nikko am
Nikko Asset Management

YOUR GOALS,
OUR COMMITMENT.

Task Force on Climate-related Financial Disclosures

2023

Information for New Zealand readers:
Please note that a separate climate report for Nikko Asset Management New Zealand Limited (Nikko AM NZ) will be published at the end of July 2024. Nikko AM NZ is not currently included in the group targets set out in this report.

Contents

Foreword

With both 2022 and 2023 characterised by extreme weather, we are already witnessing the widespread effects that climate change is having on our environment. At Nikko Asset Management (Nikko AM), we are acutely aware of Asia's crucial role in fighting climate change. Headquartered in Japan and with significant investments across Asia, we are committed to using our voice and influence to accelerate the transition to a low-carbon society. We do this by engaging not only with our companies, but also with other key stakeholders such as regulators.

When we look back to 2022, we see it as a year of acceleration and expansion of our sustainable investment efforts, including on climate change. As part of our membership of the Net Zero Asset Managers initiative (NZAMi), we set an initial emission-reduction target for greenhouse gases. We committed to reducing emissions by 50% by 2030 (from 2019 levels) for 43% of total group assets under management. We were also pleased to have met the high standards of stewardship set by the UK Stewardship Code, of which we became a signatory in 2022 and again in 2023.

There were also many regional improvements and developments. Our Global Equity Team, for example, now contacts investee companies to ensure that they recognise our obligations as signatories to NZAMi and to encourage them to provide carbon-emission disclosures. We also want to ensure that we understand their emission-reduction strategies and that their targets are in line with the Paris Agreement. Meanwhile, Nikko AM Asia has developed an environmental risk policy, and carbon metrics are now fully integrated into our risk management. We are looking to expand this process to other regions in which Nikko AM operates.

We invested substantially in our sustainable investment capabilities in 2022. This culminated in the development of our Global Sustainable Investment Team. This new team significantly expands the resources we commit to sustainability. Indeed, we doubled the number of people devoted to sustainability in less than 18 months — and this expansion continued in 2023.

Also in 2023, we committed to improving and standardising the monitoring of climate-change risks in our portfolios and to improving our disclosures across key asset classes and regions. These efforts led to this enhanced TCFD report. The enhancements include a significant expansion of the scope of assets under management covered; the addition of climate scenario analysis; extended details on the identification, management, and governance of climate-change risk; and a standardised approach to climate metrics.

But analysing climate risks and opportunities in our portfolios is not new to us. We have been incorporating carbon metrics in our active strategies for many years now, and we find a lot of value in measuring climate risks from the bottom up. In 2023, however, we embarked for the first time on a detailed, top-down climate scenario analysis. Although we recognise the importance of climate scenarios, we also acknowledge the level of complexity involved and the current limitations of this approach, as we outline in this report. We are committed to evolving our models and disclosures in the coming years to ensure that we can continue to combine a top-down approach with our bottom-up analysis.

Faced with the enormous and urgent task of reshaping the future, we need all hands on deck as we navigate the transition to a low-carbon economy. So we continue to build our capabilities to ensure that we have all the dedicated expertise required to advance our decarbonisation efforts. We are well aware of the dangers of complacency: we know that we can and must do more in the years ahead.

Stefanie Drews, Group President

01
Governance

Governance

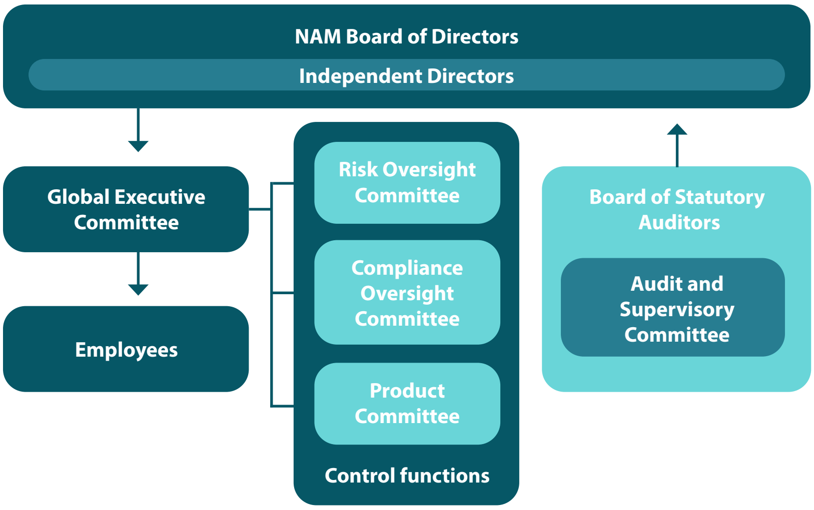
Overview of Nikko AM group governance

The Nikko AM (NAM) group and its affiliates have a presence in 11 countries/regions, with our in-house investment teams located in seven of our offices in four continents. We have a diverse workforce that includes 30 nationalities working together with the common purpose of protecting and growing the assets of our customers in a way that best meets their long-term investment goals. Together, we provide high-conviction asset management from across our global network, as well as across a range of active equity, fixed-income, and multi-asset strategies. We also have a complementary range of passive strategies, including some of Asia's largest exchange-traded funds (ETFs).

While most of our AUM and clients are based in Asia, our long-term business goal is to offer best-in-class investment solutions for clients worldwide. We implement cross-border delegation arrangements whereby the locally contracted Nikko AM group office manages business development, supported by local client-servicing teams. Portfolio management is delegated to the respective regional Nikko AM entity where the relevant investment expertise is based.

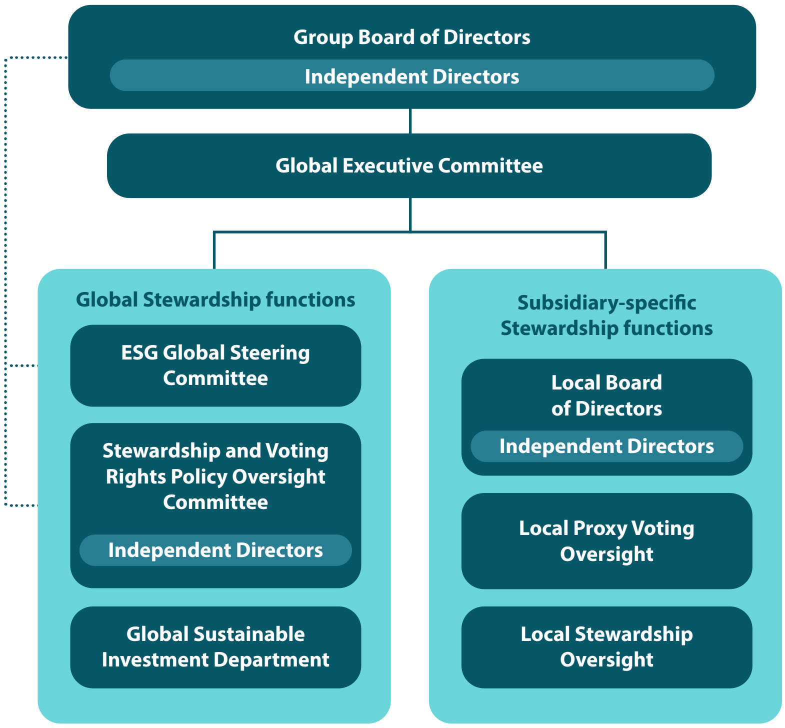
The Nikko AM Group Board delegates responsibility for day-to-day decision-making to our Global Executive Committee (GEC), comprising members of the senior management team, whose details can be found in the leadership section of our website. The charts to the right show a simplified representation of our group governance structure.

Nikko AM governance



Nikko AM Group's supervisory and governance structure includes an audit and supervisory committee. The role of the committee is to strengthen oversight and enhance our corporate governance framework.

Stewardship governance structure



Nikko AM group sustainability governance

Governance of environmental, social, and governance (ESG) activities operates at both the global and local subsidiary level. The overall oversight of our ESG activities is the responsibility of the ESG Global Steering Committee. It oversees the integration of ESG within investment teams, sets policy and develops strategy, makes external disclosures and recommends ESG-related initiatives and participation in external bodies. The Committee meets on a quarterly basis on average.

The ESG Global Steering Committee is governed by the GEC and, in addition, reports directly to the Group Board. It is chaired by the chief investment officer, and its voting members are the heads of our investment teams worldwide, who are in charge of ESG integration and oversight in their individual investment processes (including company engagement and proxy voting, where applicable).

Through these channels, the Group Board is kept informed of material climate-related risks and opportunities while day-to-day management is delegated to relevant committees and senior members of staff.

The Nikko AM group also has a dedicated Global Sustainable Investment Team that provides expertise and support on ESG matters.

This department is still expanding and is split into five functions:

1

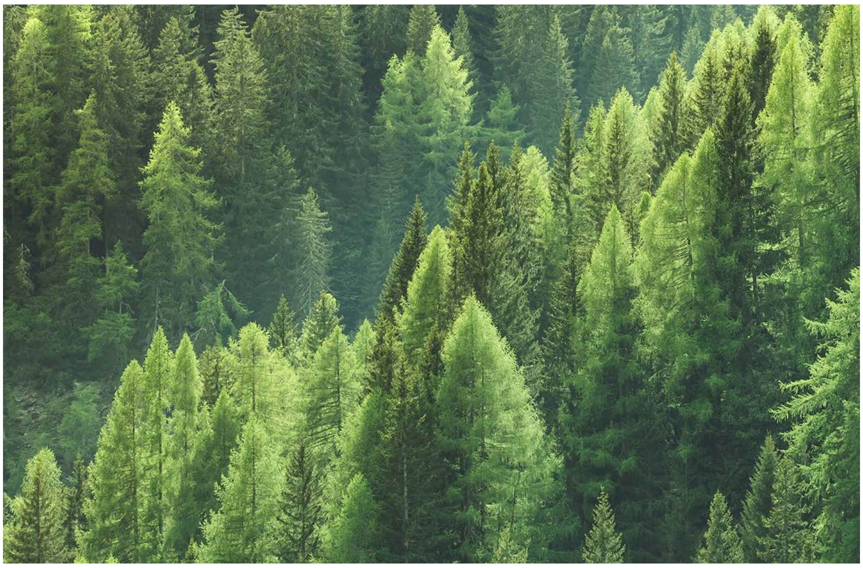
Regional ESG specialists: these are our ESG "all-rounders" who work closely with the investment teams supporting their ESG integration and stewardship efforts. They also work closely with our other functions, such as client services and product development, to ensure that we deliver the best outcomes for our clients across the entire value chain.

2

Research & integration: this function, which is still being developed, is responsible for supporting our investment teams and ESG specialists with subject matter expertise and ensuring we continuously improve our integration efforts. The function will include, for example, an environmental specialist to help us enhance our activities in this area.

3

Stewardship: this function will support and co-ordinate our firm-wide stewardship efforts. It will aim to continuously improve our stewardship activities, including engagement, proxy voting, and ESG research and respective disclosures.



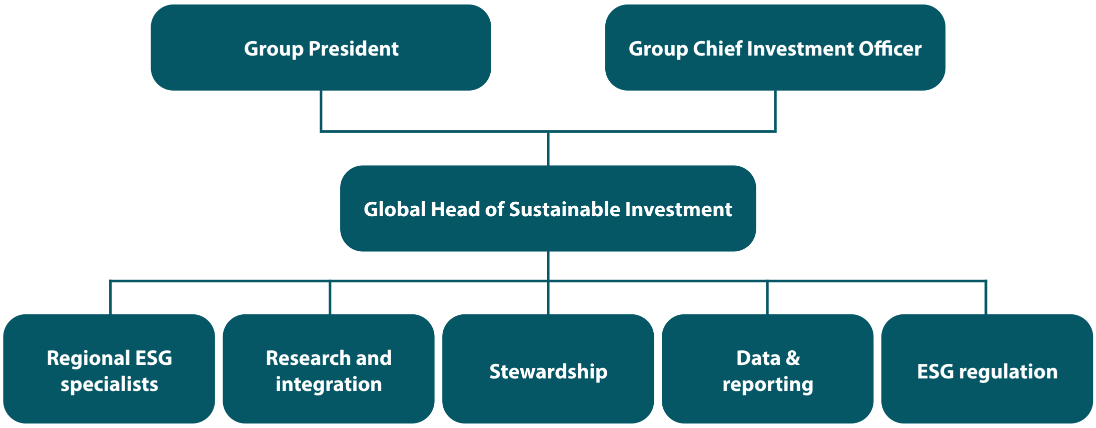
4

Data & reporting: this function is dedicated to sourcing, storing, validating and disseminating ESG data globally, as well as providing support with ESG data analytics and reporting.

5

ESG regulations: this function is responsible for identifying, assessing, determining, and supporting our approach to ESG regulations and standards globally.

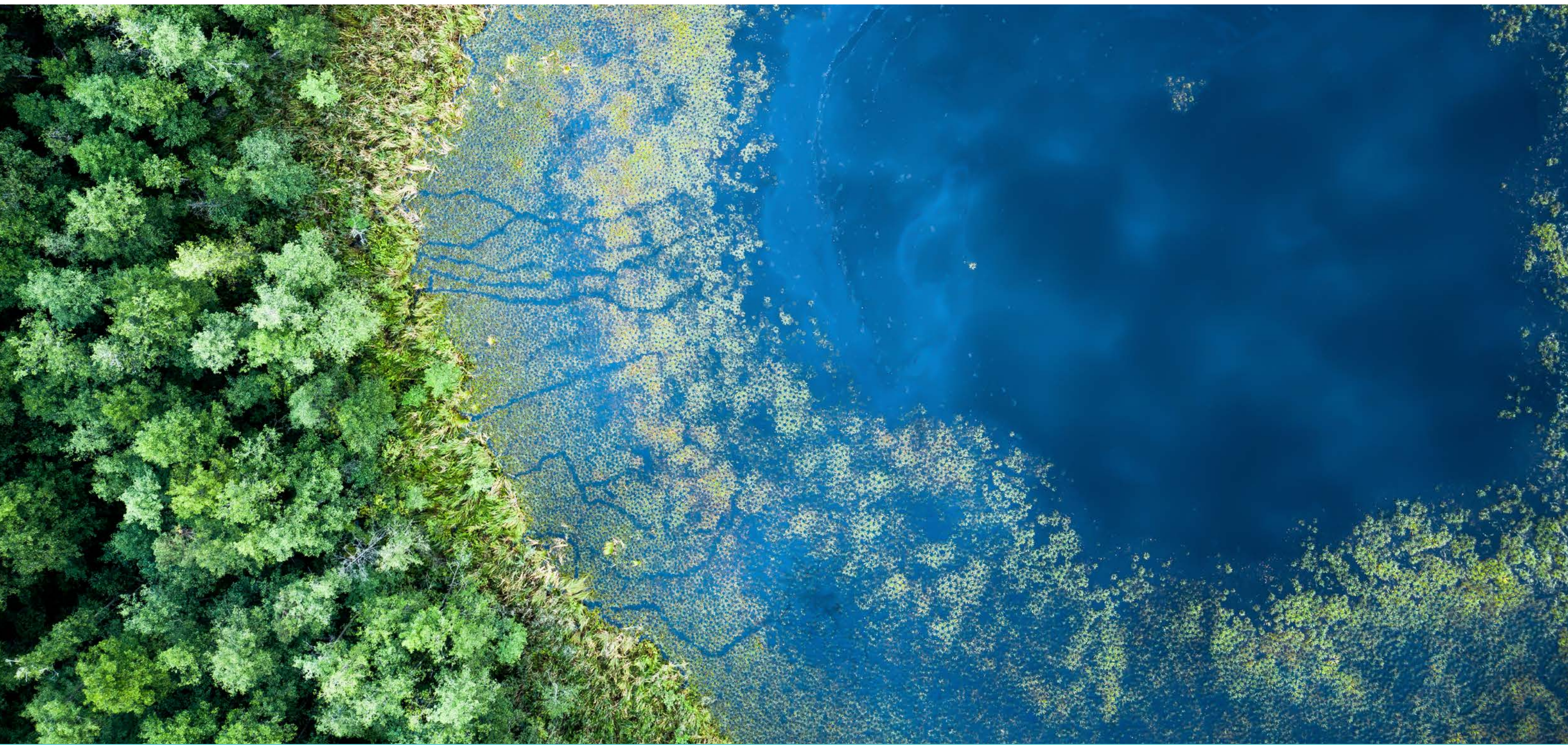
Global sustainable investment department governance structure



As part of this structure, the global head of sustainable investment reports directly to the group president and chief investment officer. This acts as another channel through which the group ensures that ESG matters have appropriate senior leadership oversight. The underlying functions of the department report directly to the global head of sustainable investment.

The core priorities of the global head of sustainable investment centre around shaping our sustainable investment strategy, building the Nikko AM group's Global Sustainable Investment Team and working closely with investment teams and other business functions in all the regions to strengthen the firm's ESG capabilities and provide insight on broader ESG topics. This mission is supported by senior leadership, who have dedicated key performance indicators (KPIs) to improve the group's management of ESG.

Members of our Global Sustainable Investment Team provide key support on the management of climate-related risks and opportunities. For example, the ESG data & reporting function is responsible for data on physical and transition risks.



Regional sustainability governance example

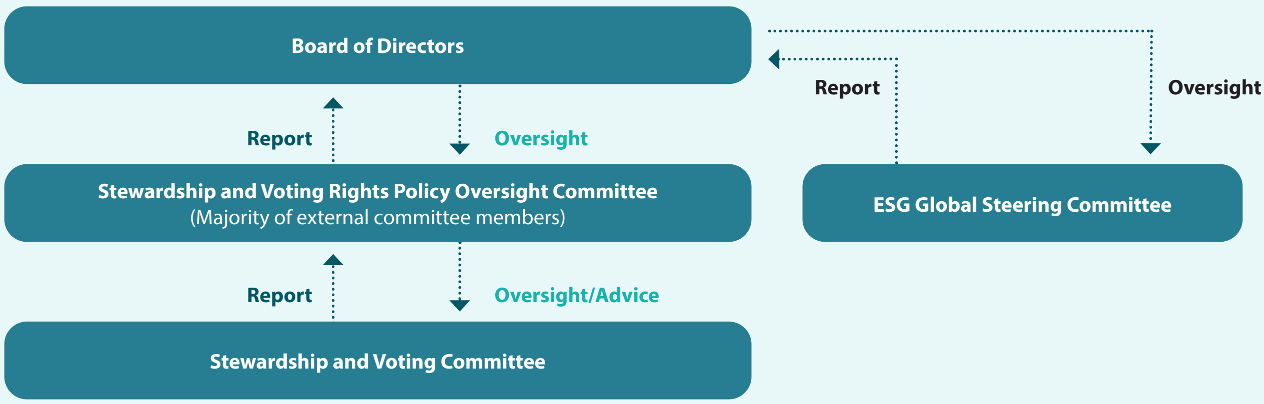
Although we have global sustainability governance to oversee group ESG matters, including climate-related risks and opportunities, we retain regional flexibility that allows each of our entities to further tailor the approach regionally, as required.

For instance, for our Japanese operations which represent the majority of the business, a great deal of resources is devoted to their governance and stewardship.

The Stewardship and Voting Rights Policy Oversight Committee monitors and supervises our engagement with Japanese investee companies and proxy voting, ensuring that both remain in line with our fiduciary and ESG principles and meet the interests of clients.

The committee was launched in 2016 as a way of enhancing the transparency of our stewardship activities and strengthening our governance. Four of the committee's seven members are from outside the Nikko AM group, making the committee highly independent. Its decisions carry weight, as it reports directly to the Group Board on matters such as the governance of our stewardship activities and conflicts of interest, ensuring, for example, that proxy votes are used in line with our Conflict of Interest Control Policy. Directly answering to the Oversight Committee is the Stewardship and Proxy Voting Committee, which is responsible for formulating stewardship policy, providing guidance on stewardship activities and updating our group proxy-voting policy, addendums to which can be applied at the subsidiary level in line with local customs and the requirements of the respective investment teams. The chart below shows a simplified representation of our group governance structure.

Oversight of proxy voting at our Japanese entity



Our Japan Sustainable Investment Department (previously known as the Active Ownership Group or AOG) was set up in 2017 to enhance the firm's ability to, firstly, make judgements on how to exercise voting rights and implement stewardship activities in our Japanese portfolios; and, secondly, conduct engagements with Japanese companies not already covered by sector analysts in actively managed portfolios. As a result, even stocks that are held only in passive portfolios are subject to engagement.

As another example, our European entities have extended their sustainability governance to enhance local board and senior-management oversight of ESG activities, risks and opportunities. For both Nikko AM Europe and Nikko AM Luxembourg, a dedicated board committee (the ESG and Stewardship Oversight Committee) has been established for two main purposes:

1. To oversee and approve all ESG & stewardship activities undertaken by the entities
2. Review and approve the entities' responses to developing ESG requirements, as well as enhancing standards of stewardship

On a quarterly basis, this committee analyses, reviews, and approves ESG and stewardship activities that include, but are not limited to, governance, policy revision, engagement, and voting activity, and responses to ESG-related regulations and standards.

02 Strategy

Strategy

Introduction and overview

As an asset manager, we recognise that a range of market-wide and systemic risks can directly affect the value of the assets that we invest in. As we are a fiduciary, one of our key responsibilities is to manage these risks to improve outcomes for our clients. So it is in our interest to support investment approaches and wider initiatives that advance this.

Nikko AM is guided by our commitment to putting clients' best interests first and placing fiduciary and ESG principles as the highest guiding themes of our corporate values and actions. This commitment is underpinned by action. For example, in 2022 we undertook a project to redefine our ESG operating model. This was driven by our new group president and culminated in the launch of our Global Sustainable Investment Team in August. The creation of this global team and the other organisational developments highlighted in this report reflect the implementation of our updated ESG strategy and our commitment to meeting high international standards on ESG.

Our policies on ESG, responsible investing, and stewardship are available on our website under the following headings: **Fiduciary and ESG Principles**, **Commitment to Responsible Investment**, **Position Statement on Climate Change**, **Sustainability Report**, **Engagement and Stewardship Strategy**, and **Stewardship Activities Report and Self-assessment**.

Our ESG ambition is backed by range of external commitments. For example, we joined the Net Zero Asset Managers Initiative (NZAMi) in 2021, and in 2022 we submitted our initial disclosures and interim climate targets. Notably, an initial 43% of our assets have been committed to be managed in line with net zero (or USD 115.68 billion[1]), with a reduction target of 50% by 2030 from 2019 baseline. We will continue to progress our net-zero commitments initiatives and link them to wider projects, such as our reporting under this framework. Our progress towards this target is described under Metrics and Targets (page 39).

We recognise climate change, with its underlying risks and opportunities, as one of the greatest challenges that the global community faces. It is an issue that will affect all sectors, albeit on different timescales and to different extents. Some impacts are indirect, such as carbon taxes affecting the companies we invest in, while others are direct, such as the impact of those (potential) carbon taxes on us as a corporate. Beyond known effects, we also acknowledge that systemic changes may arise from the increased instability of physical systems as global temperatures rise. We assess and address these impacts through two main channels:

Our investments: to understand the impacts of climate change on our investments, we use various climate-related research tools and analyses to understand and manage our exposure to transition and physical risks, as well as to climate-related opportunities. Further detail on these tools is provided later in this report.

Our operations: corporate sustainability is embedded within our organisation. We have thoroughly examined our impact on the environment and set a measurable target that holds us accountable for our emissions. Our firm-wide target, as outlined in our **Nikko AM Group Environmental Policy**, is to reduce our greenhouse gas (GHG) emissions by 40% per employee by 2030, compared with our 2019 emission levels. Our operations have been certified as carbon neutral since 2019 by Carbon Footprint Ltd, a UK-based consultant. More details can be found in our **2023 Sustainability Report** under Helping the Environment.

In the sections that follow, we will focus on how we consider climate change and its associated risks and opportunities in the investments we manage.

[1] AUM figures as of 31 December 2019, calculated as of 31 December 2021

Nikko AM's position on climate change

We recognise that climate change is one of the greatest challenges the global community faces and is a market-wide and systemic risk with implications for the financial system. Since the adaptation of the landmark Paris Agreement in 2015,[2] the world has been increasingly working towards a common goal of limiting temperature increase to well below 2°C above pre-industrial levels and pursuing efforts to limit the increase to 1.5°C above pre-industrial levels. We outline our approach to addressing climate change in our **Position Statement on Climate Change**.

We strongly believe that ESG considerations are inherent to long-term corporate value creation and contribute to the realisation of sustainable economic growth. In the light of this, we view ESG issues as an integral part of our fiduciary duty to clients and endeavour to incorporate ESG principles in all our investment processes. This includes climate-change risks and opportunities.

Nikko AM approaches climate change through three pillars:

1

In-house analytical capabilities through "ESG integration" where climate-related risks and opportunities are assessed as part of our investment processes. More details on our in-house analytical capabilities will be provided in the following pages (12–24)

2

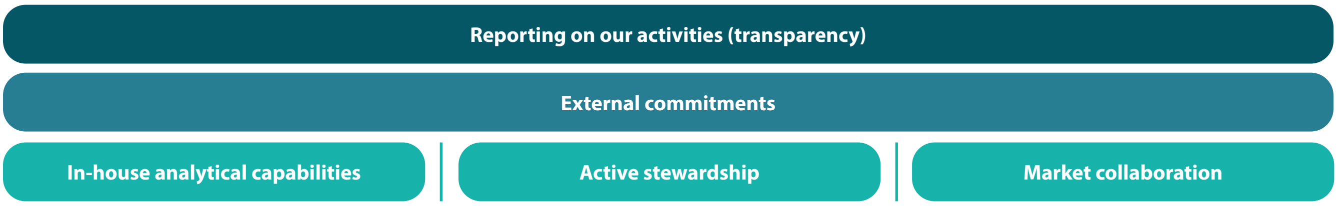
Active stewardship is inherent part of our investment processes. We believe that active dialogue and the exercising of voting rights, where appropriate, can lead to positive outcomes for our companies, our clients, and our firm

3

Market collaboration to accelerate common goals in the investment community through the participation in investor coalitions, collaborative engagements, and consultations

These three pillars underpin our external commitments, such as our goal to achieve net zero by 2050 and our interim targets. To enhance our position on climate change, we are committing to update our **Position Statement on Climate Change**. This will include more detailed plans on Nikko AM's climate transition plan. We will report on these developments in due course.

As encapsulated in our **Commitment to Responsible Investing**, we are committed to transparent disclosures, through reporting on the progress made towards our commitments and the outcomes of our investment decisions.

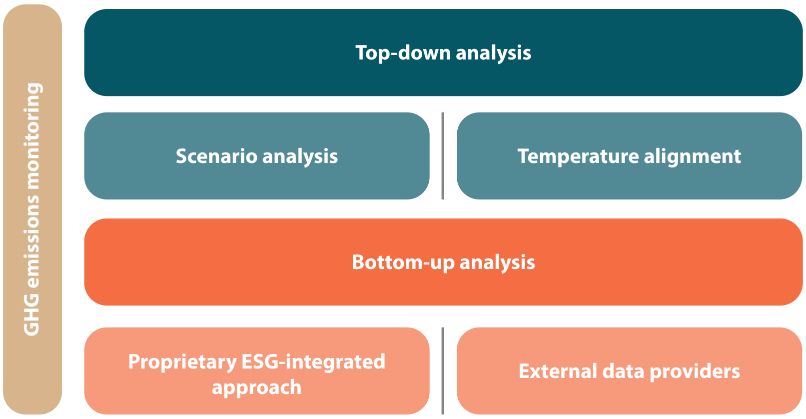


[2] Paris Agreement: **https://unfccc.int/process-and-meetings/the-paris-agreement**

In-house analytical capabilities: overview

As part of Nikko AM's strategy to constantly improve our frameworks and assessments of climate-related issues, we have further developed our in-house analytical capabilities. This has allowed us to conduct both top-down and bottom-up analyses to assess our portfolios' exposures to both physical and transition risk, which better informs our investment decisions.

In the next sections, we will provide more details of our top-down and bottom-up approaches, including the tools we use and the analysis we conduct.



Top-down analysis: scenario analysis

Scenario analysis is a process for identifying and assessing the potential implications of a range of plausible future states under conditions of uncertainty. Hence, climate scenario analysis aims to interpret the potential financial impact on our individual holdings or portfolios from climate-related risks under various scenarios.

In accordance with the recommendations by the Task Force on Climate-Related Financial Disclosures (TCFD), we have assessed our portfolios for both transition and physical risk under multiple climate scenarios, using industry-recognised third-party models to ensure transparency and interpretability.

Methodology

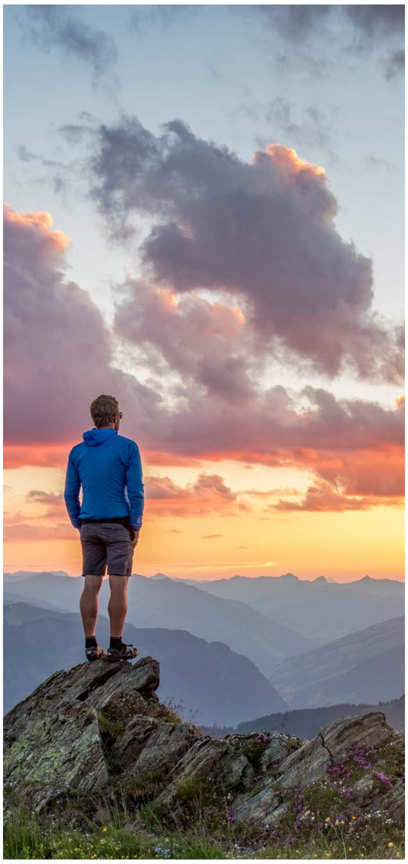
We draw on MSCI Inc's Climate-Value-at-Risk (CVaR) model and the terminology associated with it. We acknowledge that the understanding of and, hence, the process of assessing climate-related risk and its impact are constantly evolving, and we will update our approach accordingly.

In assessing MSCI's methodology, we understand that there are multiple limitations, such as sector and geographical nuances, which are still evolving in the model. We also note that some of the underlying models reflect neither the adaptation and/or mitigation actions taken by companies and governments in response to climate-related risks nor how we as investors have taken the approach of active ownership to mitigate such climate risks. We also acknowledge that there are data gaps and data points that have not been considered as part of the analysis. Additionally, the analysis is based on a snapshot of our holdings, as of 31 December 2022, whereas our portfolios are dynamic.

To help assess the underlying risk, we utilise both top-down and bottom-up processes, which provides a more holistic analysis than relying solely on a third-party data source. Our bottom-up approach is presented later, and our commentary here is related to the top-down methodology. As we are conducting analysis on a broad range of securities, there will be cases where data is missing. To ensure our risk measurements are not skewed by the missing data, we have taken the approach to reweight all metrics based on a data-coverage factor, which means the percentage covered within each metric is always 100%. We have chosen not to use any filling approaches given the idiosyncratic nature of the data.

Scope

Our analysis is conducted on our exposure to public listed equity and corporate bonds. Analyses on our in-scope portfolios cover 67.5% of the total assets under management (AUM) that are managed by our Japan Equity, Japan Fixed Income, Japan Investment Technology, Asia ex-Japan Equity, Asia Fixed Income, Global Equity and Global Fixed Income investment teams as of 31 December 2022. Our in-scope Japanese-domiciled holdings are aggregated and reported as "NAM JP" and our in-scope companies domiciled out of Japan are aggregated and reported as "NAM ex-JP". For our fixed-income portfolios, we include corporate bonds and exclude sovereign, supranational and agency issues, as scenario-analysis methodologies are nascent, which limits the accuracy of these data points. The analysis takes into consideration both active and passive portfolios managed by Nikko AM.



Transition risk

In the global effort to address climate change and support the Paris Agreement, countries globally have ratified the Paris Agreement, committing to put forth climate action plans, also known as nationally determined contributions (NDCs), on how they would work towards reducing their country's carbon emissions. However, this would not be without economic and societal impact. As countries enact climate action plans to reduce their carbon emissions, their decisions cascade down to the population — corporates and individuals. This can result in policy and legal risks stemming from regulatory changes, technology advancements, and changes in market demand. Therefore, transition risk is defined as the risks stemming from the global transition towards a lower-carbon economy.[3] This does not happen consistently at the same nature, speed, and focus, however, and is subject to sectoral and geographical nuances.

MSCI's transition-risk methodology assesses companies' CVaR under various Network for Greening the Financial System (NGFS) climate scenarios.[4] This assessment focuses on policy risk, modelling a company's CVaR as a function of its annual carbon emissions and annual carbon-price estimates over 15 years. The carbon-price estimates used are dependent on the climate scenario. As a result, the CVaR associated with the company is the aggregated cost it is expected to pay to reduce its carbon emissions to reach emission-reduction targets over 15 years.

The process utilised by MSCI provides a sound grounding for us to analyse transition risk, while acknowledging that there are limitations to the methodology.

First, the model assumes that all costs are internalised across a sector, with no assumptions of cost pass-through across supply chains. This can result in misallocation of risks between companies across the value chain. However, we understand that modelling the cost pass-through from policy risk is complex. Second, we know from real-world policies enacted that policy risk is not the same across sectors and geographies. It is likely to be more material for carbon-intensive sectors and companies operating in more stringent regulatory environments, but this is less reflected in the third-party methodology applied. Additionally, the model does not take into consideration pre-emptive steps taken by individual companies (e.g. carbon-cost pass-through, capital expenditure and operating-expenditure investments) to reduce their exposure to such policy risk.

We address the limitations observed as part of our bottom-up, ESG-integrated fundamental analysis to holistically understand the potential risk faced by our companies. How our investment teams integrate ESG as part of their investment process is detailed under Bottom-up analysis: Proprietary ESG-integrated approach (from page 22).

We have assessed our portfolios under the following scenarios:

- 1.5°C and 2°C
  - Orderly — climate policies introduced early with gradual intensification. Transition risk is relatively subdued
  - Disorderly — delayed or divergent climate policies. Higher transition risk from more stringent and stricter measures that are delayed and/or divergent across countries and sectors, leading to higher carbon pricing
- NDCs — climate policies are implemented only in some jurisdictions but are globally insufficient to halt global warming. Implies temperature rise of 3°C by 2100,[5] which leads to higher physical risk.

[3] Transition Risk Definition: **https://www.tcfdhub.org/Downloads/pdfs/E06%20-%20Climate%20related%20risks%20and%20opportunities.pdf**
[4] NGFS Climate Scenarios: **https://www.ngfs.net/ngfs-scenarios-portal/**
[5] UNFCCC: **https://sdg.iisd.org/news/unfccc-reports-warn-about-2-5c-warming-amid-glimmers-of-hope/#:~:text=The%20UNFCCC's%20second%20synthesis%20of,2.5%C2%B0C%20of%20warming**

Transition risk represents the largest risk to our holdings, with the 1.5°C Disorderly scenario posing the most severe risk to our portfolios, given that it is the most disruptive scenario.

Under the 1.5°C Disorderly scenario, the model indicates a potential CVaR of over 40% for our NAM JP assets, as seen in Figure 1, and over 20% for our NAM ex-JP assets as seen in Figure 2. Under a more orderly scenario (1.5°C Orderly), the potential risk diminishes substantially, to 10% for NAM JP and 5% for NAM ex-JP.

Diving deeper into the numbers, we are unsurprised to find that the bulk of our risk is attributable to carbon-intensive sectors, such as energy, materials, and utilities. When jurisdictions start to increase carbon prices in a bid to bring down carbon emissions, the cost to companies in these sectors will increase should their emissions profile not come down. As a global asset manager with both active and passive strategies, we are likely to maintain some exposure to these sectors, but we will continue to monitor the risk and apply mitigation techniques as described later in the report.

Most of our passive assets are held in our NAM JP portfolios with a minor portion in our NAM Asia (Asia ex-Japan Equity and Asia Fixed Income) portfolios. We have limited discretion over our passively held funds, and the transition risk largely mirrors that of the indices the funds track. To mitigate the transition risk faced by our passive assets, we take an active stewardship approach by engaging our companies and actively voting on all of our equity holdings.

For our actively managed funds, where we have more flexibility in managing our portfolios, we are able to more actively mitigate transition risk. We see that transition risk still exists but is far less pronounced than in their relative benchmarks.

If we take our Global Equity UCITS fund as an example in Figure 3, the fund has a lower transition risk than its benchmark (the MSCI All Country World Index) as the fund has a commitment to keep its portfolio's relative carbon intensity more than 20% below the benchmark. So, given that the transition-risk scenarios here are driven by a company's carbon emissions, the portfolio carries significantly lower risk under all scenarios.

Figure 1. Transition risk — NAM JP

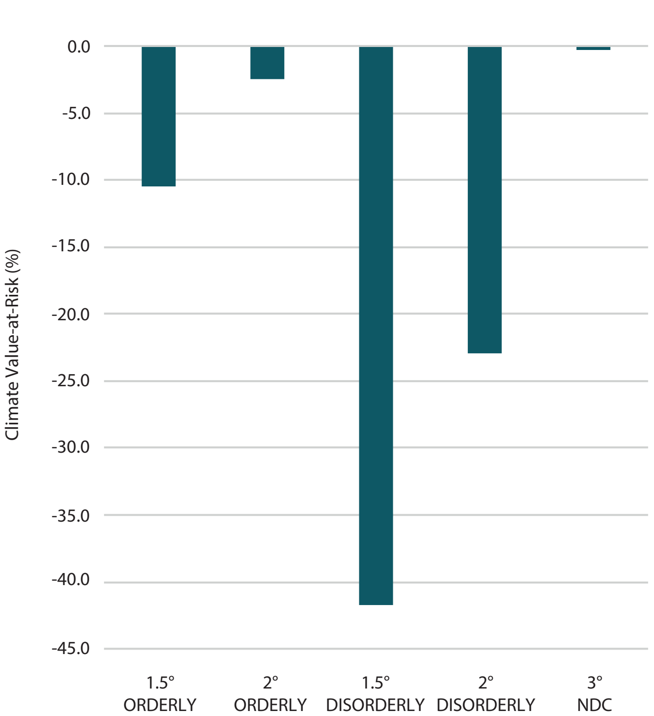


Figure 2. Transition risk — NAM ex-JP

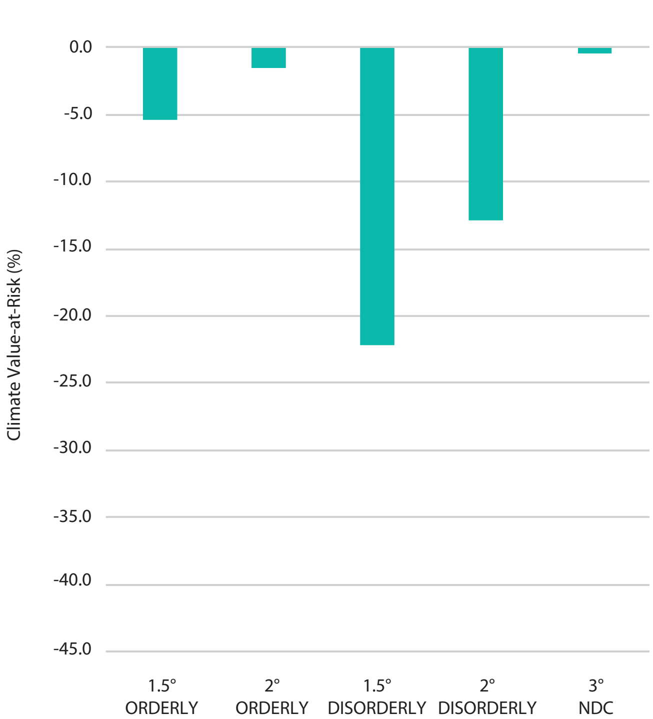
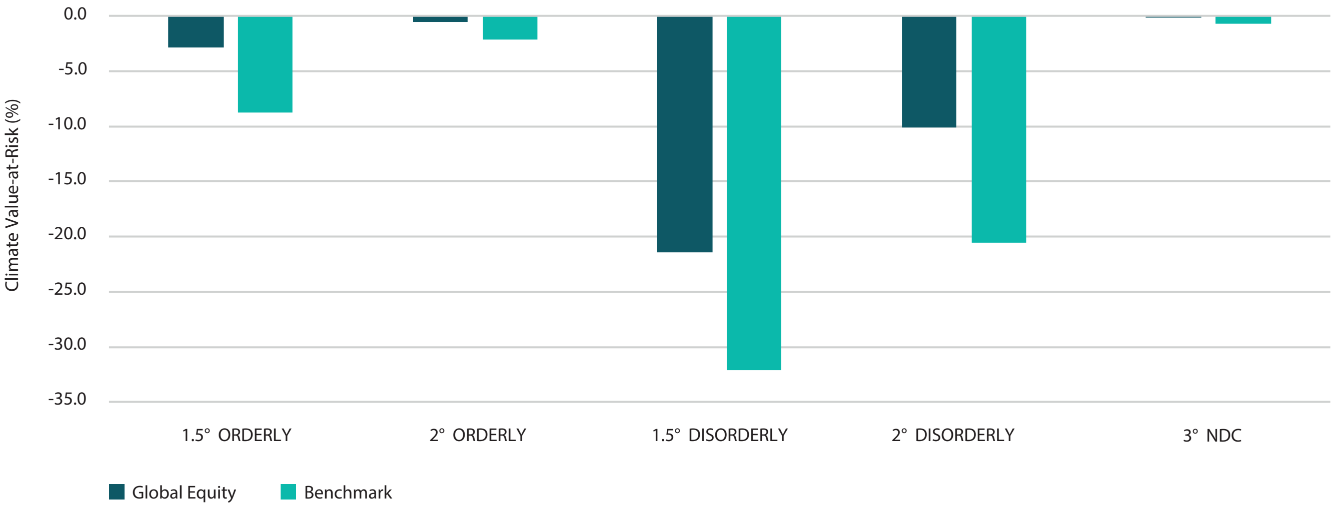


Figure 3. Transition risk — Global Equity



Physical risk

In recent years, we have seen increasing occurrence and severity of natural disasters such as wildfires and hurricanes, but also of weather patterns such as prolonged and heavier rainfalls leading to floods. With climate change leading to higher global temperatures, the frequency and severity of such events is only set to increase. These events have financial implications for organisations, not only through direct asset damage, but also indirectly through operational disruptions that can stem from changes to productivity. Therefore, physical risk is defined as risks stemming from the physical impacts of climate change. The risk can be event-driven (acute) or longer-term shifts in climate patterns (chronic), which lead to changes in habitable landscapes.[6] Whether it faces acute or chronic weather events, the economic system will have to adapt.

MSCI's physical-risk methodology models companies' CVaR based on a variety of potential physical-risk events over 15 years. The impact from these physical-risk events can be measured in two distinct ways — disruption to operations and direct damage caused by the events. As the type and impact of physical risk is location-specific, the methodology models the likelihood of these changing weather patterns and, subsequently, the potential impact to companies' individual assets at a local level. So the CVaR associated with the company is the aggregated cost it is expected to pay as a result of revenue loss and disruption to operations over 15 years.

We acknowledge that there are challenges in modelling the impact of physical risk, as the expected change to weather patterns may deviate from the trends that have already been observed and used to create forecasts. This deviation can occur in either direction, which means that the actual outcome may be more or less severe than currently forecast and may occur more or less frequently. This limits the ability of any model to accurately predict how physical-risk types will develop and, even more so, the extent of its potential financial impact.

A limitation the model faces is the consideration of physical-risk adaptation initiatives (e.g. flood walls, insurance) deployed by the companies and jurisdictions in relation to managing the impacts of physical risk. These physical-risk adaptation efforts may not fully eliminate the potential financial impact from physical-risk events but will limit the extent of impact felt, which is an important consideration.

We assessed our portfolios under the following scenarios:

- **Average scenario:** most likely impact of climate change over the modelled 15-year period — i.e. the expected value of the cost distribution.
- **Aggressive scenario:** the 95th percentile of the cost distribution and explores the severe downside risk within the distribution tail — i.e. the worst-case scenario.

[6] TCFD Physical Risk: **https://www.tcfdhub.org/Downloads/pdfs/E06%20-%20Climate%20related%20risks%20and%20opportunities.pdf**

The potential CVaR from physical risk on our funds is significantly lower than transition risk in both the average and aggressive scenarios. Unlike transition risk, where CVaR is largely a function of the sector our companies are in, the geographic location of our companies' assets is key for physical risk.

Under the aggressive scenario, our NAM JP assets see a potential CVaR of about 18% (Figure 4) and slightly above 8% for our NAM ex-JP assets (Figure 5). Under the average scenario, the potential CVaR is significantly lower, at about 10% for NAM JP (Figure 4) and about 4% for NAM ex-JP (Figure 5). Given that NAM JP is fully invested in Japanese assets, its physical risk is concentrated in Japan, which has high physical risk because of its location, whereas the physical risk of NAM ex-JP assets is more diversified globally.

Further analysis of the data reflects that CVaR is more pronounced in geographical locations with high acute risk (i.e. event-driven). These events tend to occur suddenly, disallowing ample time for risk-adaptation or mitigation efforts. Additionally, the severity of these events cannot be predicted, which can result in the insufficiency of implemented risk-mitigation or adaptation efforts. Therefore, the geographical locations with the highest acute risks would result in the greatest asset damage and operational disruption.

We have limited discretion over our passively held funds, so their physical risk largely mirrors that of the indices they track. Therefore, to mitigate the physical risk faced by our passive assets, just like with transition risk, we take an active stewardship approach by engaging with our companies and actively voting on all of our Japanese equity holdings. Although we can physically feel and see the devastating impacts of various physical-risk events globally, the translation of how these physical risk events have an impact on the companies' future value is unclear. Unlike transition risk, where companies can largely mitigate their risks from decarbonisation, physical risk largely relies on adaptation measures — not just from the company, but also from the authorities, the broader private sector and society at large.

For our actively managed funds, where we have more flexibility in managing our portfolios, we are able to actively factor in physical-risk considerations when assessing our portfolio holdings. Physical risk still exists but is less when compared with these funds' relative benchmarks.

Figure 4. Physical risk — NAM JP

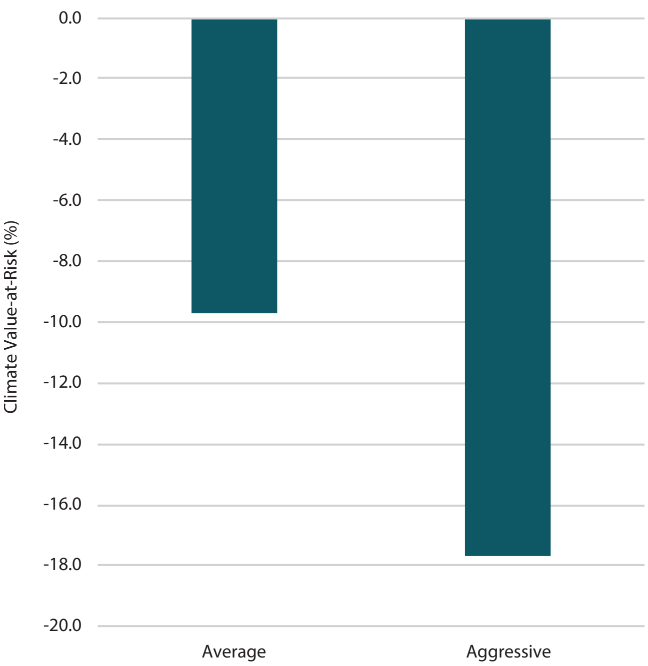
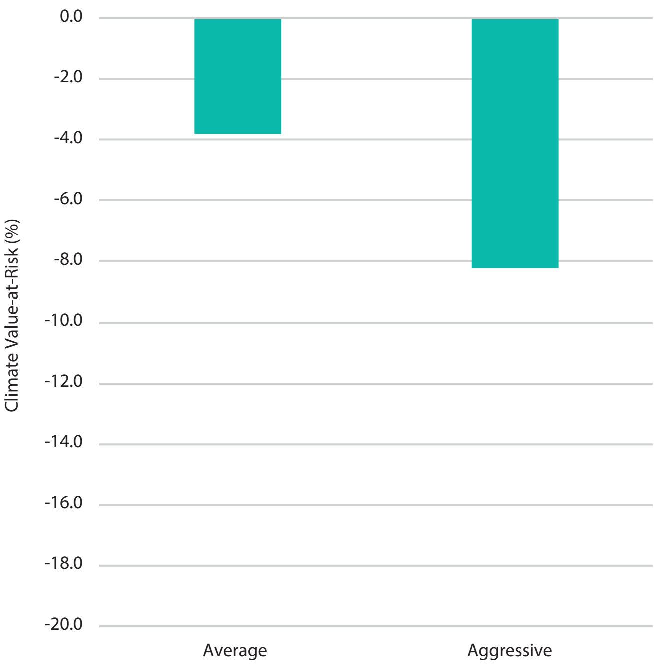


Figure 5. Physical risk — NAM ex-JP



If we take our Asia ex-Japan Equity UCITS fund as an example in Figure 6, the fund has a lower CVaR from physical risk than its benchmark (MSCI Asia ex-Japan Index). This would mean that the fund faces lower potential financial impact from physical risk events than the benchmark does — in both average and aggressive scenarios. Even so, with the increasing climate-related events in the recent years, we continue to engage with our holdings on their preparedness for physical risk adaption and as a way for us to raise awareness of the physical risk faced by their assets.

When assessing physical risk, we are also able to determine the potential physical-risk events that might have the greatest impact on our portfolio holdings. This is largely driven by where our portfolio holdings' assets are located.

If we take NAM ex-JP as a case study, as showcased in Figure 7, the location of our portfolio holdings spans regions such as Asia ex-Japan, Europe, and the Americas. Under both average and aggressive scenarios, coastal flooding presents the greatest CVaR, followed by heat under the average scenario and precipitation under the aggressive scenario. We see that for each physical risk type, if climate change is not kept under control, there will be a potential significant exacerbation of physical-risk events under the aggressive scenario. With increasing and more severe coastal flooding events, which we are currently reading about in the news, the CVaR from coastal flooding would increase around five-fold, from slightly more than 2% to 10% over the same 15-year modelling period.

Interestingly, however, several companies in our portfolios might stand to benefit from a warmer climate. For companies that operate in regions with snowfall, we see a positive attribution under the average scenario. But even with a warming climate towards the aggressive scenario, we still see CVaR of about 1% for snowfall events as a result of the connections between different weather events that can exacerbate their impacts.

Figure 6. Physical risk — Asia ex-Japan Equity

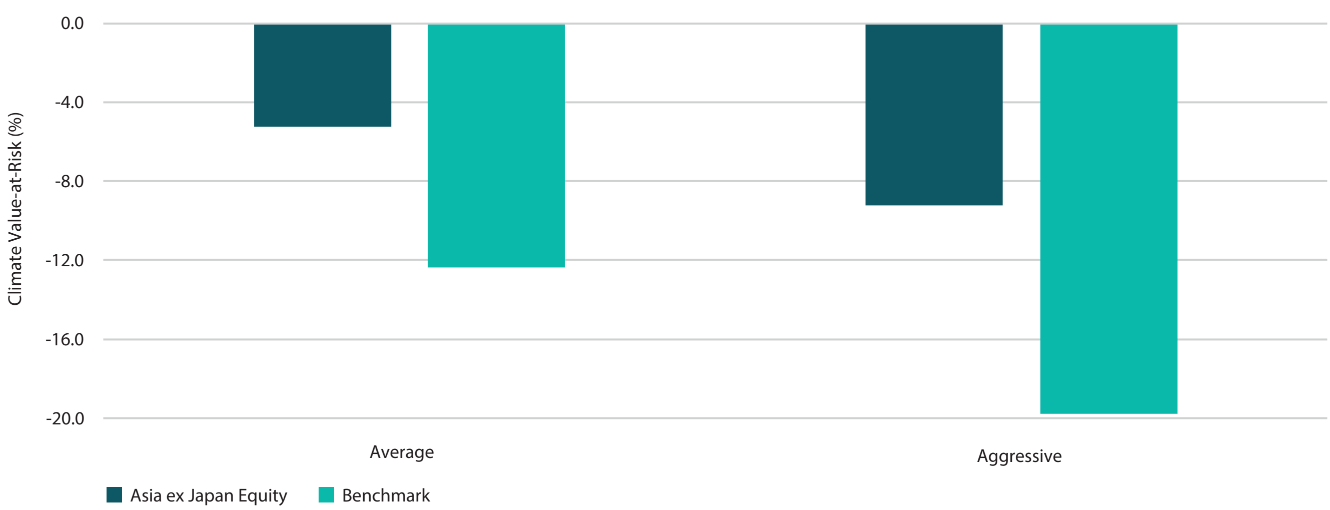
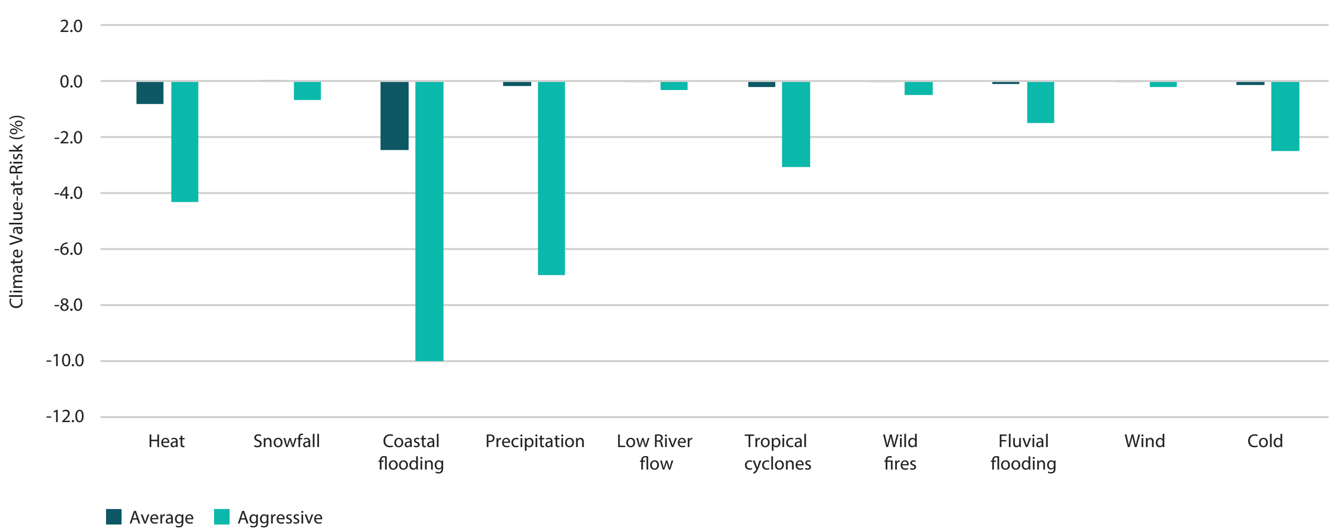


Figure 7. Physical risk (by type) — NAM ex-JP



Technological opportunities

Given the shifts that are occurring because of our changing climate, opportunities are likely to be created alongside the risks that have been highlighted. These opportunities can occur through direct actions, such as investing in more efficient processes, or through indirect actions across supply chains, such as the shift to cleaner energy sources. A myriad of climate-related opportunities can result from such actions. However, we understand that there is complexity in how these opportunities can be assessed, particularly with the data-based limitations on holistically encapsulating or assessing them. Therefore, we rely on our bottom-up analysis across many of our holdings. This allows us to assess the context of the company's operations, the regions and sectors in which it operates, and its overall strategy, which may not be fully evident in existing data.

To supplement our bottom-up analysis, we can further measure opportunities by drawing on third-party data providers. This not only enables us to broadly assess the climate-related opportunities for our passive holdings but also provides us with additional insights into our more active holdings.

MSCI's methodology on climate-related opportunities focuses on current green revenue and opportunities arising from new technologies. These factors are incorporated with the following considerations:

1) **Current portion of green revenue**, which can be compared with that of the closest peers to assess which companies will benefit most from changes within their sector
2) **Opportunities into the future**, where R&D/green patents play a role in determining who the likely beneficiaries are over the next 15 years. Patents are analysed to determine the likely future beneficiaries of changing stances towards climate. Rather than simply rely on overall patent numbers, MSCI considers citations to assess the "value" of patents, which can then be compared with those of peers to identify likely beneficiaries from technology advancements

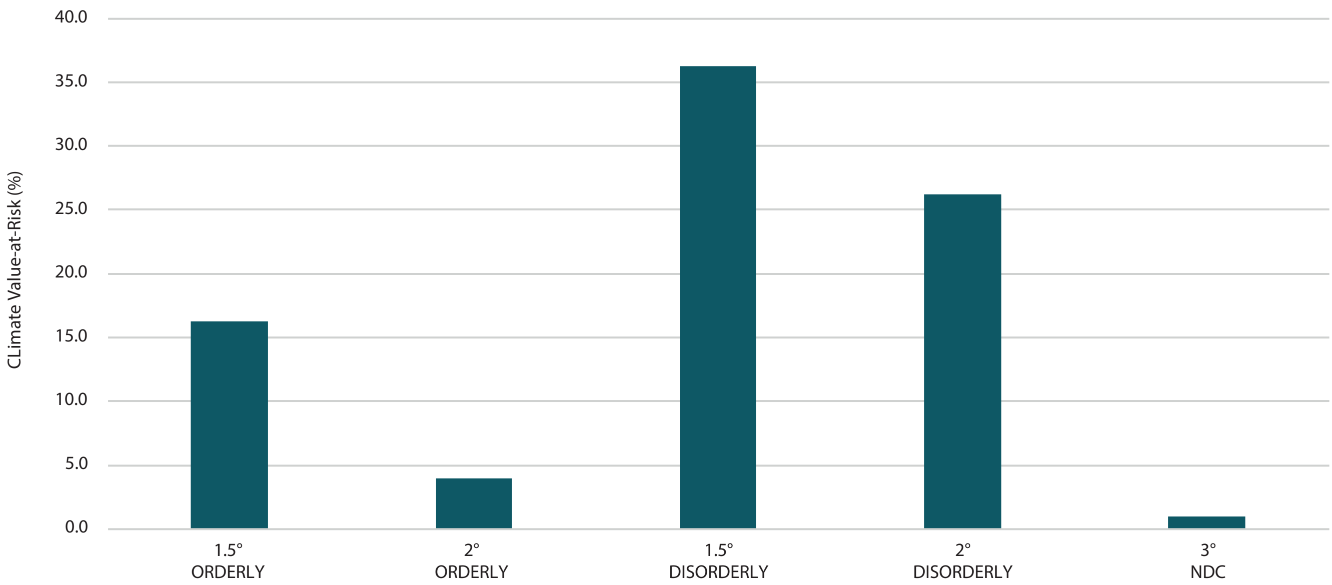
Aggregating the two factors produces a technological opportunities CvaR, which captures the current and future benefits in such a way that short-term benefits are more closely linked to revenue and mid-term benefits are linked to R&D.

We understand the limitations of using broad datapoints to assess technological opportunities and of confining the consideration of climate-related opportunities to just R&D/green patents, as factors such as operational improvements can have a material impact. However, we also understand that this allows us to gain a high-level, top-down overview of potential opportunities that our portfolios are able to capture. We continue to rely primarily on our bottom-up analysis and in-depth considerations of climate-related opportunities to best define these opportunities. This provides a more idiosyncratic assessment, in keeping with our approach for more active funds.

For our active funds, we identify climate-related opportunities of companies individually, as part of our bottom-up ESG-integrated investment process, with portfolio managers and analysts providing the necessary insight. For our passive holdings, which form a large proportion of our AUM, we believe it more necessary to identify climate-related opportunities in a more structured and systematic way. For instance, for NAM JP where the majority of our assets are passive, we find that the technological-opportunities data reflects the potential of our Japanese holdings to materially offset the transition risks highlighted earlier.

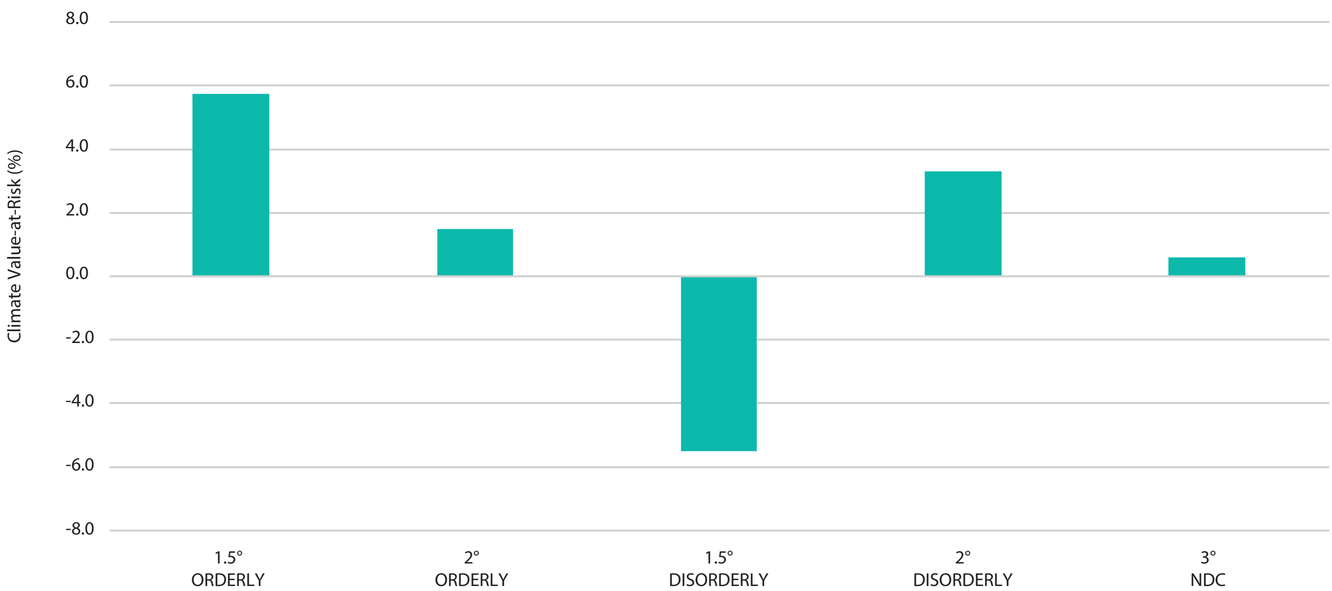
To illustrate technological opportunities, we use our NAM JP assets as a case study. As shown in Figure 8, the technological opportunities are greatest under the 1.5°C Disorderly scenario, at slightly above 35%. Under this scenario, the urgency to decarbonise is the greatest and steepest because of the delay in taking action. Therefore, the need for technological advancement is greatest. Under a more orderly scenario (i.e., 1.5°C Orderly), NAM JP's technological opportunities are slightly above 15%.

Figure 8. Technological opportunities — NAM JP



Transition risk and technology opportunities represent opposing outcomes from the same factor, namely the impact that changing policy actions will have on our companies. By aggregating these across the portfolio, we can assess the overall impact from this changing policy actions. Looking at the aggregated risk faced by NAM JP in Figure 9, we see not only that transition risk is negated in all scenarios except the 1.5°C Disorderly scenario but also that there is an additional positive contribution to the holdings' value.

Figure 9. Aggregated risk — NAM JP



Top-down analysis: temperature alignment

The magnitude of global temperature rise is one of the key factors that will determine the state of the world we live in. Accordingly, governments and organisations such as the Intergovernmental Panel on Climate Change (IPCC) have called for global temperature rise to be limited to well below 2°C above pre-industrial levels and have pursued efforts to limit the temperature increase to 1.5°C above pre-industrial levels. The measurement of temperature alignment helps translate a company's carbon intensity into an intuitive temperature scale (°C) to communicate how companies are aligned with the Paris Agreement of 1.5°C. This allows us to understand not only the exposure of our holdings to climate-related risk but also how our holdings are decarbonising (i.e. risk mitigation).

MSCI's methodology for warming potential considers the current and any stated reduction targets the company might have. The model utilises the logarithmic relationship between carbon intensity (Scope 1, 2, and 3) and temperature, taking into consideration the sector the company is in. As well as the warming effect, the model also takes into consideration the cooling impact (i.e. emissions reduction) derived from low-carbon technology and the expected revenue that the company will generate from this. From these factors, the company's total warming potential can be derived based on both the current intensity and the expected intensity based on company-specific reduction targets.

We understand that the relationship between emissions and temperature is not straightforward and that the ability of companies to reduce their emissions is highly dependent on the context of their operations. Some examples include the regulatory landscape in which they operate, the availability of resources, and their supply-chain dependencies. With the methodological limitations and assumptions that are inherent in models, we believe that the model can currently only gauge the extent to which the companies and their targets are in line with a 1.5°C warming scenario.

One of the drivers behind warming potential is the company's initiatives to reduce its carbon intensity, which takes into consideration carbon-reduction commitments and, consequently, their alignment with 1.5°C or 2°C pathways. Given this, companies will be categorised into one of the following groups: Strongly Misaligned, Misaligned, 2°C Aligned, and 1.5°C Aligned.

The translation of companies' commitments and targets into temperature alignment allows us to gauge the ambitiousness of these targets, which can drive further due diligence and engagements with our companies, in addition to our bottom-up research.

Temperature alignment assesses the impact of our portfolio holdings ("warming potential") based on their current emissions profile and committed targets, up until 2100. From this, we can determine the extent of their alignment towards limiting temperatures to 1.5°C or 2°C.

In analysing the warming potential with consideration of company-level targets, the temperature is about 3.05°C (Figure 10) for NAM JP assets and about 3.60°C for NAM ex-JP assets (Figure 11). Without consideration of companies' commitments, temperatures of both NAM JP and NAM ex-JP assets are at about 3.30°C (Figure 10) and 3.75°C (Figure 11), respectively. Although the targets committed are shown to reduce the companies' impact, there is still room for more advanced and faster action towards decarbonisation.

Figure 10. Warming potential — NAM JP

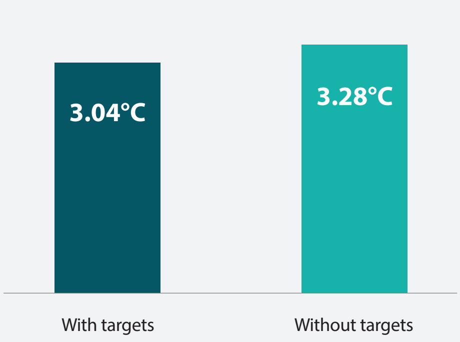
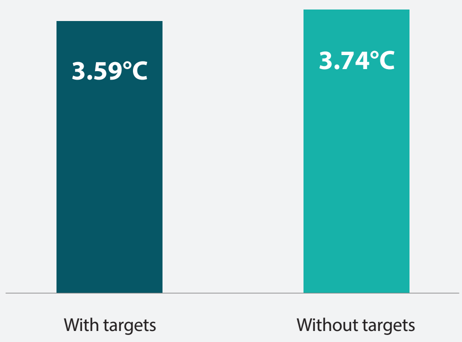


Figure 11. Warming potential — NAM ex-JP

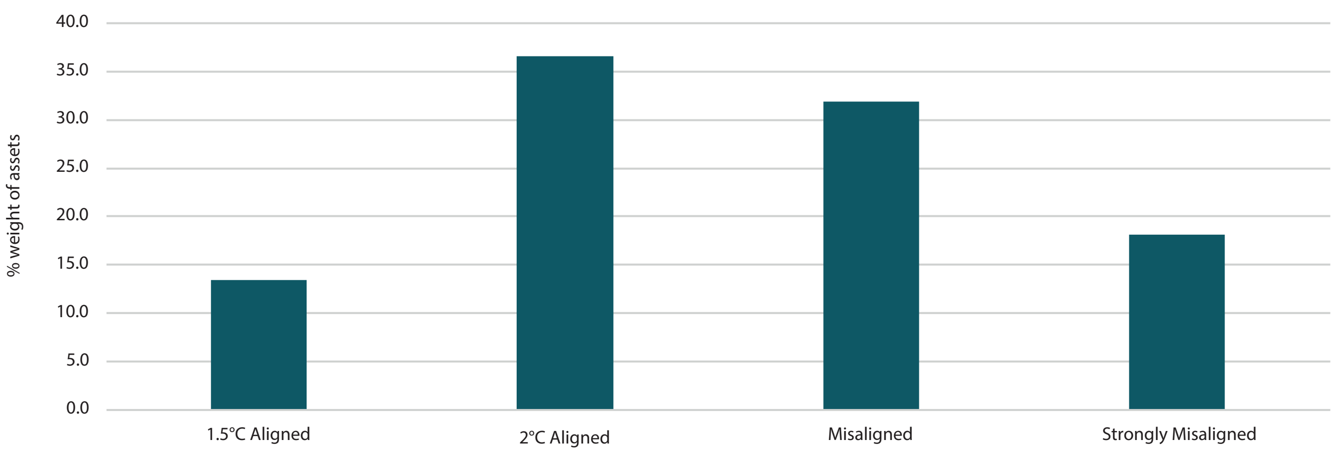


As noted, we have limited discretion over our passively held funds, so the warming potential closely mirrors those of the indices the funds track. Regardless, we seek to mitigate our portfolio holdings' impact on climate change through active ownership — via engagement and proxy voting, as described previously.

For our actively managed funds, where we have flexibility in managing our portfolios, we can be more selective and tilt towards companies with credible transition plans and who are making real-world impact through decarbonisation.

To further enhance our risk assessment and inform our analysis, we assess the temperature-alignment bands of our portfolio and underlying holdings. Temperature-alignment bands are categorised as 1.5°C Aligned, 2°C Aligned, Misaligned, or Strongly Misaligned. Based on our analysis in Figure 12, we find that close to 50% of our (Nikko AM group) investments in scope for this report are 1.5°C and 2°C aligned. This insight will further help to focus our stewardship activities to those that have greatest negative impact on climate change.

Figure 12. Temperature-alignment bands — Nikko AM group



Bottom-up analysis: proprietary ESG-integrated approach

In our actively managed strategies, our investment teams identify attractive companies through in-depth bottom-up research, based on their own philosophy and approach. We integrate ESG factors and the risks and opportunities they present for the company into this process, providing additional considerations for investment decisions. As a large proportion of companies held in our active funds are simultaneously held in passive funds, many of the constituents of our passively held portfolios have also been actively researched, including on ESG.

We do not adopt a one-size-fits-all approach to ESG integration. The main responsibility for implementing our fiduciary duties falls on our investment teams, and they are given a remit to act in the best interests of our clients within the global and local governance frameworks provided by the group. This means that our ESG integration and engagement processes are bespoke to each investment team, ensuring that each chooses the methods most appropriate and effective for them. Where appropriate to the asset class, investment strategy, and client requirements, certain investment teams may maintain specific ESG policies and procedures pertaining to their investment philosophy and process.

Although ESG issues are rarely the only consideration when making investment decisions, an understanding of these issues informs the investment process and gives our investment teams a more rounded view of companies. So ESG factors such as climate change, nature, and biodiversity under the environmental pillar are considered as part of our investment policies and processes, and not treated as part of a separate exercise. We strongly believe that attention to ESG factors is essential to good investment discipline — core to any business and inherent to its long-term value creation while contributing to the realisation of wider sustainable economic growth. Given this view, we endeavour to incorporate ESG considerations across all asset classes and geographies.

That said, different asset classes have different dynamics, with varied geographies and industry sectors adding to the complexity. Each of our investment teams is therefore allowed to view ESG implementation through its own lens, leading to diverse approaches across the organisation. Whatever the approach, we strive to apply all ESG policies to the highest standard, continually seeking improvement and innovation.

Our ESG risk analysis is integrated into the investment research function rather than outsourced to a separate team. Each investment team is responsible for the assessment of risks that may affect the success and long-term sustainability of holdings in the portfolio. Our detailed process — including stress-testing investment candidates, stock selection, and portfolio construction — also helps to ensure that the whole investment team is engaged in managing ESG risks.

The investment teams across the various regions are supported by the Global Sustainable Investment Team, which is made up of five functions — regional ESG specialists, research & integration, stewardship, data & reporting, and ESG regulations — as outlined under Nikko AM Group sustainability governance from page 2 onwards. This team takes the lead in areas such as firmwide ESG policies, frameworks, initiatives, regulatory matters, organising ESG resources for investment and risk personnel, and enhancing our firm's understanding of important emerging global ESG developments. For instance, the ESG specialists support the investment teams as part of our aim of having all investment professionals integrate ESG into their investment processes to the fullest extent. They also build relationships with various ESG-focused organisations and regularly share information with the ESG Global Steering Committee on developments such as ESG-related legal changes in countries around the world. The Global ESG Global Steering Committee reports to the Group Board. The establishment of a centralised ESG data team allows for consistency, accuracy, and improvements in the coverage of our ESG data, as well as the expansion of our analytics capabilities. This strengthening of the team goes hand in hand with plans to expand our external ESG data sources — for example, through the acquisition of advanced climate analytics tools.

The table below gives a brief overview of the approach taken to ESG integration for our in-scope portfolios. More details on how Nikko AM's investment teams integrate ESG and conduct stewardship activities can be found in our annual response to the **UK Stewardship Code** and our **2023 Sustainability Report**, covering activities in FY2022.

Asset class	ESG integration
Japanese equity	▪ ESG is integrated into investment decisions through the use of a selection process based on "creating shared value" (CSV) evaluations. The concept of CSV evaluations comes from the work of Harvard University professor Michael Porter, who found that the creation of social value leads to economic value. ▪ We have used our own CSV evaluation as part of our investment process since 2013 and introduced CSV stock price in 2021. The latter indicates fair stock prices based on CSV evaluation, to enhance ESG/CSV integration in our investment process. The CSV evaluation currently comprises 12 factors grouped into three categories — ESG, competitiveness, and financial strength. ▪ "Carbon neutrality" is one of the factors and is used to evaluate a company's initiative to address climate risks and seek opportunities.
Global equity	▪ ESG analysis is undertaken by each portfolio manager and fully integrated into the stock-picking process to ensure we can robustly evaluate the materiality of each factor and its potential impact in the future. ▪ Our four-pillar "Future Quality" analysis includes in-depth evaluations of ESG factors to determine their effect on the company's risks and returns. ▪ Research includes an analysis of a company's corporate governance, social practices, the environmental sustainability of its products or services, and its capacity to fund its growth and ESG commitments.
Asia ex-Japan equity and China equity	▪ ESG analysis is incorporated into company research, security selection, and portfolio construction. Our ESG "materiality map" focuses on the material issues and opportunities for each of the companies we cover, based on ESG factors from the Sustainability Accounting Standards Board (SASB) and MSCI. ▪ As part of our in-house proprietary ESG scoring methodology, individual companies are scored on ESG pillars alongside fundamental analysis, which is aggregated to provide a company-level score. ESG-focused research is also used to identify areas for company engagement and improvement.
Japan fixed income	▪ ESG is integrated as part of fundamental credit analysis of corporate issuers ▪ There are eight key ESG factors: two under the environmental pillar, three under the social pillar, and three under the governance pillar. ▪ In 2023, we began to further incorporate ESG considerations into our analyses of sovereign issuers.
Global fixed income	▪ The majority of fixed-income assets managed by the investment team are in AAA-rated bonds. Particularly in the case of corporate credit, ESG factors are considered to the extent that they are deemed material to the investment case and in line with our clients' risk appetite and perspectives on ESG investing. ▪ We utilise a proprietary ESG platform to aggregate ESG data in order to enhance our ESG evaluation of sovereign, supranational, and agency (SSA) and corporate issuers. This complementary tool allows us to compute ESG rankings based on the variables we think are the most relevant for each fixed-income field or sector and gives us full control over the data sources we use, allowing for multiple data feeds. ▪ We use a proprietary sustainability-assessment process for all the holdings in our Green Bond fund. This bottom-up review process is framed around three key elements for a labelled bond issuance: the issuer's sustainability strategy; the pre-issuance bond framework; and the post-issuance allocation and impact report.
Asia fixed income	▪ ESG analysis is incorporated into all company research as part of bottom-up fundamental analysis and portfolio construction. ESG-focused research is also used to identify areas for issuer engagement and improvement ▪ Our ESG Materiality Map is applied to companies to identify ESG issues based on the Sustainability Accounting Standards Board and MSCI but adapted to reflect conditions in Asia. ▪ In 2022, we developed a proprietary ESG sovereign-rating model using public data from sources such as the World Bank, the United Nations, and the European Commission Emissions Database for Global Atmospheric Research (EDGAR). ▪ We use 21 indicators that broadly cover all three areas of ESG (environmental, social, and governance). These include GHG emissions (per capita and proportional to GDP), an index of human development, and a measure of government effectiveness. Implemented in 2022, the new model has since been deployed as an ESG element in our sovereign model.

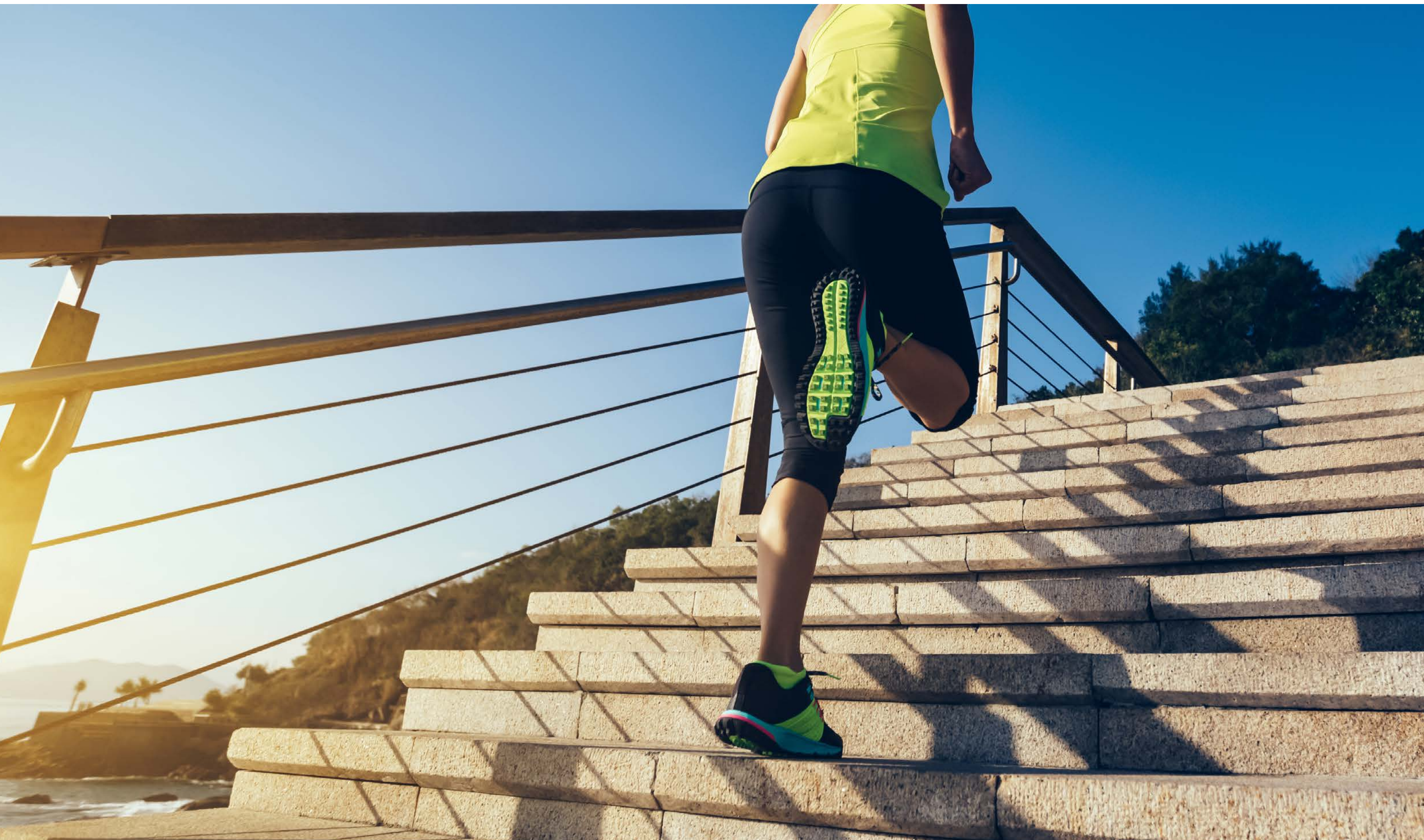
Bottom-up analysis: external data providers

Data from external service providers is used as one input in our investment decision-making process to supplement our bottom-up analyses and the stewardship of the assets we manage. For our ESG analysis, we use data from a variety of sources, including MSCI, Bloomberg, ISS, and Good Bankers. Data from these sources is further supplemented by publicly available data sources (e.g. sustainability reports). We also have regular meetings with external ESG analysts to improve our understanding of how they engage with companies and to enhance the quality of the research we receive. The quality and depth of reports and insights are considered, as well as the effectiveness of the vendor in providing us with the necessary insights to fulfil our stewardship obligations on behalf of our clients.

In 2022, we established an ESG data team. This team has focused on improving the availability and quality of data, as well as access to it. A primary concern has been to ensure that our data is accurate, timely, and consistent across all investments and regions covered. One important service provider that we currently use for the provision of ESG data analysis is MSCI. As part of an internal project, which is continuing, we have had several calls, teach-ins, and email discussions with MSCI to ensure we both understand and know how to use the data it supplies. The results of these sessions then feed into discussions between the ESG data team and the investment teams to decide how to use the data in practice.

For instance, as reflected in the sections above, we utilise MSCI's CVaR to conduct and report on our scenario analysis and climate-related data such as GHG emissions and intensity calculations. When we see errors, we liaise with third-party data providers and try to resolve them in a timely manner. Additionally, a large portion of our AUM are in Japanese and Asia Ex-Japan equities, and in fixed-income assets where coverage by third-party providers is still evolving. We find that there are data gaps and delays, and at times we disagree with the analyses or ratings even when they are available. So we do not rely exclusively on these services.

Additionally, we conduct all engagement with companies ourselves, not only to make better informed investment decisions but also to push for enhanced disclosures on climate-related metrics and encourage target setting to collectively improve the quality of data in the market.



Climate risk and opportunities

We broadly consider climate risks and opportunities over the following time horizons:

- **Short term:** three to five years in line with investment horizons
- **Medium term:** Up to 2030 in line with interim net-zero targets
- **Long term:** Up to 2050 in line with net-zero targets

We are mindful that the consideration of climate-related risks and opportunities takes place over a longer period of time than investment time horizons.

Identifying and understanding the types and impact of the risks, and the time horizon over which these risks can manifest, are important to us as investors. This is because these risks could result in reduced security valuations of our underlying holdings, thus potentially impacting our portfolios and revenue, as well as entailing reputational risks to the firm. The following table outlines the climate-related risks our companies face, the potential impact on them, and ultimately, the potential impact of such risks on us as an asset manager, should we not take pre-emptive steps to mitigate such risks.

Alongside the risks that arise from a changing climate, the transition towards a lower-carbon economy presents climate opportunities that our companies can tap into. As asset managers, we encourage our companies to seek climate opportunities throughout their value chain in their products and services. In the table below, we outline how various opportunities impact our companies, which could in turn impact us as asset managers.

Our mitigation activities are described throughout this report and include, but are not limited to, the following activities:

- In-depth bottom-up research
- Active stewardship
- Top-down scenario analysis
- Portfolio risk monitoring

Risk	Description	Timeframe	Potential impact on our companies	Potential impact on us as asset managers
Transition Risk				
Regulatory & legal	Risk from new and/or advancing climate-related regulations and potential climate litigation that might impact a company's operations and/or products/services	Industry- and region-dependent E.g. carbon-intensive sectors (short term), less carbon-intensive sectors (medium-to-long term)	Increased costs from: ▪ Increase in carbon price ▪ Compliance cost or fines due to regulatory breach ▪ Increased costs from accelerated decarbonisation measures ▪ Potential climate litigation	▪ Lower AUM ▪ Lower revenue
Technology	Risk from the need to invest in technological innovations to keep up with transition towards a lower-carbon economy	Industry-dependent; on availability of technologies E.g., automotives (short term), cement (long term)	Increased cost from: ▪ Writing-off less efficient assets ▪ Capex investments in lower-emitting technology ▪ Lower profitability due to inefficient operations ▪ Lower demand compared with competitors	
Market	Risk from shifting consumer behaviour, hence switch of demand	Industry-dependent E.g., automotives (short term), steel (long term)	Decreased revenues from: ▪ Reduced demand for products/services ▪ Inability to capture changing market demand	
Reputation	Risk from public perception of a company's response to climate risk or its contribution to climate change	Short, medium, and long term	Decreased revenues from: ▪ Reduced demand due to negative perception (e.g. greenwashing) ▪ Increased cost of debt	
Physical Risk				
Acute	Risk to physical operations from increased severity of extreme weather events	Long term	Decreased revenues due to: ▪ Reduced production capabilities hence output due to damaged facilities and supply-chain and transport disruptions ▪ Changing consumer patterns as a result of changing climate conditions Increased cost from: ▪ Rising insurance premiums or, ultimately, inability to insure ▪ Asset write-offs due to asset damage ▪ Changing physical landscape and natural resources availability (e.g. water scarcity)	▪ Lower AUM ▪ Supply-chain reverberations that result in implications throughout our investments from operational losses and slowdowns linked to weather events.
Chronic	Risk to physical operations from shifts in climate patterns that may impact productivity and/or consumer behaviour	Long term		

Opportunity	Description	Timeframe	Potential impact on our companies	Potential impact on us as asset managers
Transition Risk				
Resource efficiency	Opportunity from more efficient use of energy and resources	Short term	Increased revenue due to more efficient resource use and allocation.	■ Increased AUM
Energy source	Opportunity from the transition to lower-carbon sources of energy	Region-dependent e.g. policy-driven	Increased revenue from transitioning towards more sustainable energy sources. This can lead to improved financial planning and lower-cost volatility in light of emerging carbon-tax regulations.	
Products & services	Opportunity from the ability to develop products and services to capture opportunities in the shift towards a lower-carbon economy	Short-to-medium term	Increased revenue from developing of products or providing services that can aid other companies in transitioning towards a lower-carbon economy.	
Markets	Opportunity arising from ability to adapt to and capture changing consumer behaviour	Short-to-medium term	Increased revenue from capturing changing client demands.	
Resilience	Opportunity arising from the ability to manage the impacts of climate risk	Region-dependent e.g. country adaptation measures	Reduced cost from asset damage or operational loss as a result of climate risk.	

Active stewardship

Nikko AM recognises stewardship as an important part of our fiduciary duty. Active engagement with our companies is built into our investment processes and plays an integral role in fulfilling our duty as a good steward of the capital our clients have entrusted us with.

Globally, our **Engagement and Stewardship Strategy** defines our approach to corporate engagement. As a testament to our stewardship activities, we became a signatory to the UK Stewardship Code (UKSC) in 2022. We responded to the UKSC as a group, so the stewardship activities of our investment team worldwide are represented in our response. We have recently published our latest **Response to the UK Stewardship Code 2020**, covering the reporting period 1 January to 31 December 2022. We see stewardship as the core action that we can take to address climate-related risks in our own portfolios and in the wider economic system. By tracking and holding companies to account and engaging with material carbon emitters, we believe that we can better mitigate climate-related risks and benefit from climate-related opportunities.

Our stewardship activities are not limited to only our actively managed holdings. As previously mentioned, a significant proportion of our AUM, particularly our Japanese equity AUM, is passively held. This limits our influence since we do not have the ability to reduce or divest these holdings. However, our Japan Sustainable Investment Department has been actively working to influence positive change at target companies on core ESG themes even where these companies are held only in passive portfolios. This is an ongoing, multi-year project with a strong focus on climate change, among other pertinent ESG topics.

Engagement activity

As highlighted in the section Bottom-up analysis: Proprietary ESG-integrated approach, ESG is integrated into our investment process, with investment teams engaging with our companies on relevant ESG issues both before and during the period of investment.

Our regional ESG specialists also perform more thematic engagements (for example, in relation to our responsibilities under NZAMi and CA100+), but the analysts and portfolio managers in our investment teams are ultimately responsible for engaging with the companies they cover and assessing the ESG risks and opportunities that inform portfolio buy and sell decisions.

In 2022, across all regions, 37% of our ESG-related engagements focused on the environmental pillar, on topics such as climate change.

Our engagement methods vary according to the needs of the situation. They include the following:

- one-to-one company dialogues, including on-site visits
- management calls and roadshows
- written communications
- collaborative engagements

Where we engage with companies to shape corporate behaviour and influence positive change, we may escalate the discussions. The escalation methods vary across asset classes and regions. We describe them in more detail in our Nikko Asset Management Group Engagement and Stewardship Strategy. Escalation case studies are shared in our latest response to the UKSC 2020.

Voting activity

Proxy voting is one of the major elements of our stewardship activity in our equity portfolios, and we take great care to ensure that our voting serves the interests of both companies and clients. Where we invest through passive strategies, we strive to incorporate stewardship through the voting of proxies and the engagement process, where appropriate.

The Nikko AM Group Proxy Voting Policy establishes our company-wide approach to proxy-voting decisions. This policy establishes the principles we use for determining the exercise of voting rights at the group level. Implementation of the group-wide policy is undertaken by our local businesses, with the freedom to interpret the rules to suit local conditions. This gives our regional investment teams the ability to tailor their approach to stewardship according to the attributes of the local market. As a result, there are some variations in how stewardship activities, including voting, are implemented across the group. For example, our UK entity and Japan Equities Team have supplemental proxy-voting policies (**Proxy Voting Policy UK Addendum**; **Standards for Exercising Voting Rights on Japanese Stocks**) that address environmental and social principles, such as climate change.

Over 2022, we analysed 7,274 shareholder meetings and voted on 75,242 resolutions. We cast votes on all shares where there were no legal, client or technical constraints.

Over the past few years, we have noticed a rise in shareholder resolutions filed against companies that are climate laggards or are not transitioning. Recently, during the 2023 AGM season, we supported several climate-related shareholder resolutions filed against some of the biggest Japanese corporations, such as Toyota, Mitsubishi Corporation, and Tokyo Electric Power Company (TEPCO). We will continue to support climate-related shareholder resolutions where appropriate.

Case study: engagement by asset class (Japan equity)

Our largest AUM lie in our Japanese equity investments, with a large proportion held in passive portfolios. Although this limits our ability to eventually divest from the company, we continue to use our influence to drive change through active ownership activities.

Our Japanese equity investment teams have a deep understanding of local markets and the intricacies of Japanese corporate culture, which helps us develop relationships with the companies in which we invest. Sources of information extend beyond written forms, such as financial statements, sell-side research, and local news flow, with managers placing an emphasis on direct contact with company management, including site visits. We are one of the largest asset managers in Japan, where the market generally tends to be under-researched by non-domestic peers, and our local presence in Tokyo helps to facilitate dialogue with companies. Over the years, we have been able to establish strong local relationships, providing us with unique insights, investment opportunities that might have otherwise been overlooked and the ability to undertake unusually far-reaching stewardship.

Since August 2021, a key focus of the Japan Sustainable Investment Department (previously known as the Active Ownership Group or AOG) has been to work with portfolio managers and analysts in the Japan Equity Department to engage with large and mid-sized firms specifically on ESG issues. In deciding which firms to engage with, we base our priorities on several stewardship considerations, including ESG, corporate earnings, asset efficiency, and shareholder return. After each engagement, a report is created to track progress and is shared internally. Feedback is also provided to active investment portfolio managers. Since August 2023, the department has been fully incorporated into the Global Sustainable Investment Department, which increased its scope to cover all the asset classes managed by our Japanese investment teams.

In 2023, the Japan Sustainable Investment Department revised its **Key ESG Themes** (from three in 2021 to six) for engagement with our Japanese equity investments. Selection of the key themes keeps in view evolving societal and market developments, such as changes in the social environment, corporate awareness, and consumer preferences. We believe that these selected themes will contribute to better investment returns in the medium-to-long term. In particular, the two key priorities identified as part of the environmental pillar are *action for a decarbonised society* and *biodiversity*.

The shift toward a decarbonised society is creating growth opportunities for companies with environmentally friendly technologies. At the same time, decarbonisation and other such changes put companies at risk of potential cost rises, and their brand power may be damaged if they fail to take sufficient action. This is making decarbonisation increasingly important as a driving force for future corporate value. We use our engagement to urge firms to address these changes: for example, by allocating business resources to related fields and preparing for the associated risks. Our analyses of companies' actions in this area are pivotal to our assessments of their corporate value.

Reference to individual stocks is for illustration purpose only and does not guarantee their continued inclusion in any portfolio, nor constitute a recommendation to buy or sell.

Market collaboration

Climate change is not an isolated issue but a systemic risk that affects every region and every sector — be it directly or indirectly. Collective action is needed, not just from corporations and governments, but also from the financial sector (through both private and public financing vehicles) to direct funding towards sustainable solutions. Accordingly, we participate in and support various initiatives that aim to drive real-world impact to mitigate climate risks and seek climate opportunities.

Additionally, as part of our commitment to meeting international standards, we are continually improving many of our existing frameworks, policies, and disclosures. For example, and as outlined below, in 2022 we developed and disclosed our 2030 net-zero target under the Net Zero Asset Managers Initiative. Market collaboration is described in more detail in our latest response to the UK Stewardship Code.

Collaborative engagements

In some instances where one-on-one company engagements deliver insufficient progress, we believe that collaborative engagements with like-minded investors can increase shareholders' influence on companies' corporate behaviour and ESG performance.[7]

Our regional investment offices select the most suitable and effective engagement methods for their portfolios. Although we are seeing increasing investor collaboration efforts across regions, this engagement method is still relatively uncharted in some parts of the world. In some parts of Asia, for example, one-on-one engagements can be viewed as more constructive and culturally appropriate to build on trust. In Japan specifically, we participate in collaborative engagement while taking into consideration the possibilities associated with joint shareholdings.

Mindful of these important regional nuances and our commitment to constructive, positive, and pragmatic engagements, we carefully select our engagement methods while remaining committed to supporting collaborative engagements.

In 2022, we participated in multiple climate-related collaborative initiatives organised by Climate Action 100+ (CA100+) and the Asia Investor Group for Climate Change (AIGCC), outlined in our case studies below. These initiatives enable not only collaborative engagement with corporates but also collaborative discussion among like-minded peers through working groups. Over 2023, we ramped up our engagement efforts under CA100+, taking on a co-leading role in an engagement with Mitsubishi Heavy Industries, one of the world's biggest manufacturers of gas turbines.

In 2022, we supported a letter put together by the Investor Agenda, communicating to governments, our investor expectations on climate change. In 2023, we engaged policymakers and governments in other ways, through participating in regulatory consultation papers on their climate initiatives, directly with ministries, or through state-owned enterprises where possible.

[7] Coordinated Engagements: **https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3209072**

Case study: engagement with UltraTech (CA100+)

CA100+ is an investor-led initiative that seeks to collaboratively engage with the world's largest GHG emitters to reduce their emissions. In 2022, our Asia ex-Japan Equity Team participated in the collaborative engagement with UltraTech, India's biggest cement company.

UltraTech operates in a hard-to-abate sector in a country whose electricity supplies are dominated by coal-fired power. As a result, its carbon intensity is one of the highest, both in Asia and among its peers. Over the years, there has been little material improvement in the company's carbon intensity, and it had yet to announce a strategy to move towards a lower-carbon future. In 2021, the company's high emissions had caused us to sell the shares held in our Asia Ex-Japan Equity regional portfolios, where emission-intensity benchmarks are relatively tight. However, we continued to hold the shares in our Indian equity portfolios, where benchmark emission intensities are relatively high and where UltraTech is part of the index. Having already engaged the company directly ourselves with little noticeable effect, we believed the company represented an important target for a collaborative effort by CA100+.

In our previous direct engagements with UltraTech, our focus had been on getting the company to improve its current carbon emissions. The focus of our collaborative engagement was more on strategy and, specifically, that set by the Disclosure Framework Indicators established by CA100+. As a result, our priority targets for UltraTech in 2022 and 2023 were as follows:

- to reduce GHG emissions in the years to 2025 on a clearly defined path (Indicator 4)
- to lay out a decarbonisation strategy that explains how UltraTech intends to meet its medium- and long-term GHG-reduction targets (Indicator 5)
- to make a commitment to aligning its capital-expenditure plans with its long-term GHG-reduction target or to phase out planned expenditure in unabated carbon-intensive assets or products (Indicator 6)
- to introduce an executive remuneration scheme that includes climate-change performance elements (Indicator 8.2)
- to acknowledge that it has responsibility for helping achieve a just transition to a net-zero economy (Indicator 9)
- to make a commitment to implementing the recommendations of the TCFD (Indicator 10)

We were encouraged by the latest CA100+ investor group meeting, noting that UltraTech had been receptive to what participants had to say and had since incorporated some recommendations in its latest sustainability report. These included the following:

- adopting TCFD disclosures and conducting physical- and transition-risk analyses
- having its carbon targets verified by the UN-backed Science Based Targets initiative, with the aim of reducing GHG emissions by 27% by 2032 — in line with the global target of cutting climate warming to 2°C
- committing itself to net-zero carbon by 2050

We will continue to engage UltraTech, both directly and collaboratively as part of CA100+, and will monitor the company's progress in delivering its transition strategy in accordance with its interim and long-term targets.

Reference to individual stocks is for illustration purpose only and does not guarantee their continued inclusion in any portfolio, nor constitute a recommendation to buy or sell.

Case study: engagement with Perusahaan Listrik Negara (PLN) (AIGCC)

The AIGCC is an initiative to create awareness and encourage action among Asia's asset owners and asset managers about the risks and opportunities associated with climate change. In 2022, we participated in one of their working groups, the **Asian Utilities Engagement Programme (AUEP)**, which seeks to collaboratively engage with Asia's systematically important electric utilities to increase the effectiveness of climate engagement with a common agenda.

In 2022, our Asia Fixed Income Team participated in the collaborative engagement with Perusahaan Listrik Negara (PLN), Indonesia's only vertically integrated electricity utility, whose bonds we own in our Asia Fixed Income portfolios. The state-owned company is the country's dominant provider of power generation, transmission, and distribution, accounting for more than 70% of electric-power production. The company is also the sole buyer for Indonesia's independent power producers.

With a total installed capacity of around 45.9GW, close to 90% of PLN's production is powered by thermal sources, exposing the company to high risk in the transition to zero carbon. Not surprisingly, the company scores poorly among APAC utilities for both absolute and relative carbon emissions. In addition, PLN's governance continues to lag global peers. The Indonesian government appoints half the directors of the board, severely limiting its independence.

In the light of these environmental and governance issues, the AUEP is aiming to engage with the board and senior management to secure several commitments:

1. To strengthen the governance framework to ensure the board's accountability and oversight for climate-change risks and opportunities. Specifically, to clarify the role and responsibility of the Sustainability Committee in the implementation of PLN's decarbonisation strategies
2. To draft action plans to reduce GHG emissions in line with the Paris Agreement of the UN's 2015 Climate Change Conference. This covers decarbonisation strategies, requiring a timetable to phase out coal-based emissions in less-developed economies by 2040 at the latest, with similar commitments for natural gas
3. To provide enhanced corporate disclosure in line with the final recommendations of the TCFD
4. To outline the physical risks the company faces from climate change and the strategies it is adopting to mitigate these risks
5. To engage with policymakers and other stakeholders to support cost-effective policy measures to mitigate climate-related risks and facilitate low-carbon investments in line with achieving net-zero emissions by 2050 or sooner

In September 2022, we participated in our first collaborative engagement call with other members of the AIGCC who were engaging PLN as part of the AUEP. The call was held with PLN's climate-change team. The team presented five possible routes that the company's decarbonisation pathways might follow. Based on the accelerated scenario, it outlined in more detail the company's roadmap to net zero by 2060, which would see its emissions peak in 2030, in line with Indonesia's national target. As part of these plans, the company has committed itself to building no new coal-, oil- or unabated gas-based power plants after 2030, making hydropower the dominant energy source in its renewables mix.

From PLN's perspective, four key issues need to be unlocked for the company to accelerate its net-zero emissions target. These are as follows:

- ensuring supportive electricity pricing
- maintaining favourable finance channels
- deploying new technologies, such as carbon capture, utilisation and storage, and hydrogen power, in large scale in Indonesia
- increasing support from public policy, such as incentives for the adoption of electric vehicles

Over 2023, we continued to collaboratively engage with PLN through the AIGCC and will continue to actively monitor its compliance with decarbonisation strategies over the short, medium, and long term, with a particular focus on the timetable to phase out coal-based emissions in line with 1.5°C temperature scenarios.

External commitments

In line with our firmwide stance to drive real-world impact and enable decarbonisation, we have made several commitments, one being to align our assets with net zero by 2050. In 2021, therefore, we joined **NZAMi**, and in 2022 we submitted our initial disclosures and interim 2030 target. We committed to a 50% reduction in carbon footprint for 43% of our total assets — as compared with our 2019 baseline. More details on the methodology behind our NZAMi commitment and the progress made towards it are outlined in Metrics and Targets (page 39).

Additionally, in becoming a signatory to NZAMi, we have committed to creating investment products aligned with net-zero emissions by 2050 and to facilitating increased investment in climate solutions. In December 2022, our Japan Investment Technology Department launched a Japanese Equity Climate Change Solution Strategy. As detailed in our **2023 Sustainability Report** under Japan Investment Technology Team (pages 18–20), the portfolio aims to achieve a 50% reduction in GHG emissions versus the TOPIX while minimising tracking error against the index. Details on the conceptualisation of the strategy can be found in our whitepaper **Climate change solutions in Japan**, recently published by Masayuki Teraguchi, Head of Japan Investment Technology Department.

Additionally, there has been a significant number of regulatory developments in the European Union in relation to ESG issues, notably the Sustainable Finance Disclosure Regulation (SFDR) categories. This has coincided with rising investor demand for products that integrate material ESG factors from both valuation and wider environmental/ social-impact perspectives.

To address both these points, we put a global framework in place in 2022 to allow products to be elevated to a higher SFDR categorisation. This framework consists of minimum ESG criteria that must be integrated into the investment process for a product to achieve a certain SFDR status. These criteria include, for example, negative screens or exclusions, positive screens (screening for companies that have enhanced ESG characteristics) and portfolio-level targets, such as lower GHG emissions.

To ensure that the minimum criteria have been met, all candidates for a change in SFDR categorisation have to pass through an internal process. This includes their initial adaptation by the investment team and ESG specialists to include the requisite ESG characteristics, followed by internal approvals.

In addition to collaborative engagements on climate change, we continue to support and participate in industry initiatives that will further the sustainability agenda. The following is a list of initiatives that we support, participate in, or are signatories to:

- TCFD
- Net Zero Asset Managers initiative (NZAMi)
- GFANZ (Glasgow Financial Alliance for Net Zero) Japan Chapter
- Climate Action 100+ (CA100+)
- Asia Investor Group on Climate Change (AIGCC)
- The Investor Agenda
  - Global Investor Statement to Governments on the Climate Crisis
- CDP
- The UK Stewardship Code (UKSC)
- Japan Stewardship Code
- United Nations Principles for Responsible Investment (UN PRI)
- International Corporate Governance Network (ICGN)
- 30% Club Investor Work Group (Japan)
- Women's Empowerment Principles

In 2023, we look to further collaborate with and support ongoing industry initiatives, and to participate in initiatives that engage on the other facets under the environmental pillar. Accordingly, we have signed up to Nature Action 100, a global investor-engagement initiative on nature and biodiversity loss, as well as VBDO, an investor initiative on plastic pollution.

03
Risk Management

Risk Management

Overview

The Nikko AM Group Board has ultimate responsibility for the management, direction, and performance of the group.

The Nikko AM Group Board delegates responsibility for day-to-day decision-making to our Global Executive Committee (GEC). Further delegation then occurs to relevant departments across the business.

The Group Risk Management Department oversees the risk management of the group apart from compliance risk (which is overseen by our Legal & Compliance Department). The Risk Management Department reports on risk to the GEC via the Risk Oversight Committee and, periodically, to the Group Board.

Each of our group entities manages risk in line with our Group Risk Management Policy. As part of this, each entity has its own risk department and committees, which report into the central Risk Oversight Committee. Through this governance, we enable regional flexibility while retaining central oversight and reporting.

Within each region, quarterly risk reports are typically prepared by the executive owner of each risk. These quarterly assessments detail an overall summary position of the risk, highlighting key issues, key events and potential future exposures. These are presented to the relevant regional risk committee and then up through our group structure.

Risk identification, assessment, and management

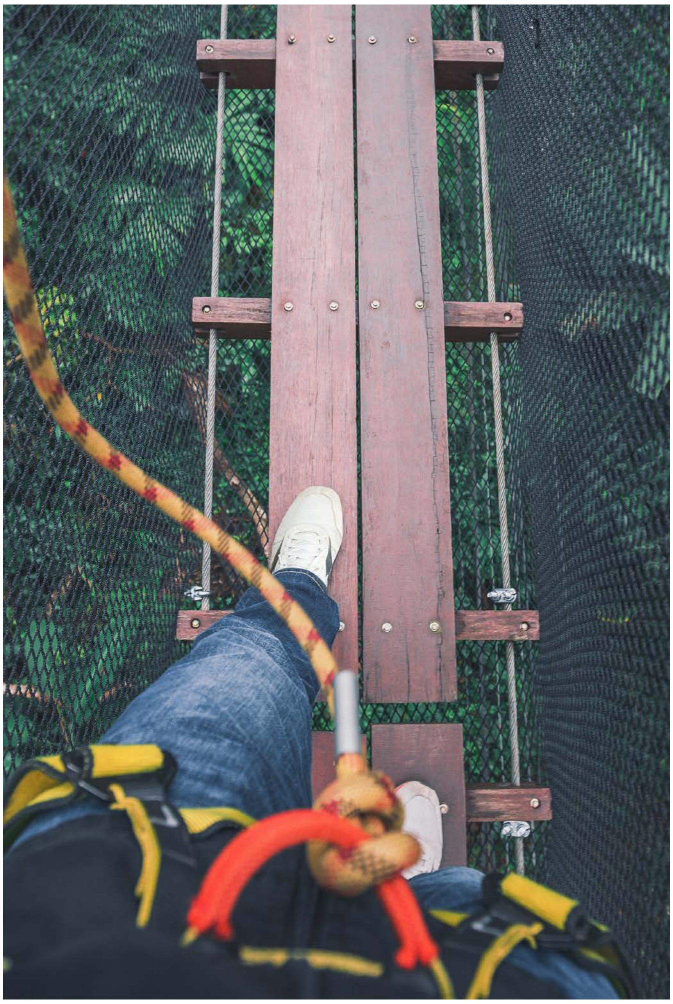
Risk appetite

For the group, the willingness to take on risk is determined at a local level by the respective boards, with oversight from the GEC in Tokyo.

Risk appetite defines the nature and level of risks considered acceptable to the group as part of our day-to-day operations. It forms the basis against which risks are monitored and reported.

Our risk appetite is developed and agreed by the board. It is inextricably linked with global and local strategy, business plans, and shareholder and client expectations; it is a fundamental component of the risk-management framework.

Climate-related risk is viewed as a "risk driver" — a potential internal or external event that creates or influences existing risks. For example, heightened physical or transition risk in our portfolios leads to greater investment risk — the risk that our portfolios underperform against objectives, targets, or benchmarks.



"Three lines of defence" model

Nikko AM operates a "three lines of defence" model to assign risk-management responsibilities. This model is based on the principle that, to be effective, risk-management capability must be embedded in front-line teams with independent oversight and assurance.

- **First line of defence**
  The first line of defence is the departments themselves (and their relevant heads/leads). These functions are directly involved in each business and operation of the group and so are responsible for risk identification (including climate-related risks), assessment and control (in line with the group-defined risk appetite). An annual risk and controls self-assessment process is conducted to ensure that functional risks and controls are periodically reviewed and updated.

- **Second line of defence**
  Oversight departments such as risk, compliance, and legal form the second line of defence. These departments are independent from the first line and conduct ongoing monitoring to ensure the effective application of our risk-management framework. Monitoring of climate-related risk within our investments is a good example of this in action. Our investment teams use relevant tools and analysis to make investment decisions. This includes climate-related risks, opportunities, and supporting metrics. Our second-line investment-risk team performs independent monitoring of our portfolios. Where appropriate, it will challenge our investment teams on levels of climate-related risk, with any conclusions and actions documented. We are continuing to refine and support this process with additional data capabilities.

- **Third line of defence**
  The Internal Audit Department undertakes internal audits of Nikko AM group companies and evaluates the design, implementation, and effectiveness of internal controls over processes within the group, including governance, risk management, and compliance with laws and regulations. Audit engagements are performed based on an annual audit plan approved by the Group Board, and audit results and status of follow-up on the implementation of corrective action plans are reported directly to the Group Board.

Operation and monitoring

Identify and manage risks that occur in their business function that could threaten the achievement of the business unit objectives.

Responsible for complying with the Risk Management Methodology including the completion of risk assessments.

Verification

Provides independent oversight of the first line of defence.

Assess and oversee risk at the firm level employing a risk-based approach focusing on the key risks.

Responsible for the development of the risk management policies, systems and frameworks.

Oversight and independent assurance

Provide independent challenge and objective assurance regarding the design and effectiveness of the internal controls framework.

Responsible for providing assurance to Nikko AM Senior Management and Audit Committee on all aspects of Risk Management and control arrangements.

Risk lifecycle

- The process of identifying, assessing, and managing risk is broadly applicable to both the investments we manage and our own operations
- In the identification of risk, each business unit adopts an approach to ensure that all known risks are clearly identified and the estimated exposure to this risk is reported and escalated through the company. Risks can be identified and described in terms of their potential impacts and the likelihood of those impacts
- From a climate-related-risk perspective, we primarily monitor their impacts on our investments

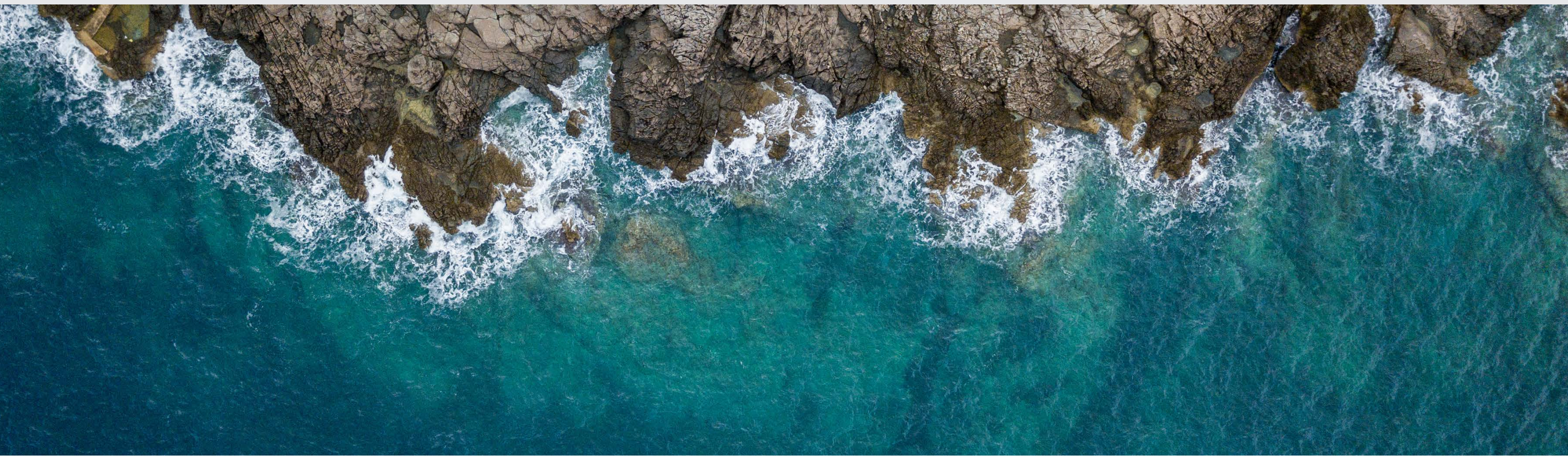
Our approach to the management of climate-related risk is described in the sections below:

Climate change as a driver of group risk

A risk driver is a potential event in our internal or external environment that causes risk. We believe that the impact of these risk drivers must be considered in the management of each of our risk categories. As mentioned earlier in this report, Nikko AM recognises the importance of climate change and the physical and policy-related impacts, or risks, that it creates. As an organisation, we view climate-related risks predominantly as cross-cutting drivers of existing risks. Over the past 12 months, we have undertaken a project to ensure that these risks are further explicitly integrated into our risk-management framework.

As we are an asset manager, climate risks from our investments are the most material to our business, so they form our key focus. However, work has commenced in some of our regional subsidiaries to integrate climate-related risks across our full taxonomy of risks, including operational risks. The table below highlights the group's key risks for which climate-change drivers have been identified on either a global or regional basis.

Risk type	Description	Comments
Investment	Risk that Nikko AM portfolios underperform against benchmarks, objectives, or competition	We view the potential impact of climate change on our investments as one of the drivers of group risk. Exposure of our companies to heightened physical and transition risks exposes our portfolios to potential loss. This may have negative impacts on our ability to maintain or grow AUM.
Compliance	Risk that the group may fail to meet its regulatory obligations. This includes the failure to meet new requirements as they are established	Climate change has driven various national commitments and regulatory frameworks worldwide. Policy risk impacts the group through an increasing number of climate- or ESG-related regulatory requirements with which we must comply. Failure to meet these requirements may result in regulatory sanctions/fines and/or litigation
Operational	Risk of loss or other business impacts resulting from inadequate or failed internal processes, people, systems, or external events	Climate change can lead to some potential negative impacts on our business operations. Within our European entity, as described later in this report, climate and other ESG risks are being integrated across the risk-management framework. These risks can lead to business costs resulting from supplier disruption, systems failure, and other related operational events.



Managing climate-related risks within our investments

Climate-related risk is being embedded into existing processes and procedures across the group. This includes surfacing relevant information through governance structures across our investment, risk, sustainable investment, and corporate sustainability functions.

As highlighted earlier in this report, our investment teams identify attractive companies through in-depth bottom-up research based on their own philosophy and approach. This already includes understanding how ESG risks (and opportunities) may impact value. The section Bottom-up analysis: Proprietary ESG-integrated approach highlights how our investment teams integrate ESG factors, including climate, into their decision-making process.

Additionally, to monitor risks on an ongoing basis, we conduct frequent investment-risk monitoring on portfolios and benchmarks. We incorporate two levels of assessment: a global baseline, which focuses on GHG emissions; and a regional "top-up" approach, which allows for additional monitoring of further climate-related risks. Many of Nikko AM's regional offices already have frameworks in place to monitor GHG emissions, but work is underway to further advance these processes across regions and asset classes. We will report on the progress in next year's TCFD report.

To conduct our analysis, we utilise data from a third-party vendor, as outlined earlier in this report.

To ensure accuracy of our metrics, we will utilise a two-stage process:

1

As a first stage, all funds will be monitored by our Risk Department. Our process will use existing frameworks and process to ensure a high-level overview of risk across all portfolios. All data will be provided by our primary data provider, but calculations will run "in house" to allow customisation for our needs.

2

As a second, independent stage, our Global Sustainable Investment data team will work with front-office departments to develop independent analysis. While the data will be provided by the same data provider, all calculations will be run independently, with further customisation to meet end-user needs.

Through this two-stage process, we are seeking to ensure accuracy and ensure that the analysis is usable for all parties. The independent processes help us to achieve two lines of defence and ensure a robust data-quality process with appropriate checks and accountability.

04
Metrics and Targets

Metrics and Targets

Overview

In working towards our goal of aligning our portfolios to net zero by 2050, we use a range of metrics to track and monitor our progress but also to mitigate climate-related risks and capture opportunities. As a signatory to the NZAMi, we completed our initial target disclosures[8] in 2022, committing to 43% of our assets (or USD 115.68 billion) to be managed in line with net zero. Our interim 2030 target is a 50% reduction of our portfolios, relative to our 2019 baseline (84.7tCO2e/USD million invested).

Our TCFD report focuses on the investments we manage. Disclosures on our corporate operations can be found in our **Nikko AM Environmental Report 2022**, where we outline our **Nikko AM Group Environmental Policy** and how we are managing our operational carbon emissions.

Scope of the metrics and targets

The metrics below capture our carbon emissions for CY2021 and CY2022 (years ending 31 December 2021 and 31 December 2022, respectively) for the listed equity and fixed-income corporate holdings in our in-scope portfolios.

Metric	Definition
Absolute carbon emissions (tCO2e)	Total GHG emissions of a portfolio.
Carbon footprint (tCO2e/USD million invested)	Total GHG emissions of a portfolio, normalised by the enterprise value including cash (EVIC) of the portfolio.
Weighted average carbon intensity (WACI) (tCO2e/USD million revenue)	Portfolio's exposure to carbon-intensive companies.

[8] Nikko AM NZAMi Disclosures: **https://www.netzeroassetmanagers.org/signatories/nikko-asset-management-co-ltd/**

Methodology

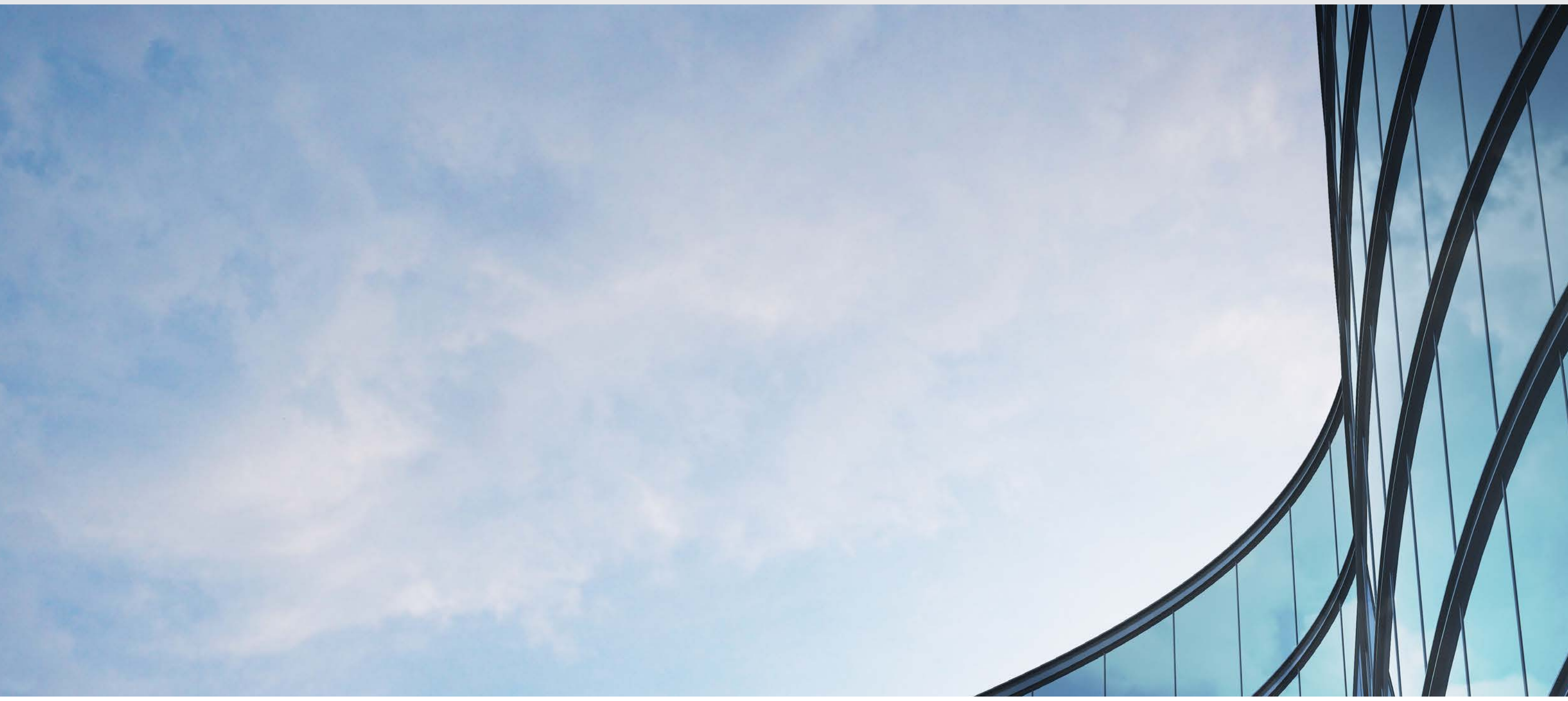
In our previous TCFD reports, we only reported on representative flagship funds. As we look to continuously improve on our disclosures, we have expanded the scope of our reporting to include more portfolios. We have aligned with the Partnership for Carbon Accounting Financials (PCAF)[9] to calculate our absolute carbon emissions and carbon footprint (equivalent to economic emissions intensity under PCAF) and TCFD for weighted average carbon intensity (WACI).[10] While PCAF uses "enterprise value including cash" (EVIC) as the denominator, TCFD uses a revenue-based denominator. We internally monitor and report on all three metrics to obtain a more holistic view for decision-making.

Metric	Equation	Uses	Limitations
Absolute carbon emissions	$tCO2e = \sum \frac{Current\ value\ of\ investment}{Issuer\ EVIC} x\ (Issuer\ Scope\ 1 + 2)$ Emissions are allocated based on equity-ownership approach where the company's emissions apportioned to the portfolio is based on ownership share of the company based on EVIC.	Track changes in GHG emissions of a portfolio on an absolute basis.	Data is not normalised, so suboptimal to compare portfolios or against benchmark.
Carbon footprint	$tCO2e/\$m\ invested = \frac{\sum \frac{Current\ value\ of\ investment}{Issuer\ EVIC} x\ (Issuer\ Scope\ 1 + 2)}{Current\ portfolio\ value}$	To compare portfolios regardless of their AUM.	Sensitive to changes in issuer's EVIC and portfolio weights.
WACI	$tCO2e/\$m\ revenue = \sum \frac{Current\ value\ of\ investment}{Current\ portfolio\ value} x \frac{Issuer\ Scope\ 1 + 2}{Issuer\ revenue})$ Emissions are allocated based on portfolio weights (current value of investment relative to current portfolio value) rather than equity-ownership approach.	To compare portfolio and benchmark.	Revenue base results in a bias towards companies with higher pricing levels. Sensitive to changes in issuer's revenue and portfolio weights.

Calculations were computed in August 2023, when we used the most recent data available for GHG emissions (i.e., Scope 1 and 2) and financial data (i.e., EVIC and revenue). This is in line with the latest Global GHG Accounting and Reporting Standard for the Financial Industry suggested by PCAF. There might be future restatements of numbers disclosed in the past driven by more recent disclosures and changes in methodology, data provider, or data quality.

[9] Partnership for Carbon Accounting Financials (PCAF) Methodology (page 63): **https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf**

[10] Taskforce for Climate-related Financial Disclosures (page 1): **https://www.tcfdhub.org/wp-content/uploads/2022/04/Table-3.pdf**



Reported metrics

The following metrics are reported as of 31 December 2022, for our in-scope portfolios.[11] In the table, we have included aggregated carbon metrics as of 31 December 2021 for an illustration of how we have progressed over the years.

	Asset class	AUM[12] (USD billion)	Absolute emissions (million tCO2e)	Carbon footprint (tCO2e/USD million invested)	WACI (tCO2e/USD million revenue)	Coverage (% AUM)[13]
NAM JP	**Equity**	100.3	6.1	61.1	84.1	99.9%
	Fixed income	1.3	0.3	243.7	369.7	89.7%
NAM ex-JP	**Equity**	10.8	0.6	53.4	148.8	99.6%
	Fixed income	6.5	0.2	63.1	135.6	43.1%[14]
Total (as of 31 Dec 2022)[15]		118.9	7.2	62.4	94.4	
Total (as of 31 Dec 2021)[16]		146.0	7.8	54.9	92.4	

In 2022, absolute emissions have reduced to 7.2 MtCO2e, from 7.8 MtCO2e in 2021. However, both our carbon footprint and WACI have increased slightly. Movements in carbon metrics are not always attributable to a single factor such as company emissions. They have to do with a wide array of factors, including portfolio positioning, changes in revenue, EVIC (which can also change due to market movements), foreign exchange movements such as weakening yen against the USD, and data coverage. Therefore, it is important to evaluate various data metrics to get a full picture of the progress made in the reduction of GHG emissions over the years.

As expected, coverage for equities is substantially higher than for fixed income (for both NAM JP and NAM ex-JP) and more apparent for NAM ex-JP. Our NAM ex-JP assets are largely invested in Asia ex-Japan where data disclosures for the region is still relatively low. We have seen progress made in terms of ESG data disclosures over the years, with ESG-related regulations mandating disclosure of key ESG metrics, such as GHG emissions. As investors, we will continue to engage our holdings to enhance disclosures of key ESG metrics, including GHG emissions.

[11] The in-scope portfolios are the same as those defined under the Strategy section; however, there might be differences depending on data availability.
[12] AUM that is in scope and has data availability.
[13] Based on carbon data availability. The output is represented as a percentage of AUM that is in scope.
[14] Lower coverage is caused by a wide range of issues, including third-party classification methods, which is something we continue to review.
[15] Carbon metrics for 31 December 2022 were run in June 2023. We are using MSCI data points that were produced for 2021.
[16] Carbon metrics for 31 December 2021 were run in June 2023. We are using MSCI data points that were produced for 2020.

Targets

Our net-zero target follows the methodology set out in the Net Zero Investment Framework (NZIF), which draws on the IPCC scenarios.[15] We have committed 43% of our assets (or USD 115.68 billion[16]) to be managed in line with net zero. As a start, our initial target covers our equity strategies, for the following reasons:

- They form the largest portion of our AUM
- Equity analysis methodologies are more established than those for other asset classes
- Data coverage tends to be better for equities

We note that there have been significant improvements made in both the methodologies and data coverage of assets, especially fixed-income assets. As part of NZAMi, we are committed to renew our targets every five years, with the view to be more ambitious with each iteration; we look to incrementally add further AUM and asset classes to be managed in line with net zero.

Our interim 2030 target is to reduce the carbon footprint of our committed assets by 50%, as compared with our baseline year of 2019.[17] Currently, our commitment covers Scope 1 and 2 emissions. To the extent that it is possible, we will include material Scope 3 emissions when data becomes more readily available.

Approach

For our NZAMi commitment we take on an active ownership approach. Our Japan Sustainable Investment Department (part of the Global Sustainable Investment Team) has narrowed down, from over 2,000 companies, a climate-focused engagement list consisting of 70 companies. Of these companies, 60 of those chosen account for 72% of the overall GHG emissions (Scope 1+2) across Japan equity,[18] which makes up the largest portion of our AUM. The remaining 10 were chosen because they are important companies with regard to their Scope 3 footprint. As part of the engagement plan, the team evaluates the companies' corporate initiatives against NZAMi's recommended framework.

We have also been incorporating climate-related considerations beyond Japan. From a top-down angle, several strategies have committed to portfolio-level GHG emissions-reduction targets. For instance, our Global Equity strategy has a commitment to maintain its portfolio's GHG emissions at 20% below those of its benchmark.

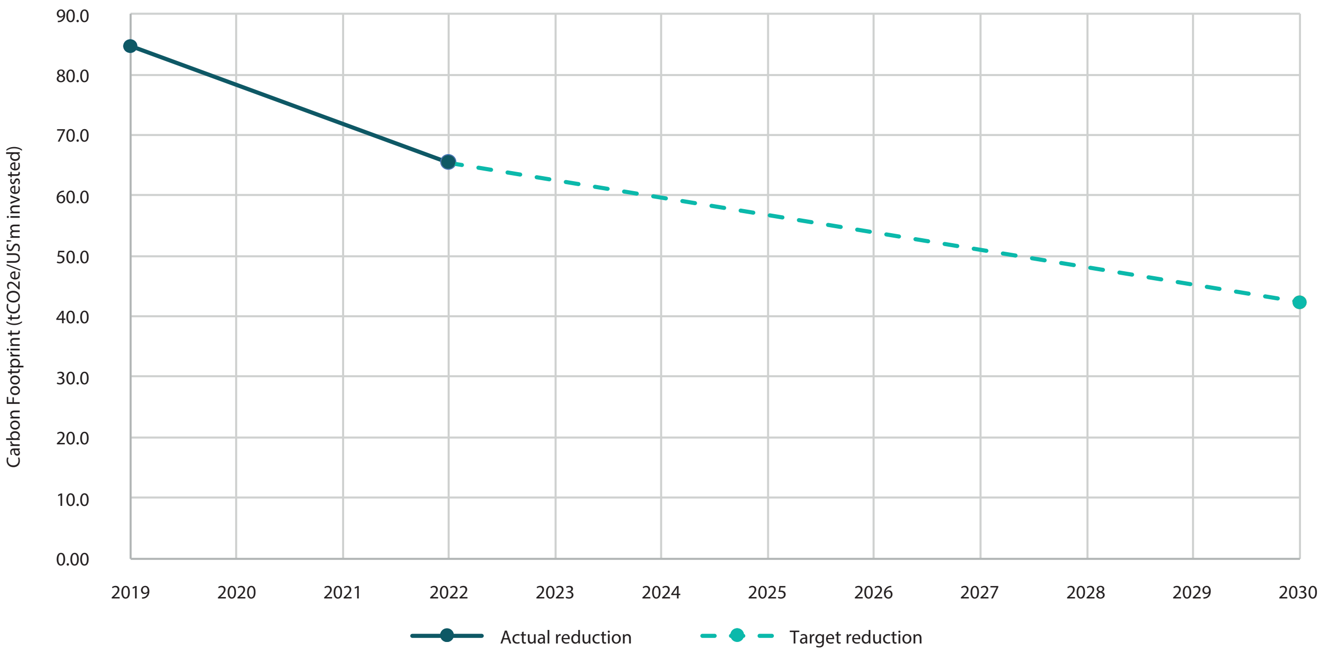
From a bottom-up perspective, climate risks and opportunities are considered as part of the various investment teams' ESG-integrated process, as detailed in Bottom-up analysis: Proprietary ESG-integrated approach (page 22). As we detailed in the sections above, climate-related risks and opportunities are not the same for all companies but depend on the industry and geography, across different time horizons, with varying severity and type of impact. These nuances are taken into consideration as part of the materiality assessments conducted for individual companies in the investment teams' bottom-up analyses. So the investment teams identify climate-related risks where these are material to the company assessed. We believe that stewardship is key to enable collective decarbonisation and as a tool to further assess and manage climate-related risks and seek out opportunities. So, to complement our bottom-up approach, we take an active ownership approach. This allows us to engage companies on their climate-related risks, understand how they are managing their risks and push them to decarbonise. We engage our companies — both directly and collaboratively — to better understand their transition plans and to push them to set more ambitious targets to reduce their emissions.

[15] Net Zero Investment Framework (NZIF): https://www.iigcc.org/resource/net-zero-investment-framework-implementation-guide/
[16] AUM figures as of 31 December 2021
[17] As of 31 December 2019
[18] As of 31 December 2019

Progress towards NZAMi

Since our initial target disclosures in October 2022, we have made progress towards our NZAMi commitment. Figure 13 shows that the carbon footprint of our committed portfolios was 65.4 tCO_2e/USD million invested as of 31 December 2022. This represents a ~22.8% reduction from our 2019 baseline carbon footprint of 84.7 tCO_2e/USD million invested.

Figure 13. Progress towards our NZAMi commitment



We will continue to enhance our TCFD report and climate analytics with further details and analysis, to be disclosed in next year's TCFD report.

Important information This disclosure was developed using information from MSCI ESG Research LLC or its affiliates or information providers. Although Nikko Asset Management Co., Ltd.'s information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties"), obtain information (the "Information") from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy, and/or completeness, of any data herein and expressly disclaim all express or implied warranties, including those of merchantability and fitness for a particular purpose. The information may only be used for your internal use, may not be reproduced or disseminated in any form and may not be used as a basis for, or a component of, any financial instruments or products or indices. Further, none of the Information can in and of itself be used to determine which securities to buy or sell or when to buy or sell them. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein, or any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

This document is prepared by Nikko Asset Management Co., Ltd. and/or its affiliates (Nikko AM) and is for distribution only under such circumstances as may be permitted by applicable laws. This document does not constitute personal investment advice or a personal recommendation and it does not consider in any way the objectives, financial situation or needs of any recipients. All recipients are recommended to consult with their independent tax, financial and legal advisers prior to any investment.

This document is for information purposes only and is not intended to be an offer, or a solicitation of an offer, to buy or sell any investments or participate in any trading strategy. Moreover, the information in this document will not affect Nikko AM's investment strategy in any way.

The information, opinions and data in this document have been derived from or reached from sources believed in good faith to be reliable but have not been independently verified. Nikko AM makes no guarantee, representation or warranty, express or implied, and accepts no responsibility or liability for the accuracy or completeness of this document.

No reliance should be placed on any assumptions, forecasts, projections, estimates or prospects contained within this document. There are a number of factors that could cause actual results or developments to differ materially from those expressed or implied by forward-looking statements and forecasts. Nothing in this report should be construed as a forecast, estimate or projection of future financial performance. This document should not be regarded by recipients as a substitute for the exercise of their own judgment. Opinions stated in this document may change without notice.

In any investment, past performance is neither an indication nor guarantee of future performance and a loss of capital may occur. Estimates of future performance are based on assumptions that may not be realised. Investors should be able to withstand the loss of any principal investment. The mention of individual securities, sectors, regions or countries within this document does not imply a recommendation to buy or sell.

The risk arising from any environmental, social or governance events or conditions that, were they to occur, could cause material negative impact on the value of the investment. Specific sustainability risk can vary for each product and asset class, and include but are not limited to: Transition Risk, Physical Risk, Social Risk and Governance Risk.

Nikko AM accepts no liability whatsoever for any loss or damage of any kind arising out of the use of all or any part of this document, provided that nothing herein excludes or restricts any liability of Nikko AM under applicable regulatory rules or requirements.

All information contained in this document is solely for the attention and use of the intended recipients. Any use beyond that intended by Nikko AM is strictly prohibited.

All information contained in this document is solely for the attention and use of the intended recipients. Any use beyond that intended by Nikko AM is strictly prohibited.

Japan: The information contained in this document pertaining specifically to the investment products is not directed at persons in Japan nor is it intended for distribution to persons in Japan. Registration Number: Director of the Kanto Local Finance Bureau (Financial Instruments firms) No. 368 Member Associations: The Investment Trusts Association, Japan/Japan Investment Advisers Association.

United Kingdom: This document is communicated by Nikko Asset Management Europe Ltd, which is authorised and regulated in the United Kingdom by the Financial Conduct Authority (the FCA) (FRN 122084). This document constitutes a financial promotion for the purposes of the Financial Services and Markets Act 2000 (as amended) (FSMA) and the rules of the FCA in the United Kingdom, and is directed at professional clients as defined in the FCA Handbook of Rules and Guidance.

Luxembourg and Germany: This document is communicated by Nikko Asset Management Luxembourg S.A., which is authorised and regulated in the Grand Duchy of Luxembourg by the Commission de Surveillance du Secteur Financier (the CSSF) as a management company authorised under Chapter 15 of the Law of 17 December 2010 (No S00000717) and as an alternative investment fund manager according to the Law of 12 July 2013 (No. A00002630).

United States: This document may not be duplicated, quoted, discussed or otherwise shared without prior consent. Any offering or distribution of a Fund in the United States may only be conducted via a licensed and registered broker-dealer or a duly qualified entity. Nikko Asset Management Americas, Inc. is a United States Registered Investment Adviser.

Singapore: This document is for information to institutional investors as defined in the Securities and Futures Act (Chapter 289), and intermediaries only. Nikko Asset Management Asia Limited (Co. Reg. No. 198202562H) is regulated by the Monetary Authority of Singapore.

Hong Kong: This document is for information to professional investors as defined in the Securities and Futures Ordinance, and intermediaries only. The contents of this document have not been reviewed by the Securities and Futures Commission or any regulatory authority in Hong Kong. Nikko Asset Management Hong Kong Limited is a licensed corporation in Hong Kong.

New Zealand: This document is issued in New Zealand by Nikko Asset Management New Zealand Limited (Company No. 606057, FSP22562). It is for the use of wholesale clients, researchers, licensed financial advisers and their authorised representatives only

Republic of Korea: This document is being provided for general information purposes only, and shall not, and under no circumstances is, to be construed as, an offering of financial investment products or services. Nikko AM is not making any representation with respect to the eligibility of any person to acquire any financial investment product or service. The offering and sale of any financial investment product is subject to the applicable regulations of the Republic of Korea. Any interests in a fund or collective investment scheme shall be sold after such fund is registered under the private placement registration regime in accordance with the applicable regulations of the Republic of Korea, and the offering of such registered fund shall be conducted only through a locally licensed distributor.

Kingdom of Bahrain: The document has not been approved by the Central Bank of Bahrain which takes no responsibility for its contents. No offer to the public to purchase the Strategy will be made in the Kingdom of Bahrain and this document is intended to be read by the addressee only and must not be passed to, issued to, or shown to the public generally.

Kuwait: This document is not for general circulation to the public in Kuwait. The Strategy has not been licensed for offering in Kuwait by the Kuwaiti Capital Markets Authority or any other relevant Kuwaiti government agency. The offering of the Strategy in Kuwait on the basis a private placement or public offering is, therefore, restricted in accordance with Decree Law No. 7 of 2010 and the bylaws thereto (as amended). No private or public offering of the Strategy is being made in Kuwait, and no agreement relating to the sale of the Strategy will be concluded in Kuwait. No marketing or solicitation or inducement activities are being used to offer or market the Strategy in Kuwait.

Kingdom of Saudi Arabia: This document is communicated by Nikko Asset Management Europe Ltd (Nikko AME), which is authorised and regulated by the Financial Services and Markets Act 2000 (as amended) (FSMA) and the rules of the Financial Conduct Authority (the FCA) in the United Kingdom (the FCA Rules). This document should not be reproduced, redistributed, or sent directly or indirectly to any other party or published in full or in part for any purpose whatsoever without a prior written permission from Nikko AME.

This document does not constitute investment advice or a personal recommendation and does not consider in any way the suitability or appropriateness of the subject matter for the individual circumstances of any recipient. In providing a person with this document, Nikko AME is not treating that person as a client for the purposes of the FCA Rules other than those relating to financial promotion and that person will not therefore benefit from any protections that would be available to such clients.

Nikko AME and its associates and/or its or their officers, directors or employees may have or have had positions or material interests, may at any time make purchases and/or sales as principal or agent, may provide or have provided corporate finance services to issuers or may provide or have provided significant advice or investment services in any investments referred to in this document or in related investments. Relevant confidential information, if any, known within any company in the Nikko AM group or Sumitomo Mitsui Trust Holdings group and not available to Nikko AME because of regulations or internal procedure is not reflected in this document. The investments mentioned in this document may not be eligible for sale in some states or countries, and they may not be suitable for all types of investors.

Oman: The information contained in this document nether constitutes a public offer of securities in the Sultanate of Oman as contemplated by the Commercial companies law of Oman (Royal decree 4/74) or the Capital Markets Law of Oman (Royal Decree80/98, nor does it constitute an offer to sell, or the solicitation of any offer to buy non-Omani securities in the Sultanate of Oman as contemplated by Article 139 of the Executive Regulations to the Capital Market law (issued by Decision No. 1/2009). This document is not intended to lead to the conclusion of any contract of whatsoever nature within the territory of the Sultanate of Oman.

Qatar (excluding QFC): The Strategies are only being offered to a limited number of investors who are willing and able to conduct an independent investigation of the risks involved in an investment in such Strategies. The document does not constitute an offer to the public and should not be reproduced, redistributed, or sent directly or indirectly to any other party or published in full or in part for any purpose whatsoever without a prior written permission from Nikko Asset Management Europe Ltd (Nikko AME). No transaction will be concluded in your jurisdiction and any inquiries regarding the Strategies should be made to Nikko AME.

United Arab Emirates (excluding DIFC): This document and the information contained herein, do not constitute, and is not intended to constitute, a public offer of securities in the United Arab Emirates and accordingly should not be construed as such. The Strategy is only being offered to a limited number of investors in the UAE who are

(a) willing and able to conduct an independent investigation of the risks involved in an investment in such Strategy, and (b) upon their specific request. The Strategy has not been approved by or licensed or registered with the UAE Central Bank, the Securities and Commodities Authority or any other relevant licensing authorities or governmental agencies in the UAE. This document is for the use of the named addressee only and should not be given or shown to any other person (other than employees, agents or consultants in connection with the addressee's consideration thereof).

No transaction will be concluded in the UAE and any inquiries regarding the Strategy should be made to Nikko Asset Management Europe Ltd.

nikko am

Nikko Asset Management