesses operate, such as a manufacturing plant based near the coast as sea level rises

Transition and physical risks can crystallise differently across the short, medium and longer term. We have defined the timelines as:

Time horizons

Short-term	<1 year
Medium-term	1-5 years
Long-term	>5 years

Opportunities

As investors, we allocate capital across economies globally. We have the unique ability, alongside other financial service sector participants to provide capital to organisations that are positioned to provide solutions to the problems caused by climate change. Transitioning to a low carbon economy requires large funding support from the private and public sectors. We believe that our ability to identify and allocate to these types of investments, where it also makes financial sense, is in the best interest not only for our clients, but for broader society. Our focus on responsible investment, coupled with the close relationships we foster with our clients, means we believe we can support clients in their own decarbonisation journeys and plan for their long-term future.

Our attention to date has been ensuring the full identification of climate-related risks and ensuring we have climate risk formally integrated into our risk framework. Looking forward, we will be turning our attention to focus on the identification and actioning of climate opportunities. We have identified a variety of opportunities that fall across the short, medium, and long term.

Opportunities — short term

We have made it a priority to join collaborative efforts as we recognise that many ESG issues are systemic, and hence are more suited to coordinated cross-sectoral action. As members of such organisations, we have the capacity to contribute towards the improvement of several important climate and ESG issues. We support the work of the:

- Principles of Responsible Investment (PRI)
- Institutional Investors Group on Climate Change (IIGCC)
- Net Zero Asset Managers Initiative
- Business Ambition 1.5°C
- Net Zero Investment Framework

In addition to these organisations, we have a clear policy enabling us to participate in collaborative actions calling for regulatory or policy changes in ESG best practice and responsible investment. By way of an example, Rathbones co-signed letters drafted by Sarasin & Partners to the Big Four audit firms, calling on them to do better when it comes to integrating material climate risks into their audits of companies. This engagement ran through the IIGCC corporate programme, to which Rathbones is a subscriber. With COP26 putting climate issues at the forefront of the public agenda, we consider our role as a responsible investor to be more important than ever. Companies' management and response to climate risk, and their approach to net zero, continue to be areas of focus for our 2022 engagement strategy.

Opportunities — medium term

A medium-term opportunity for Rathbones is to develop clear and concise climate and ESG reporting, both from a client reporting perspective and also in terms of the policies and statements we publish, in order to communicate both to clients and the broader market our position in relation to these issues. Recognising that climate risks can affect the performance and valuation of our investments, our research team and investment committees are actively defining methods and developing systems to embed climate change in the investment approach across all asset classes. This will lead to updated internal policies, procedures and training requirements, as well as client-facing documentation. In keeping with this, and in line with one of our four responsible investment pillars, transparency, we have worked to develop our suite of corporate reports and publicly available policies. Since mid-2020 several steps were taken to strengthen our governance processes. The following policies have been recently reviewed, refreshed and renewed:

- Rathbones group responsible investment policy
- Engagement policy
- Proxy voting policy
- Group climate statement

As the market changes and our processes evolve, we retain up-to-date and transparent policies ensuring clients have clear sight of our stance and actions in this space. We are communicating clearly to the market how we are dealing with these issues on behalf of our clients.

Opportunities — long term

The scale of increasing market and public scrutiny creates an opportunity for us to demonstrate our understanding of the need to tackle climate risk. Our approach not only considers the financial outcomes for clients but also the real economic impacts of a disorderly transition. It works to deliver a service in line with client expectations. An opportunity for us lies in the development of new products and solutions, developing an offering that meets client needs. Delivered through innovative low carbon solutions that demonstrate our commitment to managing climate risks and impacts effectively throughout our clients' financial journeys. By embedding climate risk thoroughly across client portfolios, we will identify opportunities created by the transition to a low carbon economy. Future client offerings will leverage existing solutions across our business, from our ethical, sustainable and impact investment specialists at Greenbank, through to sustainable and ethical funds already available through Rathbone Unit Trust Management, such as the Rathbone Greenbank Global Sustainability Fund.

In our discretionary investment business, our approach allows us to work closely with clients to determine their individual goals and long-term plans, including their views on environmental, social and governance (ESG) matters. We believe that ESG issues - both risks and opportunities - can affect the long-term performance of investments. We will continue to build out our research, data and decision frameworks so that we can better understand and weigh up ESG factors alongside other investment considerations. Our aim is to develop a more comprehensive view of a business' strategy, the way it executes this strategy and the dynamics of its sector than can be achieved solely through a financial lens. We do this by using ESG data, engaging with companies and exercising our carefully considered judgment. This helps us identify companies with stronger sustainability performance and those with whom, through engagement, we see potential to improve business practices to create value for shareholders. Our investment managers actively participate in our investment approach, from company visits and internal discussions to analysing external broker research, considering ESG factors and assessing investment themes. ESG research is an increasingly important part of our investment analysis.

We are developing our business and service offering to consider our entire client service offering, including a move to offer client paperless, digital-based correspondence and app-based access to portfolio information. We believe that integrating ESG and climate considerations across our range of client offerings, from investments through to the methods and ways we interact with clients, supports clients in their personal climate and financial journeys, while contributing to the long-term health of the planet.

Recommendation 4: Impact of climate-related risks and opportunities on Rathbones' businesses, strategy, and financial planning

The board believes that the most significant climate-related risk to our company is the potential negative impact on the investment performance of performance of our clients' portfolios. This may affect our organisation and stakeholders in the short, medium and long term. With this in mind, we continue to integrate climate considerations into our investment approach and provide our clients with products that not only meet their financial needs but can also adapt to the continually evolving environment. Our overall approach to achieving this is outlined in our climate change statement. In addition to integrating consideration of climate risk into our general investment process, we offer investment management offerings from Rathbone Greenbank Investments, as well as the Rathbone Greenbank Global Sustainability Fund, Rathbone Ethical Bond Fund and Rathbone Greenbank Multi-Asset Portfolios (GMAPs). This approach is fully aligned with our corporate purpose of thinking, acting and investing responsibly, and is delivered through our strategic objectives; see p24-25 of our annual report and accounts[12].

Decarbonising the business

In October 2021, we were pleased to announce our commitment to achieve net zero emissions by 2050 or sooner, enhancing our commitment across both our operational and investment approaches. More details about our net zero commitment can be found in the 'metrics and targets' section. Our goal is to continue to integrate climate-related issues in our investment approach, improve the quantity and quality of our climate-related disclosure to clients and the wider public, and scale up voting and engagement efforts in line with our ambitions.

This work delivered by a cross-functional team, under the remit of the responsible business committee, broadened the boundaries of our emissions calculations, to include both supply chain exposure and the impact of our clients' investment holdings. Using data taken as at 31 December 2020 as our base year, we identified the most appropriate methodologies and, using these, calculated the firm's decarbonisation trajectory.

Our operational impact

As with many financial services businesses, our initial assessment of our environmental impact focused on our own operations. In this regard, we continue to pursue an absolute reduction in our operational carbon footprint and offset residual emissions. Since 2013, we have reduced the carbon intensity of our operational footprint (reported in line with the Streamlined Energy and Carbon Reporting requirements office) by 81%[13] and purchased over 26,000 tonnes of accredited carbon offsets.

Through 2021, we have worked with our landlords to continue the greening of our office energy supply, along with continued reduction in paper use and removing plastic from our direct supply chain. Recognising that we carry third-party supply chain risk, we carried out a survey of our critical, strategic and preferred suppliers covering a range of ESG issues, including requesting information on their approach to managing and reducing their climate risks. This included direct questions on environmental targets and alignment with recognised frameworks. At the end of 2021, we had received responses from 66% of those surveyed. The feedback shows a variety of responses from suppliers with well-developed plans, to those just starting out. We will continue to engage with our supplier partners to support alignment with our targets and ambition. To read more on our operational footprint see our responsible business report.

In 2022, we will continue to calculate and review our exposure through our operational footprint including the impact of our move to our BREEAM[14] rated 'very good' office in Edinburgh. Whilst we continue to make progress across our direct footprint, we are conscious that the greatest impact of climate change, where we can make the biggest difference, lies not in our business operations but through the investment decisions we make on behalf of our clients.

Our investment impact

We believe it is in the best interests of our clients that the companies and securities we invest in adopt best practice in managing ESG risks. This provides each company with a framework for managing its operations in the long-term interests of its shareholders. We see it as our responsibility to be good, long-term stewards of our clients' wealth. As members of the UN-supported Principles for Responsible Investment (PRI) for over 12 years, we use the PRI's six principles to inform our approach. In 2021, the governance structure for responsible investment was reviewed and a group-wide responsible investment committee formed to feed into business unit decision-making processes and report to the responsible business committee on our approach to the integration of climate risk. The committee oversees our responsible investment policy and the application of our four principles.

[12] https://www.rathbones.com/investor-relations/results-and-presentations
[13] Based on SECR boundaries, more information can be found in our responsible business report
[14] https://www.breeam.com/BREEAMUK2014SchemeDocument/content/01_introduction_newcon/2introductiontobreeam_nc.htm

The diagram below shows the four core principles of our our approach to responsible investment, which are based on the pillars of our responsible investment policy. We also share some of our 2021 highlights.

1 ESG integration

We consider environmental, social and governance (ESG) factors in the evaluation of investments to help identify ESG opportunities and risks.

- our research team and investment committees are working to integrate ESG factors into the investment process across all asset classes
- material ESG risks, where identified, are incorporated into the process on a case-by-case basis
- we review data from a range of sources to inform our analysis

2 Voting with purpose

We actively vote across 95% of the value of our holdings in line with our responsible investment commitments. This may involve voting against management to help drive positive change.

- in 2021, we voted on almost 12,000 resolutions on behalf of clients in RIM and RUTM combined
- voting is undertaken on our most widely held holdings and on any company if requested by a client who is a shareholder of that company
- where we have voted against management, most attention has been paid to the independence of group directors followed by executive remuneration, followed by the independence of group directors

3 Engagement with consequences

We prioritise engagement where we can make a difference in addressing the world's systemic environmental and social challenges. We are prepared to reduce our holdings in companies that continue to present an ESG risk over time.

- topics included climate change, employment practices, inequality, the composition of boards of directors, remuneration
- in 2021, we were involved in over 700 direct engagements – for example, we acted as lead investor for the Climate Action 100+ engagement with SSE (see our responsible investment report for more information)

4 Transparency

As a prominent participant in the financial markets, we are committed to being transparent about our approach to RI. We actively report on the progress of our RI activities to our clients, shareholders and other stakeholders.

- 2020 A+[15] rating for strategy and governance with the UN PRI
- our annual report and accounts and specific responsible business and responsible investment reports reflect our efforts made in this area
- we regularly publish thought leadership and host events about RI themes

[15] At the time of publication the UN PRI has not released the 2021 scores. We will update our website when they are released

Recommendation 5: Resilience of Rathbones' strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

Climate scenario analysis

There is a growing consensus that the impacts of climate change pose a sizable financial risk in the short and long term. Despite this recognition, in common with many companies we are unsure how climate change will unfold. Governments continue to introduce new policies, technologies are rapidly evolving, and people's behaviour is changing. When combined, these variables can lead to multiple possible futures. Whilst useful to give a point in time view, approaches based largely on backward looking analysis, or static data such as carbon footprinting, are unable to capture these future risks.

Scenario analysis looks at plausible future pathways of development (scenarios) that will lead to different outcomes based on projecting several variables. These variables include greenhouse gas emissions, cost and uptake of technology, economic growth, demographics, development and use of carbon capture and storage (CCS). Each one could lead to different predicted outcomes such as how much temperatures will rise, supporting the understanding of the impact this level of global warming could result in for the environment, society and the economy.

One benefit of scenario analysis is that it is a mix of qualitative (fiscal policy, geopolitical tensions, etc.) and quantitative (GDP, unemployment, etc.) views when approaching risk management. This allows for a top-down and bottom-up approach, as well as looking forward to the future and seeing how our investment holdings might react to certain market situations. It differs from other planning approaches such as contingency planning or sensitivity analysis in the sense that it alters multiple variables at the same time. The difference is therefore that scenarios can cover possible future states where multiple uncertainties and trends are accounted for. This is particularly relevant in complex environments with interconnected factors, which is the case for climate change.

Considering the implications of different scenarios on assets and operations helps us better understand and quantify the risks and uncertainties our investee companies may face under different hypothetical futures, and how current or potential trajectories could drive business value. Our analysis is based on the securities we held at the end of December 2021.

Climate Value-at-Risk

One of our approaches to scenario analysis involves applying MSCI's Climate Value-at-Risk (Climate VaR) model to our equity and corporate bonds holdings[16]. This measure enables us to assess the potential business impacts of climate-related risks and opportunities. This is done by considering different scenarios and assumptions regarding policies, technologies, demand, and various other macroeconomic factors as well as extreme weather.

We used different MSCI ESG Research Climate VaR scenario-analysis models and calculated the potential impact on the valuation of our equities and corporate bond holdings given different scenarios consistent with a 1.5°C, 2°C and 3°C temperature rise by 2100. We coupled this with "average" and "aggressive" scenarios for physical risks, with the aggressive scenario associated with a 4°C temperature rise. Different integrated assessment models (IAMs) were used:

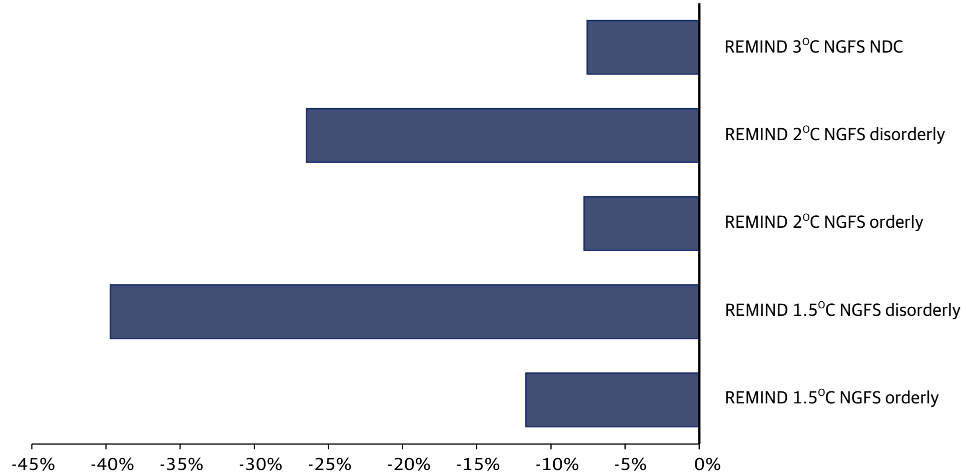
- AIM Asia-pacific Integrated Model (AIM-CGE)
- Integrated Model to Assess the Global Environment (IMAGE)
- The Global Change Assessment Model (GCAM)
- Regional Model of Investments and Development (REMIND).

This exercise resulted in 15 different Transition VaRs and two different Physical VaRs. The following approach focuses on the Network for Greening the Financial System (NGFS) REMIND scenarios. This approach was selected based on internal and external review and discussion with data providers to understand the scenarios underlying assumptions.

When we reviewed the impact of transition risk, it was noted that policy risks contributed substantially to our transition risk exposure. Those risks were partially offset by transition opportunities which is consistent with the concept of "winners" and "losers" in the transition to a low-carbon economy. Despite variations between IAMs and scenarios, the highest risks were found in scenarios where most of the climate action to limit warming to 1.5°C or 2°C happens in the later part of the century (delayed transition) and in a disorderly fashion. This is to be expected as disorderly scenarios explore higher transition risk due to policies being delayed or divergent across countries and sectors. Carbon prices are also typically higher for a given temperature outcome in disorderly transitions. This is consistent with the notion that the world will face high costs if we collectively fail to achieve the net-zero goal by 2050[17]. Complete climate inaction could lead to losses projected to be between 4% and 18% of global GDP[18] with different impacts across regions[19].

Rathbones Climate VaR output by scenario for client held funds

The chart below shows the impact of different transition pathways on the value of our clients investments. The outcomes show that value is most at risk from a disorderly transition. Whilst there are recognised uncertainties in the scenario models themselves, the need for immediate and continued action to limit warming to 1.5°C is clear.

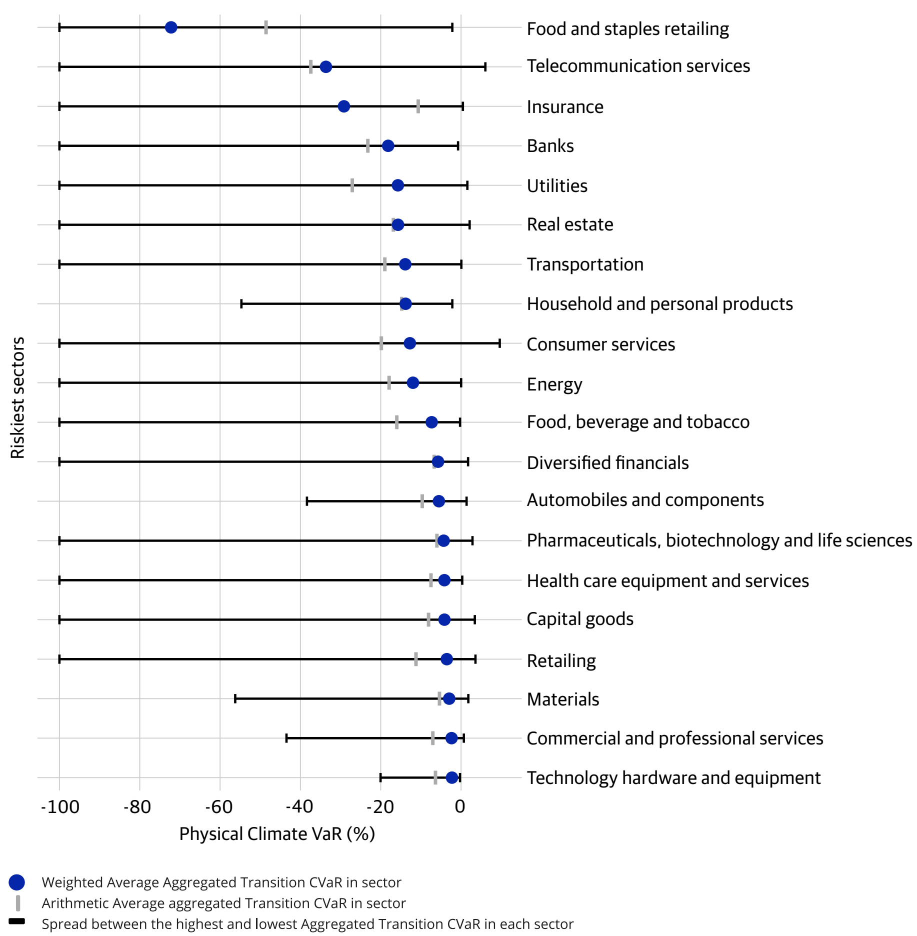


[16] We have consolidated the investments we make on behalf of our clients' and the equity and corporate bond coverage represents 45% of total investments
[17] https://www.nature.com/articles/s41558-018-0282-y
[18] https://www.swissre.com/media/news-releases/nr-20210422-economics-of-climate-change-risks.html
[19] https://www.swissre.com/dam/jcr:5d558fa2-9c15-419d-8dce-73c080fca3ba/SRI_%20Expertise_Publication_EN_LITE_The%20economics_of_climate_change.pdf

The impact of physical risk on our equity and corporate bond holdings shows that coastal flooding, tropical cyclones, and extreme heat contribute the most downside risk for our investments. Other hazards, such as extreme cold, were in fact associated with a small positive impact on the valuation because the number of days with freezing temperatures were, on balance, expected to decrease at the locations of companies held. The contribution to the overall climate value at risk value from these physical factors varies between -6.7% for an average scenario to -10.24% in the aggressive model. The data showed that the sectors most at risk from climate change were those active in food and staples retailing, telecoms, insurance, and banks.

The chart opposite provides a summary of the sector-level risks found within our equity and corporate bond holdings based on physical risk impacts in the most aggressive physical risk scenario. The highest risk sectors are displayed in order of risk exposure. The blue circles illustrate the aggregated physical climate VaR in each sector weighted according to the security weights within our holdings. The grey bars represent the average of the aggregated physical climate VaR in each sector. The black error bars are a measure of the variability in that sector's physical climate VaR - demonstrating for each sector the spread between maximum and minimum values. This chart can be used to identify the most at risk sectors, but also those sectors where an optimisation of our exposure is possible by re-allocating capital to holdings with a lower Physical Climate VaR.

Physical Climate VaR spread by primary sectors of activity



Source: MSCI

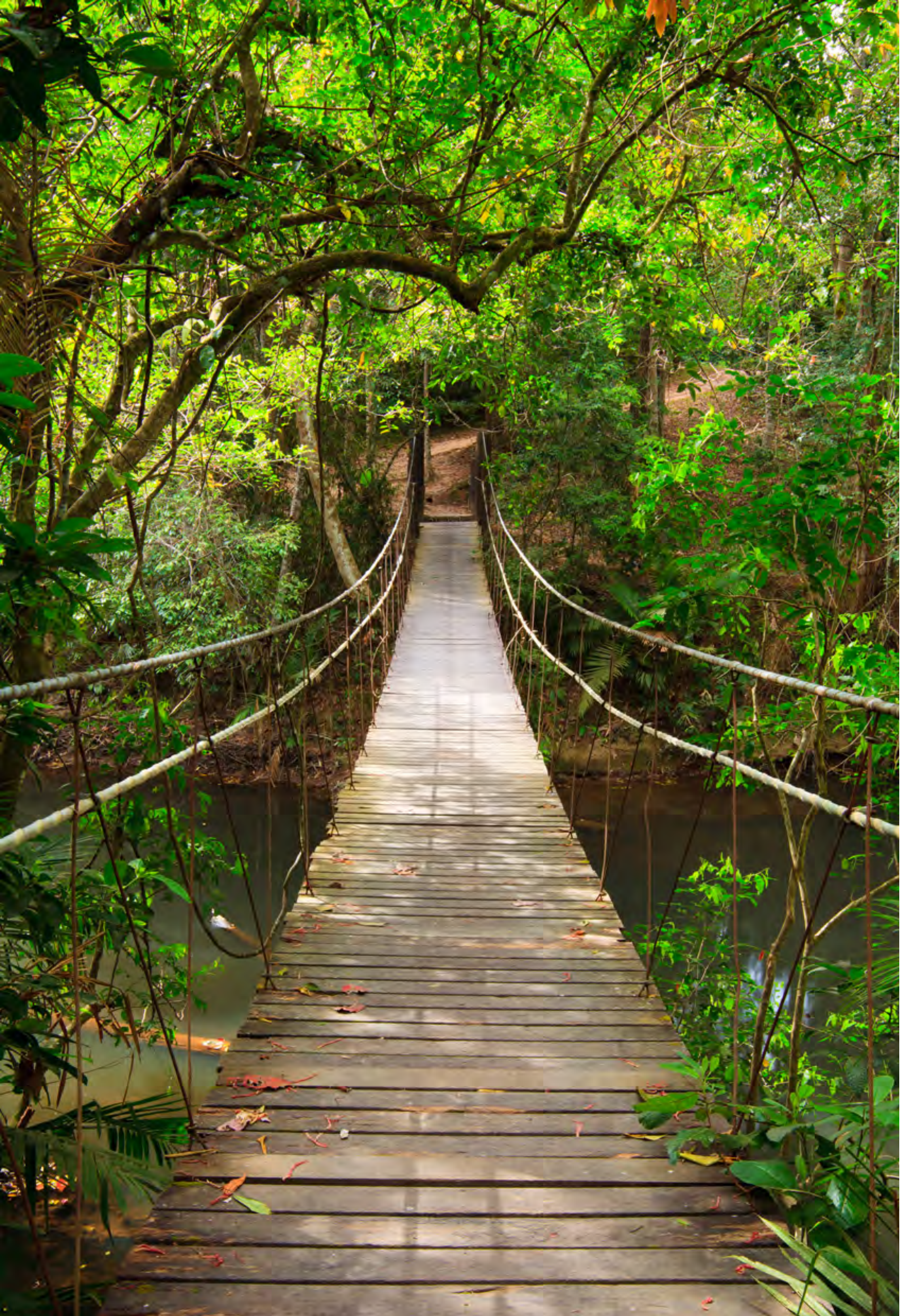
In 1.5°C scenarios, transition risks are larger than physical risks even after considering mitigating technology opportunities. The picture is reversed in higher temperature scenarios where physical risks dominate. In the IPCC's 4°C scenario, which corresponds to emissions continuing to rise at current rates, the transition risk is clearly more limited, but the potential physical risks are significant, and the likelihood of tipping points being reached is much higher. One can expect even greater increases in precipitation, coastal and river flooding, periods of extreme heat and cold, wildfires and droughts. In addition, sea levels could rise significantly resulting in major displacement of populations as well as the spread of diseases, currently typical only in tropical areas, to more temperate areas.

Future focus

Recognising both the benefits and limitations of climate scenario analysis[20], over the next year we will focus on:

- continuing to develop and incorporate Climate VaR, and other climate metrics such as the Paris agreement capital transition assessment (PACTA), and carbon intensity data into our approach and asset allocation
- combining the results from different climate metrics to identify our priority companies for direct engagement. In some cases, the risk is concentrated in a limited number of stocks. More details about our targeted net zero engagement initiative will be disclosed in 2022. As we move forward in the net zero trajectory, we are prepared to explore exclusion strategies in the case of companies that continue to represent high climate risks, where we have not seen material changes post engagement.
- assessing further forward-looking, engagement-driven tools and methodologies offered by different third-party providers, as well as exploring partnerships and the development of in-house tools. Supporting the assessment of potential business impacts of climate-related risks and opportunities
- exploring further sector-based approaches which respect the fact that each sector has its own transition pathway, or technology roadmap, for it to contribute to a low-carbon world. This approach enables us to create impact through steering these key sectors towards technologies that underpin a low-carbon future. This may involve the development of different alignment metrics for different sectors. Examples are emissions intensity (kg CO_2e / MWh) for power generation, and for fossil fuels an absolute reduction in the size of the upstream oil and gas and thermal coal mining portfolios
- building awareness and engagement within Rathbones on climate change scenario analysis, particularly across the key departments involved such as sectoral analysts and risk management. In addition, we will run sessions with relevant committees to ensure that as our approach develops, these insights can reinforce dialogue with our clients.

[20] See appendix for more on climate scenario analysis methodologies and their limitations



Risk management

Recommendation 6: Rathbones' processes for identifying and assessing climate-related risks

Identification of climate risks

Climate-related risks such as changes to existing regulation are identified and assessed as part of our hierarchical approach to risk management. The highest level (level 1) comprises business and strategic, financial, conduct and operational risks. The next level (level 2) contains 20 risk categories, each allocated to a level 1 risk. Detailed risks (level 3) are then identified as sub-sets of level 2 risks. Level 3 risks are captured and maintained within our group risk register, which is the principal tool for monitoring risks. We recognise that some level 2 and level 3 risks have features which need to be considered under more than one level 1 risk. This is facilitated in our framework through a system of primary and secondary considerations.

Our risk classification is reviewed annually. It takes a structured approach to the identification of all known material risks to the group and those emerging risks which may impact future performance. Identified physical and transition risks from climate-related risks are integrated into this process and aligned to already identified level 2 risks. In 2020, we developed a sustainability risk in our taxonomy. This risk was defined as the risk that the business model does not respond in an optimal manner to changing market conditions, including environmental and social factors, such that sustainable growth, market share or profitability are adversely affected.

A watch list is maintained to record any current, emerging or future issues, threats, business developments and regulatory or legislative change. Identifying risks which will or could have the potential to impact the firm's current or future risk profile and therefore may require active risk management. This could be delivered through process changes or systems development. The group's risk profile, risk register and watch list are regularly reviewed by the executive committee, senior management, board and group risk committee.

Climate-related risks are considered as part of the management of risk within Rathbones. Risks are considered of substantive financial or strategic importance if the financial impact is greater than £1m. A high-risk rating would be allocated to a financial impact assessed between £1m - £5m with very high calibrated at potential impact over £5m.

As a business we have little direct exposure to physical risks from climate change. As with other financial service firms, our exposure sits mainly in the investments we make on behalf of our clients. To date, we have relied on the stress test work undertaken as part of our ICAAP process to recognise the potential impact of climate or ESG risk on investment valuations, particularly for securities where ESG risk is high or unmanaged, thereby connecting these risks to our financial stability. Our financial stress testing and scenario analysis shows that the group would remain profitable in excess of our risk appetite tolerances for capital and liquidity, and able to withstand the impact of such scenarios. An example of a mitigating action in such scenarios would be a reduction in costs, specifically around change initiatives, along with a reduction in dividend. To read more about our stress testing see our annual report and accounts, p 53. Based on this assessment, the directors confirm that they have a reasonable expectation that the company will be able to continue in operation and meet its liabilities as they fall due over the period to 31 December 2024. In 2022 we will develop our use of climate scenario data to further support our understanding of our transition risk.

Recommendation 7: Rathbones' processes for managing climate-related risks

The board, executive committee and group risk committee regularly review and, at least annually, formally approve the group's risk appetite statement, ensuring it remains consistent with our strategy and objectives. Our appetite framework is aligned with the group's overall prudential requirements for strategic, financial and non-financial risk (conduct and operational), and specific appetite measures are set for each principal risk. Risks which have triggered key risk indicators or risk appetite measures are reported and escalated in accordance with our framework to the executive committee, the group risk committee and the board as appropriate, so that risk mitigation can be reviewed and strengthened if needed.

In line with our strategy, the current economic outlook and the evolving regulatory landscape within the sector, the board remains committed to having a relatively low overall appetite for risk and ensuring that our internal controls mitigate risk to appropriate levels. The board recognises our performance is susceptible to fluctuations in investment markets and has the potential to suffer losses from financial and operational risks from time to time, either as reductions in income or increases in operating costs.

Sustainability has been included as a key risk in our taxonomy since 2020. It is defined as the risk that the business model does not respond in an optimal manner to changing market conditions, including environmental and social factors, such that sustainable growth, market share or profitability are adversely affected. This risk can arise from strategic decisions which fail to consider the current operating environment, our stakeholders' expectations, or can be influenced by external factors such as environmental and social factors. To mitigate this risk, Rathbones has introduced several controls into its operations and the way business is conducted. Most specifically:

- board, executive and responsible business committee oversight
- a documented strategy, including responsible investment policy
- monitoring of strategic risks
- annual business targets, subject to regular review and challenge
- regular reviews of pricing structure
- continued investment in the investment process, service standards and marketing
- trade body participation
- regular competitor benchmarking and analysis

Our board and executive recognise that actions are required to better understand longer-term climate change risks, both physical and transitional, along with sustainability risks associated with our strategy, business model and operations. This continues to be an area of focus for Rathbones as climate change requirements are continuously evolving.

Rathbones is committed to providing high-quality, resilient services to its clients. We maintain business continuity plans (BCP) to facilitate our ability to continue operating in the event of a disruption. At Rathbones, we aim to have effective, proportionate, and resilient business continuity arrangements in place across the group, to revent, respond to, recover from and learn from disruptions. The framework is the responsibility of the group's chief operating officer (COO) and is subject to both review and approval of the group executive committee (GEC), the group business continuity committee (GBCC), and the executive risk committee (ERC). The business continuity framework consists of the following core components: governance, business continuity management, incident and crisis management, work-area recovery (WAR) and IT disaster recovery. In 2021, a business continuity planning (BCP) test was run across our business.

Along with robust management of our own direct risks, we believe it is in our clients' best interests for the companies in which we invest to adopt best practice in managing and reporting on their ESG risks. We have continued to invest in our responsible investment proposition across all business areas and have expanded our stewardship and research approaches to further incorporate ESG integration spanning clients' direct equities, direct fixed income and fund holdings. Whilst the overarching responsible investment principles are consistent and resources complementary across business areas, for example leveraging information and data and collaborating in our engagement activity, the application of the integration approach is tailored to fit the relevant investment service or mandate. Therefore, the investment manager or fund manager is accountable for interpreting ESG and stewardship information to inform investment decisions in the context of the mandate or client objective.

Given the significant impact that climate change represents, we are committed to playing a positive role in the transition to a net zero economy. This will involve increasing our exposure to businesses aiding or benefiting from the transition, while also decreasing our exposure to high-carbon businesses that are unable to demonstrate transition plans in alignment with the Paris Agreement. See pages 22 and 23 for information on our engagement on climate and voting. As a group, we introduced an exclusions policy which includes measures addressing thermal coal.

Recommendation 8: Processes for identifying, assessing, and managing climate-related risks are integrated into Rathbones' overall risk management

Our exposure to climate-related risks is most material through the investments we make on behalf of our clients. The management of these risks is integrated into the four of Rathbones' core responsible investment principles and pillars.

Climate change / ESG integration

To be a trusted adviser to clients throughout their financial journey, it is our duty to support our clients in the comprehension of the new and continually changing climate and ESG risks. As a result, we are in the process of developing our ESG client reporting framework to support clients in the comprehension and monitoring of the climate and ESG characteristics of their portfolio.

In addition to the core research undertaken by our research analysts, we source ESG data from a number of vendors including, MSCI, ISS and Morningstar/Sustainalytics, Fitch, S&P and SASB. We are using this information to develop ESG materiality frameworks for different sectors and individual investments. We have enhanced the due diligence questionnaires that form a vital part of our fund selection process in order to better understand how advanced external asset managers are in their approach to responsible investment and how this translates to their investment process in practice. Using these data sources, our analysts aim to identify the material ESG risks and opportunities that may impact investments and understand how this links to different financial and value drivers. ESG integration does not necessarily mean investors need to avoid certain sectors or sacrificing returns. In fact, the aim of ESG integration is to generate better returns over the long term by gaining a greater understanding of, and engagement with, investments in the portfolio.

We also continue to invest in developing our people. On an annual basis, our employees complete relevant training on Rathbones' ambition and approach, with investment managers receiving additional practical training. Throughout 2021, training was rolled out across the entire business explaining not only our RI ambition, progress to date and plans for the future, but also providing deeper RI knowledge to front office employees so they can support clients in their ESG journey. By the end of 2021, 368 employees had completed the CISI Sustainable and Responsible Investment Professional Assessment, of which 221 are investment managers or directors. Members of our research team completed advanced training in responsible investment through either the PRI Academy module or the CFA ESG Investment Certificate. The first 40 employees have signed up to the CFA ESG certificate, with seven having passed to date.

Voting with purpose

An investment in a company's shares confer the right to vote at the annual general meeting (AGM) of shareholders. For most of our clients, we will submit a proxy vote on their behalf. Ensuring that the companies in which we invest adopt best practice in managing ESG risks is in our clients' best interests. Our vote can influence corporate action and encourage companies to move in the right direction.

We make full use of shareholder votes and ownership rights to influence companies as part of the transition to a net zero economy. As responsible investors, we are prepared to file shareholder resolutions and vote against a company's management if we believe it is not managing climate risks appropriately. This can include, among other things, issues related to the alignment of executive remuneration with climate change targets, boards' accountability and oversight of climate risks, climate change-related lobbying activities and credible pathways to reaching net zero emission targets by 2050 with near-term adjustments in capital expenditure. We are also advocates for high-impact companies giving investors an annual 'say on climate' at their annual general meetings, and will encourage them to adopt this approach as a matter of regular business. Our bespoke voting policy also specifies where we will vote against audit arrangements which do not take adequate recognition of climate risks and where boards lack relevant climate expertise.

Proxy voting and shareholder engagement at Rathbones is overseen by the responsible investment committee. Recommendations are made by two sub-committees: one focused on engagement and a second on voting. These in turn are supported by our stewardship director and our stewardship team. In 2020, we added a climate specialist to the stewardship team and in 2021 we expanded the team further. We target our resources where they can make the most difference to the greatest number of clients and have recently taken steps to improve our coverage. As such, we focus our voting resources on our largest listed security holdings and where we hold more than 2.5% of the shares of a company.

In practice, this approach means that we cover the majority of relevant assets under management within the wealth management business with a bespoke voting policy. Wealth management clients retain the ability to issue individual voting instructions on their stocks held in our nominee account. We have recently extended the scope of the guidance provided by the proxy voting consultant to include sustainability issues, have incorporated these considerations into our bespoke voting policy and will continue to review the information supplied. More information on our approach, action and engagement is published on our website[21].

[21] https://www.rathbones.com/investment-approach/responsible-investment

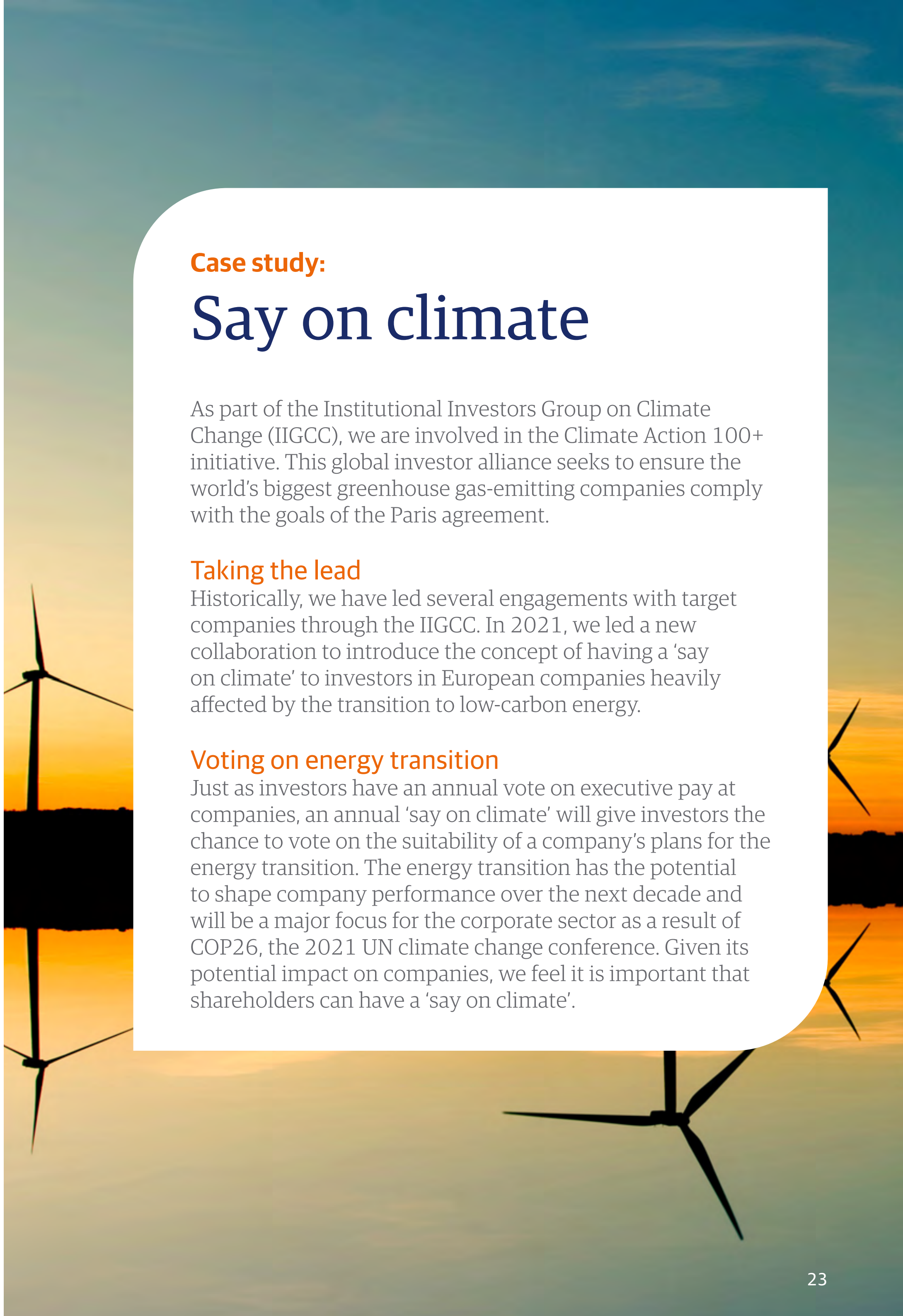
Engagement with consequences

An important aspect of our approach to responsible investing is the dialogue we maintain with the companies we invest in. Through active engagement, we use our voice to influence companies towards better, more sustainable long-term performance. Company engagement can take many forms, including:

- meetings with senior management
- public statements
- collaboration with other investors
- tabling or voting on resolutions at company AGMs

Company engagement on ESG issues has been an important part of our stewardship activities for many years. When combined with active voting, and set within a clear escalation framework, it can be a powerful force for positive change. Studies have also shown that engagement with companies on ESG issues can lead to better investment outcomes. We prioritise engagement where we can add value for clients and make the most impact towards addressing systemic environmental and social challenges. Our engagement efforts are backed up by our willingness to reduce our holdings in companies that continue to present ESG risks over time.

In our climate engagements with companies, we expect progress in several areas from enhanced corporate disclosure and board accountability, to setting Paris-aligned science-based targets (SBTs) and transition pathways, along with corresponding capital expenditure plans. With many companies committing to net zero targets for 2050, our focus is now on engaging with companies we invest in on behalf of our clients to identify meaningful short and long-term metrics to demonstrate they are acting on their ambition.



Case study:

Say on climate

As part of the Institutional Investors Group on Climate Change (IIGCC), we are involved in the Climate Action 100+ initiative. This global investor alliance seeks to ensure the world's biggest greenhouse gas-emitting companies comply with the goals of the Paris agreement.

Taking the lead

Historically, we have led several engagements with target companies through the IIGCC. In 2021, we led a new collaboration to introduce the concept of having a 'say on climate' to investors in European companies heavily affected by the transition to low-carbon energy.

Voting on energy transition

Just as investors have an annual vote on executive pay at companies, an annual 'say on climate' will give investors the chance to vote on the suitability of a company's plans for the energy transition. The energy transition has the potential to shape company performance over the next decade and will be a major focus for the corporate sector as a result of COP26, the 2021 UN climate change conference. Given its potential impact on companies, we feel it is important that shareholders can have a 'say on climate'.

Transparency

As an investor we consider transparency an essential element of responsible investment. We are committed to improving the quantity and quality of climate-related disclosures, both our own and the companies in which we invest, to share clear and relevant information to feed into our research approach. By being transparent about our approach and climate-related activities, we can demonstrate our commitment to, and progress towards, achieving real change. It also helps us communicate honestly about the challenges of developing a responsible investment service tailored to the diverse needs and values of our clients.

We benchmark our performance against industry peers through involvement in several public ratings, including both CDP (previously known as the carbon disclosure project) and the United Nations backed Principles for Responsible Investment (PRI) annual reporting cycle. Our 2021 CDP score of a C reflects the fact that we had not set our net zero-aligned targets in 2020 (the year which the response covers) but these will be included in our next submission. We are proud to have achieved an A+ rating in the PRI strategy and governance module since 2018. We also:

- publish an annual responsible investment report
- share our group climate statement
- include a responsible investment section in our annual report and accounts and responsible business report
- share live and interactive voting decisions on our website
- publish regular thought leadership articles and host events on responsible investing.

Transparency and collaboration

We know that, to deliver the required scale of change and achieve success, we need to join likeminded organisations. We are proud to be active members of the PRI, the International Investors Group on Climate Change (IIGCC), Climate Action 100+ and the Net Zero Asset Managers initiative. In 2021, we collaborated on several climate-related engagements, see page 22 for an example. Our responsible investment report shares more of our engagements across several matters, including climate change.

We made progress in two major areas in 2021, in making our voting record at Rathbones Investment Management public, and in our bespoke reporting on responsible investment and stewardship issues. To read more about this see our website and responsible investment report.

The Net Zero Asset Managers initiative

Metrics and targets

Recommendation 9: Metrics used by Rathbones to assess climate-related risks and opportunities in line with its strategy and risk management process

We use several metrics to measure the progress of our net zero journey, including carbon emissions and GHG intensity indicators. In 2021, we took to steps to assess our environmental impact focusing not only on our operations but also our supply chain and our investments. Building on our streamlined energy and carbon reporting (SECR) compliance disclosure in our annual report and accounts we have expanded our boundaries to include our exposure through our supply chain and through the investments we hold on behalf of our clients. In addition to our operational metrics we use a selection of other metrics to inform our climate risk and engagement strategy. A summary table of these can be found in the appendix.

Recommendation 10: Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks

To achieve our targets, we have included direct operational emissions, alongside those linked to suppliers and client investments. Using 2020 as a baseline year, we will work to achieve a 42% reduction in operational and supply chain emissions by 2030, with 57% of the investments held on behalf of our clients having committed to or having set a target by 2030. This is in line with our objective of achieving 100% investment coverage by 2040. Delivering on this will see us build on the 81% reduction in operational carbon intensity per full-time employee since 2013 and complete the transition of our offices to renewable energy sources by the end of 2025. This will help us meet our 2025 internal target of a 21% reduction across our Scope 1 and 2, and operational Scope 3 emissions.

We monitor our carbon footprint and our 2021 disclosure can be found below. For our full streamlined energy and carbon reporting (SECR) disclosure please see our annual report and accounts, p60.

Our carbon footprint

Our operational footprint

Our commitment to reducing our environmental impact is not new. At Rathbones, we are committed to reducing the environmental footprint of our facilities and strengthening our sustainability culture by integrating further sustainable practices throughout the company. Across our business operations, we have committed to improving our performance in key areas, such as energy efficiency, emissions reduction, and waste. From our previous baseline of 2013 our operational footprint has reduced by 55% in absolute emissions and by 81% by carbon intensity per FTE.

Given our objective, we need to consider our fixed infrastructure, particularly the buildings from which we operate. Our 15 leased offices range from historic buildings with single glazing to modern developments with high BREEAM ratings (a leading sustainability assessment). Our aim is to move our offices up the BREEAM scale by taking possession of energy and space efficient buildings, as we have in Edinburgh in 2021, and by working with our landlords and fellow tenants to improve existing workplaces where possible. Progress is being made. Thanks to our 'Path to Green' programme over 82% of our purchased electricity is renewable.

We continue to invest in IT technology, people and process. Our target is to reduce manual and paper-based processes and enhance our digital offerings to both our employees and clients. 2022 will see a significant reduction in utilised datacentre capacity due to consolidation and decommissioning exercises. Further utilisation of cloud computing features mean we can now scale up and down the services needed thereby saving energy, cost and effort when not in use. In terms of energy consumption and waste generation, moving our network to the cloud in 2022 will reduce our annual energy requirements by 10-20%.

Our 2021 emissions reduction were driven in the main by both a reduction in our purchased electricity and a reduction in travel, linked to COVID restrictions.

Our emissions disclosed inline with the Streamlined Energy and Carbon reporting boundaries [22]

For our detailed SECR disclosure please see page 80 of our annual report and accounts.

	2021[23]	2020[24]	2019
Scope 1 emissions	411	344	322
Scope 2 emissions	368	461	657
Scope 3 emissions	391	462	1,112
Total emissions (tCO_2e)	1,170	1,267	2,091

[22] Emissions withn our SECR disclosure are calculated by Avieco see our responsible business report page 36 for their opinion statement

[23] Our 2021 figures do not include Saunderson House data. We will work through 2022 to integrate their data into our footprint going forward

[24] Total emissions reported in 2020 have been restated from 1,123 to 1,267 tCO_2e due to increased availability of actual data for the reporting year. This has increased our accuracy of reporting. In most cases the change is small, but for natural gas it is substantial. This is related to natural gas usage at our London office where the ventilation system was used continually throughout 2020 with heating used to compensate. As a result the figures are significantly higher than estimates used

Carbon intensity based on SECR boundaries

	Denominator	2021	2020	2019
Carbon intensity	tCO_2e/FUMA £bn	18.51	23.16	41.50
Carbon intensity	tCO_2e/£m operating income	2.72	3.46	6.01
Carbon intensity	tCO_2e/FTE	0.65	0.80	1.38

In 2021, we expanded our boundaries to include additional Scope 3 categories including our supply chain. The table below displays our complete Scope 3 emissions inventory showing that our supply chain (Scope 3, categories one and two) has a material impact on our footprint.

Categorisation	Breakdown	2021 emissions (tCO_2e)[23]	2020 emissions (tCO_2e)[24]	% change
Scope 1	Natural gas and refrigerants	411	344	19.48
Scope 2	Purchased electricity	368	461	-20.17
Scope 3 - cat 1	Purchased goods and services[25]	22,623	17,730	27.60
Scope 3 - cat 2	Capital goods	30	428	-92.99
Scope 3 - cat 3	Fuel and energy- related activities[26]	203	151	34.44
Scope 3 - cat 4	Upstream transportation and distribution	49	46	6.25
Scope 3 - cat 5	Waste generated in operations	4	4	0.00
Scope 3 - cat 6	Business travel	194	259	-25.10
Scope 3 - cat 7	Employee commuting[27]	1091	945	15.45
Scope 3 - cat 8	Upstream leased assets[28]	99	108	-8.33
Total all scopes[29]		**25,072**	**20,475**	**22.45**

	Denominator	2021[23]	2020[24]	% change
Carbon intensity	tCO_2e/FUMA £bn	396.71	374.31	5.98
Carbon intensity	tCO_2e/£m operating income	57.52	55.93	2.85
Carbon intensity	tCO_2e/FTE	14.01	12.89	8.69

[25] Includes paper purchased
[26] This includes both transmission and distribution and well-to-tank. Electricity transmission and distribution (T&D) reflects emissions from line losses associated with electricity transmission and distribution
[27] This emission category includes the impact of our employees working from home
[28] Data centre emissions are reported as Scope 3, as per the WRI GHG Protocol

In 2021 we saw an increase in both absolute and intensity metrics. The increase was driven by several factors including:

- a top up of refrigerants at our London office
- an almost 28% increase in our category two supply chain emissions driven by
  - investment in our change and transformation programme
  - a full year of employee working from home emissions, up from nine months in 2020
  - alongside the running of offices in a COVID safe way.

Our category three emissions also increased as we include well-to-tank alongside our transmission and distribution emissions. As we continue to calculate our broader footprint we will work to understand the levers and opportunities through which we can reduce our environmental impact. As we return to the office, we will also track expected increases (e.g. business travel) and work to manage these.

Our investment metrics

	2021	2020	2019
Climate resilient FUM[29]	£2.3bn	£1.9bn	£1.6bn
Number of investment managers and directors who have completed the CISI Sustainable and Responsible Investment Professional Assessment	221	-	-
Investment stewardship team size	4	3	2
Total investment stewardship engagements	705	201	83
Climate-related voting action taken	14	5	-
Percentage of our securities which have set or have committed to setting SBTi aligned net zero targets (portfolio coverage)[30]	17%	13%	-

Other indicators

	2021	2020	2019
CDP climate score	C	B	B-
PRI rating – Strategy and governance	A+	A+	A+

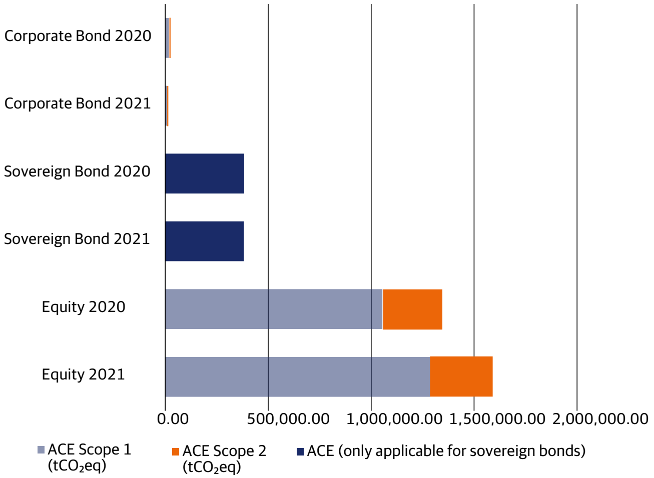
While we do not currently provide a footprint report for all our portfolios, Rathbone Greenbank Investments publishes the footprint of its equity holdings in line with its commitment to the Montreal Pledge (see the Greenbank website). This analysis covers 97% of the equity part of the Greenbank investment portfolios, which itself accounts for 37% of their total assets under management. Greenbank continues to work on increasing the scope of coverage by also including fixed-income investments and managed funds, using a weighted average carbon intensity method rather than share ownership. This measures a portfolio's exposure to carbon-intensive companies based on CO_2 emissions per million pounds of sales, adjusted according to each holding's weighting within a portfolio.

[29] Greenbank FUM is referenced
[30] Based on the total sum of FUMA which is in scope for portfolio coverage 93% in 2021 (92% in 2020)

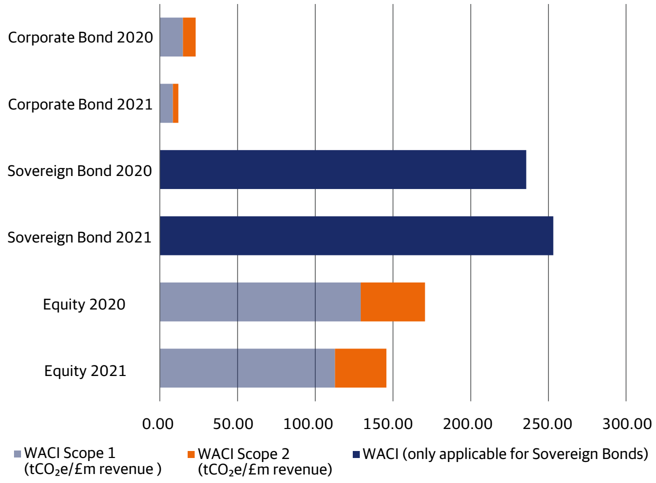
For our investment data (Scope 3, category 15) we have used a number of data sources (please the appendix for more information). Our SBTi alignment and carbon intensity metrics were calculated with EcoAct, an independent consultant.

The data below covered our equities (listed and unlisted), bonds (listed and unlisted) and sovereign bonds. At this time not all companies provide emissions data, therefore our current security coverage is approximately 45% and includes all relevant emissions from the asset classes that have been covered. EcoAct has undertaken the calculation for our clients' investments under management for FY2020 and 2021. All calculations were carried out with EcoAct's proprietary tool ClimFit, using the guidelines and methodology of PCAF. The coverage is calculated based on outstanding amount of the asset classes included in ClimFIT by the total outstanding amount of Rathbones securities. All relevant financial information for equities and bonds (such as Enterprise Value, Revenues etc.) were sourced from FactSet. For sovereign bonds economic values were obtained from public sources such as the OECD and the World Bank among others. All emissions data for equities and bonds were sourced from the CDP database. For sovereign bonds emissions data were sourced from public sources such as the UNCC.

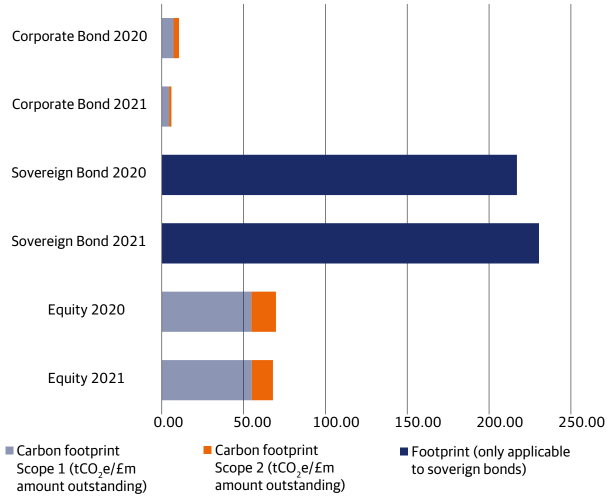
Absolute carbon emissions (ACE)[31]



Weighted average carbon intensity (WACI)[32]



Carbon footprint[33]



31 The value represents the Absolute Carbon Emissions (ACE) of Rathbones portfolio under management for the FY2020 (1 January 2020 – 31 December 2020). The coverage for the reported ACE value represents approximately 45% of Rathbones portfolio and only the associated emissions for equities, sovereign bonds and corporate bonds were included. The asset classes that were excluded from the calculations were collectives, ETFs and other structured products. These asset classes were excluded due to limitations regarding the availability of financial data (e.g. Enterprise Value) which are required for the estimation of attribution factors. Rathbones will work in the following years to increase its portfolio coverage

32 Weighted Average Carbon Intensity (WACI) measures a portfolio exposure to carbon intensive companies. It is calculated as the sum of each portfolio consituent's weight in the index multiplied by its carbon intensity. It is expressed in tCO_2e per £ revenue. This excluded Scope 3 emissions

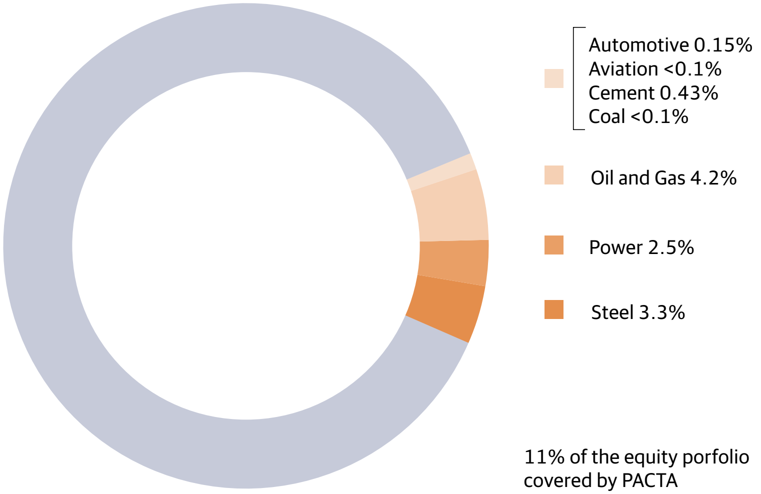
33 Carbon footprint measures the total absolute carbon emissions of a portfolio per amount invested. It is expressed in tCO_2e per £ outstanding amount

Paris agreement capital transition assessment (PACTA)

To increase our understanding and get a granular view of the alignment of our holdings by sector and related technologies we used the PACTA tool developed by 2° Investing Initiative (2DII). The alignment analysis is based on forward-looking asset-level data in the following nine key climate relevant sectors: power, oil and gas, coal mining, automotive, shipping, aviation, cement, steel, and heavy-duty vehicles. Together, these sectors account for around 75% of global CO_2 emissions. This data is mapped to financial and ownership data and compared to climate scenarios that provide low-carbon energy transition roadmaps at technology level. While other sectors like agriculture, forestry, aluminium, paper and glass are also climate relevant, there is a lack of asset or scenario level data and they are therefore not included in the analysis. By defining sector-specific indicators and relying on asset-level data, the PACTA approach gives an insight into the possible transition pathways companies could make and how investors can help them follow these pathways.

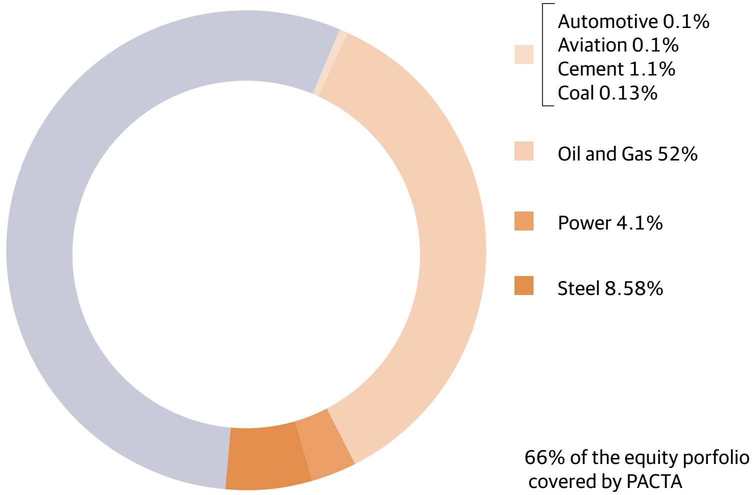
Although only 11% of listed equities held on belahf of our clients in climate-relevant sectors covered by PACTA, these are responsible for 66% of the CO_2 emissions associated with our clients' investment holdings. This emphasizes the importance of the sectors covered by the methodology in terms of climate relevance. Other asset classes were either not included in the PACTA analysis or our exposure to climate-relevant sectors covered by PACTA is too low.

Listed equity: Financial exposure to climate relevant sectors



Source: PACTA

Listed equity: Emissions exposure from climate relevant sectors



Source: PACTA

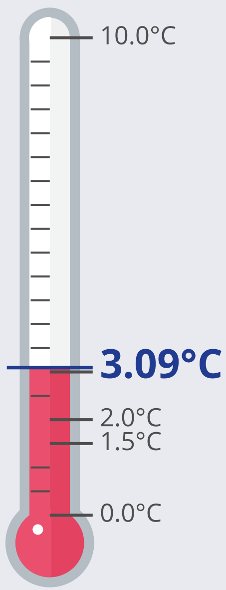
The PACTA analysis shows whether the technology-specific build-out plans of investments held on behalf of clients are in line with technology roadmaps outlined in energy transition scenarios. It has drawn our attention to a particular group of companies in the power and automotive sectors and will be an additional tool to inform investment risk management and engagement strategies.

Our portfolio warming potential

We have used MSCI's "warming potential" methodology to calculate the contribution the investments we make on behalf of our clients have towards climate change. Covering Scope 1, 2 and 3 emissions and considering the impact of cooling the aggregated warming potential allows comparability between companies. The values assigned to companies range from 1.3°C to 10°C. The graphic below shows that our clients' total equity exposure, which is equivalent to 39% of the 2021 total investments held on behalf of our clients, currently aligns with a 3.09°C increase in global temperature. Through the integration of climate data in our investment approach we will work to bring our warming potential in alignment with our commitment of 1.5°C above pre-industrial levels.

Aggregated warming potential temperature gauge with company targets

The temperature gauge below illustrates the company's aggregated warming potential with the decarbonisation target taken into account, marked in blue



Recommendation 11: Targets used by Rathbones to manage climate-related risks and opportunities and performance against targets

Alongside our interim results in July 2021, we announced a group-wide commitment to achieving a transition to net zero by 2050 or sooner. In October, we shared our interim targets for the reduction of our Scope 1, 2 and 3 emissions. These were set in alignment with the Science Based Targets initiative (SBTi) as part of our efforts to reduce greenhouse gas emissions and limit global warming to 1.5°C above pre-industrial levels. We have included direct operational emissions, alongside those linked to suppliers and client investments.

Setting 2020 as a baseline year, we will work to achieve a 42% absolute reduction in operational and supply chain emissions by 2030, in conjunction with 57% of underlying holdings to commit to or set an SBTi aligned target by 2030. This is in line with group's objective of achieving 100% investment coverage by 2040.

Delivering on this will see us build on the 81% reduction in operational carbon intensity per full-time employee since 2013 and complete the transition of our offices to renewable energy sources by the end of 2025. This will aid us in meeting the 2025 internal target of a 21% reduction across our Scope 1 and 2, and operational Scope 3 emissions. As with all commitments made through the SBTi we will undergo verification of our targets.

In addition to the group commitment, Rathbone Greenbank Investments (Greenbank), Rathbones' specialist ethical, sustainable and impact investment arm, has detailed its plan to become a net zero emissions business by 2040. This commitment covers emissions associated with its operations, supply chain and client investments.

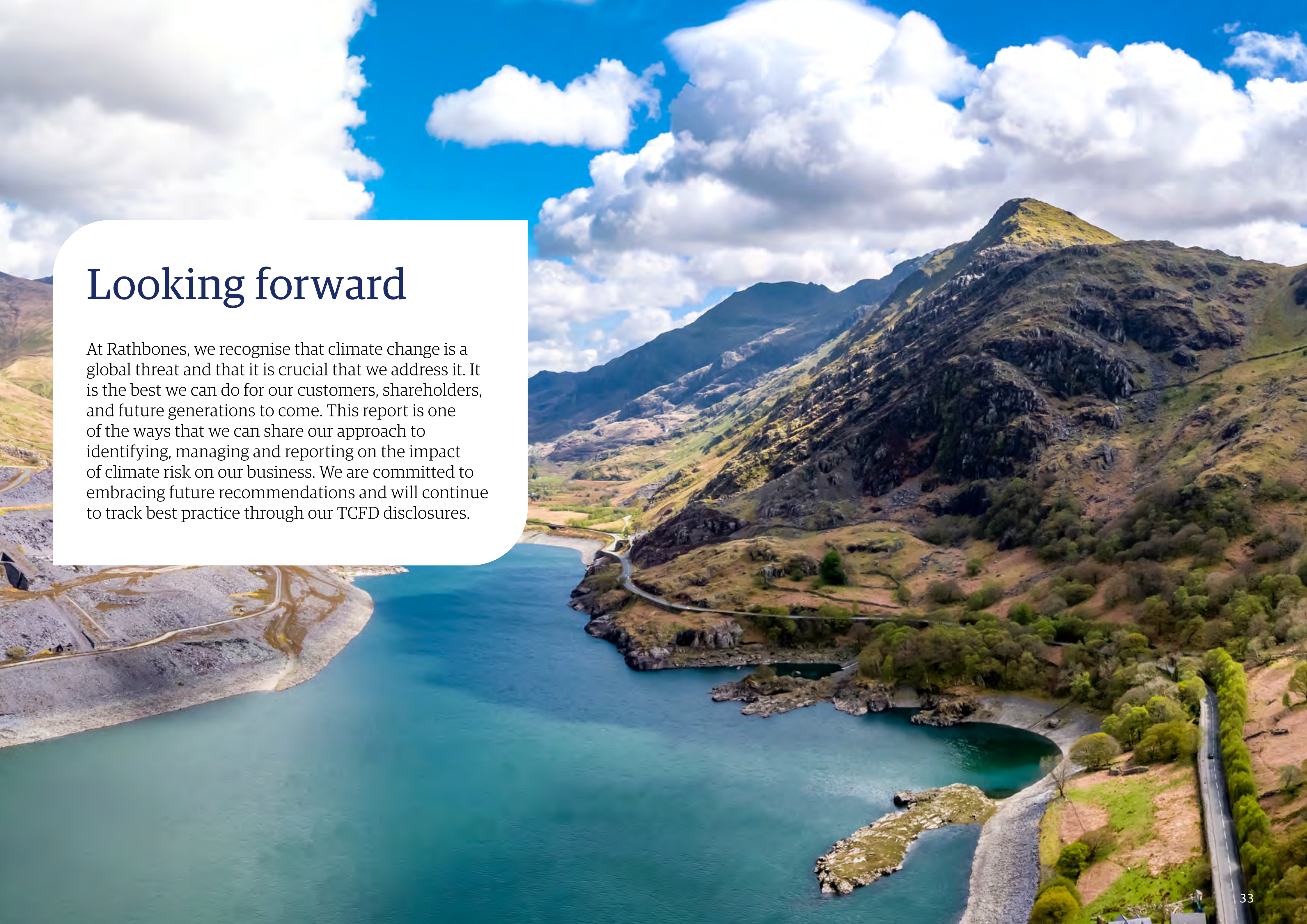
Greenbank's net zero emissions plan includes:

- a cut of 60% in the carbon intensity of its investments by 2030, with 2020 as a baseline year
- a continuation of its long-standing strategic engagement programme to encourage corporate action on climate change and drive alignment to net zero emissions
- a commitment to reach net zero carbon emissions from its own operations and supply chain by 2030, in line with the group, using the Science-Based Targets Initiative (SBTi) framework, an internationally recognised methodology.

Greenbank has followed the Net Zero Investment Framework (NZIF) to set targets covering the investments it manages. Since November 2019, Greenbank has worked alongside over 70 other investors, representing $32 trillion in assets under management, as part of the Paris Aligned Investment Initiative to develop the NZIF. The NZIF is a strategic framework which asset owners and managers can use to maximise their contribution towards net zero emissions.

Greenbank also disclosed its net zero strategy to the Net Zero Asset Managers Initiative in October 2021, to which it has been a signatory since March 2021. In November 2021 the group joined Greenbank as an NZAMi signatory.

As part of meeting our commitment, we are reviewing our approach to carbon removal. As in previous years, we will purchase credits to cover our operational footprint (excluding our supply chain impact) and these will be transitioned to nature-based solutions. Our approach to offsetting also guides us by offering a price for carbon which we use as a guide. We continue to work with Natural Capital Partners and ClimateCare to support our approach. In 2020 our price for credits was just over £5 per tonne of carbon. We recognise that the demand for projects and recognition of the need for credits offering additionality this will drive a market wide increase. This is reflected in our 2021 price of £18 per tonne of carbon.



Looking forward

At Rathbones, we recognise that climate change is a global threat and that it is crucial that we address it. It is the best we can do for our customers, shareholders, and future generations to come. This report is one of the ways that we can share our approach to identifying, managing and reporting on the impact of climate risk on our business. We are committed to embracing future recommendations and will continue to track best practice through our TCFD disclosures.

We will continue to embed our climate change strategy in all areas of our business as we work to achieve our net zero commitment. Alongside reviewing our governance structures we will deliver initiatives focused on:

- continued integration of climate data into our investment approach
- increased disclosure of climate factors in client reporting
- involvement in industry-wide initiatives to help close the recognised data gap across less covered asset classes
- active engagement with our clients' most material investments to support the transition to a net zero economy by setting and progressing against robust science-based targets
- focused training for those employees who have direct exposure to the management of climate risks
- achieving verification of our net zero near-term targets through the SBTi
- publishing our fossil fuel policy
- increasing our investment-based climate metrics
- sharing our plan for net zero alignment

We recognise that the transition to a net zero economy will take time and we continue to evolve as more information becomes available. We are prepared for and committed to working towards a better future, believing that we have both an obligation and an opportunity to contribute to this global challenge.

For more information on our climate change-related activity and wider responsible business efforts please refer to:

Responsible business report
Responsible investment report
Responsible investment webpages
Rathbones group engagement plan
Rathbones investment management voting policy
Group climate change statement
PRI profile
CDP submission

Appendix

Metric	Definition	Asset class / boundaries	Risk physical / transition)	Scope (for 2021 excludes Saunderson House)	Data provider
Climate Value at Risk	Providing a forward-looking and return-based valuation assessment to measure climate related risks and opportunities in our investment holdings	Equity	Physical and transition	Assets held on behalf of our clients	MSCI
Weighted average carbon intensity	Measured in (tCO_2e/£m sales), this assesses the sensitivity of our held securities to an increase in carbon prices and our progress towards the Paris Agreement target	Equity	Transition	Assets held on behalf of our clients	MSCI EcoAct
Exposure to climate relevant sectors	Total holdings of assets in the following nine key climate relevant sectors: power, oil and gas, coal mining, automotive, shipping, aviation, cement, steel, and heavy-duty vehicles	Equity	Physical and transition	Assets held on behalf of our clients	PACTA
Investment in climate resilient funds	Greenbank funds under management and administration (FUMA)	Greenbank	Transition	Greenbank held client portfolios	Internal
Portfolio warming potential	The contribution of a company's activities towards climate change and alignment with the Paris Agreed Target	Equity	Transition	Assets held on behalf of our clients	MSCI
Portfolio coverage	The percentage of securities that have set or have committed to setting Science Based Targets initiative aligned net zero targets	Group funds under management	Physical and transition	Assets held on behalf of our clients	EcoAct SBTi
Absolute operational carbon emissions	Our operational carbon emissions in tCO_2e	Operational carbon emissions	Transition	Rathbones operations	DEFRA Avieco EcoAct
Carbon intensity metrics	Our operational carbon emissions, normalised by an associated denominator e.g. FUM, FTE or operating income	Operational carbon emissions	Transition	Rathbones operations	DEFRA Avieco EcoAct Internal
Net zero aligned targets	The targets we have set using the methodologies laid out by the Science Based Targets Initiative. Covering our Scope 1, 2 and Scope 3 category 1-8 and 15 emissions.	Scope 1, 2 and 3 (category 1-8) emissions and Scope 3 category 15 emissions including our client holdings through common stock, corporate bonds, exchange traded funds, corporate loan, investments in real estate, preferred stock, REIT, private equity and debt	Physical and transition	Assets held on behalf of our clients held funds	Science based targets initiative
PRI	Score for the strategy and governance section of PRI report	Group funds under management	Physical and transition	Group-level disclosure	Internal
CDP	Score for our climate change submission	Historically we reported on our emissions in line with the boundaries set by the Streamlined Energy and Carbon Reporting policy. From 2022 our submission will include our expanded data disclosure based on 2021 emissions	Physical and transition	Group-level disclosure	Internal Avieco

Additional information on climate scenario analysis

Climate Value-at-Risk

The Climate Value-at-Risk (Climate VaR) model includes the financial impact of transition risks and opportunities. This covers the projected costs of policy action related to limiting greenhouse gas emissions and projected profits from green revenues arising from developing new technologies and patents. The impact of transition risk is based on a range of socio-economic pathways and output from several Integrated Assessment Models. MSCI's Climate VaR uses a range of different transition scenarios, which are differentiated by (among other factors) temperature targets by 2100 and the "pathways" to achieve such temperature targets.

The Climate VaR also accounts for green revenues: for each company, we identify how much revenues future green technologies developments by 2030 will generate for the company, using company level patent databases to estimate future revenue flows from green and low carbon technologies. While certainly not the only factor to be considered to estimate future green revenues, a statistically relevant correlation has been established between green patents and green revenues.

The Transition VaR enables the potential business impacts of future climate-related risks and opportunities to be assessed in different IPCC scenarios and in aggregate as well as providing an indication of the resilience of our strategy. MSCI calculates the impact of transition based on a range of Integrated Assessment Models (IAMs) of different combinations of Shared Socioeconomic Pathways (SSPs) and temperature changes.

Transition Value-at-Rsk building blocks

Transition risk and opportunities

Policy risk

- Cost of emission reduction requirements (Scope 1)
- Electricity pass-through cost model (Scope 2)
- Value chain impact (Scope 3)

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Technology opportunities

- Clean tech revenues
- Patents deliver insights into R&D investments
- 95 million patents assessed

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Transition climate VaR

Fifteen Scenarios based on

- Integrated Assessment Models (IAMs): AIM-CGE, IMAGE,GAM, REMIND
- Socio-Economic Pathways SSP1,SSP2, SSP4 and SSP5

Source: MSCI, https://content.naic.org/sites/default/files/call_materials/Climate%20Disclosure%20Workstream%20Materials_7.pdf

The Climate VaR also captures the financial impact of physical risks from extreme weather (e.g. flood, windstorm and tropical cyclones) and chronic effects (e.g. heat and cold, heavy precipitation and snowfall or wind gusts), although we recognise that the most extreme physical effects will only be felt in the second half of the century.

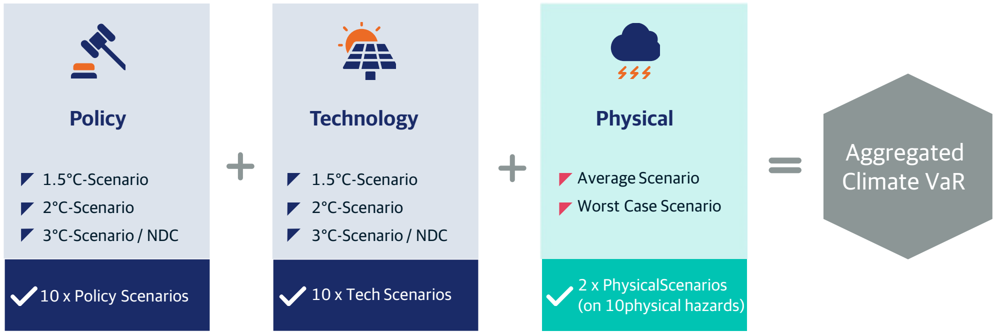
The physical risk analysis considers two scenarios: average and aggressive physical risk. In order to assess the potential cost imposed by physical risk, the methodology models the probability distribution of the annual cost from weather extremes for assets at any given location in a BaU world (RCP 8.5 scenario where no action is taken to reduce emissions). The average scenario refers to the expected value of the cost distribution under BaU. The aggressive scenario is derived from the 95th percentile of the cost distribution for BaU and explores the extreme potential outcomes of a climate scenario. The RCP 8.5 (a high physical risk scenario associated with a 4°C temperature rise) is a popular scenario benchmark choice and can be useful as a baseline against which to assess the impact of other scenarios, such as those with lower physical risk and/or higher transition risk.

The Climate Value-at-Risk measurement is a weighted aggregation of each securities' Climate VaR. The percentages in the information on page 16 represents the present value of the aggregated future policy risk costs, technology opportunity profits, and extreme weather event costs and profits expressed as a percentage of the portfolio's market value should the scenario in question be realised.

The MSCI climate Value-at-Risk building blocks

Transition risks and opportunities

Physical risks and opportunities



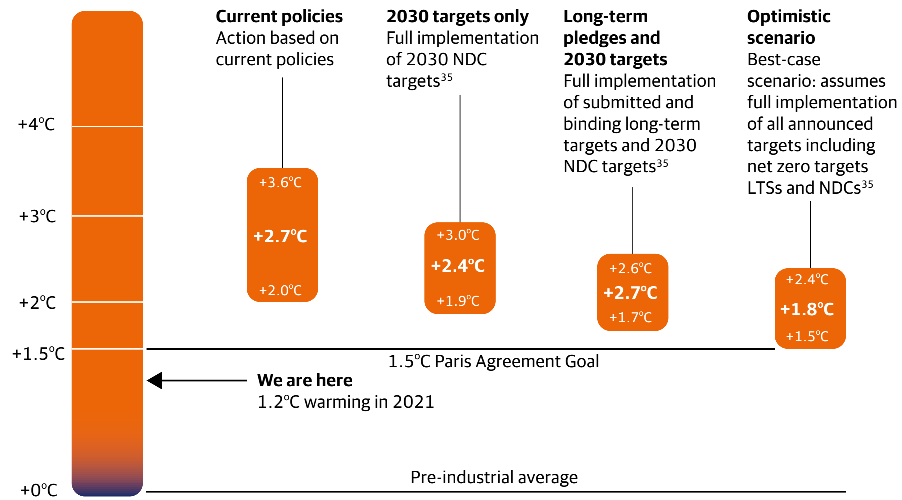
Source: MSCI, https://content.naic.org/sites/default/files/call_materials/Climate%20Disclosure%20Workstream%20Materials_7.pdf

Limitations of scenario analysis

Scenario analysis is a useful forward-looking tool for understanding the implications of climate change for our business, challenge our assumptions about the future and prompt longer term strategic thinking. However, we must bear in mind the limitations of this exercise:

1. Given the level of uncertainty and lack of clarity of underlying assumptions in some of the third-party tools, scenario analysis must be approached with care. While we will continue to use Climate Value-at-Risk or implied temperature increase outputs from some tools we use, given the degree of uncertainty embedded, we see it as just one element of the story that is complemented by a deep fundamental analysis of trends and scenarios to achieve a full understanding of companies and their underlying progress.
2. While the scenarios reflect current scientific research, there clearly remains significant uncertainty regarding future climate trajectories as well as political risk with respect to implementation of the Paris Agreement and Nationally Determined Contributions (NDCs)[34]. Further, many commonly used climate scenarios assume a gradual path, in which temperatures slowly rise and climate policy is ramped up with a high degree of global co-ordination. This is the case for all four RCP scenarios identified in the IPCC fifth assessment report (AR5). They do not consider the transition risk in a more chaotic policy environment, where there is lack of global co-ordination and policy action is taken too late and too suddenly. It is also the case that many of the socio-ecological benefits and the reduced risk of reaching climate tipping points in a 1.5°C scenario are not captured in this analysis. As a result, the level of risk that result from scenario analysis exercises is underestimated.

Global temperature secenarios by 2100



Source: Based on the Climate Action Tracker https://www.weforum.org

[34] https://www.weforum.org/reports/global-risks-report-2022/in-full/chapter-2-degrees-of-disorderly-climate-transition

[35] Nationally determined contributions (NDCs) are non-binding national plans for climate action, including targets for GHG emissions reductions. Long-term strategies (LTSs) are national mid-century developement plans for confronting climate change. If 2030 NDC targets are weaker than projcected emissions levels uder current policies. then current policies are used here.

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