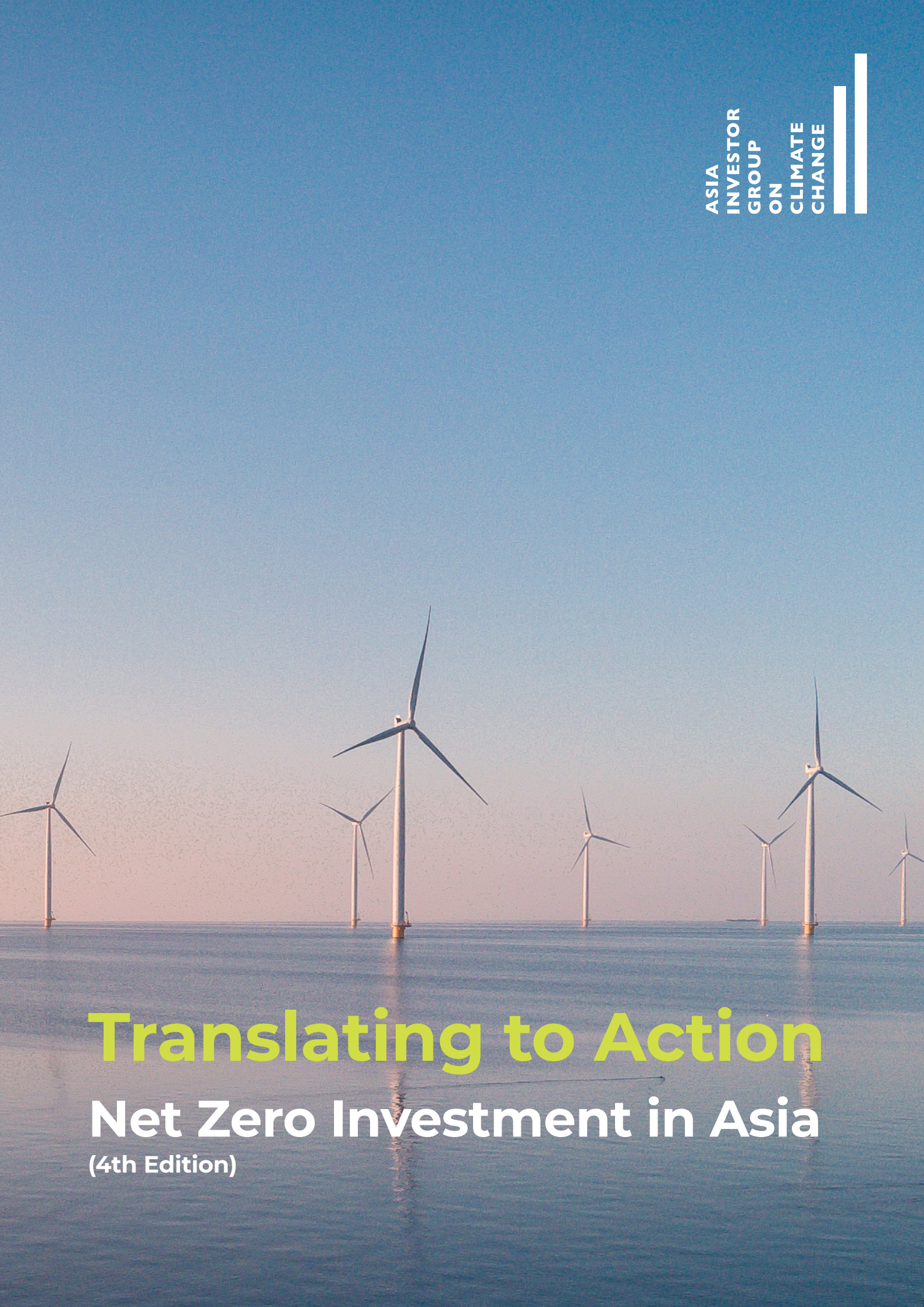


ASIA INVESTOR GROUP ON CLIMATE CHANGE

Translating to Action

Net Zero Investment in Asia

(4th Edition)

About AIGCC

The Asia Investor Group on Climate Change (AIGCC) is an initiative to create awareness and encourage action among Asia's asset owners and financial institutions about the risks and opportunities associated with climate change and low-carbon investing.

AIGCC provides the capacity for investors to share best practices and to collaborate on investment activity, credit analysis, risk management, engagement, and policy. With a strong international profile and significant network, AIGCC represents the Asian investor perspective in the evolving global discussions on climate change and the transition to a greener economy. AIGCC has over 67 members from 11 markets, representing over USD 39 trillion in assets under management.

www.aigcc.net

Acknowledgments

AIGCC would like to thank all the institutional investors who responded to our annual Net Zero Investment Survey and the AIGCC members who helped develop this report. We would like to thank BNP Paribas Asset Management, Dynam Capital, GIC, Invesco, and Sustainable Fitch for providing case studies that form an integral part of the report. Appreciation also goes to AIGCC members and broader stakeholder groups who have helped to make aggregated data from our survey robust and insightful and provided additional input over the course of developing the final report.

December 2022

Table of Contents

Glossary

AIGCC	Asia Investor Group on Climate Change
AIM-CGE	Asia-Pacific Integrated Model
AM	Asset management/asset manager
AO	Asset owners
ASEAN	Association of Southeast Asian Nations
AUEP	AIGCC's Asian Utilities Engagement Program
AUM	Assets under management
BNPP AM	BNP Paribas Asset Management
CA100+	Climate Action 100+
CDP	Climate Disclosure Project
CGT	Common Ground Taxonomy
COP	United Nations Climate Change Conference of the Parties
CO_2	Carbon dioxide
CPS	Current Policies Scenario
CREEM	Carbon Risk Real Estate Monitor
DAC	Direct air capture
EM	Emerging market
ETF	Exchange traded fund
ESG	Environment, social and governance
EU	European Union
EUR	European Euro
EV	Electric vehicle
FI	Financial institution
GHG	Greenhouse gas
GP	General partners
IA	The Investor Agenda
ICAP	Investor Climate Action Plans
ICMA	The International Capital Market Association
IEA	International Energy Agency
IGCC	Investor Group on Climate Change
IIGCC	Institutional Investor Group on Climate Change
IPCC	Intergovernmental Panel on Climate Change
IPR-FPS	Inevitable Policy Response Forecast Policy Scenario

LP	Limited Partners
NDC	Nationally Determined Contributions
NGFS	Network for Greening the Financial System
NZAM	Net Zero Asset Managers Initiative
NZIF	Net Zero Investment Framework
PAII	Paris Aligned Investment Initiative
PAAO	Paris Aligned Asset Owner
PCAF	Partnership for Carbon Accounting Financials
RBC	Responsible business conduct
RCP	Representative Concentration Pathway
RTZ	Race to Zero
SBTi	Science Based Targets initiative
SDG	United Nations Sustainable Development Goals
SDS	Sustainable Development Scenario
SFDR	EU's Sustainable Finance Disclosure Regulation
SIF	Sustainable Investment Fund
SSP	Shared Socioeconomic Pathway
STEPS	Stated Policies Scenario
TCFD	Task Force for Climate-Related Financial Disclosures
TNFD	Task Force for Nature Related Financial Disclosures
UNAOA	United Nations Asset Owner Alliance
UNEP FI	The United Nations Environment Programme Finance Initiative
UN PRI	Principles for Responsible Investment
USD	United States Dollar
VNAS	Vietnam All Share Index
VNH	Vietnam Holding
WACI	Weighted average carbon intensity

Headline Insights

AIGCC has surveyed a group of climate focused investors in Asia. The results from this cohort, with USD 7.9 trillion in assets under management, provide an important insight into how leading investors in Asia are acting on climate and incorporating climate opportunities and challenges into their investment process.

Climate Targets, Metrics, and Measurement

- **Net zero by 2050 targets** – A large percentage of leading Asian investors (41%) are still working toward setting net-zero targets or are unable to do so due to caution around the details and implementation. Some are actively taking steps, such as joining global net-zero initiatives.
    - Asset owners have not included requirements on portfolio decarbonization in their mandates to asset managers, but they have asked most or all their managers to report on their climate engagements and outcomes.
    - Most respondents use emission intensity to present their net-zero targets.
- **Net-zero alignment methodologies** – Survey respondents continue using asset-specific methodologies to measure alignment to net-zero targets at the asset level, with the Science Based Targets initiative (SBTi) being the current methodology of choice to set targets and devise a net-zero strategy.
    - Respondents are also using a combination of various frameworks and methodologies, including the Paris Aligned Investment Initiative's (PAII) Net Zero Investment Framework (NZIF) and Partnership for Carbon Accounting Financials (PCAF).
- **Interim targets (2025 or 2030)** – A large percentage of survey respondents (41%) have yet to set an interim target (by 2025 or 2030) to reach net zero by 2050, but they are actively considering it.
    - Consequently, most respondents have not yet assessed the percentage of their portfolios aligned or aligning with net zero by 2050.
    - Most are determining or looking to calculate their baseline for interim decarbonization targets, climate solutions targets, interim portfolio coverage targets, and interim engagement thresholds.
- **Carbon footprint measurement** – Asian investors continue to increase the coverage of carbon measurement across their portfolios. Most respondents (41%) have measured carbon across their whole portfolio, with an overwhelming majority measuring their carbon footprint across their listed equities and fixed income (including green bonds) asset classes.
    - Emissions measurement across other asset classes, such as private equity, is lagging due to challenges in obtaining data or a lack of tools and standard methodologies.
    - Asset owners are generally not specifying in mandates to managers the requirement for carbon emissions reporting, but they are actively considering requesting external managers to do so in coming years.

- **Climate metrics** – Metrics related to overall emissions are the main disclosures observed, with most disclosing weighted average carbon intensity (WACI) and absolute emissions. However, other metrics linking to asset level or portfolio level are still emerging.

- **Data aggregation** –

  - For emissions data, most respondents use outsourced data, depending on the asset class.

  - For net-zero alignments, some are conducting this assessment in-house, using a range of indicators and data points sourced.

- **Scenario analysis** – Only 25% of Asian investors surveyed have undertaken climate scenario analysis across their whole portfolios, but 41% are actively considering an analysis.

- **Physical risk and resilience** – Physical risk assessment and investment lag behind investor responses to climate mitigation. Only 6% have undertaken an analysis and think their portfolio is resilient, but 53% are actively considering undertaking an analysis.

- **Investor engagement and stewardship** – Despite investment stewardship and corporate engagement being a favored investment strategy among Asian investors surveyed, many have not yet determined a baseline for their financed emissions in material sectors, subject to direct or collective climate engagement/ stewardship actions.

- **Climate solutions investments** – Asian investors who responded to our survey recognize the need to set climate solution targets and invest in climate solutions, with 29% having a public target for investment in climate solutions and 41% actively considering this.

  - Asian investors (59%) use internal frameworks to determine climate solution investments. Many investors also use a combination of methodologies, depending on their asset class.

  - Only 25% or less of asset owner mandates relate to climate solution investing.

  - Investments in climate solutions will be spread across a variety of asset classes, with the majority focusing on public and private equities.

Climate Governance and Strategy

- **Climate policy and fossil fuel investment policy** – Asian investors who responded to our survey now have policies regarding climate investments, and some also have investment policies addressing fossil fuels.

  - Most respondents have included fossil fuel divestment and exclusions as part of investment strategies, with most applying it toward thermal coal.

- **Net-zero investment strategy** –

  - Corporate engagement and shareholder action continue to be the most popular net-zero investment strategy.

  - Investing in the transition to net zero is an integral part of net-zero investment strategies, with 47% investing in transition.

- **Disclosure on climate change** – TCFD-aligned reporting is widely adopted among our respondents, with 69% saying that they had produced TCFD-aligned reporting, and 25% are planning to do so within the next 12 months.

- **Climate Action Plans** – respondents recognize the need to publish Climate Action Plans, with 50% responding that they have published a climate action plan and 29% actively considering it.

- **Executive remuneration on climate** – Most of these leading Asian investors have started to link executive remuneration to delivering climate targets and transitions, with 31% of respondents having already done so and 19% actively considering this matter.

- **Just Transition** – Nearly half of the investors (44%) are materially integrating transition as part of their portfolio management and investment strategies, and another nearly half (44%) are actively considering so.

- **Biodiversity and deforestation** – Many respondents have not yet conducted an assessment or integrated response, with only 13% conducting a detailed assessment of nature and biodiversity risks.

Barriers to Investment

- **Barriers to investment** – Close to half of the respondents (47%) have identified a lack of data as a key barrier to investment, signaling increased demand for nuanced and more granular data and a knowledge gap that needs to be closed.

- **Investor approach to managing policy and regulatory uncertainties** – Most investors (87%) opt to undertake company engagement directly through a third-party provider or collaborative engagement programs, such as the Climate Action 100+ and AIGCC's member-based Asian Utilities Engagement Program (AUEP). These programs effectively align investor expectations in a common agenda and shared objectives, including in climate policy engagements.

- **Policy advocacy undertaken by investors** – 80% of respondents is working collaboratively through supporting investor-backed statements, letters, and calls for climate action.

Summary

AIGCC has conducted this survey for four years, providing a snapshot of leading investors' progress and their approaches to climate-aligned investment, including where they are allocating capital and what barriers or challenges they face when investing in climate solutions in Asia.

It is clear in the 2022 survey that these leading Asian investors have shown **aspirations for their portfolios to reach net zero by 2050**. Although most Asian investors surveyed have not yet set a public net-zero emission target by 2050 or an interim target by 2025 or 2030, most investors stated that they are actively considering doing so. Most investors have measured their carbon footprint across their portfolios, however, this is often conducted internally, resulting in little publicly available and comparable data to ascertain the readiness of Asian investors to implement climate action plans and transition to net zero.

With growing interest among investors in Asia to commit to reduced emissions and to reach a net-zero economy by 2050, work is needed to develop and implement asset alignment methodologies, such as for private equity and infrastructure where investors have indicated their near-term implementation intentions. These leading Asian investors also recognize the need to invest in climate solutions. Despite investment stewardship and corporate engagement being a favorable investment strategy among Asian investors, many have not set a baseline for engagement targets.

A lack of more specific data is now the main barrier to investment for most Asian investors surveyed, compared to previous years where investors noted a lack of tools and methodologies as the main barrier. **However, this also signals an increased sophistication among investors in their interpretation of available data and the increasing demand for more granular data at company and asset levels.** More investors are undertaking carbon footprint measurements across their whole portfolios and asset classes and investors have stated the difficulties in obtaining Scope 3 emission data and are currently relying on estimates.

AIGCC will continue to support the growing appetite among Asian investors for tools, frameworks, and resources to assist implementation and acceleration of the transition to net zero through climate-aligned investments.

We look forward to working with our members to develop investable solutions to facilitate the transition to a resilient, net-zero emissions economy.

Chapter 1: Background Information

This report provides crucial information on the investment practices of companies investing across Asia. It aims to provide deeper insight into the preferences for current and future investment in climate-aligned solutions and perceived barriers to investment by asset owners and fund managers in the region.

In its fourth year, the survey identifies emerging trends and offers further insights into net-zero investments in Asia.

This report primarily uses the AIGCC's net-zero investment survey conducted in October 2022. The AIGCC surveyed institutional investors regarding current and future appetites for net-zero, low-carbon, and climate change-aligned investments. The survey structure is in line with the key goals of the PAII NZIF and Investor Climate Action Plans framework. Investors that have made good progress against the key points in this survey can be more confident that they are keeping up with other leading institutional investors in portfolio climate integration.

We have introduced a new structure to our survey this year by dividing it into four main categories:

- **Climate metrics, targets, and measurement:** net-zero methodologies, targets (2050 and interim), carbon footprint, scenario analysis, physical risk and resilience, engagement targets, and climate solutions targets
- **Governance and strategy:** climate action plans, executive remuneration on climate, fossil fuel policies/divestment/exclusions, biodiversity and just transition, and investment mandates
- **Investing in opportunities**
- **Barriers to investments**

This year, 17 investors[1] with over USD 7.9 trillion in global assets under management (AUM) responded to the survey. The respondents included a mix of asset owners and asset managers active in Asia. Many respondents were large investors (the mean AUM was approximately USD 460 billion), and it is reasonable to characterize the group as well-resourced. Due to being within AIGCC's network, it is also reasonable to expect that they are among the more advanced and progressive tiers of investors in Asia in terms of climate-aligned investment practice. Additional qualitative information was sought, enabling participants to provide further depth to their responses.

1 The term 'investors' used throughout the survey refers to the collective respondents from all asset owners and managers combined. In some instances, the data are aggregated together for asset owners and managers, and in other instances, are split out. Please note that respondents to our survey also include international investors who have significant assets under management (AUM) in Asia. Although our survey respondents represent a small sample of investors in Asia, they comprise of USD 7.9 trillion global AUM, which we believe to be significant in shaping the trends among investors in Asia.

Chapter 2: Climate Targets, Metrics, and Measurement

Net-zero Pledges and Targets

More Asian investors are actively considering setting portfolio-wide 2050 net-zero emission targets and complementing them with a public interim target by 2030 or 2025 to reduce emissions.

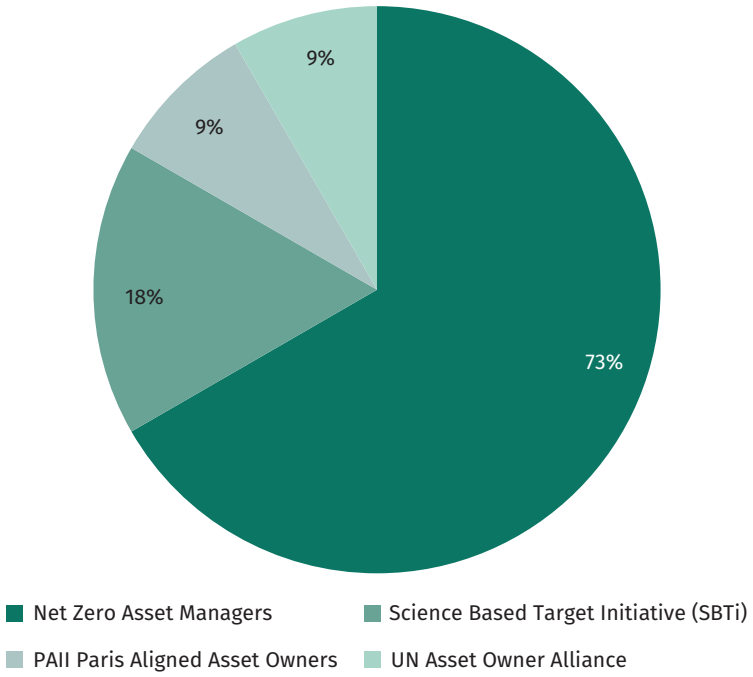
Based on the survey, most respondents had not yet made a net-zero public pledge. Only 29% of respondents had set a 2050 net-zero target for their whole portfolio, and 18% have net-zero targets on some asset classes. Despite this, the growing international net-zero alliance trend has influenced most Asian investors to actively consider net-zero pledges and set targets to align their investment portfolio with the Paris Agreement.

We introduced questions related to setting interim targets to reduce emissions across portfolios in our survey last year, and we continued to include question regarding interim targets in our survey this year as part of investors' net-zero pledges and targets. Similar to net-zero public pledges, most Asian investors (41%) who responded to our survey have not yet set net-zero interim targets to be achieved by 2025 or 2030, but they are actively considering it, with 29% having set targets for some asset classes and only 18% for their whole portfolio.

Exhibit 1: Percentage of investors that have set a 2050 net-zero emission target and public interim target in 2030

Most respondents have set net-zero targets and have made net-zero pledges through the Net Zero Asset Managers (NZAM) initiative (73%). In comparison, 18% made net-zero pledges via SBTi. Others, especially asset owners, made net-zero pledges via PAII Paris Aligned Asset Owners and the UN Asset Owner Alliance. Investors now have more options on methodologies to determine climate-aligned investment solutions compared to previous years, where investors had relied on third-party Environmental, Social, and Governance (ESG) data service providers and other globally available standards, such as the EU Taxonomy.

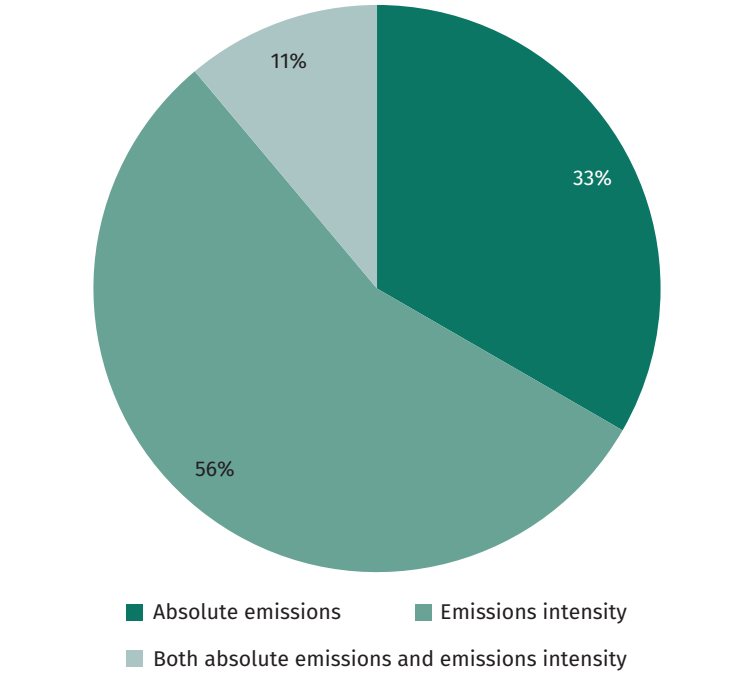
Exhibit 2: Alliances where investors made net-zero pledges



Investors are setting net-zero targets by intensity levels and in absolute terms.

This year, our survey included questions about how investors in the region set their net-zero targets. More than half of the respondents (56%) had chosen emission intensity to present their net-zero targets, and 33% had selected absolute emissions. The remaining 11% had opted for both metrics.

Exhibit 3: Investors presenting their net-zero target



Case Study 1: BNP Paribas Asset Management's Net Zero Roadmap – Spotlight on Asia

BNP Paribas Asset Management (BNPP AM) has been working on sustainable investing for 20 years. In 2021, BNPP AM joined the Net Zero Asset Managers (NZAM) Initiative and committed to achieving net zero portfolio emissions by 2050 or sooner and have set out a roadmap that frames their commitments and the actions they will take.

Initially, BNPP AM will focus on 50% of their assets under management – some EUR 250 billion (USD 524 billion[2], as of Oct 2022). BNPP AM believes that they have the tools and the data to achieve net zero emissions by 2050 for these listed equities and corporate bond holdings and intend to expand this scope to 100% over time. Assets which have not been included in the initial NZ commitment scope include mandates where clients have not yet adopted the responsible business conduct (RBC) policy, advisory business, some affiliate businesses, and some sub-advised funds. Additionally, BNPP AM has removed from the AUM of in-scope assets any investments in sovereign bonds, agency debt, derivatives and private assets to focus only on its holdings of publicly-traded corporate debt at this stage.

BNPP AM's Net Zero Roadmap formally introduces the net zero commitments, grouped into three categories: Investments, stewardship, and operations. Each area consists of individual components totalling ten key commitments. The roadmap will continue to guide BNPP AM activities in Asia to ensure that their investments, stewardship and operations are net-zero aligned.

Investments: Investing in Climate Solutions

BNPP AM believes that sustainable thematic investing can contribute to the net zero transition by investing in companies that facilitate it. Today, BNPP AM is one of the leaders in sustainable thematic investment, with more than EUR 21.4 billion (USD 22.4[3]billion, as of Oct 2022) in sustainable thematic funds that focus on environmental, climate and social themes. Among BNPP AM's strategies in sustainable thematic investment include:

- Sustainable Asian Cities strategy launched in May 2022 – the first sustainable fixed-income strategy with an Asia focus. The strategy targets opportunities for enhancing urban mobility, incorporating low-carbon elements, improving basic infrastructure to help cities operate and thrive, and improving their resilience to extreme weather events.

2 Exchange rate as of 30/6/2022. The scope in USD equivalent is subject to change based on exchange rates between EUR and USD. Our net zero commitment will be based on figures in EUR.

3 Exchange rate as of 30/6/2022. The scope in USD equivalent is subject to change based on exchange rates between EUR and USD. BNPP AM's net zero commitment will be based on figures in EUR.

Net Zero Commitments		
Investments	1.	**Reduce the carbon footprint of our in-scope corporate investments (Scopes 1 and 2)[1]** a) -30% by 2025 b) -50% by 2030
	2.	**Align with net zero** a) 60% of in-scope investments to be Achieving, Aligned or Aligning with Net Zero (NZ:AAA) by 2030 b) 100% of in-scope investments to be NZ:AAA by 2040.
	3.	**Exit coal** We will exclude mining companies that do not have a strategy to exit thermal coal activities, and power generators that still have coal capacity in their generation mix, in 2030 for European Union and OECD countries and in 2040 for the rest of the world.
	4.	**Invest in climate solutions** Substantially increase our climate and environmentally themed investments.
	5.	**Engage with our clients** Engage with our clients to transition towards net zero investing with us.
Stewardship	6.	**Vote for climate action** a) Signal our expectation for companies to report on their carbon footprint, and for the world's largest greenhouse gas (GHG) emitters to set an ambition to achieve net zero by 2050 or sooner b) Vote in favour of thoughtful shareholder proposals and submit proposals of our own to accelerate corporate action on climate change.
	7.	**Engage with companies on net zero** Implement an engagement strategy that is consistent with our ambition for all assets under management to achieve net zero emissions by 2050 or sooner.
	8.	**Advocate for NZ 2050 aligned climate policy** Play an active role in advocating for net zero aligned policy, and seek to ensure that any relevant direct and indirect policy advocacy that we undertake is supportive of achieving global net zero emissions by 2050 or sooner.
Operations	9.	**Reduce our operational emissions footprint** Continue to offset our operational emissions while we improve energy efficiency and use more green energy.
	10.	**Report on progress** Produce TCFD[2]-aligned reporting.

1. "Scope 1" refers to the direct emissions from sources that are owned or controlled by the company. "Scope 2" refers to the indirect emissions linked to the company's purchased or acquired electricity, heat, steam and cooling. "Scope 3" refers to all other indirect emissions, including those related to the use of its products. Scope 3 emissions are not included in the calculation since the measurement of these emissions is not standardised or considered sufficiently reliable yet to be used in reporting. Given the importance of scope 3 emissions in most sectors, we are evolving our approach to calculating scope 3 emissions with the aim of including it in our approach in the future.

- Green Hydrogen ETF – targets companies that produce green hydrogen or renewable energy that power the production of green hydrogen.

- BNP Paribas Emerging Climate Solutions – a newly launched equities strategy investing in companies providing environmental solutions for the sustainable management of land, water, energy, manufacturing and transport in emerging economies, including many in Asia.

BNPP AM will continue to increase our climate and environmentally-themed investments to drive capital toward building a net-zero-aligned economy in Asia.

Stewardship: Engaging with Companies on Net Zero

BNPP AM is implementing an engagement strategy that is consistent with their ambition for all assets under management to achieve net zero emissions by 2050 or sooner. Believing strongly in investors' duty and power to enact change – BNPP AM is engaging with 52 Asian companies in 2021 alone, and are members of 10 public policy-related groups in Asia[4], advocating for strong government policy to ensure that capital markets are allocating capital towards a sustainable future.

As a member of the AIGCC since 2018, BNPP AM has actively been involved in investors' collaborative engagement such as:

- Climate Action 100+ (CA100+): core element of BNPP AM's plan to engage with the highest emitters globally on net zero alignments. BNPP AM leads or co-leads ten CA100+ engagements, with three in Asia – Sinopec, PTT Public Co. Ltd. and Power Assets Holdings Ltd.

- AIGCC Asian Utilities Engagement Program (AUEP): co-led the engagement with CLP because the company may be in breach of BNPP AM's coal policy. During Q3 2021, BNPP AM held detailed discussions with the company and its board to support its target review process. In September 2021, CLP Holdings announced its commitment to net zero emissions by 2050 and coal exit by 2040, setting new science-based targets to align with the goal of limiting global warming to well below 2°C, and announced its ambition to further strengthen its approach to align with 1.5°C, demonstrating leadership in the transition away from coal and towards net zero power generation.

BNPP AM maintains a strong belief that engagement is generally more effective than exclusion, but divestment can be effective as a last resort. BNPP AM also recognizes that without stewardship, the investible universe for net zero investors will shrink.

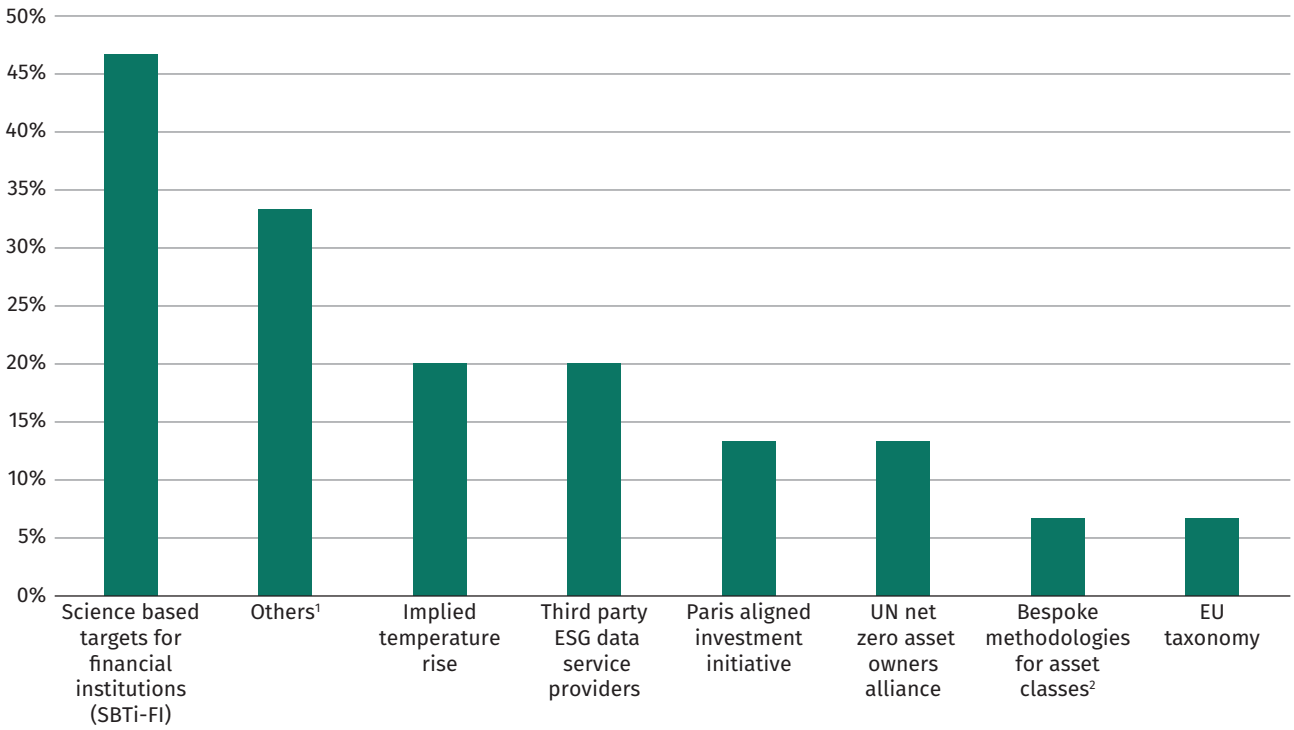
4 Jane Ambachtsheer, BNPP AM's Global Head of Sustainability, was named an inaugural member of the Monetary Authority of Singapore's (MAS) new Sustainable Finance Advisory Panel, which will guide MAS's sustainability agenda and initiatives in the region.

Net-zero-aligned Methodologies

Investors use asset-specific methodologies to measure alignment to net zero at the asset level.

Nearly half of the respondents (47%) chose Science Based Targets initiative for Financial Institutions (SBTi-FI) as a methodology for net-zero or climate-aligned investments. However, 33% stated that they are using a combination of several methodologies, including PAII's NZIF and PCAF.

Exhibit 4: Net-zero or climate-aligned investments methodologies used by investors



Notes:

1. Such as PCAF and a combination of various methodologies.
2. Examples include Germanwatch Climate Change Performance Index (Sovereign Bonds) and Carbon Risk Real Estate Monitor (CREEM) (Real Estate).

SBTi is one of the recommended methodologies proposed for NZAM initiative signatories to set their net-zero targets, in addition to the PAII's NZIF. Our survey structure focuses on how Asian investors formulated their net-zero targets and is thus in line with the key goals of the PAII NZIF, such as setting portfolio coverage targets and engagement thresholds in portfolio and asset levels.

Please refer below for setting and disclosing targets using the NZIF.

Targets: Setting and Disclosing

Setting and Disclosing Targets

To set and disclose targets and objectives, investors can draw on the Net Zero Investment Framework.

There are four targets recommended in the Net Zero Investment Framework 1.0, as follows:

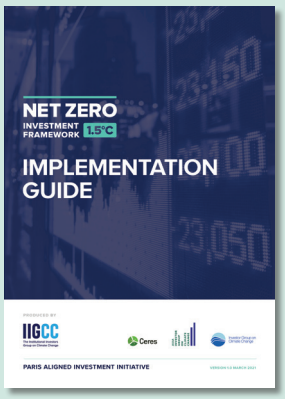
Portfolio-level Targets

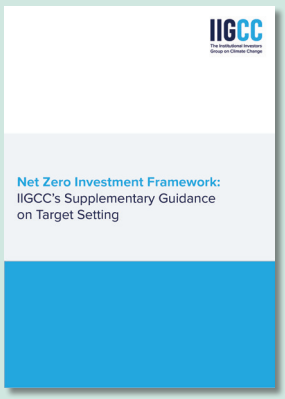
- **Portfolio reference target** – A <10-year CO2e emissions reduction target.
- **Climate solutions target** – A <10-year goal for increasing allocation to climate solutions.

Asset-level Targets

- **Portfolio coverage target** – A 5-year portfolio coverage target for increasing the percentage of AUM in material sectors[5] that are i) achieving net zero, or meeting the criteria to be considered ii) 'aligned' to net zero, or iii) 'aligning' to net zero. This target should increase toward the goal of 100% of assets to be i) net zero or ii) aligned to net zero, by 2040[6].
- **Engagement threshold target** – An engagement threshold that ensures that at least 70% of financed emissions in material sectors are either assessed as net zero, aligned with a net zero pathway, or the subject of direct or collective engagement and stewardship actions.

For further explanation of the four recommended target types, see the **NZIF Supplementary Target Setting Guidance**.





5 Material sectors is defined as those in NACE code categories A-H and J-L.

6 NZIF portfolio coverage targets are comparable to SBTi portfolio coverage metrics. The target should involve linear portfolio coverage increases year on year to the extent possible. The 2040 date to reach 100% recognizes that, in order to be consistent with net zero by 2050, companies and assets will have to have set targets and made plans to achieve the transition well in advance of the 2050 date.

Asset-level Alignment and Portfolio Coverage Targets

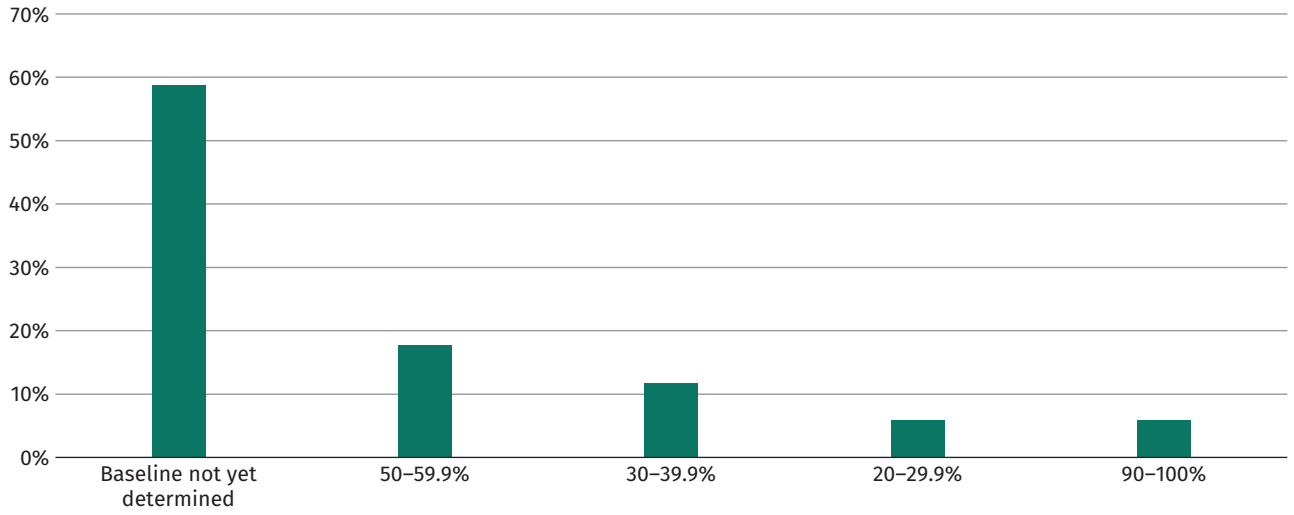
The majority of investors surveyed have not yet assessed the percentage of their portfolios aligned or aligning with net zero by 2050.

Portfolio alignment measures how aligned a company or portfolio is to the goals of the Paris Agreement. In recent years, ESG-related portfolio metrics have evolved beyond typical risk and return objectives – investors now believe that limiting the global temperature rise will have a positive impact and, at the same time, create resilient portfolios. Some examples of portfolio alignment metrics include PAII's NZIF and SBTi (please refer to the previous section 'Net-zero-aligned methodologies' for more details on which methodologies are used by Asian investors).

Our survey showed that most Asian investors have not yet assessed their portfolios. Thus, a baseline has yet to be determined. A small percentage of respondents (18%) stated that more than half of their AUM are aligned or aligning with net zero, and only 6% stated that 90–100% of their AUM are aligned.

However, there are differences in how investors classify 'aligned' and 'aligning.' This is mainly related to methodologies, data points, and indicators available. PAII's NZIF sets out the approach investors should take when assessing the alignment of assets and setting targets to increase the proportion of assets aligned to net zero. This approach assesses the companies in the portfolio, whether they are Paris aligned through 10 criteria, and further classifies these to four thresholds: net zero, aligned, aligning, and committed to aligning (refer to Asset-Level Alignment Guidance box for asset-level alignment guidance based on NZIF)[7].

Exhibit 5: Percentage of total AUM currently considered net zero, aligned or aligning to net zero



Note: The range of percentage that was not chosen by the respondents are not displayed in the exhibit.

7 Please refer to the NZIF Target Setting Guidance (pages 9–10) for more details of company alignment.

Asset-Level Alignment Guidance

The PAII (a global collaboration between AIGCC and peer investor networks: IGCC, IIGCC and Ceres) published the PAII Net Zero Investment Framework 1.0 ('NZIF') in March 2021.

NZIF aims to provide a consistent basis for asset owners and asset managers to measure and manage portfolios, working toward achieving global net zero emissions by 2050 or sooner.

It seeks to provide recommendations for methodologies and approaches for alignment which a broad range of investors can utilize.

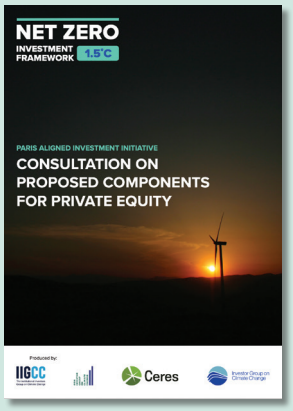
NZIF 1.0 covers four asset classes: listed equity, corporate fixed income, sovereign bonds, and real estate.

Throughout 2022, consultations have been held to incorporate the following asset classes into NZIF:

- Derivatives and hedge funds
- Infrastructure
- Private Equity – The private equity components proposed for the framework are intended to be relevant to both Limited Partners (LP) and General Partners (GP).

These guidance pieces aim to clarify, in each asset class, the:

- scope of that asset class in scope for net zero alignments
- metrics and targets to measure alignment over time
- implementation actions to achieve alignment targets and decarbonization of the real economy.



Carbon Footprint of Portfolios

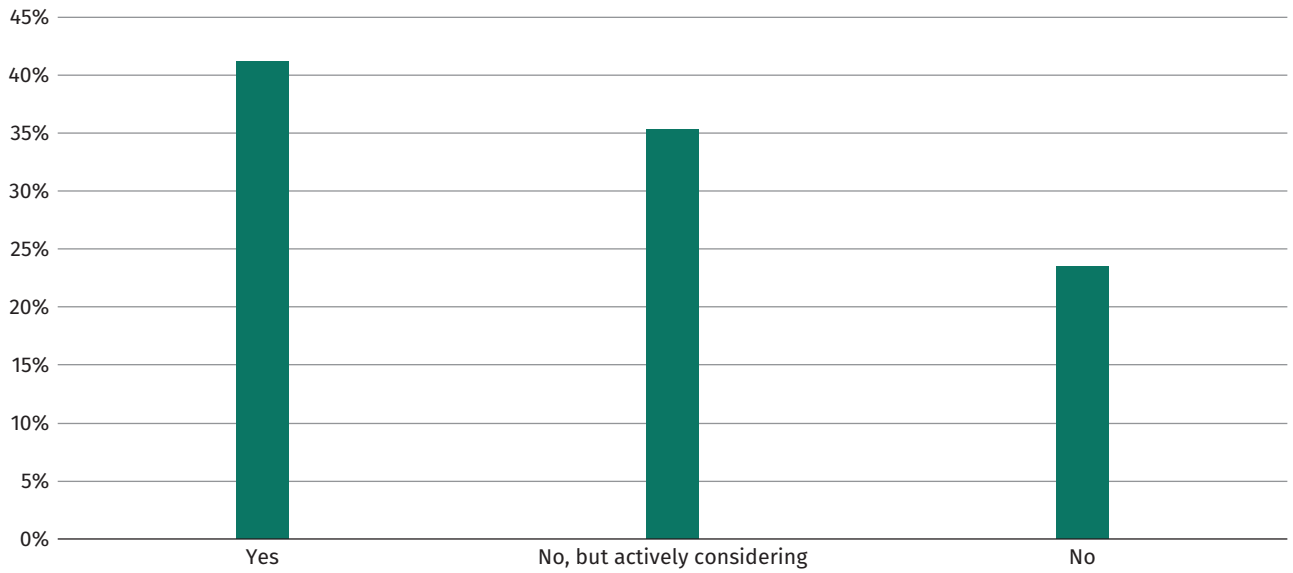
Asian investors continue to increase the coverage of carbon measurement across portfolios.

Carbon emission measurements continue to be an important area of focus for investors to track portfolio alignment against their emission reduction targets. Investors continue to work to measure portfolio Scope 1 and 2 emissions and, where possible, material portfolio Scope 3 emissions.

To set net-zero targets and measure progress against them in the investment portfolios, investors continue to track portfolio alignment regardless of their type of asset classes.

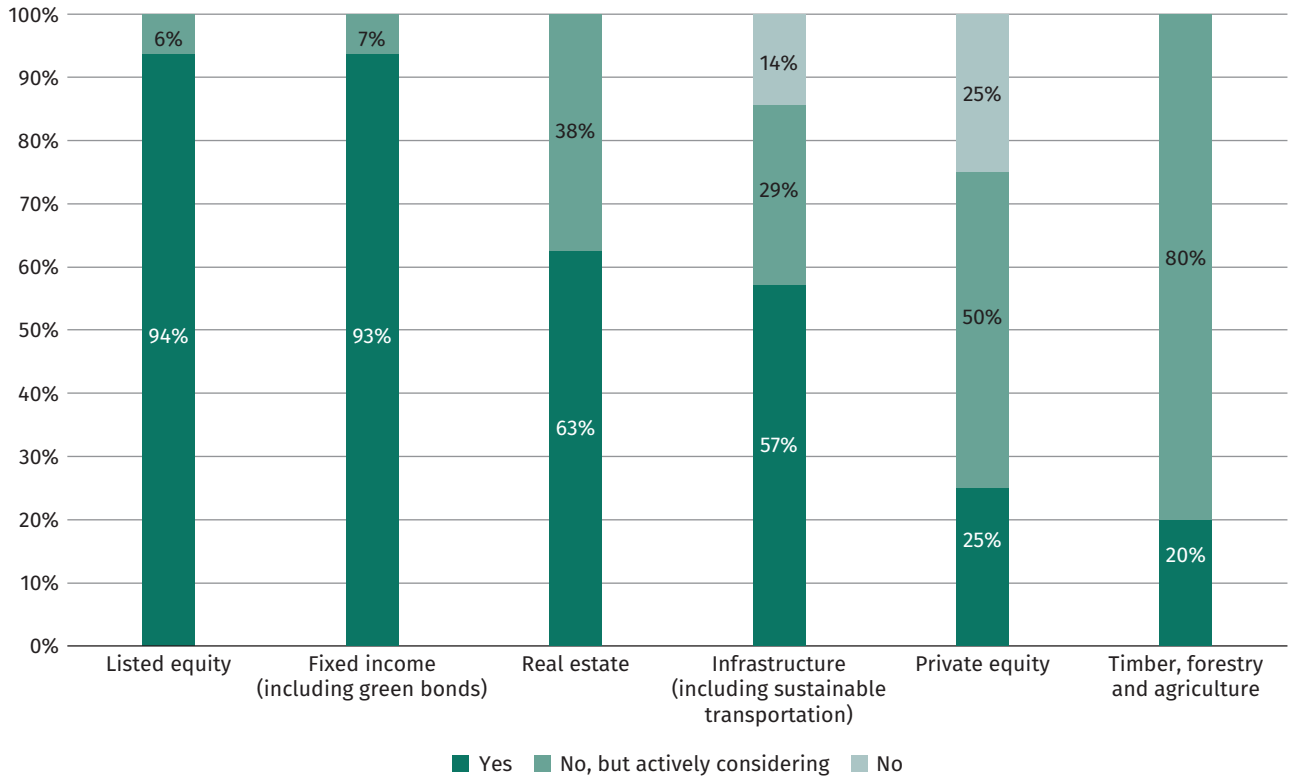
Many investors (41%) are measuring the carbon footprint for their whole portfolio, and another 35% are actively considering doing so.

Exhibit 6: Percentage of investors that have measured carbon footprint for their whole portfolio



A large percentage (94% and 93%) of respondents answered 'Yes' to listed equity and fixed income (including green bonds) asset classes, respectively. The result differed from other asset classes such as real estate, infrastructure, private equity, timber, forestry, and agriculture. 50% of respondents are actively consider measuring the carbon footprint for the private equity asset class; however, some commented that obtaining data or a lack of tools and standard methodologies has been challenging.

Exhibit 7: Asset classes where investors have measured the carbon footprint



Case Study 2: Dynam Capital – Assessing Climate-related Risks for Better Net-zero Alignment

Dynam Capital (noted as Dynam below) is the fund manager of Vietnam Holding (noted as VNH below) – a closed-end fund listed on the London Stock Exchange. VNH invests in high-growth companies in Vietnam, focusing on domestic consumption, industrialisation, and urbanisation.

Vietnam is one of the top five countries most vulnerable to climate change, but also has great conditions for renewable energy development with its long coastline and tropical climate[8]. Within the Vietnamese context, Dynam has identified the key areas for VNH to progress over the period 2021–2024 to support the country's preparation for a net-zero transition:

- **Measure and track the portfolio's carbon footprint** to identify carbon-intensive sectors and integrate climate risks and opportunities into VNH's broader risk management framework
- **Integrate the UN's 17 SDGs into the ESG analysis** and seek opportunities to focus capital on those companies that show they are aligning their business activities, strategy, and operations more closely with achieving the SDGs
- **Seek ways to improve the evolving guidelines and best practices from peers and industry**, and
- **Advocate the adoption of internationally accepted ESG standards and best practices** among the Vietnamese business community, with a strong focus on improving corporate governance and ESG reporting.

Measuring VNH Portfolio's Carbon Footprint

Among the Vietnamese business community, carbon reporting is still new, with less than ten listed companies disclosing emissions data in their annual reports[9].

VNH has been leading the ESG focus in Vietnam's investment management community. VNH became a signatory of the UNPRI back in 2009 and its fund manager Dynam Capital became a member of the AIGCC since early 2021. As part of its sustainability objectives, VNH intends to keep the estimated portfolio emissions[10] at 20% below that of its benchmark, Vietnam All Share Index (VNAS), and over the past three years, the average carbon footprint of VNH has in fact been 30% lower than VNAS. This has been a result of an active management style in sector allocation and stock picking – the selection of low-emission sectors and best-in-class companies that have invested in new technology and other innovations designed to reduce their GHG emissions.

8 In November 2021, Vietnam Prime Minister Pham Minh Chinh announced at COP26 that Vietnam would make efforts to achieve its net-zero targets in 2050.

9 It is expected that there will be greater interest in and willingness to do so from companies in the next few years.

10 The methodology for calculating the portfolio carbon emissions is based on the guidelines of IPCC and the GHG Protocol. Data are collected using both top-down sectoral and bottom-up company-based approach, with a certain level of uncertainty. Also, we could only estimate Scope 3 emissions using top-down approximation.

Comparison between VNH portfolio vs. VNAS in average carbon footprint (tCO2e per $M invested, 2019–2021)

Year	VNH Portfolio	VNAS Index	Difference between VNH and VNAS benchmark
2021	58.19	176.31	–67%
2020	153.1	224.6	–32%
2019	127.6	215.5	–41%

First Climate-related Risk Assessment Report for VNH

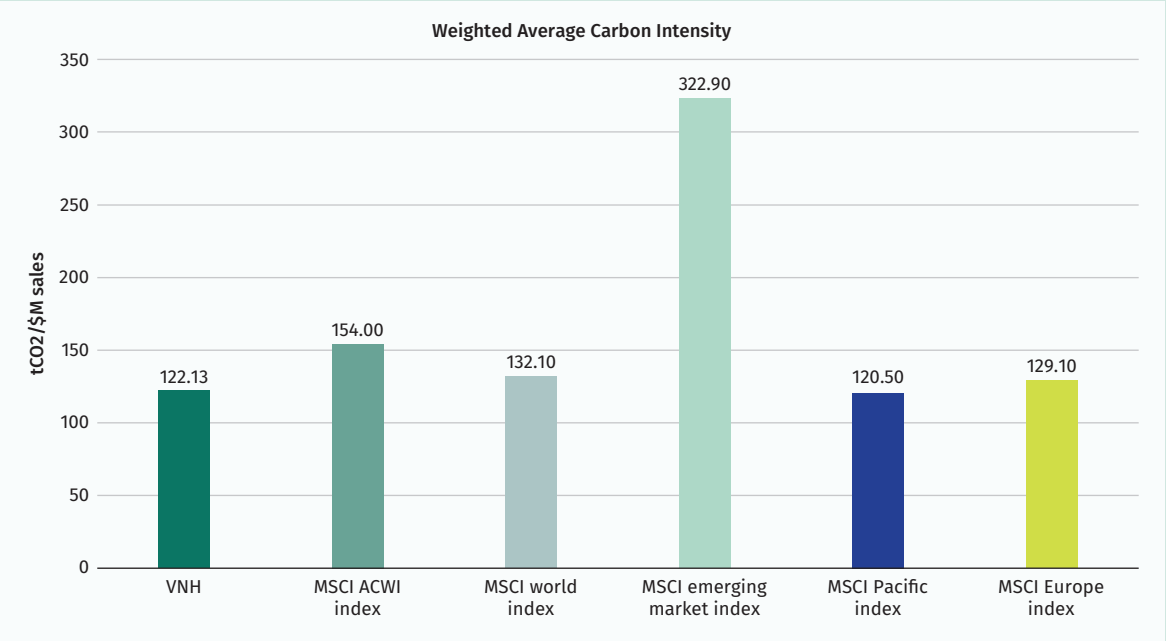
In 2022, Dynam worked with its consultant to provide the very first climate-related risk assessment report for VNH. This assessment:

- was conducted in the context of drastic changes in the national policies towards controlling and mitigating GHG emissions in Vietnam as well as the strong international incentives on financial and climate risk disclosure
- includes both assessments of the transition and physical risks of climate change exposed to all the companies in the VNH portfolio[11], and TCFD-aligned
- provides a comprehensive assessment of VNH's portfolio from a climate perspective and helped Dynam's investment team to understand the climate risks and sensitivity by sector and industry, and how sector allocation together with stock selection can help Dynam to outperform the indexes in terms of climate risk exposure
- results have been leveraged by Dynam for deeper engagement with investee companies over climate change topics, with a focus on measurement and disclosure of carbon footprint.

For transition risks, both qualitative and quantitative approaches were used. Recommended metrics such as the Weighted Average Carbon Intensity (WACI), Implied Temperature Rise, and the potential financial loss due to carbon offset by policy risks was calculated and compared to global indexes. The Transition risk exposure heat map developed by the UNEP FI was used as a framework to understand how climate-sensitive sectors may be impacted during a low-carbon transition.

11 As of 31 December 2022.

VNH portfolio's WACI in comparison with other indexes



For physical risk assessment, the approach was tailor-made for Vietnam that considered the most frequent natural disasters (storms, floods, droughts), vulnerability, and domestic cost norms and used the historical statistical data collected from and synthesized by the Viet Nam Disaster Management Authority. The calculation also examined the future climate scenario (RCP 4.5 and RCP 8.5) introduced in the IPPC 5th Assessment Report to estimate the potential future financial impacts on VNH's portfolio in 2050, with the assumption that the companies in the portfolio remained unchanged by that time. The results include the potential monetary loss of each investee and VNH's total loss due to its investment, analysis of the vulnerability of each investee, and each sector to each type of natural disaster.

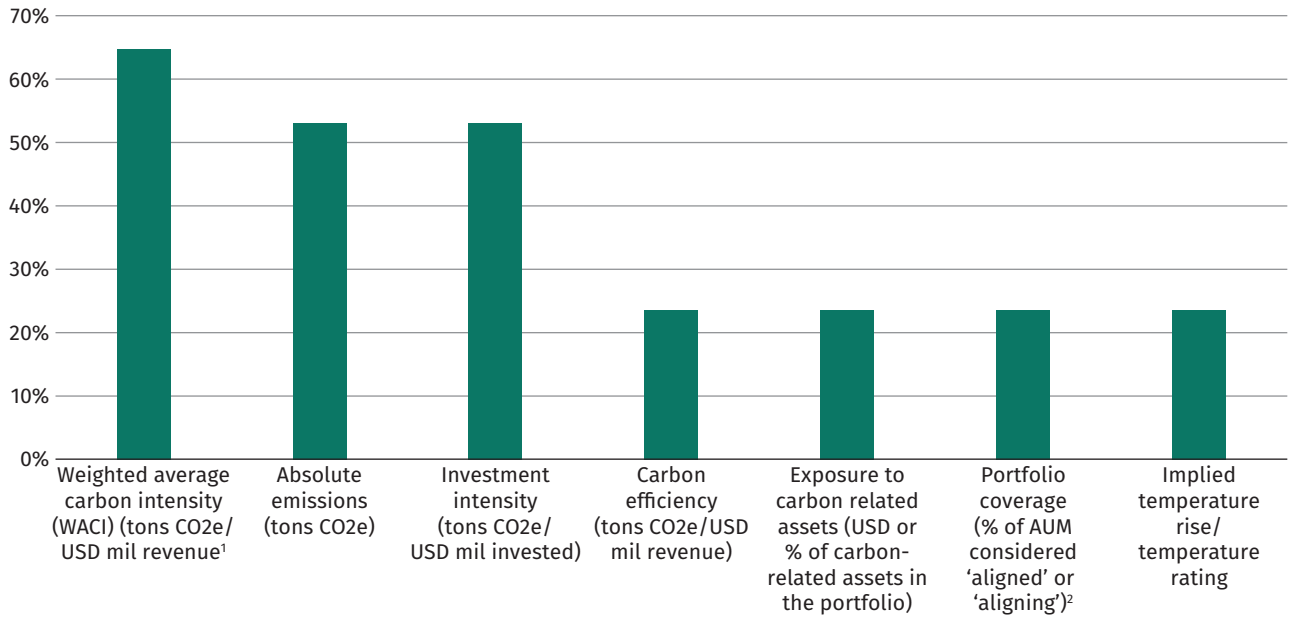
Climate-related Metrics

Metrics related to overall emissions are the main disclosures observed, but other metrics linking to asset level or portfolio level are emerging.

With the growing demand for publicly disclosed climate metrics and the availability of tools to measure progress, investors were asked how they are shaping and presenting their net-zero targets. More than half of the respondents are disclosing primarily WACI (tons CO2e/USD million revenue) (65%), absolute emissions (tons CO2e) (presumably based on PCAF standard), and investment intensity (tons CO2e/USD million invested) (both at 53%).

All other respondents (24%) also disclosed other metrics, such as carbon efficiency (tons CO2e/USD million revenue), exposure to carbon-related assets (USD or % of carbon-related assets in the portfolio), portfolio coverage (% of AUM), and implied temperature rise/rating.

Exhibit 8: Types of climate metrics that investors disclose publicly



Notes:

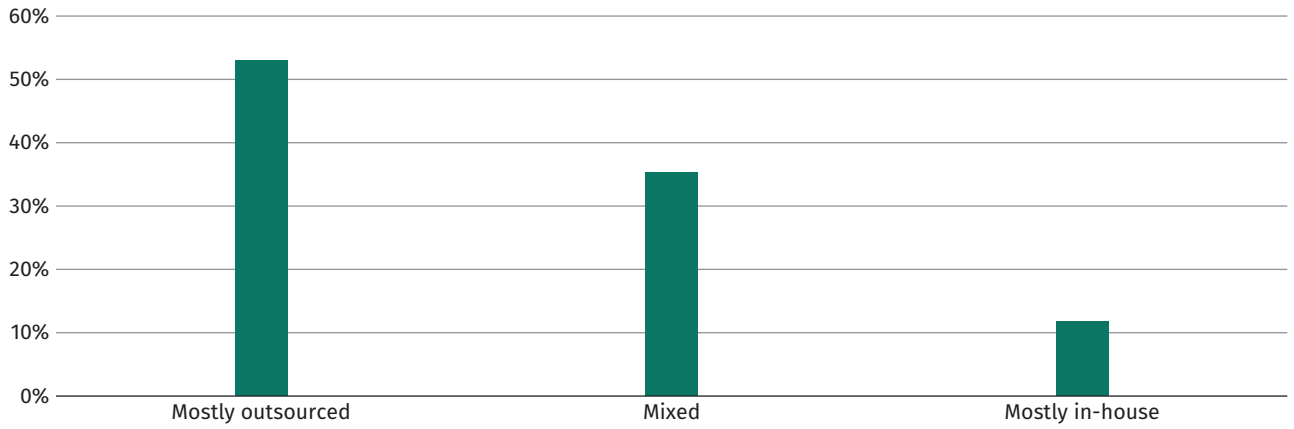
1. Weighted by the proportion of each constituent in the index.
2. Refer to PAII's NZIF.

Most investors use outsourced emissions data, depending on their asset class. For net-zero alignment, some investors are conducting this assessment in-house using a range of indicators and data points sourced.

From our survey results, most Asian investors (53%) outsource their emission data. Few investors gather climate data in-house (12%), and some use a mix of in-house and outsourcing emission data (35%).

Many investors stated that they rely on information provided by companies and outsource other emissions data to service providers, such as Trucost, MSCI, Emitwise, and Bloomberg. More data is needed, as stated in *Chapter 5: Barriers to Investment*, especially for Scope 3 emissions, where many respondents stated that they are based on estimated datasets.

Exhibit 9: Sourcing of emissions data used by investors



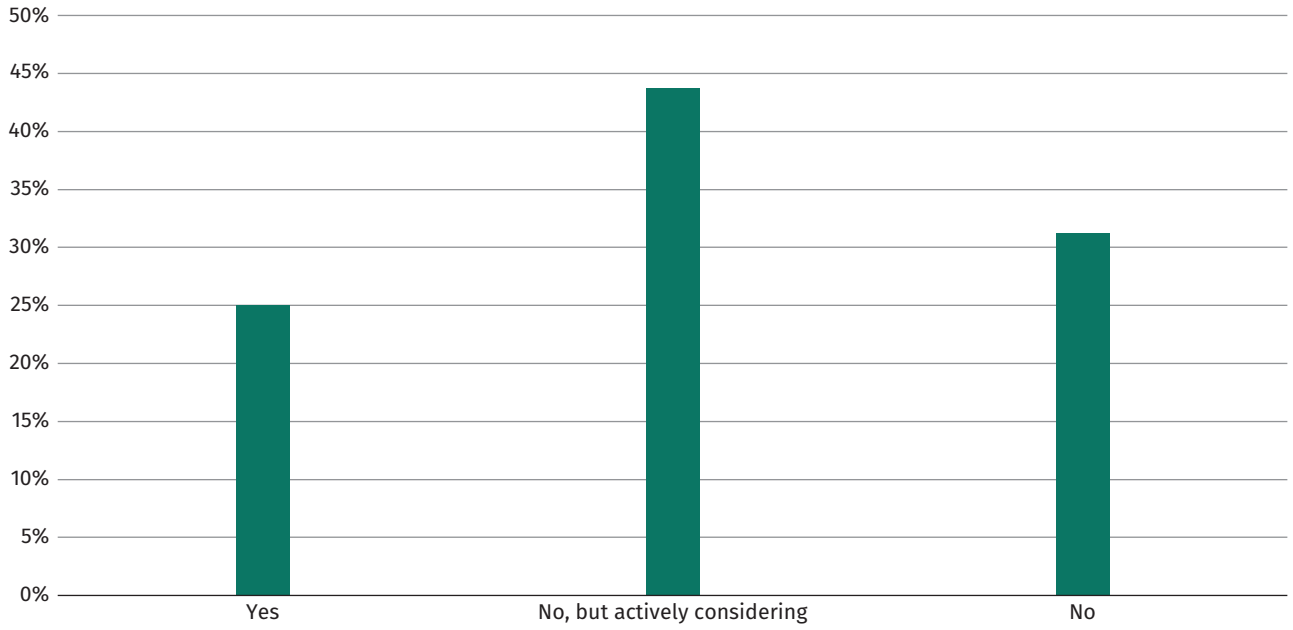
Scenario Analysis

Many investors are undertaking scenario analyses across their whole portfolios, primarily in listed equities.

Investors recognize the importance of undertaking scenario analyses against 1.5°C, 2°C, and 4°C scenarios and are testing portfolios to understand the transition risk and to obtain a probability-weighted portfolio return. Some investors are doing this for the interim (2030) and longer term (to 2040) periods.

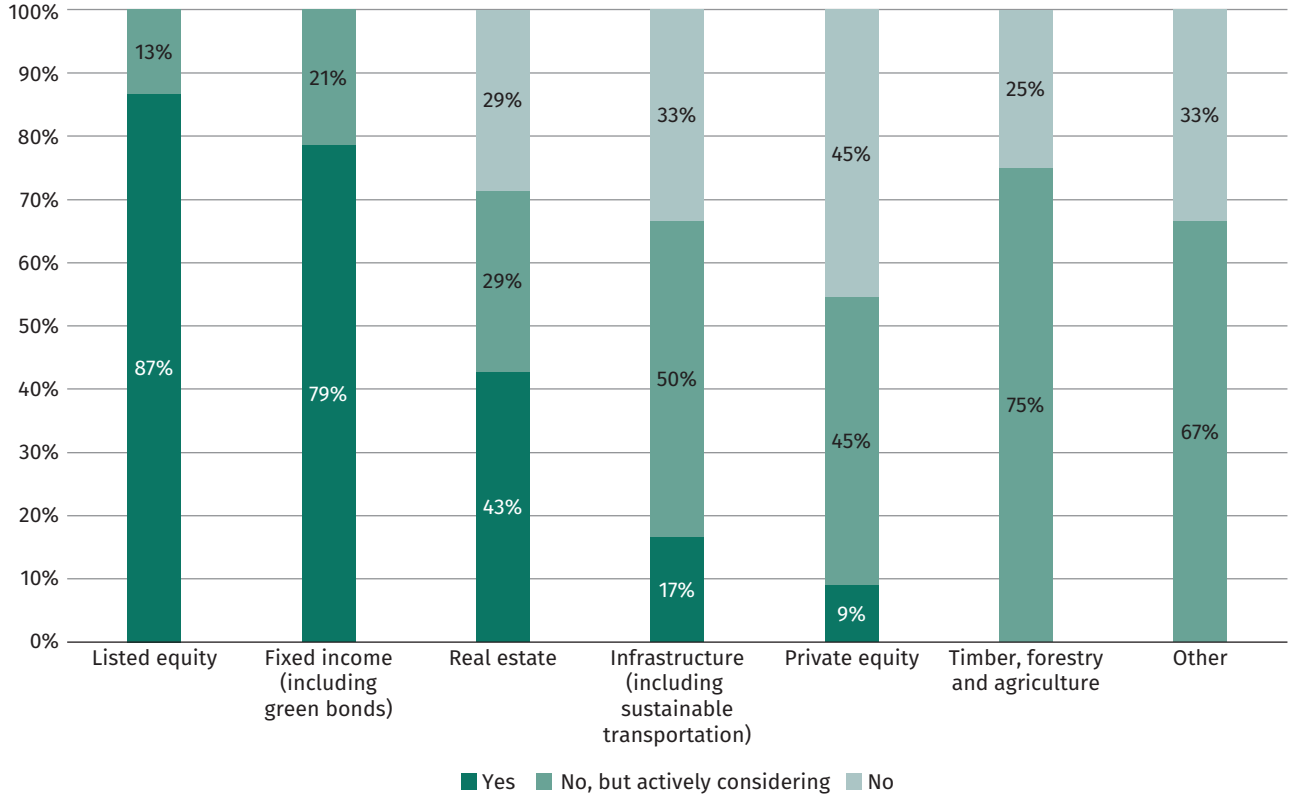
Only 25% of respondents have undertaken climate scenario analyses of their whole portfolio, but 44% are actively considering undertaking analyses. With more Asian investors reporting their climate disclosure based on TCFD recommendations (please refer to the 'Disclosure on Climate Change' section), there may be a rapid uptake in tools, service providers, and available scenarios for investors to conduct scenario analyses in the coming years.

Exhibit 10: Percentage of investors that have undertaken climate scenario analyses for their whole portfolio



In terms of asset classes, listed equities and fixed income continue to be strong performers (87% and 79% of investors, respectively), which is likely a reflection of the number and longevity of existing tools to assess this asset class. Some investors (50%) are actively considering undertaking climate scenario analyses on their infrastructure (including sustainable transportation) asset class.

Exhibit 11: Asset classes where investors have undertaken climate scenario analyses



Respondents stated some examples of climate scenarios they had used in their analyses:

- Network for Greening the Financial System (NGFS) with six scenarios:
  - Net Zero 2050
  - Below 2°C
  - Divergent Net Zero
  - Delayed Transition
  - Nationally Determined Contributions (NDCs)
  - Current Policies
- International Energy Agency (IEA) Climate scenarios:
  - Sustainable Development Scenario (SDS)
  - Stated Policies Scenario (STEPS)
  - Current Policies Scenario (CPS)
- IPCC Scenarios
  - Representative Concentration Pathways (RCPs) – RCP2.6, RCP4.5, RCP6.0, RCP8.5
  - Shared Socioeconomic Pathways (SSP)
- Asia-Pacific Integrated Model (AIM-CGE)

Case Study 3: Sustainable Fitch – Managing Climate Transition Risks Within Portfolios with Fitch's Corporates Climate Vulnerability Scores

Fitch launched its Corporates Climate Vulnerability Scores (Climate.VS) in early 2022 to address challenges that investor face in translating broad climate scenario assumptions to sector and entity-level forward-looking impacts on their portfolios. The scores provide a long-term assessment of the vulnerability of corporate sectors and entities to transition risk and specifically to changes in climate-related policies and regulations resulting from the transition to a low-carbon economy.

Fitch has released Climate.VS for 13 corporate sectors and over 130 individual sub-sector scores, including regional granularity for relevant sectors.

Forward-Looking Scores that Show Relative Vulnerability to Transition Risk

Fitch's analysis provides forward-looking assessments from 2025 to 2050 in five-year intervals, to identify risks in investors' portfolios, allowing relative vulnerability comparison at different stages in the transition over a longer term.

Fitch's Corporate Climate Vulnerability Scores - Scale

	10	30	50	70	90
Description of cumulative risks to a point in time (e.g. 2050)	Climate-related factors neutral to positive for the sector's prospects.	Fundamental demand drivers for the sector/entity are neutral to positive, despite major changes to existing business models or a need for large investment.	Solid demand drivers but a need for material changes to products or production methods, which may threaten profitability.	Major changes to markets, regulation and business model are likely to disrupt profitability for an extended period.	One or more climate-related factors have the potential in a credible scenario to pose an existential threat to core business activities.

Source: Fitch Ratings, Sustainable Fitch

The scores range from 10 to 90; the higher the score at a particular point in time, the greater the vulnerability under the scenario.

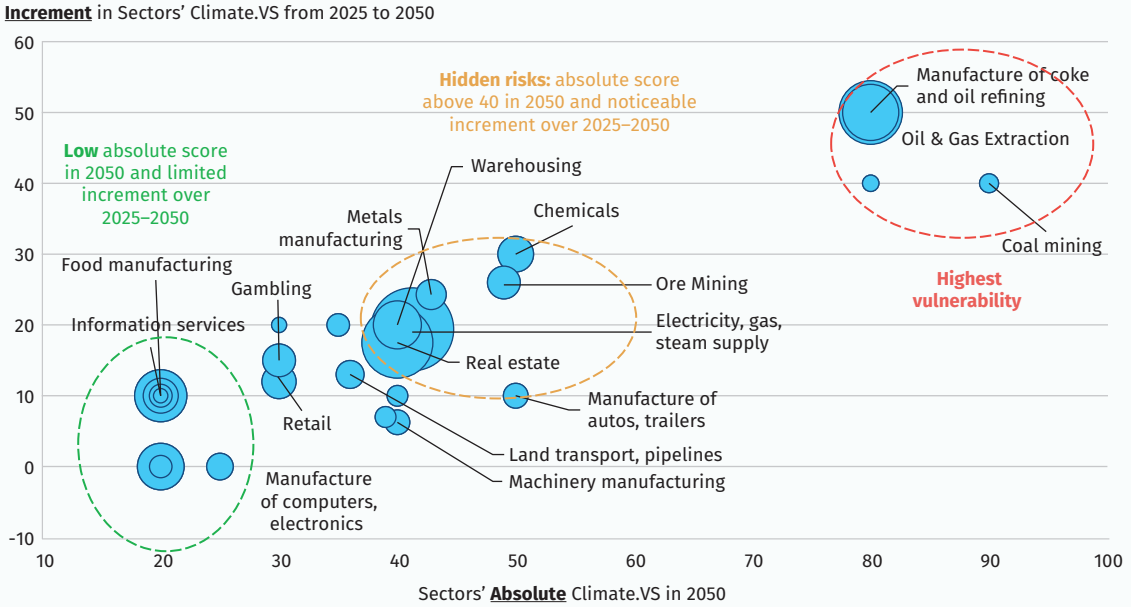
Use Case: Portfolio Analysis to Identify Risk Exposure and Inflection Points

Climate.VS's sectoral and regional granularity and their forward-looking, long-term nature can be used for security selection, portfolio construction and screening, risk management and monitoring and reporting. They can also stress key inflection points, when the vulnerability of certain entities to transition risk increases significantly.

Using Bloomberg's EM Asia Credit Index as a proxy for an investors' portfolio focused on Asia illustrates how Fitch's Climate.VS allow investors to identify areas of risk and potentially adjust exposure[12].

Bloomberg EM Asia Credit Index & Fitch's Climate.VS

Mapping the Index's Sector Exposure with Climate.VS



Bubble size represents the sector's weighting in the index. Higher scores denote greater vulnerability to transition risks. Some categories have been removed for legibility. Source: Fitch Ratings, Sustainable Fitch.

12 The index's constituents are mapped with the Climate.VS based on their main business activity classification, excluding financial institutions, financial services, sovereign and public finance entities, which represented 49% of the index's weightings. As of the end October 2022.

The analysis shows a portfolio's weighted exposure to relatively more vulnerable sectors. For example, sectors related to fossil fuels overall have the highest absolute Climate.VS in 2050 and the highest incremental increase in scores from 2025 to 2050, corporates in oil and gas extraction are weighted much more heavily in the Bloomberg Index than coal mining and so could present a bigger source of risk. The tool also allows the identification of 'hidden risk' in the portfolio, with significant exposure to sectors facing a notable increment in their score to 2050. Real estate (6% index weight), warehousing (3%), chemicals (2%) metals manufacturing (1%) fall into this category and could require closer monitoring and entity-by-entity analysis.

Bloomberg EM Asia Credit Index: Top 12 Entities By Weight Mapped Against Fitch's Climate.VS

Entities' details			Climate.VS		Increment in score				
Entity name	Sector (nace classification)	Weight in index (%)	In 2025	In 2050	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2045 to 2050
Entity 1	Information service activities	0.3	10	20	3	4	3	0	0
Entity 2	Manufacture of coke and refined petroleum products	0.3	30	80	10	20	0	10	10
Entity 3	Extraction of crude petroleum and natural gas	0.2	30	80	10	20	0	10	10
Entity 4	Electricity, gas, steam and air conditioning supply	0.2	22	41	3	5	4	4	3
Entity 5	Retail trade, ex of motor vehicles and motorcycles	0.2	18	30	4	3	1	4	0
Entity 6	Information service activities	0.2	10	20	3	4	3	0	0
Entity 7	Retail trade, ex of motor vehicles and motorcycles	0.2	18	30	4	3	1	4	0
Entity 8	Manufacture of coke and refined petroleum products	0.2	30	80	10	20	0	10	10
Entity 9	Extraction of crude petroleum and natural gas	0.2	30	80	10	20	0	10	10
Entity 10	Information service activities	0.2	10	20	3	4	3	0	0
Entity 11	Electricity, gas, steam and air conditioning supply	0.2	22	41	3	5	4	4	3
Entity 12	Gambling and betting activities	0.2	15	30	5	5	0	5	0
Total	**Index's Overall Climate.VS (corporates only)**	**51.0**	21	43	5	8	2	4	3

Top 12 corporate entities by weight within the index, as of October 2022. Source: Fitch Ratings, Sustainable Fitch

Fitch's Climate.VS also allow investors to compare **portfolios and benchmarks' relative vulnerability** to transition risk. As the table below highlights, using indices are proxies, different portfolio composition translates into distinct climate transition risk exposure.

Comparing Transition Risks Vulnerability Between Indices With Fitch's Climate.VS

	2025	2030	2035	2040	2045	2050
Bloomberg EM Asia Credit Index's Climate.VS	21.4	25.9	33.9	36.4	40.6	43.4
Increment in score		4.5	7.9	2.5	4.3	2.8
Bloomberg Euro Corporate Credit Index's Climate.VS	20.9	24.4	29.2	32.1	34.5	36.0
Increment in score		3.4	4.8	3.0	2.4	1.5

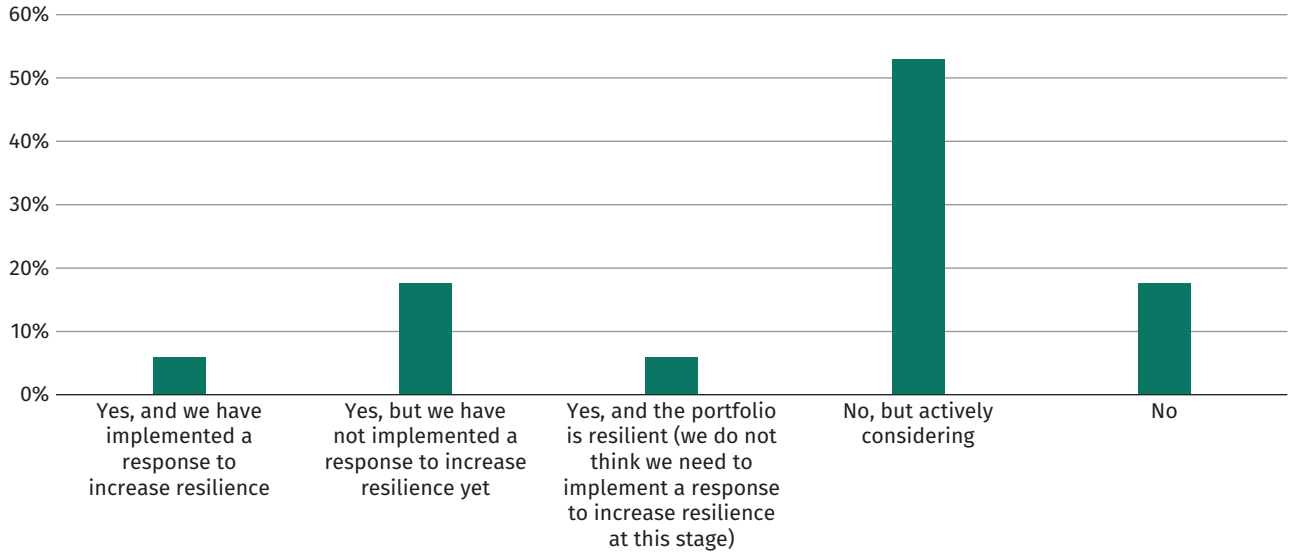
Source: Fitch Ratings, Sustainable Fitch

Physical Risk and Resilience

Physical risk assessments and investment lag behind investors' responses to climate mitigation.

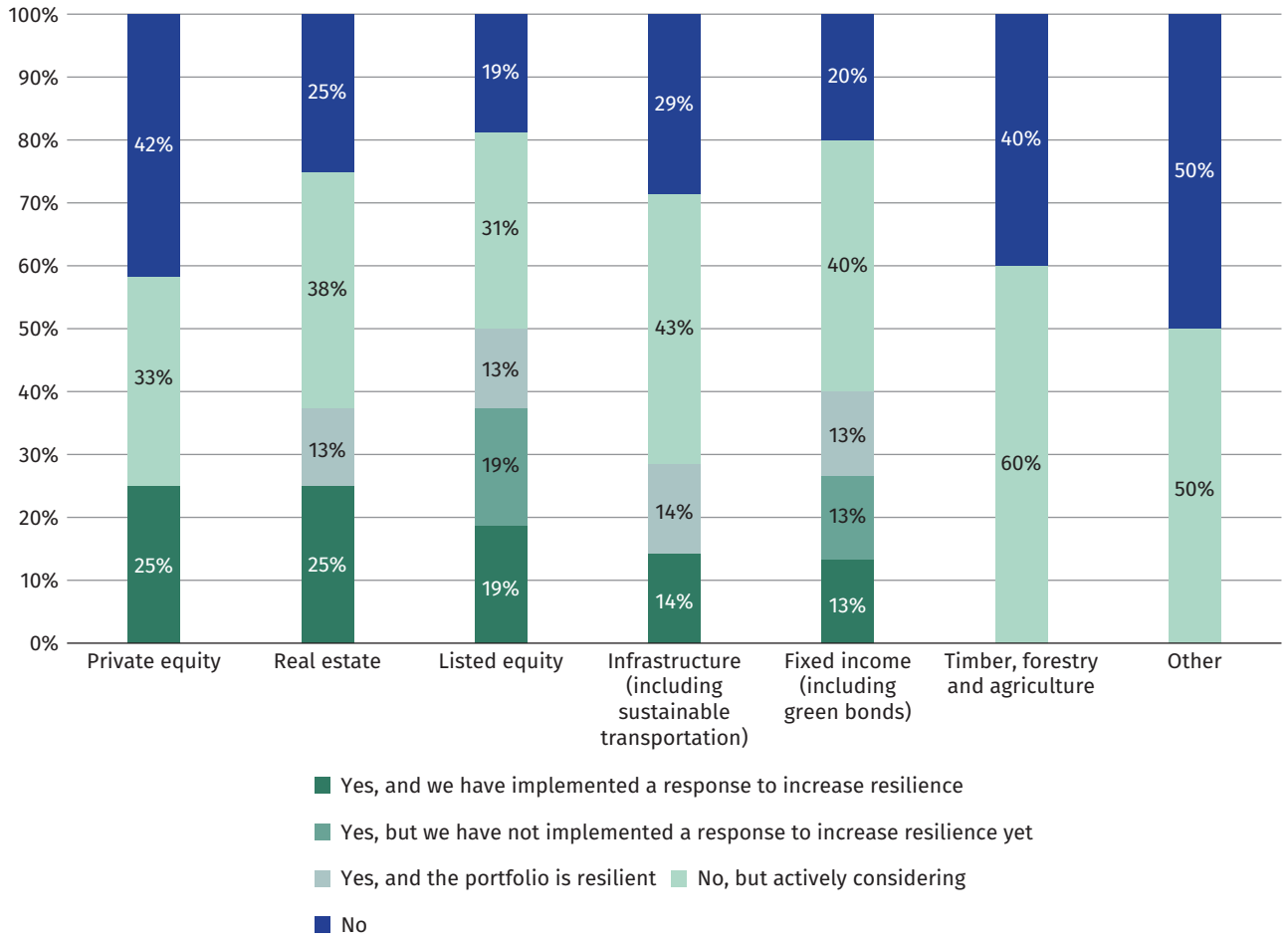
More than half of the respondents have not yet undertaken climate-related physical risks and resilience analyses, but they are actively considering doing so. Only 6% have undertaken studies and think their portfolio is resilient, but 53% are actively considering undertaking analyses. As temperatures rise, there is clear evidence that climate hazards affect their portfolios and assets. This could be through disruption to operations and supply chains or indirectly through shocks to broader economic, human, or natural systems. Managing the impacts of physical climate risks is becoming an important part of investors' fiduciary duties to protect their clients' and beneficiaries' assets.

Exhibit 12: Percentage of investors that have undertaken climate-related physical risks and resilience analyses for their whole portfolio



In terms of asset classes, 25% of respondents mentioned that they have implemented physical risks analysis and have implemented a response to increase resilience in private equity, but none responded to have a resilient portfolio in this asset class. Many Asian investors also stated that although no physical risks and resilience analysis have been implemented for timber, forestry and agriculture asset class, they are actively considering it.

Exhibit 13: Asset classes where investors have implemented climate-related physical risks or resilience analyses



Investor Engagement and Stewardship

Investors increasingly recognize their exposure to climate risks and their fiduciary duty to respond. While investors can redirect their investment decisions to favor companies and projects that will accelerate the necessary clean technology transition, they also have a powerful opportunity to affect behavior change, diversification, and transformation among the most carbon-intensive companies through their portfolio holdings. This is possible through investment stewardship – including direct and collaborative engagement with companies to achieve corporate practice consistent with long-term value protection and creation.

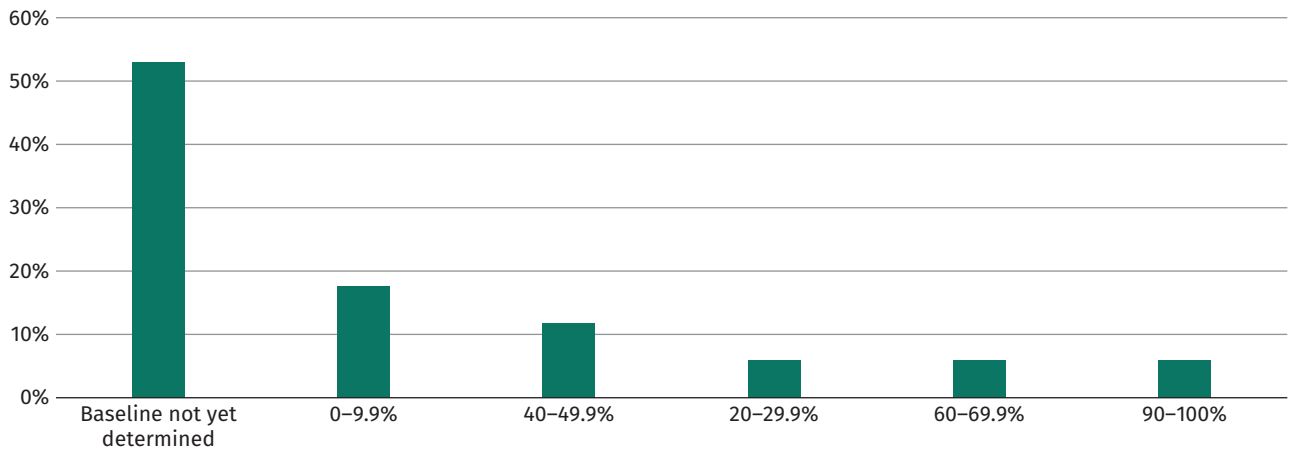
To achieve ambitious 2030 targets in investor portfolios across the globe, investors need to drive rapid changes in the real economy. They must be active stewards, ensuring companies take necessary actions and produce net-zero transition plans to deliver 1.5°C-aligned short-, medium-, and long-term targets. Portfolio alignment tools, such as the NZIF, have emphasized the crucial role stewardship plays.

Investors are already using stewardship actions, including various voting tools, such as votes against management on climate grounds and 'Say on Climate'[13] votes. Where active ownership and engagement are being used over divestment, the approach to engagement must be specific, time-bound, and paired with effective escalation strategies. AIGCC has recently worked with ClientEarth to release guidance for investors in Asia to consider shareholder resolutions as part of effective engagement with companies on climate-related matters, an area in which there is increasing investor and regulatory interest. The contributors to the guide are corporate and climate law experts that include leaders and senior partners of top law firms from across Asia. They provide insights on the legal landscape for shareholder climate resolutions in 11 key Asian jurisdictions: Japan, South Korea, the People's Republic of China, Hong Kong SAR, India, Thailand, Vietnam, the Philippines, Malaysia, Singapore, and Indonesia.

Despite investment stewardship and corporate engagement being a favorable investment strategy among Asian investors, many have not set a baseline for engagement targets.

Most Asian investors continue to choose corporate engagement and shareholder action as their net-zero investment strategy. This finding, however, has yet to translate to their climate targets, as 53% stated they have yet to determine a baseline for their financed emissions in material sectors, which are subject to direct or collective climate engagement or stewardship actions. This indicates that Asian investors have yet to link their stewardship actions to net-zero pledges and targets.

Exhibit 14: Approximate proportion of financed emissions in material sectors subject to direct or collective climate engagement/stewardship actions



Note: The range of percentage that was not chosen by the respondents are not displayed in the exhibit.

13 Although not specific on Asia but more on global level, the Say on Climate initiative works with companies to establish robust net zero transition plans with shareholder feedback in an annual advisory vote.

Climate Solutions Investments

Asian investors recognize the need to set climate solution targets and invest in climate solutions.

Alongside the imperative of decarbonizing portfolios, investors must increase their capital allocation to climate solutions. This offers investment opportunities or can be used in the decarbonization of portfolio companies. Investment in climate solutions (and associated targets) can support real economy decarbonization. This also increases the proportion of assets readily classified as aligned to a net zero by 2050.

Institutional investors have an important role in financing the net-zero transition. It will require an investment of nearly USD 130 trillion from now to 2050 in activities that support emissions reductions[14]. A report by McKinsey Global Institute published in early 2022 stated that the investment required for the transformation of the global economy to achieve a net-zero world by 2050 would be significant, requiring USD 9.2 trillion in annual average spending on low-emission assets alone, including in emerging technologies[15].

While Asia is most exposed to climate risks, the region also has the most to gain specifically in energy transition. Referencing studies conducted by the International Energy Agency (IEA), Tsinghua University and six integrated assessment models (IAM), AIGCC estimates that the investment opportunity for Asia's energy supply to achieve net zero to be in the region of USD26 trillion (2°C scenario) to USD37 trillion (1.5°C scenario) cumulatively from 2020 to 2050 (equivalent to 1.7 per cent to 2.0 per cent of Asia's GDP)[16].

14 Liz Alderman and Eshe Nelson, "Global finance industry says it has $130 trillion to invest in efforts to tackle climate change," *New York Times*, 3 November 2021.

15 McKinsey Sustainability, "The net-zero transition: What it would cost, what it could bring," January 2022.

16 AIGCC, Asia's Net Zero Energy Investment Potential, March 2021.

What is a Climate Solution?

A climate solution is an investment in economic activities, goods, or services that contributes substantially to emissions reductions required by a 1.5°C pathway.

A climate solution can be classified as:

- **'Low-carbon' climate solution** – refers to activities with close to zero emissions that already contribute substantially to achieving net zero (e.g. the leasing of passenger vehicles with zero tailpipe CO_2 emissions).
- **'Transitional' climate solution** – refers to activities that make a substantial contribution to the transition to net zero by reducing their emissions, even if they are not yet low-carbon (e.g. the manufacture of cement with CO_2 emissions intensity below a specific threshold, and the leasing of vessels with a significant % of energy from zero-carbon fuels).
- **'Enabling' climate solution** – refers to activities enabling emissions reductions on the broader economy (e.g., the manufacture of energy-efficient equipment for buildings and infrastructure for low-carbon road transport, such as EV charging points).

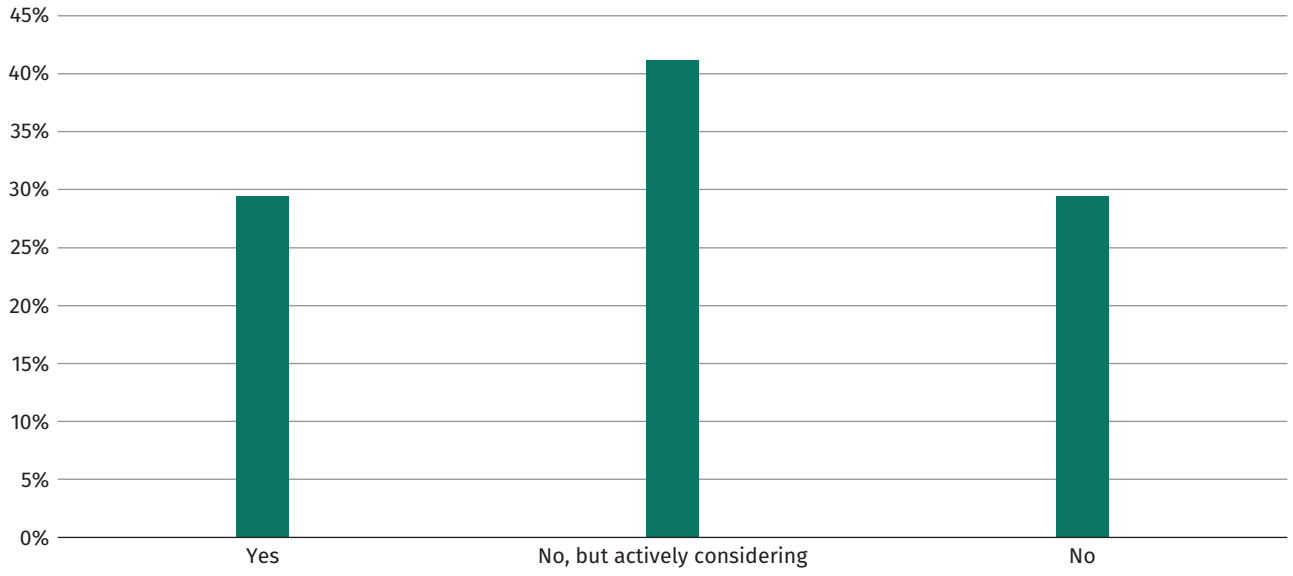
From the Climate Investment Roadmap report that includes guidance to help investors determine climate solution metrics, their applications, and measurement methods.

Source: Institutional Investor Group on Climate Change (IIGCC), "Climate Investment Roadmap," 2022, p. 81.

Some investors (29%) have now set public climate solution investment targets, with 41% indicating they are actively considering setting targets.

Some Asian investors (29%) have a public target for investment in climate solutions, and 41% are actively considering doing so. Climate solution targets are more commonly expressed as a proportion of AUM, with some setting financial figure targets (e.g., USD millions invested by 2025). Some investors indicated they have yet to set public targets despite having assessed the baseline proportion of their AUM invested in renewable and low-carbon asset solutions. In contrast, others have now dedicated funds investing only in this theme. Other investors have a public statement to increase allocations but have not publicly published a quantitative number.

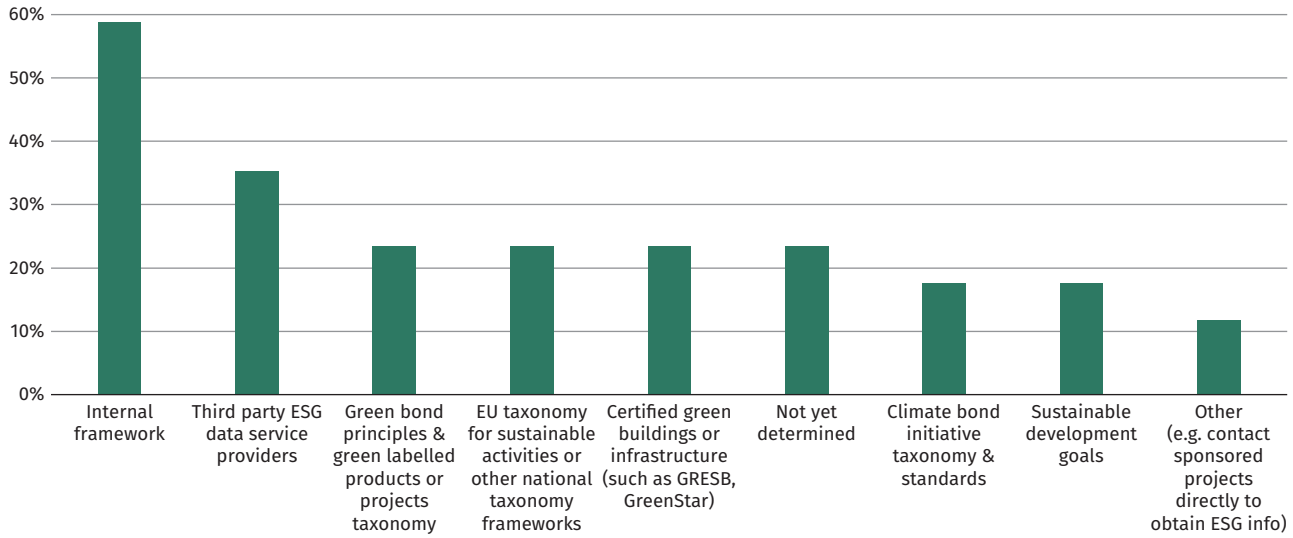
Exhibit 15: Percentage of investors that have a public target for investment in climate solutions



The methodologies investors use to define and measure climate solution investments vary and lack standardization. Despite this, investors are moving forward with measuring baselines and investing in climate solutions.

There are a range of methodologies and service providers that investors are using to classify climate solution investments. Over half of Asian investors (59%) use internal frameworks (or their own proprietary methodology) to determine a climate solution investment. Many investors also use a combination of methodologies depending on their asset class.

Exhibit 16: Methodology for determining a climate solution investment



Case Study 4: GIC Private Limited – Investing to Support Decarbonization at Scale

GIC is committed to enabling the global transition to a net-zero economy through its investments and operations. GIC believes that it is critical to focus on making a positive impact on the real economy and does so in two ways:

- **Invest in companies that develop solutions to decarbonize the economy**, including batteries, long-duration energy storage, hydrogen, carbon capture and storage, and nuclear fusion. Some of these technologies are nascent and have been developed by start-ups that will need capital to scale.

- **Engage portfolio companies** by conducting dialogues with company management to ensure they recognize and address climate risks and opportunities. When opportunities arise, GIC will fund the investments needed to support the company's transition toward more climate-resilient business models.

To accelerate its investments in green solutions and other sustainability-related opportunities, GIC established an internal Sustainable Investment Fund (SIF) in 2020 to catalyze the integration of sustainability across all asset classes. SIF is a multi-asset portfolio that allows members to cross-share their best sustainable investment ideas for the fund. SIF's formation has helped to catalyze other green investment efforts across several asset classes. For instance, the Public Equities department started an Asia Sustainability portfolio. The Private Equity department set up Electron Innoport, a global portfolio of funds and direct and co-investments focused on early-stage energy transition opportunities.

GIC has also deviated from its typical investment approach in nascent technologies. GIC typically invests later in a company's lifecycle when larger pools of capital are needed. However, it recognizes that in climate technology, many emerging technologies need to be supported during their early stages to enable them to scale their impact. GIC sources companies with promising technologies and a workable business model, ensuring that it generates returns for the portfolio.

GIC has supported several companies focused on carbon reduction and removal. Direct air capture (DAC) is a vital technology to tackle climate change by removing CO_2 from the air. The captured CO_2 is then stored underground safely for millions of years or upcycled into climate-friendly products, such as carbon-neutral fuels and materials. Since its foundation in 2009, Climeworks – one of GIC's recent investee firms – has pioneered DAC and launched the world's largest commercial DAC and storage plant. Its Orca plant in Iceland has a nominal capacity of pulling 4,000 tons of CO_2 from the atmosphere every year. Climeworks exclusively uses renewable energy, or energy from waste, and removes the carbon emitted in the building process of its plants. GIC's funding will support the scaling of Climeworks' plants to a multi-million-ton capacity.

GIC has also deployed capital to support the development of breakthrough technologies that could decarbonize carbon-intensive industries. For example, Houston-based specialty chemicals firm Solugen has developed a breakthrough chemoenzymatic-based system that can drastically reduce or eliminate CO_2 emissions from the chemical production process while remaining cost-competitive. This would help address one of today's most significant climate problems, given that the chemical sector is one of the largest industrial sources of CO_2 emissions. The company has three environmental goals for 2030:

- First, remove the CO_2 equivalent of taking two million cars off the road, sequestering 10 million tons of CO_2.
- Second, replace five billion bottles worth of non-degradable plastic by becoming a major producer of bio-plastic monomers.
- Third, have the capability of making 90% of all chemicals; this involves developing resins, surfactants, and other important chemicals.

To support Solugen's efforts to bring its solutions to market at scale, GIC backed one of the company's funding rounds in 2021. This funding will be used to expand Solugen's BioForge – the world's first carbon-negative molecular manufacturing platform – and the reach of its product portfolio.

GIC expects this space to grow in the coming years and will continue to actively look for partners with the potential to significantly and positively impact the world's demand for decarbonization solutions. It will also continue to step up dialogues with portfolio companies on issues material to their long-term economic prospects, including their transition toward more climate-resilient business models.

Chapter 3: Climate Governance and Strategy

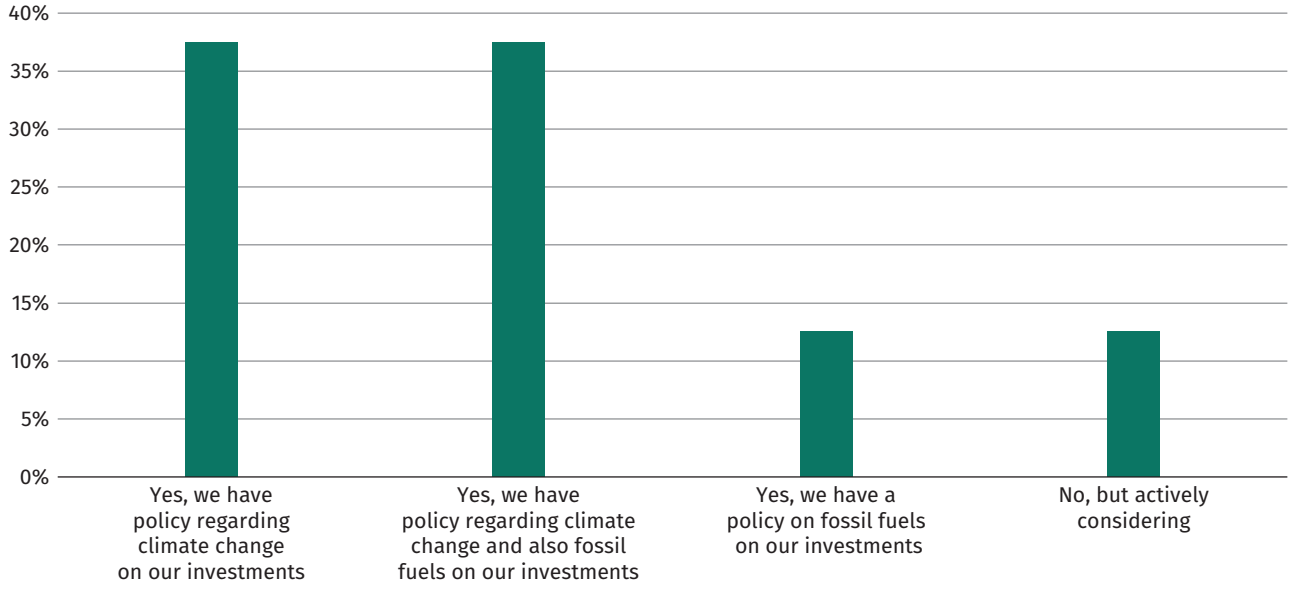
Climate Policy and Fossil Fuel Investment Policy

Many of these leading Asian investors now have policies regarding climate investments, and some also have policies on fossil fuel investments.

A climate change policy is formal documentation of the organization's position and principles on climate change. It may be a standalone policy or a comprehensive climate section embedded in the investors' responsible investment, ESG, or stewardship policy.

Over one-third of respondents (38%) have a policy about climate change in their investments, with another 38% having a policy on fossil fuel investments. In contrast, 13% have no policy for climate or fossil fuel investments but are actively considering doing so.

Exhibit 17: Percentage of investors that have climate policy and fossil fuel investment policy



On the global stage, the NZAM initiative expects signatories to adopt and disclose a robust and science-based policy to phase out fossil fuels[17]. The policy should recognize the need for a just transition and reflect regional differences in speed and phase-outs consistent with IPCC 1.5°C scenarios.

17 NZAM initiative, "Net Zero Asset Managers initiative: Network Partners' expectation of signatories with regard to fossil fuel investment policy," December 2021.

Further, the PAII's NZIF recommends that investors "should not allocate additional capital to companies planning or constructing new thermal coal projects, associated infrastructure, or new exploitation of tar sands. Where relevant, investors should use active and escalating engagement with the aim of ensuring no new thermal coal generation is developed and no further tar sand resources are exploited, and also that phase out of existing unabated capacity and activity is undertaken in line with net zero pathways"[18].

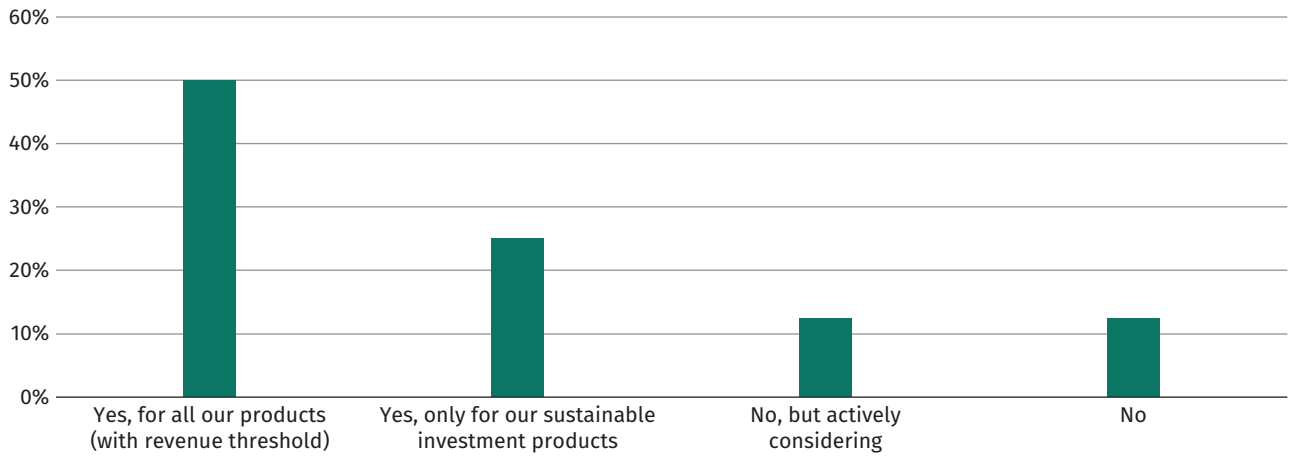
The UN recently published the updated 2022 Race to Zero (RTZ) criteria, asking investors to pledge to adopt the policies needed to achieve the "...phasing down and out all unabated fossil fuels..."[19]. The RTZ criteria recognize the necessity of phasing out all unabated fossil fuels to achieve a 1.5°C scenario with low or no overshoot. According to the latest RTZ Interpretation Guide document, each RTZ member "shall phase out its development, financing, and facilitation of new unabated fossil fuel assets, including coal, in line with appropriate global, science-based scenarios"[20].

Most of these leading Asian investors have included fossil fuel divestment and exclusions as part of their investment strategies.

Also included in our survey this year is whether the respondents have a policy or strategy to divest or exclude fossil fuel-related stocks from their portfolio, either as part of a risk management strategy or to achieve progress toward net-zero, low-carbon, or climate-aligned investment targets. Half of the respondents have climate-related exclusions or divestment targets, and 25% only have targets for their sustainable investment products.

This is despite the increasing interest among Asian investors in aligning their investments to net zero. There is active discussion about whether outright divestment or active engagement leads to better real-world outcomes, with investments needing evaluation on a case-by-case basis.

Exhibit 18: Percentage of investors that have climate-related exclusions or divestment targets



18 PAII, "Net Zero Investment Framework Implementation Guide, on selective divestment," March 2021, p. 19 (selective disinvestment).

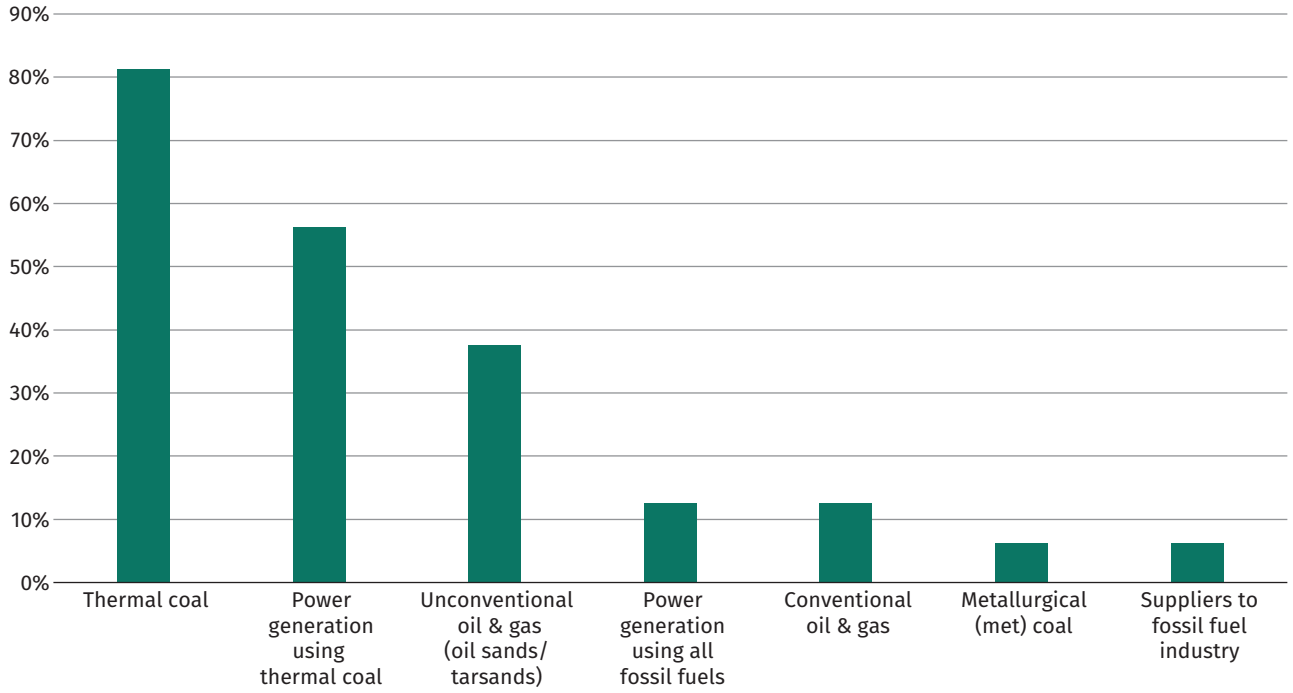
19 Race to Zero Expert Peer Review Group Interpretation Guide, June 2022, p. 3.

20 Race to Zero Expert Peer Review Group Interpretation Guide, June 2022, p. 8.

Climate exclusions are applied to companies that derive material revenues from thermal coal.

Most respondents (81%) apply climate exclusions or divestments toward thermal coal, followed by 56% explicitly targeting thermal coal power generation. Some investors indicated that the exclusions apply to new oil and gas, metallurgical coal, and tar sands.

Exhibit 19: Areas where investors apply climate exclusions or divestment



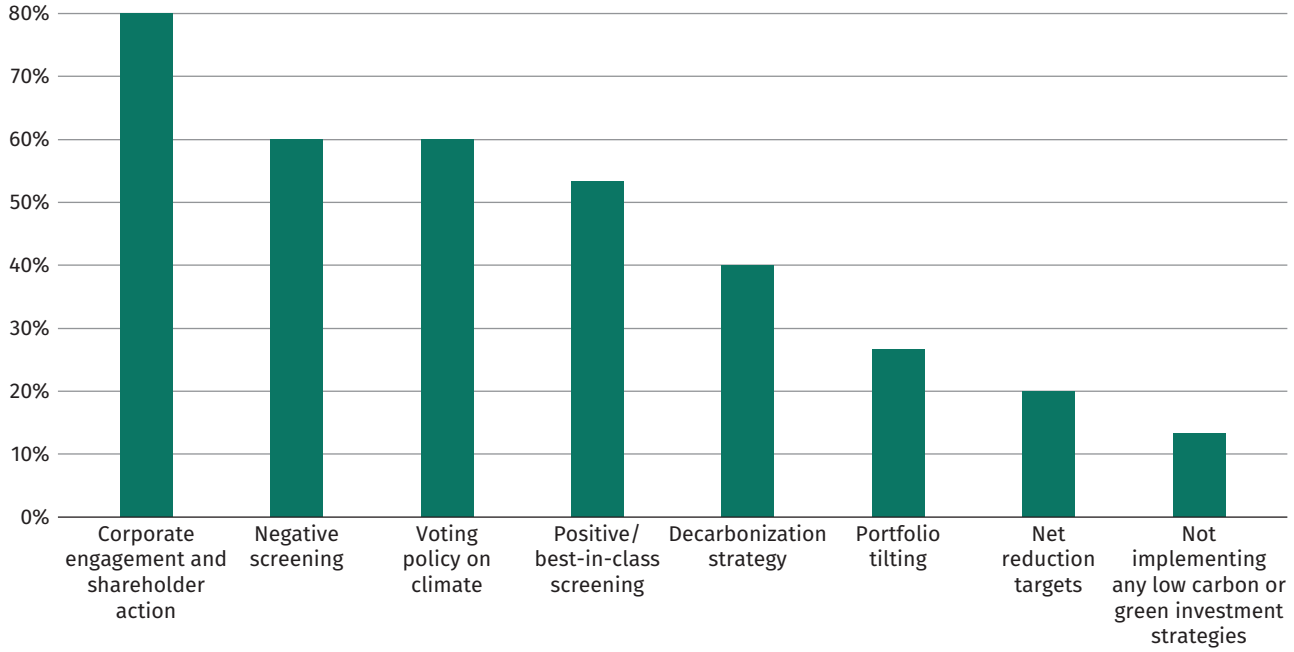
It will be challenging for Asian investors to consider exclusion and divestment as their investment strategy towards decarbonisation in Asia. This is particularly relevant when considering investing in new fossil fuel activities, following the recommendations of the most recent IEA Net Zero by 2050 report, which highlighted that there should be no investments in new fossil fuel supply projects if we are to meet our collective 2050 net-zero goal.

Net-zero Investment Strategy

Corporate engagement and shareholder action continue to be the most popular net-zero investment strategy for Asian investors.

When net-zero – originally known as 'low carbon, green' – investment surveys first started in 2019 to understand the trend among investors in the Asian region, the majority of respondents had chosen positive/best-in-class screening as their net-zero investment strategies of choice. The investors that responded in 2021 were more strategic in their net-zero investment strategies and actively put net-zero investment into practice through corporate engagement and shareholder action. This year's respondents displayed a stronger preference for stewardship, with 80% of respondents opting for that option. Voting policies on climate were more popular this year, with 60% of respondents implementing these, similar to the adoption of negative screening in investors' strategies. While this increasing trend to engage on climate issues in the region Is welcomed and necessary, the approach to engagement must be specific, time-bound, and paired with effective escalation strategies to ensure companies are progressing at the appropriate speed required for the economic transition to align with climate goals.

Exhibit 20: Net-zero, low-carbon, climate-aligned, or green investment strategies for investors



Japan has seen significant changes in climate voting and shareholder action. In the last few years, a record number of climate change-related shareholder proposals have been submitted to Japanese companies, with 63 shareholder proposals submitted to nine companies[21]. Although none of the climate resolutions passed, the 2022 proxy season in Japan has signaled an increased appetite for climate-related shareholder resolutions in the region and an evolution of how climate shareholder resolutions are viewed in Japan. The impact of these resolutions within the market is notable, and it remains to be seen whether the effects will extend beyond Japan.

21 According to the "ESG Activism Japan 2022" report, published by Proxy Watcher.

Case Study 5: Invesco – The Approach for Sustainable Investing in China Fixed Income

Invesco is a global independent investment management firm which manages over USD 1.3 trillion[22] of assets globally with an on-the-ground presence in more than 20 markets. Invesco Fixed Income (IFI) has been an early mover in managing ESG-aware mandates since 1989, and currently manages $22bn[23] AUM in ESG portfolios among its total $394bn[24] AUM.

Sustainable Investing Approach to China Fixed Income

China has adopted one of the most ambitious climate change targets with its 2030/2060 carbon targets, as well as a strong track record of meeting previous climate related targets. Additionally, China is the world's 2nd largest green bond market[25]. Invesco has been exploring the approaches to invest in China fixed income in a sustainable way.

Invesco's approach to pursue a lower carbon intensity during investment in China fixed income focuses on the following:

1) **Negative screening to exclude issuers that do not meet the ESG criteria.** Such exclusions are applied based on criteria including but not limited to the level of involvement in certain activities such as coal, fossil fuels, tobacco, adult entertainment, gambling, and weapons. All issuers considered for investment are screened for compliance with, and excluded if they do not meet, the United Nations Global Compact principles.

2) **Positive screening based on IFI proprietary rating system.** Internal and third-party data is used to identify issuers which meet sufficient practice and standards in terms of ESG and sustainable development for inclusion in the investment universe, as measured by their ratings relative to their peers. This positive selection framework is designed to tilt towards issuers that are rated by the internal research process as either (i) at or above the middle ratings of their global sector or (ii) on an improving trajectory across their ESG metrics to take into consideration more forward-looking factors on a more-timely basis.

3) **Climate consideration and net zero alignment**[26] – Net zero transition is also crucial to achieve the target of lower portfolio carbon intensity. Within Invesco's proprietary Net Zero Investment Framework, IFI classifies sectors by transition importance to identify Material Emitting Sectors, as well as evaluating issuers on alignment criteria on topics such as Ambition, Target, Emissions performance, Disclosure, Decarbonization Strategy and Capital Allocation Alignment. Below is an example of the assessment of a China technology issuer against the framework. An improvement in Net Zero alignment can potentially translate into lower portfolio carbon intensity over time, while achieving real world carbon emissions reductions.

22 As of 30 September 2022.

23 As of 30 June 2022.

24 As of 30 September 2022.

25 Source: MSCI, Wind, as of 31 December 2021.

26 Net zero alignment: The Paris Agreement states that the world needs to achieve net-zero by 2050 to keep the rise in the mean global temperature to well below 2°C from preindustrial levels and preferably to 1.5°C. Net zero alignment measures the status of the issuer to align with the target.

Alignment criteria				
		Assessment	NZIF category*	Criteria**
1	**Ambition**: 2050 Net Zero goal	"Net Zero" goals scope 1 and 2 by 2030	Aligned	✓
2	**Targets**: Short- and medium-term emissions reduction target (scope 1, 2 and material scope 3)	Meet part of the criteria for short term targets Medium term meets reduction targets	Aligning	−
3	**Emissions performance**: Current emissions intensity performance (scope 1, 2 and material scope 3) relative to targets[1]	Specified path but lack of track record	Aligning	−
4	**Disclosure**: scope 1, 2 and material scope 3 emissions	Yes Yes	Aligned	✓
5	**Decarbonisation Strategy**: Plan for delivering targets and expected revenues	Yes	Aligning	−
6	**Capital Allocation Alignment**: Demonstration that capex is consistent with achieving Net Zero	No	Gap	×
	Overall NZIF Categorisation	**Aligning to a Net Zero pathway**		

Notes:

* Net Zero Investment Framework (NZIF) by Paris Aligned Investment Initiative translates the goals of the Paris Agreement into practical guidance for asset owners and asset managers. Based on the criteria and methodologies proposed by NZIF, an asset is decided to sit on one of the 5 categories along the alignment maturity scale – Achieving net zero, Aligned to a net zero pathway, Aligning towards a net zero pathway, Committed to Aligning, Not Aligned (Gap).

** Based on NZIF category, Green stands for Achieving net zero or Aligned; Amber stands for Aligning or Committed to aligning; Red stands for not aligned (Gap).

Source: Climate Action 100+ Net Zero Benchmark, Transition Pathway Initiative (TPI), PAII Net Zero Investment Framework as at end February 2022.1 Targets are set in-line with science-based Net Zero pathways. For legacy modelling reasons, 1.5 degree aligned assessments are not yet available for all sectors. For illustrative purposes only.

4) **Active allocation to issuers and overweight instruments linked to activities that positively contribute to certain environmental or social sustainability objectives.** To achieve its carbon neutrality goals, China's sustainable labelled bond market has been expected to grow rapidly. The government is prioritizing the implementation of green finance policies to lead the way in climate transition. There has been both nationwide and local level policy support to incentivize issuance and investment in the market. For sustainable labelled bonds, including green and social bonds, IFI has developed its proprietary framework to assess the bonds against the ICMA[27] Green Bond Principles and Social Bond Principles for inclusion. The alignment to the framework is monitored on continuous basis by IFI during the lifespan of the bond.

5) **Issuer engagement to take responsibility as active owners.** Invesco engages with invested companies and issuers as part of the wider commitment to active ownership, which is regarded as one of the most powerful mechanisms for reducing risks, enhancing returns and having a positive impact on society and the environment[28]. Through a centralized engagement process, Invesco takes advantage of its scale, which increases the chance of meaningful engagement. Invesco draws on this collective power to capture managements' attention and use our influence to encourage stronger sustainability-related behaviour from the entities in which we invest.

27 ICMA: The International Capital Market Association.

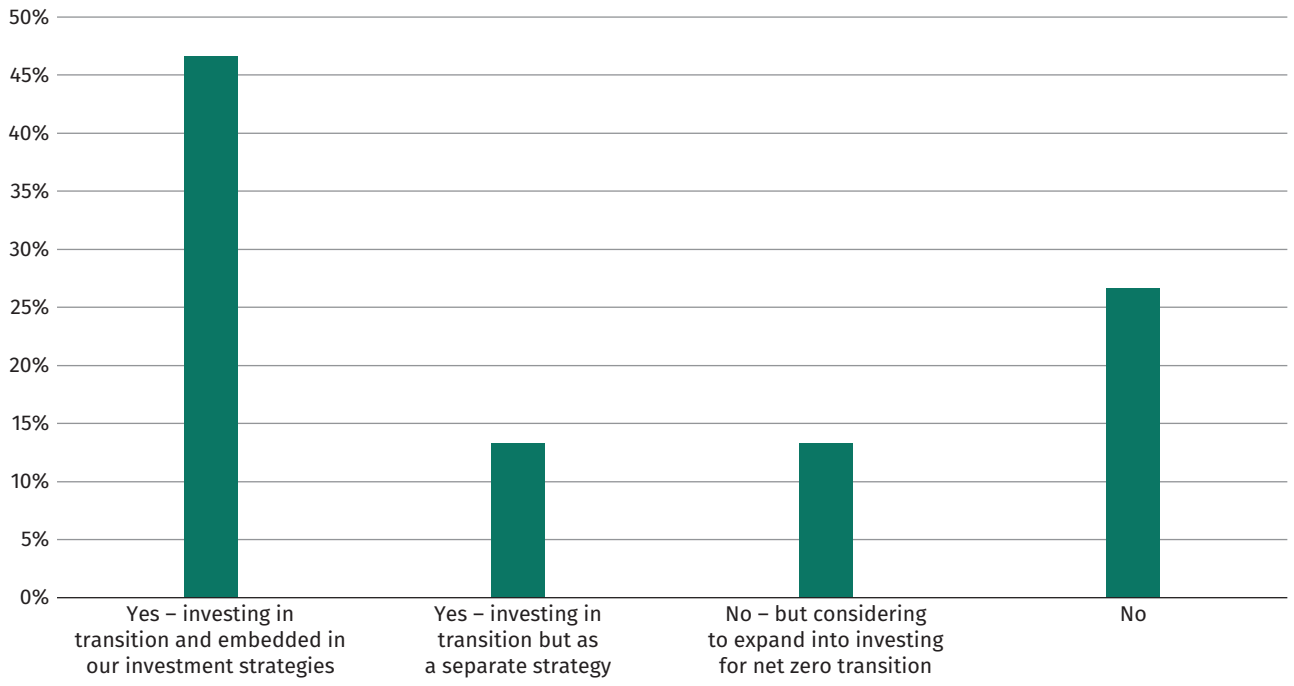
28 Source: PRI (Principals for Responsible Investment), February 2018.

Investing in the transition is an integral part of net-zero investment strategies.

Transitioning to a net-zero economy involves substantially transforming the business-as-usual economy. This includes how people buy and sell and make and move things. A report by McKinsey Global Institute published in early 2022 stated that the investment required for the transformation of the global economy to achieve a net-zero world by 2050 would be significant, requiring USD 9.2 trillion in annual average spending on low-emission assets alone, including in emerging technologies[29].

Almost half of the respondents (47%) are investing in transition and have included it as part of their net-zero investment strategy. A small number (13%) also mentioned that they are investing in transition as a separate strategy.

Exhibit 21: Percentage of investors investing in transition



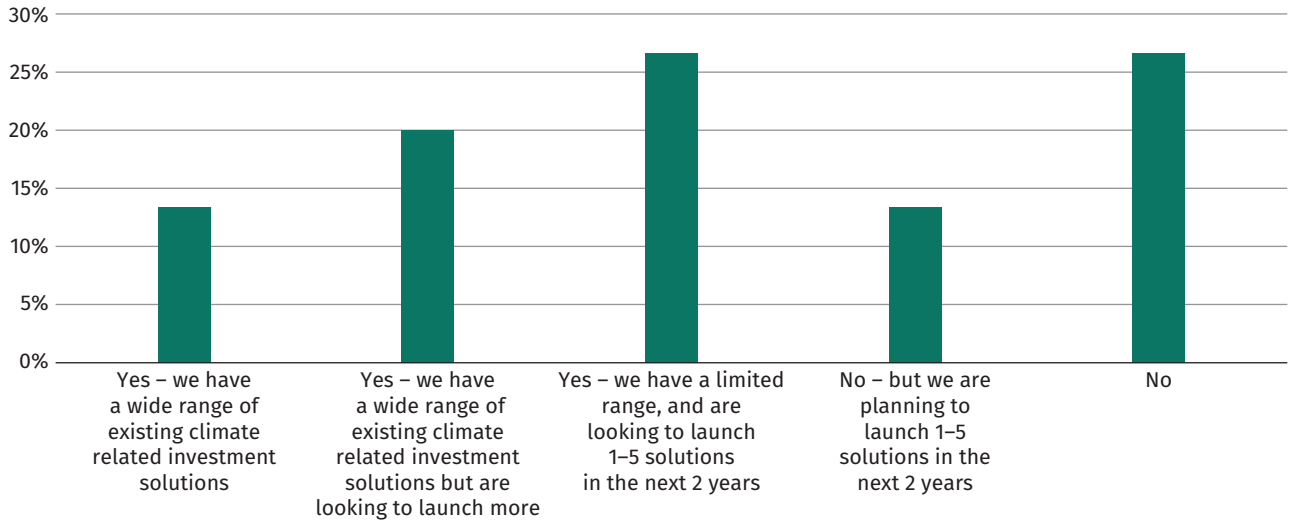
Asian investors will continue to launch climate-related investment solutions over the next few years.

Some respondents (13%) have a wide range of existing climate-related investment solutions, and 20% want to launch more. A higher percentage of the respondents (27%) have a limited range and are looking to launch one to five solutions in the next two years.

Interest in launching climate-related investment solutions is a recurrent trend observed since this survey was launched. Respondents want to launch products or solutions every year but have yet to overcome challenges such as the scalability of the products or solutions.

29 McKinsey Sustainability, "The net-zero transition: What it would cost, what it could bring," January 2022.

Exhibit 22: Percentage of investors that have or are in the process of launching climate-related investment solutions

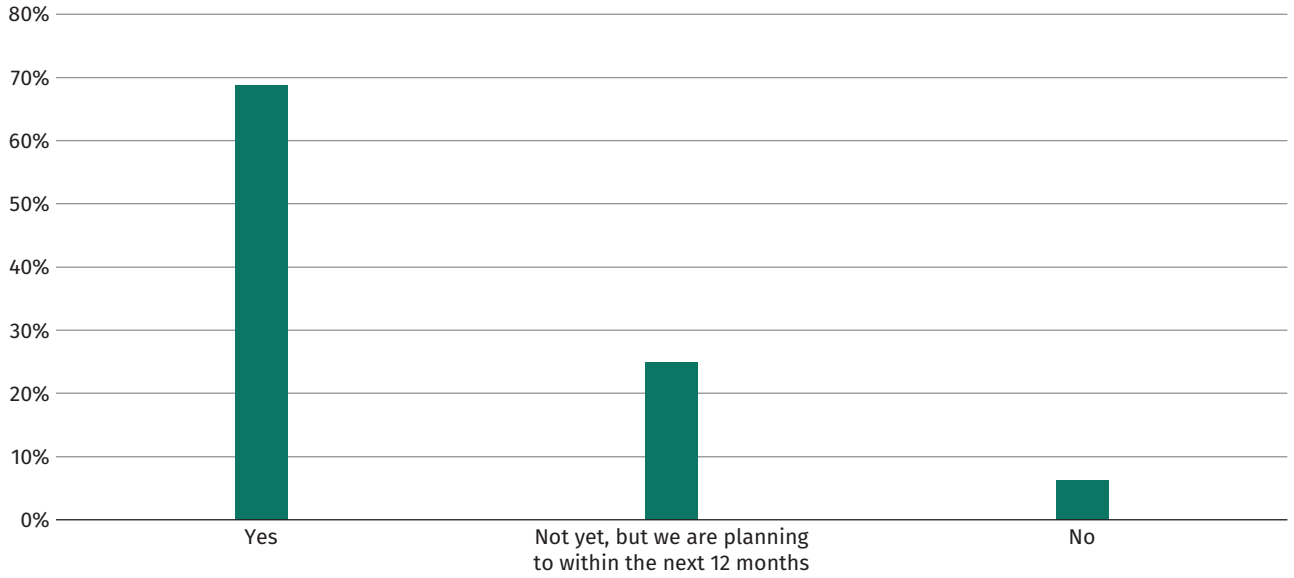


Disclosure on Climate Change

TCFD-aligned reporting has been widely adopted among leading Asian investors.

TCFD reporting is widely adopted among these surveyed investors. Over half of the respondents (69%) said that they had produced TCFD-aligned reporting, and 25% are planning to do so within the next 12 months. In terms of the regulatory landscape in Asia, Hong Kong, Singapore, and Japan have already mandated and committed to TCFD reporting. Although other Asian markets have not mandated TCFD reporting at the time of writing, they do have some form of sustainability reporting requirements in place – although not entirely TCFD aligned – and are supporters of TCFD in various stages of discussion.

Exhibit 23: Percentage of investors that produce TCFD-aligned reporting

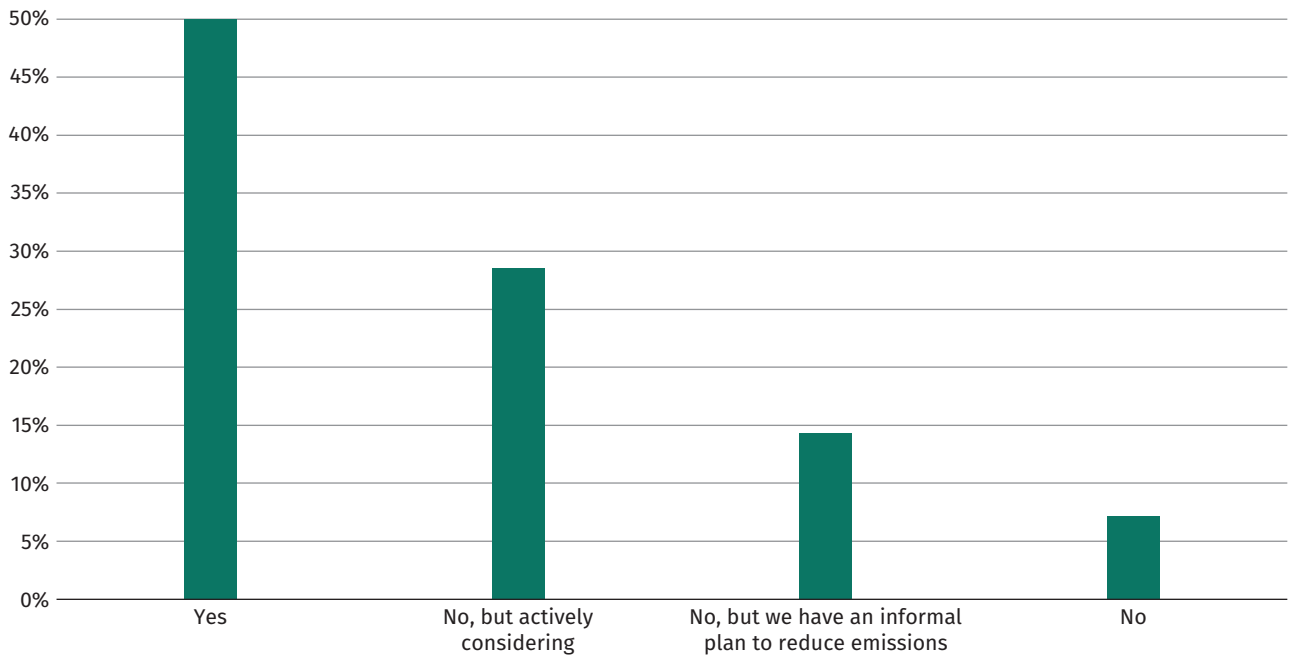


Investors recognize the need to publish climate action plans, and most Asian investors have already published a strategy.

An investor climate action plan enables investors to assess their current approach to climate change. Just as corporate companies are encouraged to publish net-zero transition plans, investors are encouraged to adopt climate action plans setting out the forward-looking actions, goals, and accountability mechanisms for the organization to reduce emissions and align with net zero before 2050.

Half of the respondents (50%) have published a climate action plan, with 29% actively considering doing so. A small number (14%) also mentioned that they have informal plans to reduce emissions.

Exhibit 24: Percentage of investors that have published strategies to achieve net zero



Various formats of climate action plans that meet existing investor reporting preferences have been observed. These include standalone plans or several investors integrating net-zero targets and plans into their TCFD, sustainability reporting, and CDP disclosures.

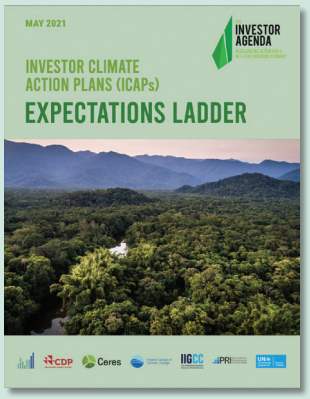
The Investor Climate Action Plans (ICAPs) Ladder (see box below) provides a useful framework for developing a climate change roadmap. The UN Race to Zero starting line criteria emphasizes that transition plans should not only have 2030 targets "which reflect maximum effort toward or beyond a fair share of the 50% global reduction in CO_2 by 2030" but that the plans must include immediate actions that the institution will take to achieve its interim targets[30].

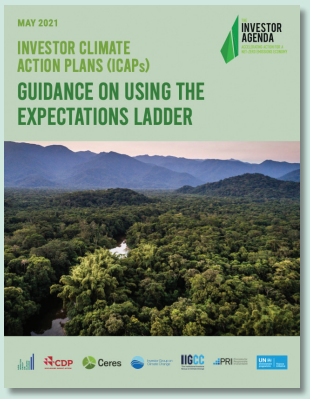
30 Race to Zero Expert Peer Review Group Interpretation Guide, June 2022, p. 3.

Investor Climate Action Plan (ICAPs) Framework

The Investor Agenda's ICAPs Ladder and Guidance are designed to help investors plan and assess their actions on climate change, no matter where the organization is in its climate journey.

The ICAPs Ladder sets out a summary of actions over four tiers, denoting progress on climate action in five focus areas applicable to all investors. This serves as a 'self-assessment checklist' to help investors prioritize their focus areas. Investors wanting to be net zero leaders should rapidly climb to Tier 1 across all focus areas.





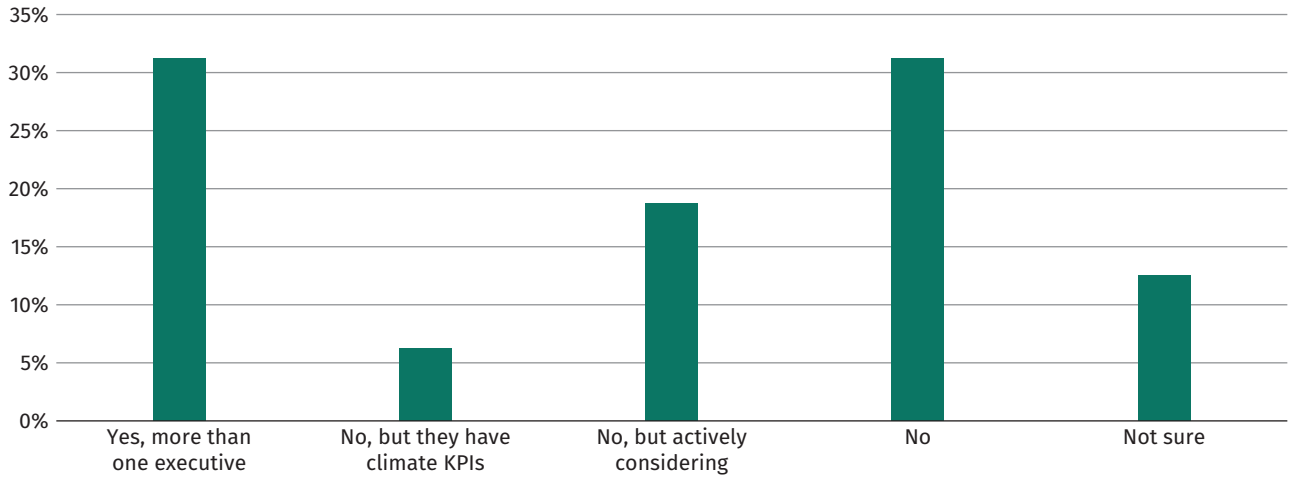
Executive Remuneration on Climate

Investors have started to link executive remuneration to delivering climate targets and the transition.

Appropriate governance and a portfolio-wide strategy provide the basis for portfolio alignment and broader actions by investors to achieve net-zero goals. Climate change should be central to the organization's strategic plan, and the board should fully endorse the climate strategy.

Investor accountability is now on the radar with considerations on executive remuneration and links to climate metrics. Some respondents (31%) have already linked executive remuneration to climate targets and transition, with 19% actively considering this matter. This approach would align with what investors ask of their companies and assets. However, 31% of investors responded "no," suggesting they are not actively considering this. A smaller number (6%) responded that they had not linked executive remuneration to deliver climate targets, but they have climate key performance indicators (KPIs) instead.

Exhibit 25: Percentage of investors that link executive remuneration to delivering climate targets and transition



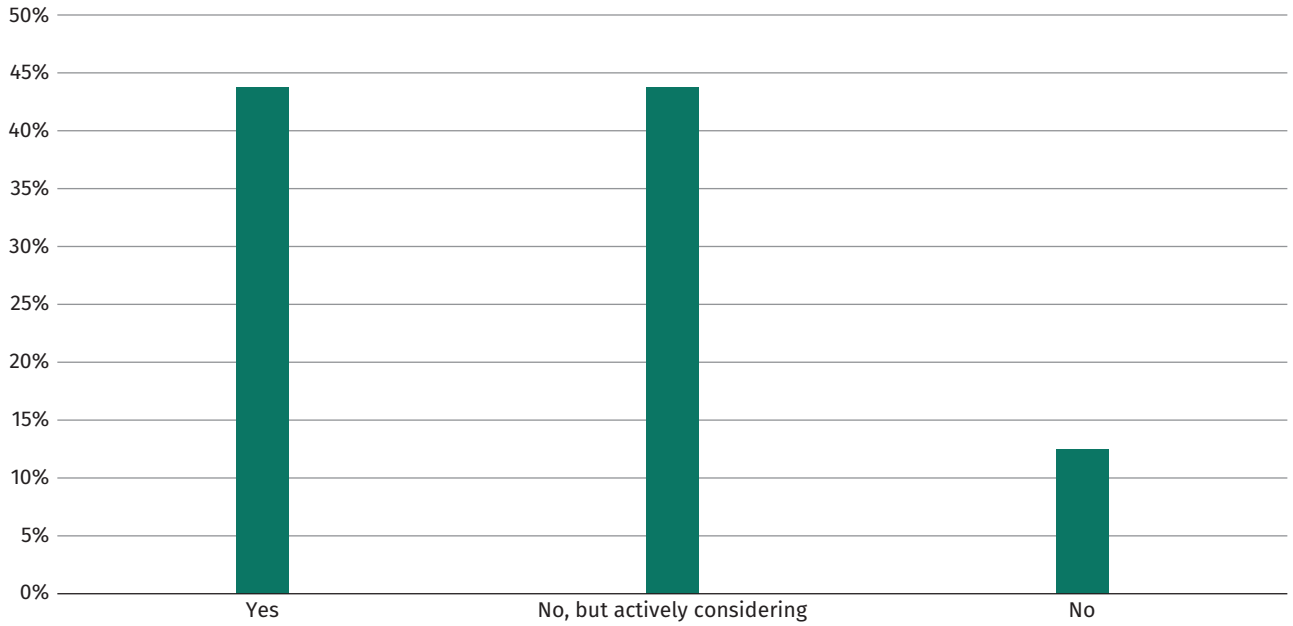
Just Transition

Nearly half of the investors are materially integrating just transition as part of their portfolio management and investment strategies, and nearly half are actively considering doing so.

The concept of a 'just transition' recognizes that while the transition to a net-zero emissions economy will provide many benefits and opportunities, there will also be transitional challenges for those workers, communities, and countries that rely heavily on fossil fuel reserves for their livelihoods or economic growth. To ensure that all appropriate measures are implemented to inform, engage, and support affected stakeholders through the net-zero transition – at the speed required in the tight timeframe between now and 2030 to halve global emissions – we need to ensure that the advantages and costs of transition are distributed.

Almost half of the respondents (44%) had considered a 'just transition' element in their portfolio management and investment strategy, and another 44% are considering doing so.

Exhibit 26: Percentage of investors that consider including a just transition element in their portfolio management and investment strategy



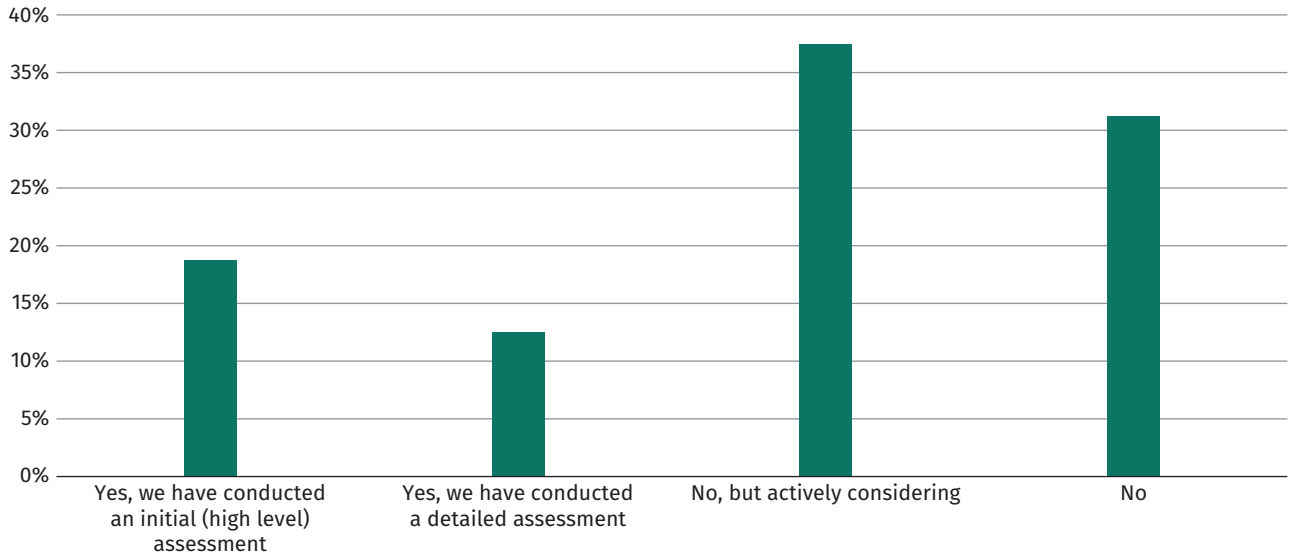
Investors have an important role in ensuring a just and inclusive transition to a net-zero emissions economy. Whether through corporate engagement, investment strategy and capital allocation, or advocacy and partnerships. Some investors are taking a bottom-up engagement approach with companies to address just transition in addition to portfolio decarbonization. A dual approach could be more suitable for companies in emerging Asian markets, where companies look to transition into net-zero operations against balancing socioeconomic development and alignment with global net-zero emissions by 2050.

Biodiversity and Deforestation

Investors have not yet conducted an assessment or have an integrated response to deforestation and biodiversity.

Despite nature loss posing a major risk to businesses, and while moving to nature-positive investments offers opportunities, investors are struggling to get started with risk assessment and action in this area. Only 13% of investors have conducted a detailed assessment of nature and biodiversity risks, and 19% have started to conduct an initial or high-level assessment. Most respondents (38%) have not conducted a detailed assessment of biodiversity/nature risks, but they are actively considering this.

Exhibit 27: Percentage of investors that have conducted an assessment or integrated response to biodiversity/nature or deforestation



Some investors recognize biodiversity as an important developing area to be actively monitored. Although they have not yet integrated a robust portfolio-level response, they have looked at aspects of biodiversity when analyzing risks for particular companies, such as including palm oil and logging industries in the list of sensitive industries.

The launch of the Taskforce for Nature-related Financial Disclosures (TNFD) in June 2021 will provide Asian investors with a framework for developing and delivering nature-related risk management and disclosures[31].

Investment Mandates

Investment mandates are still catching up to climate aspirations for asset owners.

Asset owners recognize the need to engage and track managers' progress on climate to ensure that actions taken are consistent with achieving global net-zero emissions by 2050, to accelerate transition, and to deliver the goals of the Paris Agreement. While asset owners' climate aspirations continue to grow, more work must be done to align mandates with net-zero commitments.

Many asset owners in this group do not have full mandates on net-zero alignment or quantifiable expectations on decarbonization for their external fund managers. Some have about up to 25% of their total AUM from their investment mandate for this requirement, including a requirement for reporting on carbon emissions in the portfolio. Asset owners appear to be in the process of improving this, with some stating that, despite not having formal requirements on emissions reporting in mandates, they are actively considering requesting external managers to do so (carbon emissions reporting). This is a trend to monitor as climate aspirations strengthen toward 2030.

31 TNFD released the third iteration of the beta framework on 4 November 2022.

While asset owners have not necessarily included requirements on portfolio decarbonization in their mandates to asset managers, they have asked most or all their managers to report on their climate engagements and outcomes. One asset owner indicated almost all their total AUM for managers to report on climate stewardship activities.

Asset managers report that only a small portion of asset owner clients specify requirements relating to decarbonization or net zero.

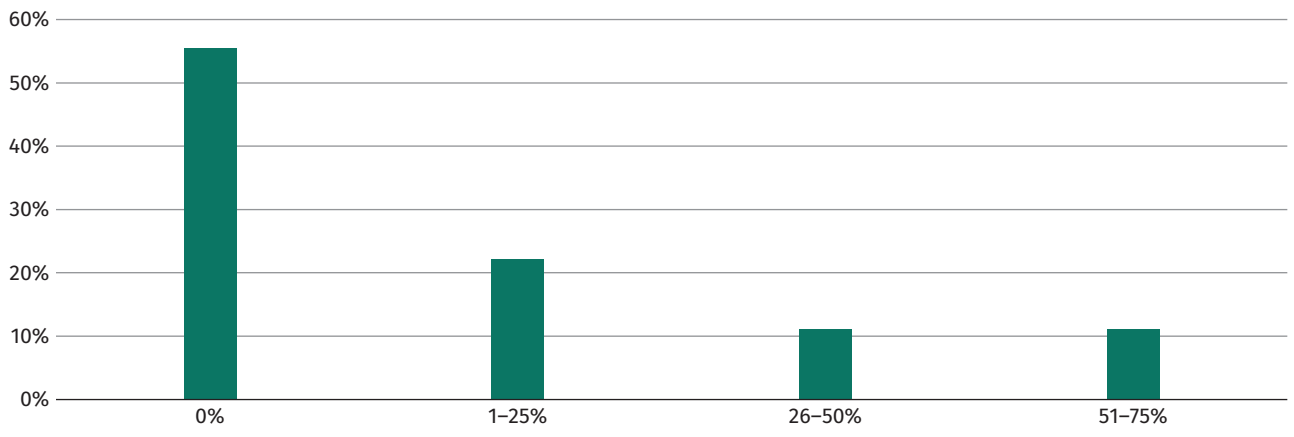
Asset managers report a low proportion of clients with specified requirements related to decarbonization and net-zero targets. Some asset managers (17%) report that only a small proportion (0–25%) of clients have specified requirements relating to decarbonization and net zero. Almost half of the respondents (42%) indicate that none of their clients has specified these requirements.

These results may reflect investment decisions that continue to account for ESG and sustainable development focuses that do not solely consider climate factors. This reason was also noted in last year's Net Zero Investment Report.

Where investors are in pooled listed equity funds, they cannot specify their requirements making mandates difficult in this instance. However, in such a case, a manager has adopted an integrated approach and net-zero targets across their portfolios, enabling their clients to consider decarbonization. Asset managers should act as stewards of the assets and, in the process, ensure that achieving net-zero targets are supported through their stewardship activities.

To avoid the risk of mispricing assets and the misallocation of capital, asset managers are encouraged to engage with their asset owner clients on decarbonization goals, setting interim targets, and reviewing their climate-related policies.

Exhibit 28: Proportion of clients that have specified requirements relating to decarbonization and net zero (according to asset managers)



Note: The range of percentage that was not chosen by the respondents are not displayed in the exhibit.

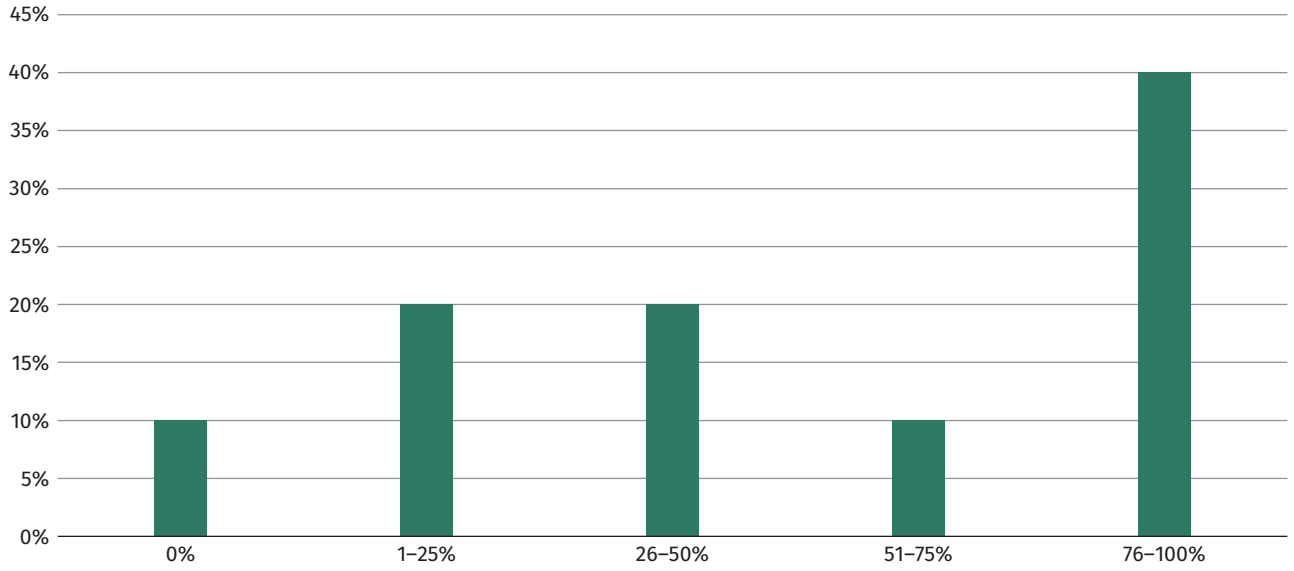
Responses vary about the proportion of clients to whom managers currently provide emissions reporting data.

40% of the asset managers who responded to our survey indicated that 75% or more of their clients provide emission reporting data. A small proportion (10%) of respondents indicate that they do not offer emissions reporting data to their clients.

Respondents elaborated further that where emissions data are being disclosed to clients, WACI and absolute emissions are the chosen climate-related metrics disclosed for selected funds. The carbon footprint for all open-ended funds and mandates is also provided where there is enough coverage.

This suggests that emissions data availability, quality, and ability to reconcile different outputs because of different methodologies could contribute to the varying results.

Exhibit 29: Proportion of clients that asset managers currently provide emissions reporting data to (according to asset managers)



Most managers report that only a small portion or no asset owner clients require annual TCFD-aligned reporting.

One-quarter of asset managers (25%) report that no clients require annual climate reporting from them, while another 25% indicate that 1–25% of clients require this.

Some managers, in addition to TCFD reporting, they also provide annual impact and sustainability strategy reports, with updates on their ESG and engagement in quarterly investor newsletters. This demonstrates a continued proactiveness among investors to embed climate-related risks and opportunities as part of their long-term business strategy.

Asset managers in Asia that report and align their strategy with the TCFD recommendations are anticipated to see continued growth.

Most asset owners do not mandate managers' investment in climate solutions.

One-third (33%) of respondents note that only up to 25% of mandates specify investment in climate solutions. The lack of clear definitions of green or low-carbon investing solutions has been repeatedly identified as one of the key barriers to climate investment across AIGCC's previous Net Zero Investment reports and investors may be having difficulty identifying investable green or climate-based projects. On the one hand, asset owners may focus more on ESG than on climate solutions investing. However, asset owners may be less willing to refer to requirements of climate solutions investing[32], avoiding public scrutiny on greenwashing. It is also possible that investors are having difficulty identifying investable green or climate-based projects.

The definitions of climate solutions and the requirement for solutions that support net-zero transition, which is especially relevant in Asia, have yet to be made clear. The level of harmonization and development of green and sustainable finance taxonomies in Asia has a pivotal role in enabling mandates for climate solutions. Developments – including the ASEAN taxonomy back in November 2021, the second release of the Common Ground Taxonomy (CGT) report in 2022, and more recently, the Green Finance Industry Taskforce in Singapore's Consultation paper to identify a Green taxonomy and Relevant standards for Singapore and ASEAN – indicate progress toward increasing clarity and harmonization in defining climate solutions. However, the uncertainties and fragmentation faced in developing and implementing sustainable finance taxonomies and their effects on the Asian markets should not be underestimated.

Strengthening regulations and guidance on defining climate solutions should remain a priority to provide investors with direction in what is considered genuine climate-related investments. However, regardless of regulatory developments, identifying scalable and relevant climate solutions for different markets remains a priority for many asset managers and is possible while definitions are being developed.

32 Please also refer to Case Study 4: GIC Private Limited – Investing to Support Decarbonization at Scale in page 38.

Chapter 4: Investing in Opportunities

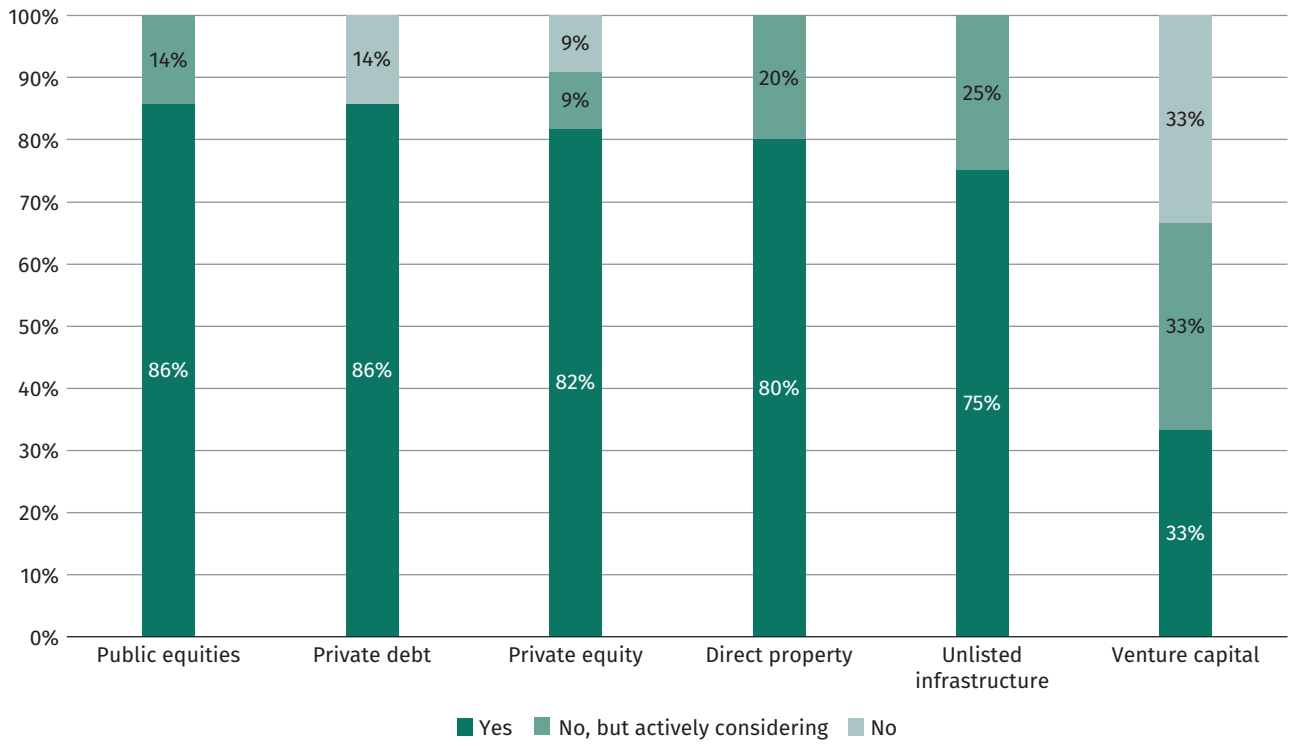
Investors expect to be active in as part of their climate solutions investment strategy.

Surveyed investors expect to be active across all asset classes as part of their climate solutions investment strategy, including public equities and private debt (86%), private equity (82%), direct property (80%), unlisted infrastructure (75%), and venture capital (33%).

Respondents expect to be active in public equities (86%) and another 14% actively considering this. This is likely due to this asset class having the most easily accessible and available data.

Over half of the respondents also expect to be active in private equity, direct property and unlisted infrastructure however, asset-level data is more challenging to obtain in these asset classes, especially on climate solutions.

Exhibit 30: Proportion of asset classes expected to be active in climate solution investment strategies



The updated ICAPs Guidance (July 2022) points to a series of public guidance documents, indicating that private equity GPs and LPs are moving toward greater consistency in integrating this asset class into their climate action plans. The guidance document explains how direct private equity investors can better integrate climate metrics and targets across three phases of investment: 1) pre-acquisition and due diligence, 2) ownership, and 3) exit. This may be helpful as private equity investors in Asia continue to consider being active in this asset class as part of their climate investment strategies.

Chapter 5: Barriers to Investment

A lack of data was perceived to be a key barrier to investment, signaling increased demand for nuanced data and a knowledge gap that needs to be closed.

With investment activities continuing to grow across asset classes and geographies, market-specific nuances continue to pose various challenges for investors in the region. This year's survey driller down into further specifics to understand this barrier.

Exhibit 31: Barriers to investment

2022	2021	2020
Lack of data (47%)	Lack of tools to measure 'green impact' (45%)	Lack of tools to measure and report 'green impact' (56%)
Lack of clear definitions of what constitutes a low-carbon or green investment (40%)	Lack of client demand (30%)	Lack of clear definitions of what constitutes a low-carbon or green investment (33%)
Lack of client demand (40%)	Lack of opportunities with risk-return objectives (25%)	Lack of opportunities with risk-return objectives (33%)
Lack of tools to measure and report on 'green impact' (40%)		

Almost half of the respondents (47%) note that the 'lack of data' is a key barrier to investment. Data quality and accessibility are issues that investors are faced with, particularly in Asia, where sector-specific and industry-specific information may not be as mature as in other regions. Investors from the private market may also have difficulty accessing asset-level climate data – which is necessary for decision-making – compared to public markets, where company-level data is comparatively easier to access.

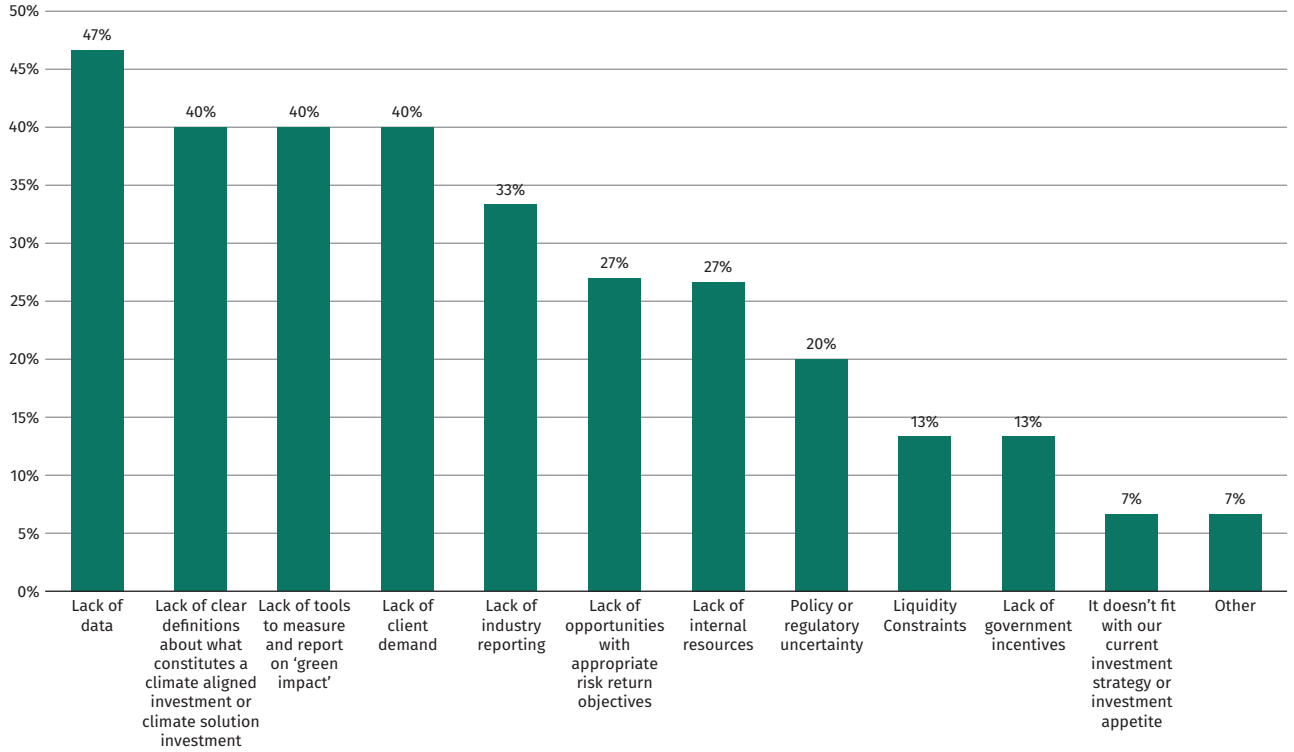
Data challenges may also emerge due to difficulties reconciling results based on differing calculations and scoring methodologies. These factors could also contribute to investor perspectives on the lack of tools to measure and report on 'green impact' (40%) as a barrier.

The lack of data as a key barrier could also signal investors' increasing understanding of climate and sustainable finance knowledge in Asia, whereby they are demanding more granular data (e.g., broken down by asset classes, sectors, and geographies).

Comments relating to the lack of definitions for low-carbon and green investment, client demand, and a lack of tools to measure and report on 'green' impact have been explored earlier in this report. However, Asia-based investors have also expressed concerns about being asked to reference the EU's Sustainable Finance Disclosure Regulation (SFDR) in their investments, given the different market-level understanding. The development of Asia-specific green and sustainable taxonomies is anticipated to help Asia-based investors or investors investing in Asia gain clarity on how to define low and green carbon investment.

Other key barriers to investments should also be recognized including lack of industry reporting (33%). Only 13% of respondents note a 'lack of government incentives as a barrier.

Exhibit 32: Barriers to increasing exposure to low-carbon or climate-aligned solutions

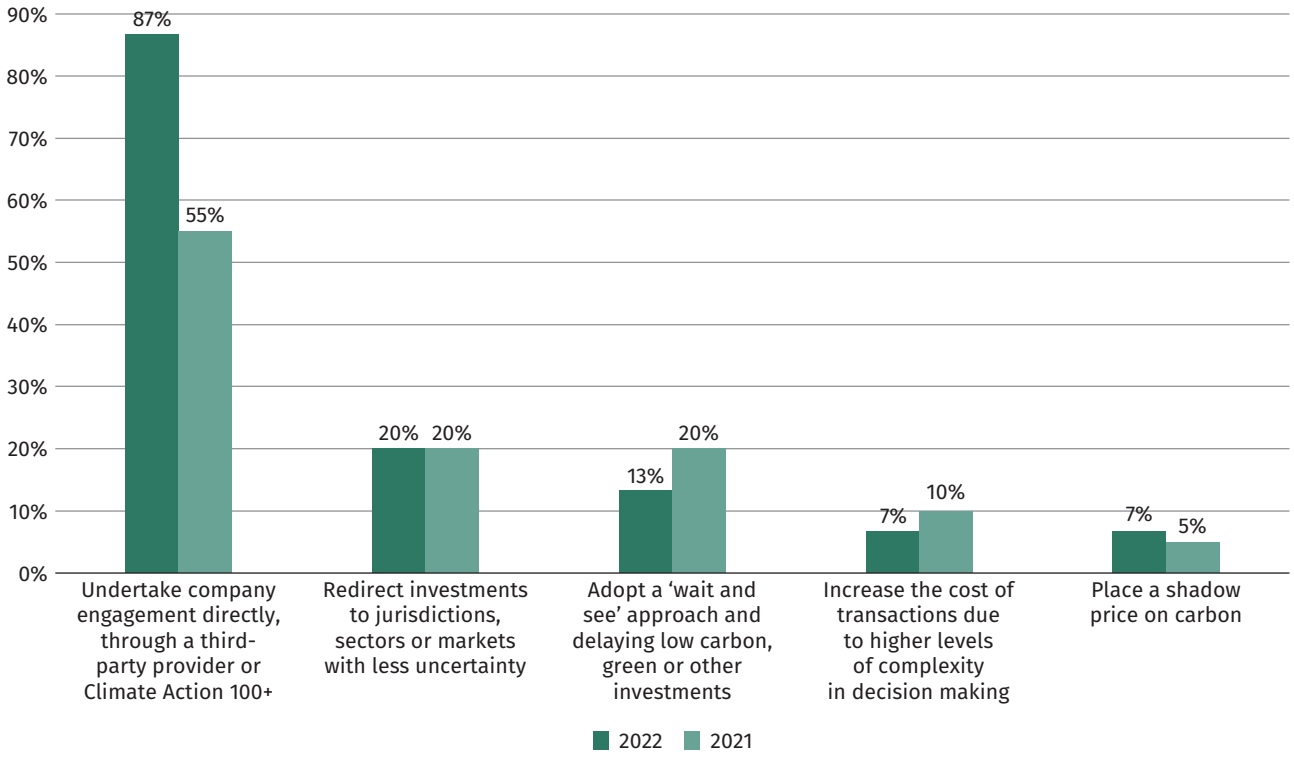


Managing policy or regulatory uncertainty in investment activities via company engagement has risen 32% year-on-year

Most investors (87%) opt to undertake company engagement directly through a third-party provider or Climate Action 100+ initiative. Collaborative engagement programs, such as the Climate Action 100+ and AIGCC's member-based Asian Utilities Engagement Program (AUEP), effectively align investor expectations in a common agenda and shared objectives, including in climate policy engagements. The policy engagement agenda in AUEP is primarily focused on the issues of increasing renewable energy in the power sector and early coal phaseout. Some example include an event organized by AIGCC in Tokyo, Japan in May 2022, which consist of a closed-door roundtable that brought together representatives from key government bodies responsible for formulating policies on energy transition, domestic and international investors, and corporate groups in Japan.

The effect of unleashing private sector financing is beginning to take shape; however, fostering the growth of climate opportunities will require continued support from the public sector to increase investments for private sector capital.

Exhibit 33: Approaches taken by investors to manage policy and regulatory uncertainty in investment activities



Investors (80%) are working collaboratively by supporting investor-backed statements, letters, and calls for climate action.

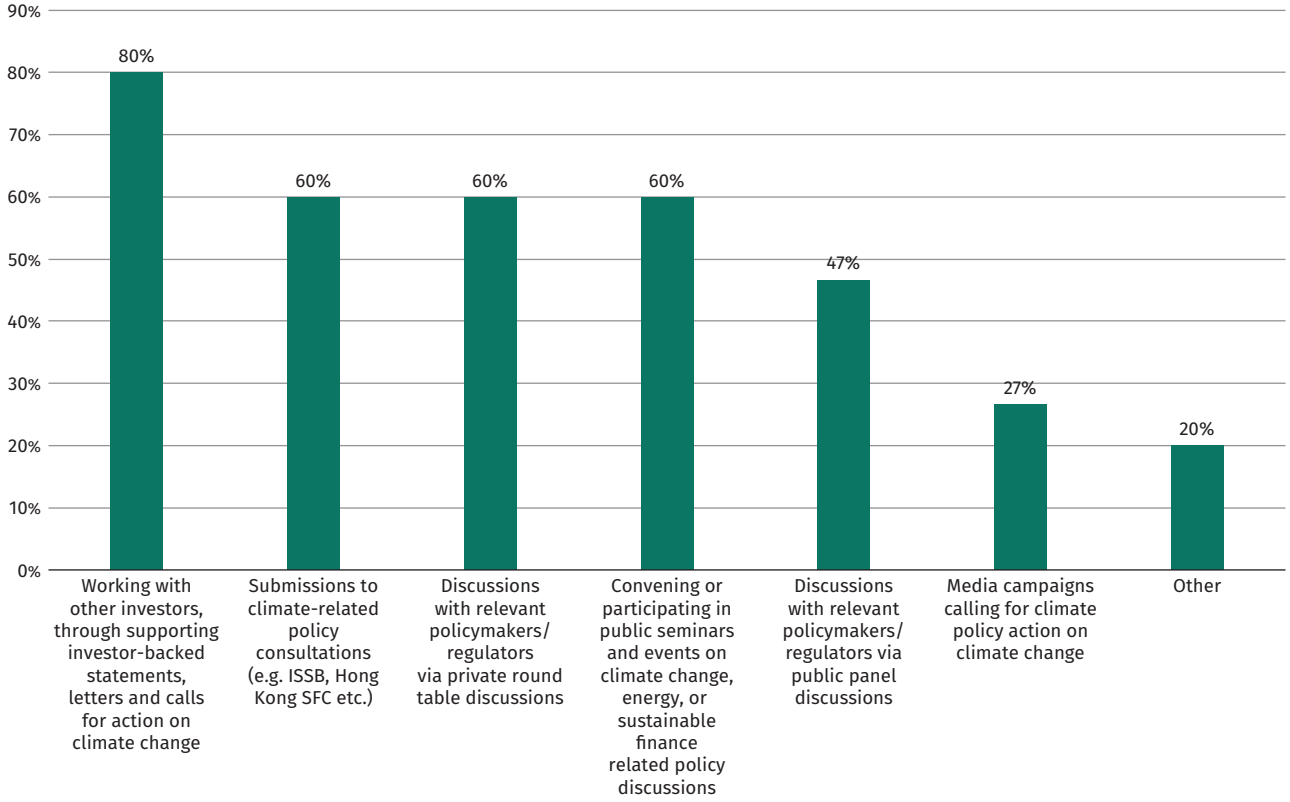
Policy advocacy is important in addressing market failures and inaction. Investors have an important role in policymaking processes in their own right, their influence on other companies, and their policy practices (ICAPs Guidance, p. 33).

Most investors (80%) have supported investor-backed statements that call for climate change action. For example, the Investor Agenda's Global Investor Statement to Governments on the Climate Crisis in 2022 was signed by 602 investors representing almost USD 42 trillion in AUM. This statement is investors calling for governments to ensure that the 2030 targets in their NDCs align with the goal of limiting global temperature rise to 1.5°C.

Over half of investors (60%) have undertaken policy advocacy in the following areas: 1) submissions to climate-related policy consultations, 2) discussions with relevant policymakers/regulators via private roundtable discussions, and 3) convening public seminars and events on related climate policy discussions.

This indicates that investors are using their voices to try to unlock investment opportunities and scale capital flows in climate-related work.

Exhibit 34: Policy advocacy undertaken by investors on climate-related issues



Disclaimers of this Report

BNP Paribas Asset Management: BNP PARIBAS ASSET MANAGEMENT France, "the investment management company," is a simplified joint stock company with its registered office at 1 Boulevard Haussmann 75009 Paris, France, RCS Paris 319 378 832, registered with the "Autorité des Mayés financiers" under number GP 96002. This material is issued and has been prepared by the investment management company. This material is produced for information purposes only and does not constitute 1) an offer to buy nor a solicitation to sell, nor shall it form the basis of or be relied upon in connection with any contract or commitment whatsoever, or 2) investment advice. Opinions included in this material constitute the judgement of the investment management company at the time specified and may be subject to change without notice. The investment management company is not obliged to update or alter the information or opinions contained within this material. Investors should consult their own legal and tax advisors in respect of legal, accounting, domicile, and tax advice prior to investing in the financial instrument(s) in order to make an independent determination of the suitability and consequences of an investment therein, if permitted. Please note that different types of investments, if contained within this material, involve varying degrees of risk and there can be no assurance that any specific investment may either be suitable, appropriate, or profitable for an investor's investment portfolio. Given the economic and market risks, there can be no assurance that the financial instrument(s) will achieve its/their investment objectives. Returns may be affected by, among other things, investment strategies or objectives of the financial instrument(s) and material market and economic conditions, including interest rates, market terms and general market conditions. The different strategies applied to the financial instruments may have a significant effect on the results portrayed in this material. The investments in the funds are subject to market fluctuations and the risks inherent in investments in securities. The value of investments and the income they generate may go down as well as up, and it is possible that investors will not recover their initial outlay, the funds described being at risk of capital loss. For a complete description and definition of risks, please consult the last available prospectus and KIID of the funds.

Environmental, Social and Governance (ESG) Investment Risk: The lack of common or harmonized definitions and labels integrating ESG and sustainability criteria at the EU level may result in different approaches by managers when setting ESG objectives. This also means that it may be difficult to compare strategies integrating ESG and sustainability criteria to the extent that the selection and weightings applied to select investments may be based on metrics that may share the same name but have different underlying meanings. In evaluating a security based on the ESG and sustainability criteria, the Investment Manager may also use data sources provided by external ESG research providers. Given the evolving nature of ESG, these data sources may for the time being be incomplete, inaccurate, or unavailable. Applying responsible business conduct standards in the investment process may lead to the exclusion of securities of certain issuers. Consequently, the Sub-Fund's performance may at times be better or worse than the performance of relatable funds that do not apply such standards. All information referred to in the present document is available on www.bnpparibas-am.com.

Dynam Capital: This case-study has been prepared by Dynam Capital Limited. Past performance of funds managed by Dynam Capital is no guide to the future and, in particular, that the past returns of the Vietnamese stock market, or of companies listed on it, are no guarantee of the future returns of Vietnam Holding. This case-study and the information contained herein does not represent investment advice and should not be acted on and relied on for any purpose whatsoever. No understanding representation or warranty or other assurance, express or implied, is made or given by any person to the accuracy, fairness or completeness of the information or opinions contained in this case-study and no responsibility or liability is accepted for any such information or opinions.

Sustainable Fitch: An ESG Rating is an assessment of the Environmental, Social and Governance ("E", "S" and "G") qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings' credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch's ESG Ratings, please use this link: www.sustainablefitch.com.

Please note that individuals identified in an ESG Rating report are not responsible for the opinions stated therein and are named for contact purposes only. A report providing an ESG Rating is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of financial instruments and securities. ESG Ratings are not considered investment advice and they are not and should not be considered as a replacement of any person's own assessment of the ESG factors related to a financial instrument or an entity. Fitch Ratings does not represent, warrant or guarantee that an ESG Rating will fulfil any of your or any other person's particular purposes or needs. Fitch Ratings does not recommend the purchase or sale of financial instruments or securities nor gives investment advice or provides any legal, auditing, accounting, appraisal or actuarial services. ESG Ratings are not an opinion as to the value of financial instruments or securities. Fitch Ratings does not audit or verify the accuracy of the information provided to it by any third party for the purpose of issuing an ESG Rating, including without limitation issuers, their representatives, accountants and legal advisors and others. Fitch Ratings does not represent, warrant or guarantee the accuracy, correctness, integrity, completeness or timeliness of any part of the ESG Rating. The information in an ESG Rating report is provided "as is" without any representation or warranty of any kind, and Fitch Ratings does not represent or warrant that the report or any of its contents will meet any of the requirements of a recipient of the report.

Fitch Ratings receives fees from entities and other market participants who request ESG Ratings in relation to the analysis conducted to assign an ESG Rating to a given financial instrument and/or entity. The assignment, publication, or dissemination of an ESG rating by Fitch Ratings shall not constitute a consent by Fitch Ratings to use its name as an expert in connection with any registration statement filed under the United States securities laws, the Financial Services and Markets Act of 2000 of the United Kingdom, or the securities laws of any particular jurisdiction.

ESG Products offered to clients in Australia. ESG Products in Australia are available to only to wholesale clients (as defined in section 761G of the Corporations Act (Cth) (the "Act")) in Australia. Information related to ESG Products published by Fitch is not intended to be used by persons who are retail clients within the meaning of the Act ("Retail Clients") in Australia. No one shall distribute, disclose or make references to any information related to ESG Products in a manner which is intended to (or could reasonably be regarded as being intended to) influence a Retail Client in making a decision in relation to a particular financial product (as defined in the Act) or class of financial products, unless required to do so by law to meet continuous disclosure obligations. No one shall make reference to any ESG Product information in any publication, promotional material, disclosure document, correspondence, website, or any other venue that may be accessed by clients and investors who are Retail Clients in Australia (except in the circumstances as permitted by law).

Copyright and Disclaimer

www.aigcc.net

@AIGCC_Update

https://www.linkedin.com/company/asia-investor-group-on-climate-change/

info@aigcc.net