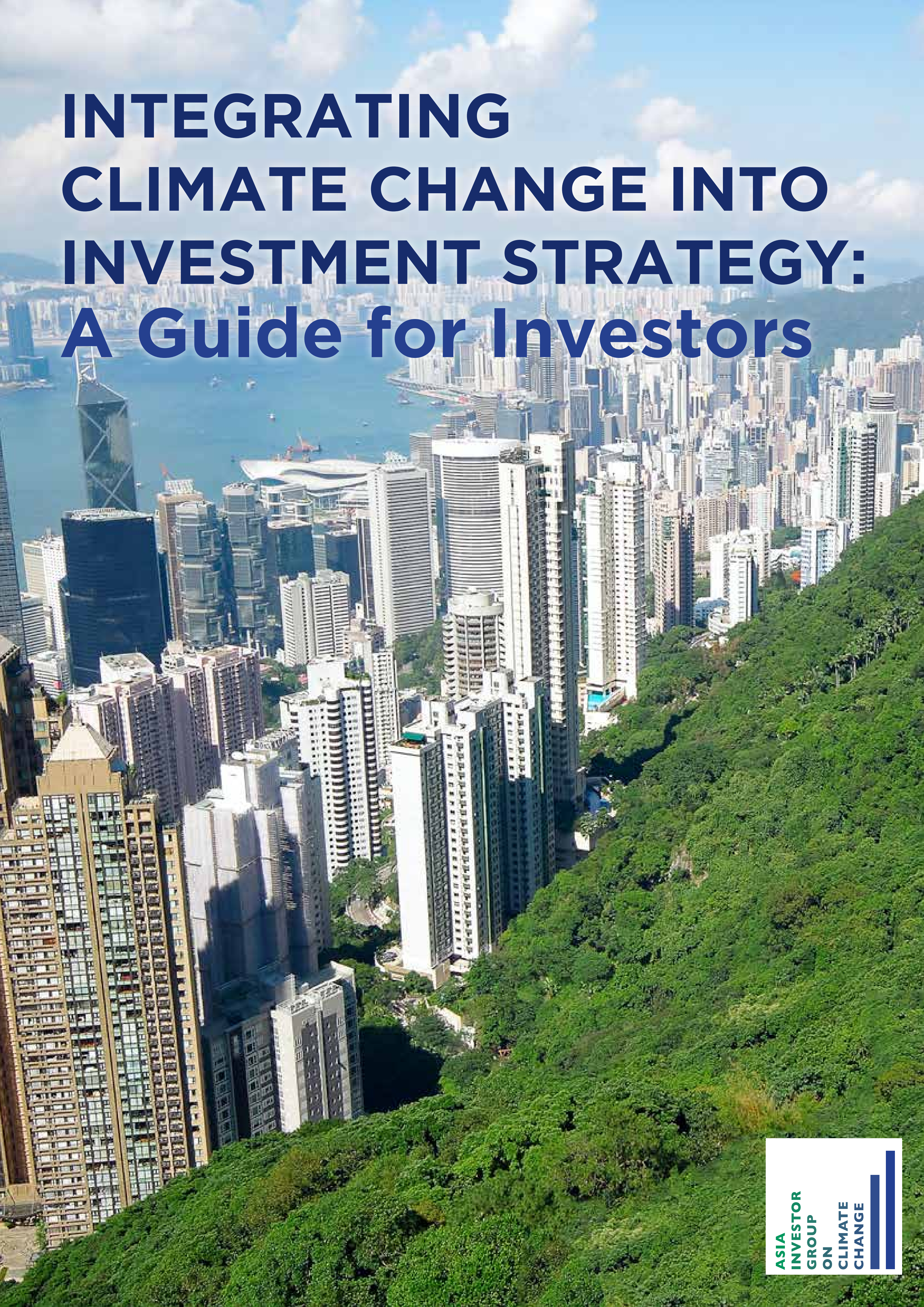
INTEGRATING CLIMATE CHANGE INTO INVESTMENT STRATEGY: A Guide for Investors



ASIA INVESTOR GROUP ON CLIMATE CHANGE

About the Asia Investor Group on Climate Change

The Asia Investor Group on Climate Change (AIGCC) is an initiative to create awareness among Asia's asset owners and financial institutions about the risks and opportunities associated with climate change and low carbon investing. AIGCC provides capacity for investors to share best practice 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.

www.aigcc.net

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We appreciated the opportunity to host the roundtable in collaboration with the Milken Institute 2017 Asia Summit which was held in Singapore in September 2017.

A View from the 2017 Milken Asia Summit

We are pleased to have co-hosted with AIGCC this roundtable and bring together Asia's institutional investors and financial institutions to drive solutions for climate change forward.

Climate change is, and will continue to be, one of the most important issues of our time and it is through collaboration that we can develop concrete steps to take action and make a better future for generations to come.

Laura Deal Lacey, Executive Director, Asia, Milken Institute

MILKEN INSTITUTE

About the Milken Institute

A nonprofit, nonpartisan economic think tank, the Milken Institute works to improve lives around the world by advancing innovative economic and policy solutions that create jobs, widen access to capital, and enhance health. We do this through independent, data-driven research, action-oriented meetings, and meaningful policy initiatives.

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FOREWORD FROM AIGCC

Asia is highly vulnerable to adverse impacts from climate change. According to the Climate Change Vulnerability Index, 10 of the 16 countries most vulnerable to the worst effects of climate change are in Asia[1]. The United Nations (UN) has highlighted that populations in the low-lying cities of developing nations in east, southeast, and south Asia will suffer from coastal flooding and land-loss earlier in the coming century than in other regions of the world[2]. A 2017 study from the Asian Development Bank noted that even if the goals of the Paris Agreement (which aims to keep global temperature rise well below two degrees Celsius) are met, some ecosystems and socioeconomic systems in Asia will still be affected; and that a 'business as usual' scenario will see severe effects on livelihoods, human health, migration, and potential for conflicts.[3]

Asian regulators are stepping up to the challenge of climate change. Carbon pricing and emissions trading schemes, ambitious targets on green infrastructure and energy transitioning, strengthening of auto-emissions standards and electric vehicle adoption, among other trends, are increasingly seen in the policy landscape of the region. The major issuance of green bonds in the region underlines the fact that regulators are increasingly paying attention to the role that capital markets can play in facilitating Asia's transition to a lower carbon future. National authorities are reviewing their respective policy frameworks in pursuit of the pledges committed to as part of the Paris Agreement.

For Asia-based investors, the regulatory frameworks, economic transition paths, and physical impact of climate change represent both evolving investment risks, and significant investment opportunities. Investors active in the region are increasingly aware of the responsibilities and opportunities that long-term sustainability challenges present. This is reflected in the growing number of Asian signatories to the UN backed Principles for Responsible Investment (PRI), and greater resources allocated by firms to environmental, social, and corporate governance issue identification and integration into investments made in Asia.

However, as long-term stewards of capital with a responsibility to fund pension systems and safeguard the national wealth of countries in Asia, it has become increasingly urgent for the region's investors to pay greater attention to climate change. In recognition of this need, this guide was commissioned by investors in the region. An earlier draft of the guide was reviewed at the AIGCC CEO/CIO Asset Owner Roundtable on Climate Change in Singapore in September 2017, and several key recommendations made there have been incorporated into this final version.

This guide aims to provide a systematic framework for institutions to review and communicate their strategy for tackling climate change. Such strategies generally require high-level institutional support to align implementation of climate change policies and beliefs with actual investment decision-making. Given the global scope of the examples provided, and the inevitably interconnected nature of the challenges created by climate change, I hope this guide will be useful for investors operating in any jurisdiction.

AIGCC looks forward to working with more investors in Asia to realise the huge opportunities arising from the transition to the new low carbon economy and prevent the worst impacts of climate change.

Emily Chew,
AIGCC Working Group Chair
Global Head of ESG Integration and, Research, Manulife Asset Management

1 New Scientist, "Asia tops climate change's 'most vulnerable' list", 20 October 2010, accessed at https://www.newscientist.com/article/mg20827832-400-asia-tops-climate-changes-most-vulnerable-list/.

2 Intergovernmental Panel on Climate Change, United Nations, Climate Change 2014: Impacts, Adaptation and Vulnerability, December 2014.

3 See Asian Development Bank, A Region at Risk: The Human Dimensions of Climate Change in Asia and the Pacific, July 2017.

EXECUTIVE SUMMARY

This guide aims to support Asia-based institutional investors (asset owners and managers) on the subject of climate change and to highlight and explore areas of international best practice. As the guide highlights, a growing body of investors recognise, that climate change needs to be incorporated into an organisation's overarching investment strategy as part of fulfilling its fiduciary duty to end-beneficiaries. Indeed, many investors are addressing climate change as part of their broader approach to Responsible Investment (RI) – commonly referred to as the integration of Environmental, Social and Governance (ESG) issues into investment frameworks – and are collaborating to reinforce their actions on climate change.

Financial regulators are also beginning to shift to encourage investors to adopt and implement a framework to measure, manage and publicly disclose their climate-related activities. By way of illustration, the Taskforce on Climate–Related Financial Disclosure (TCFD) was established as an industry-led, multi-stakeholder process to improve financial disclosure around climate change including, but not limited to, an organisation's governance, strategy, risk management and adoption of metrics/targets. The TCFD recommendations have received widespread support by international companies and investors, with the industry's focus now shifting towards adoption and implementation.

In addition to evolving financial standards, new and emerging voluntary principles, codes and standards related to the broader agenda of sustainable development and the role of businesses and institutional investors are gaining momentum. Of particular note is the growing support and adoption of frameworks such as the United Nations Global Compact (UNGC) and the UN Sustainable Development Goals (SDGs) .

Building on this momentum, this guide sets out a practical framework to support institutional investors in the integration of climate change considerations into an organisation's investment strategy.

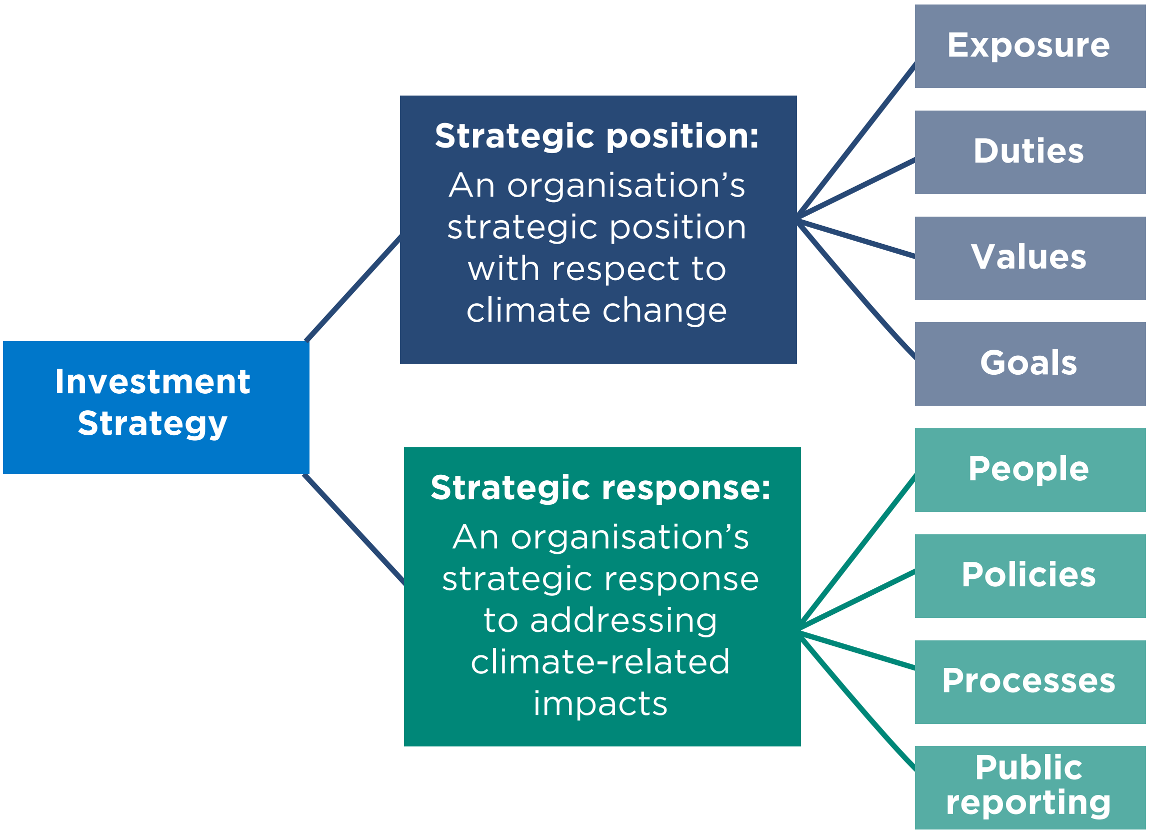
While there is no one-size-fits-all approach, there are some emerging trends and best practice standards that are evolving that include developing a strategic position on climate change and formulating a strategic response (Figure 1).

1. **Developing a strategic position** – An organisation's strategic position on climate change will typically consider its exposure to the **exposure** on climate-related risks and opportunities, how it impacts an organisation's fiduciary **duties**, how it relates to an organisation's **values**, beliefs, and/or overarching philosophy as well as the articulation of an organisation's **goals** and what it hopes to achieve in regard to climate-related impacts. As the examples of emerging best practice in this report highlight, developing a position on climate change provides the basis for an organisation to formulate and implement an appropriate response to manage climate-related investment impacts, as well as communicate externally with beneficiaries, stakeholders and regulators.

2. **Formulating a strategic response** – Once an organisation has developed its strategic position on climate change, the groundwork is set to formulate an appropriate response in terms of actions to take. Based on emerging best practice examples across the international investment community, these actions have been summarised in this Guide as the 4 P's, which refer to: **people** (who needs to be involved and in what capacity); **policies** (what policies, charters or guidelines might be required); **processes** (the specific approaches to manage climate related risks and opportunities); and **public reporting** (disclosure of an organisation's activities to its beneficiaries, stakeholders, regulators and other interested parties).

The remainder of this Guide highlights some key questions and answers that investors might like to consider, as well as different approaches and best practice examples that are emerging, to illustrate how climate change is being embedded into an organisation's investment strategy across these pillars.

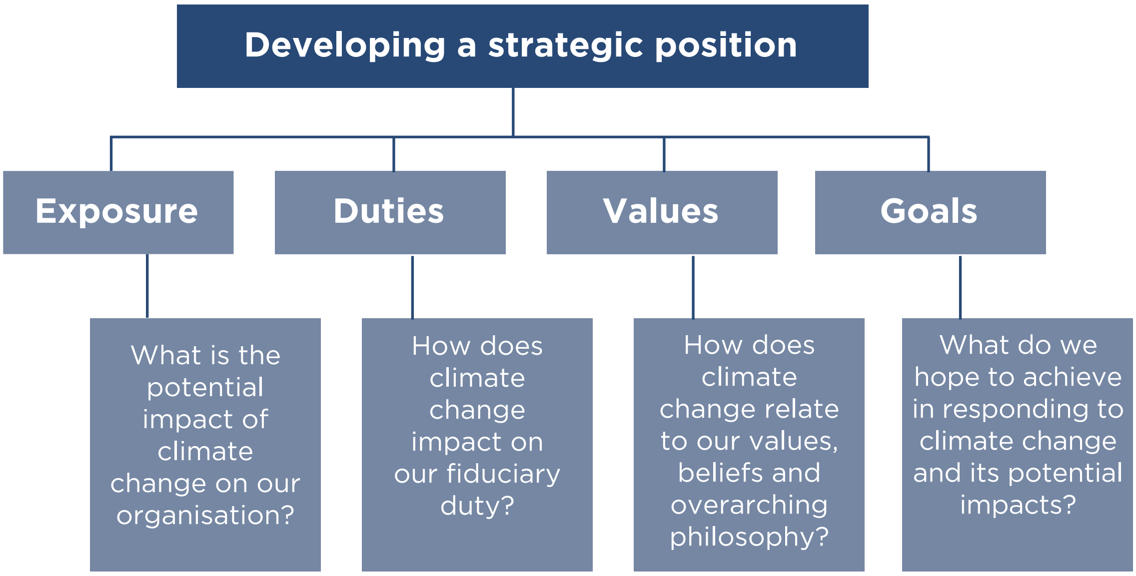
Figure 1: Integrating climate change into an organisation's investment strategy



DEVELOPING A STRATEGIC POSITION ON CLIMATE CHANGE

There are a number of issues to consider in developing a strategic position on climate change and the questions that an investment organisation might wish to discuss as part of its strategy review (See Figure 2). The following questions and answers address each of these issues in turn, highlighting examples and emerging best practice across the institutional investment community.

Figure 2: Issues to consider in developing a strategic position



Question 1: Why do we need to develop a strategic position on climate change?

The development of an organisation's strategic position on climate change will help to guide internal decision-making to effectively manage and respond to the investment risks and opportunities related to climate change. It is also beneficial for meeting the evolving disclosure standards expected of investors on the management of climate-related impacts, responding to the changing regulatory requirements and the expectations of stakeholders and beneficiaries (see Figure 12 later in this guide for more information on the evolving standards of disclosure on climate-related impacts).

Question 2: Should our strategic position be disclosed publicly?

As well as being disseminated and used to guide internal decision-making processes, an organisation's strategic position on climate change is increasingly being disclosed publicly either on an organisation's website, via a public position statement and/or through inclusion in relevant public, regulatory and client reporting frameworks. Strategy formulation and disclosure was also a key component of the TCFD recommendations on climate-related disclosure. Annex A and B provide examples and hyperlinks to a range of international investor's publicly disclosed information in relation to climate change.

Question 3: What issues should we consider in developing a strategic position?

There is no one-size-fits-all approach as to what an organisation's strategic position on climate change might include, although a review of best practice across international investors reveals that some investors make reference to (Figure 2):

- Evidence: How an organisation is positioning itself with respect to the evidence on climate change (physical impacts, government policies, technological innovation, shifting societal expectations) and its impact on risks and opportunities.
- Duties: How climate change relates to an organisation's fiduciary duties.
- Values: How climate change relates to an organisation's values, beliefs and its overarching investment philosophy.
- Goals: What an organisation hopes to achieve in developing a position on climate change.

Question 4: What do investors typically consider when taking a strategic position on the evidence and potential impact of climate change?

The assessment of climate-related risks and opportunities involves some level of engagement with the latest evidence on climate change, utilising the available tools and considering the exposure of the organisation's assets, now and into the future[6]. As part of this assessment, organisations are typically taking into account the scientific evidence and increasing threat around the physical impacts of climate change[7], the shifting regulatory landscape and financial standards, as well as technological advancements, shifting societal expectations, stakeholder demands and the preferences of end-beneficiaries (see Figure 3 for an example).

Figure 3: Example of taking a strategic position on the climate-related evidence and impacts

Norges Bank Investment Management, Asset management unit of Norges Bank and Manager of Government Pension Fund, Global
"The challenges of climate change, both the physical impacts and the regulatory and technological responses, may give rise to risks and opportunities for companies. How companies manage these, may drive long-term returns for us as a shareholder."
"The scientific basis for climate change is widely accepted. Climate change has the potential to affect the global economy. The economic impacts of climate change on specific markets and regions are complex, varied, and uncertain, rendering the timing and extent of impacts hard to predict on a company level."

Source: Norges Bank Investment Management Climate Change Strategy

Question 5: How does climate change impact on our fiduciary duty?

Generally speaking, as the climate-related physical impact risks have surfaced, technological developments have emerged, societal expectations have shifted and government policy action has escalated. It has become more widely accepted across the investment industry that taking climate change factors into account is consistent with an investor's fiduciary duty to exercise due care, skill and diligence in the pursuit of the best interests of end beneficiaries[8]. Indeed, the narrative has shifted from it not only being consistent with fiduciary duty, but also being an essential component of carrying out those duties effectively[9].

As with all investment decisions, analysing the potential impact on investment returns and risk needs to be the core component of an organisation's investment strategy and considerations when defining investment beliefs. The intended response of an organisation to climate change may, to a large extent, emerge from these deliberations. For example, an organisation that adopts a negative screening or divestment approach (perhaps in conjunction with other actions) will also need to consider the possible impact this will have (positive or negative) on risk-adjusted returns, and have suitable monitoring arrangements in place for ongoing review. (See Figure 4 for an example.)

Figure 4: Example of taking a strategic position on fiduciary duty

Environment Agency Pension Fund, UK

"The Fund's fiduciary duty is to act in the best long-term interest of our members and to do so requires us to recognise that environmental, social and governance (ESG) issues can adversely impact on the Fund's financial performance and should be taken into account in the funding and investment strategies and throughout the funding and investment decision making process."

"Our climate change investment beliefs:

- Climate change presents a systemic risk to the ecological, societal and financial stability of every economy and country on the planet, with the potential to impact our members, employers and all our holdings in the portfolio.
- Climate change is a long-term material financial risk for the Fund, and therefore will impact our members, employers and all our holdings in the portfolio.
- Considering the impacts of climate change is both our legal duty and is entirely consistent with securing the long term returns of the Fund and is therefore acting in the best long-term interests of our members.
- Selective risk-based disinvestment is appropriate but engagement for change is an essential component in order to move to a low carbon economy."

Source: EAPF climate change policy

Question 6: How do we relate climate change to our organisation's values, beliefs and overarching philosophy?

An organisation's position on climate change will typically be a reflection of its culture and how it responds to other Environmental, Social and Governance (ESG) issues that also arise, and will thus be a reflection of its values and beliefs in relation to climate change but also act as an indicator of an organisation's philosophy and broader sense of purpose. (See Figure 5 for an example.)

Figure 5: Example of relating an organisation's values, beliefs and philosophy in relation to climate change

AP2, The Second AP Fund, Sweden
"AP2 is one of the buffer funds within the Swedish pension system. The fact that we manage pension capital means that we need to take a long-term approach. The capital managed by the AP2 should contribute to the pension payments for different generations being as even as possible."
"The fund's mission is to maximise returns at a low risk so that the negative impact of automatic balancing (the so-called brake) on pensions is as small as possible. The analyses performed by the fund to assess future pension payments are based on a 30 to 40 year outlook. Consequently, it is natural for AP2, as a long-term investor, to work with sustainability issues as these will have a major impact on the development of society."
"Because climate change and the transition to a low-carbon society is one of the main challenges of our time, it is obvious to AP2 that climate should be one of its focus areas."

Source: AP2 Climate Strategy

Question 7: Should we seek to manage the risk or also become part of the solution to climate change?

Some investors may have a strong sense of corporate and social responsibility to not only manage the risks and capture the opportunities related to climate change, but to also be part of the solution to the challenges that it produces. Others might take the position that the best that an investor can do is to mitigate and manage the risks that climate change produces. An organisation's position on these issues will largely be a reflection of its strength of beliefs in relation to climate change, with some illustrative examples of different beliefs provided for guidance in Figure 6.

Figure 6: Illustrative examples of strength of beliefs with respect to climate change

Weak	Moderate	Strong
We believe that it is primarily the role of governments to address climate change and its potential impacts. We will support policy makers to take the necessary actions needed and manage the risks accordingly.	We believe that it is primarily the role of governments to address climate change, but that businesses and investors also have a role to play in this process. We will consider our approach and the possible actions we might take on a case-by-case basis as part of our risk management strategy.	We believe that it is the role of governments, businesses and investors to address climate change. For investors, as part of our risk management strategy and potential contribution to the solutions, we will seek to positively contribute to these efforts through our investment processes, engagement activities and through collaboration with others.

Question 8: What other goals are investors setting in relation to climate change?

In addition to considerations around managing risk and/or becoming part of the solution, some investors set out specific goals that they wish to achieve as part of developing their position on climate change. Some illustrative examples of these are provided in Figure 7. This list is not intended to be exhaustive and the process of setting goals is evolving and changing rapidly.

Figure 7: Examples of setting goals in relation to climate change

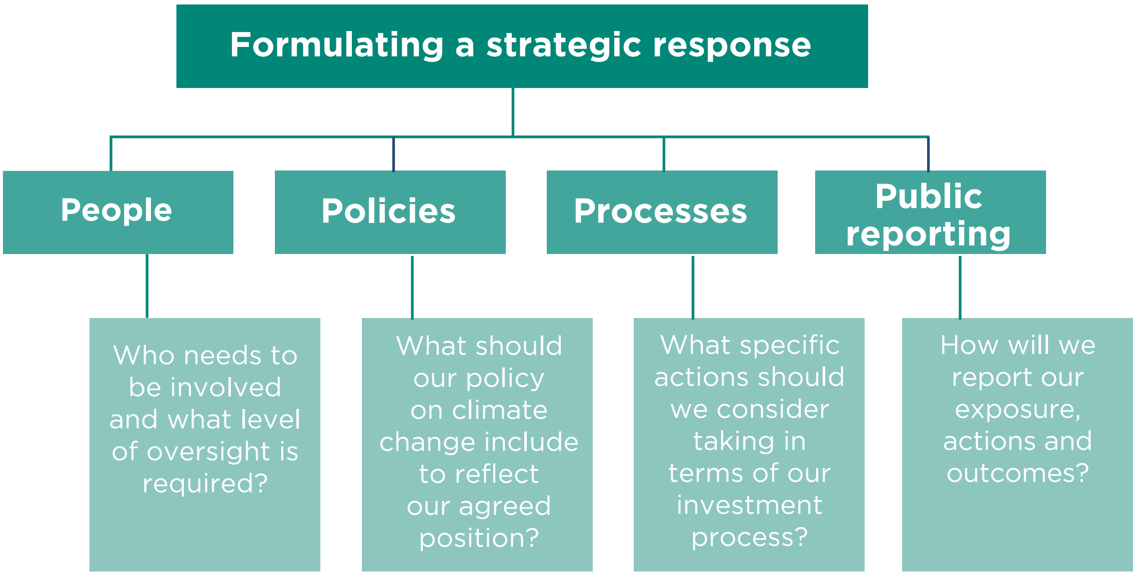
Goals	Examples
Measure and report carbon intensity	**AP4, The Fourth AP Fund, Sweden** Measure and disclose carbon footprint in the listed equity holdings as well as identify how to measure the carbon footprint of other asset classes.[1]
Reduce carbon intensity of portfolio	**New Zealand Superannuation Fund** The board approved a target to reduce the carbon emission intensity of the Fund by at least 20%, and reduce the carbon reserves exposure of the Fund by at least 40% by 2020. [2]
Align with and support the attainment of a 2 degree or less outcome	**AP2, The Second AP Fund, Sweden** AP2's climate ambition is to develop its portfolio in line with the two-degree target. This is achieved by integrating climate analysis into the investment process and by, based on the fund's mission, contributing to the transition into a two-degree society.[3]
Temasek Investment company managed on commercial principles with the Singapore Government as the sole equity shareholder.	**Temasek Asset Management Company, Singapore** The Charter mandates Temasek to deliver sustainable value over the long term. In line with its commitment to sustainability and good governance as a steward, institution and investor, Temasek has in July 2017 articulated its support to the UN Sustainability Goals, of which climate change is a key pillar: "As an organisation we do things with tomorrow clearly in our minds and aim to do our part to help build an 'ABC world', which stands for an 'active' world with a robust economy and good opportunities for all people; a 'beautiful' world with cohesive and inclusive communities; and a 'clean' world with fresh air, clear waters, and cool earth.".[4]
Invest specified % assets into low carbon, energy efficient assets	**AXA Insurance, Global** Goal to triple investments in green assets to over €3bn by 2020.[5]
Divestment from fossil fuels	**Allianz Group, Insurance and Asset Management** Divestment from equity stakes in coal-based business models by the end of March 2016; fixed income stakes can be held until maturity (run-off). Definition of coal-based business models: • Mining companies deriving 30% or more of their revenues from mining thermal coal. • Electric utilities deriving 30% or more of their generated electricity from thermal coal. [6]
Engage with corporations to disclose climate-related risks	**Blackrock, Asset Management, Global** Engage companies most exposed to climate risk to understand their views on the TCFD recommendations and to encourage them to consider using this reporting framework.[7]
	Sumitomo Mitsui Trust Holdings Through engagement with investee companies, SuMi TRUST Bank promotes pro-active information disclosure of initiatives and policies concerning climate change, specific actions to avert and mitigate impacts from climate change, and the use of certification systems.[8]
New product development (climate tilt passive fund)	**HSBC Bank UK Pension Scheme** Worked with their fund manager Legal & General Investment Management to develop a multi-factor fund with a climate change "tilt" as the equity default option for its £1.85bn (passive component) defined contribution (DC) scheme. They requested better risk-adjusted returns, protection against climate change risks, and a more powerful ESG engagement policy within a passive mandate.[9]

Sources: various, see references

FORMULATING A STRATEGIC RESPONSE TO CLIMATE CHANGE

There are a range of issues to consider in formulating a strategic response to climate change and the questions that investment organisations might wish to discuss internally, as part of that process (figure 8). The following questions and answers address each of these issues, along with some practical examples and emerging best practice across the investment community.

Figure 8: Formulating a strategic response to climate change



Question 1: Who should be involved in formulating our strategic response to climate change?

This will depend on a number of factors, including an organisation's position on climate change, as well as the size of an organisation and the resources that it has available. The broad range of options and approaches in terms of staffing the climate-related efforts that are emerging to date include:

- Incorporating climate-related issues into the responsibilities of staff across business lines and up into management, including high level support and engagement by the CEO and CIO (or their equivalent);
- Dedicated in-house staff and specialists on ESG and climate-related issues who act as the internal champions and work across business lines and up into management (including the CEO and CIO, or their equivalent);
- Utilising external advice and support from specialists on climate-related issues, who advise and support in-house staff and management to help develop and implement its climate-related position;
- Encouraging all agents and external fund managers and advisers to integrate climate-related issues into their processes;
- A combination of all the above.

Question 2: What level of oversight is required in formulating our response?

Typically, board level (or board appointed sub-committee) oversight of a climate-related strategy is emerging as the industry best practice standard to work towards. This will ideally involve the CEO and the CIO (or their equivalent) as part of their oversight responsibilities, to help support the development of a strategy that can be effectively implemented across the organisation. This level of oversight within an organisation will help to ensure that the strategy is reviewed on a regular basis (typically annually) and that due consideration is given towards providing the appropriate operational and implementation support and resources to execute and deliver the organisation's goals.

Question 3: What is the purpose of a climate-related investment policy?

Most investment organisations develop investment policies to operationalise their investment philosophy; the same applies to climate-related considerations. Climate-related policies help to provide an overarching framework to guide an organisation's internal approach to manage the climate-related risks and opportunities. They can also help organisations to meet and satisfy evolving regulatory requirements, as well as provide valuable information for stakeholders and end-beneficiaries.

Question 4: Do we need to develop a standalone climate-related policy, or can it be part of our existing policy suite?

Typically, the stronger the position that an organisation takes on climate change, the greater the likelihood that it will consider a standalone policy as being necessary. Indeed, recent trends suggest that best practice is moving towards developing a standalone climate-related policy that is also reflected within other relevant investment policies (including investment policies, corporate governance/voting policies and responsible investment/ESG policies or broader statements around alignment with the Sustainable Development Goals10).

Question 5: What needs to go into a climate policy?

There is no prescribed structure for a climate-related policy, although the TCFD recommendations provide some guidance on disclosure standards that can also help to inform the content of a policy document, such as:

- The governance arrangements and level of oversight for approval and ongoing review;
- The goals of the organisation, what it hopes to achieve;
- The key actions that the organisation intends to take that are consistent with its beliefs and the attainment of its stated goals;
- The organisation's intentions regarding the frequency and content of reporting and public disclosure.

An example of a policy that relates to climate change is provided in Figure 9, with additional examples provided in Annex B.

Figure 9: Example of policies that relate to climate change

CalSTRS, US based public pension fund policy excerpt:

The Fund has a board approved investment policy for mitigating ESG risks that identifies 21 ESG risk factors, one of which is climate change. The policy is an appendix to its investment policy.[1]

The Fund has a board approved divestment policy that includes semi-annual performance reporting to the CIO and annual review by the CIO and Investment Committee.[2]

The Fund's investment team produces an annual Green Initiative Task Force report that is approved by the CIO. It includes the Fund's climate-related actions across the following broad areas:

- Risk management with respect to climate impacts
- Reviewing fund managers climate-related capabilities
- Engaging with corporations on climate issues
- Voting on climate related shareholder proposals
- Climate related research efforts and participation
- Allocation to low carbon, energy efficient assets
- Performance of sustainable investment assets
- Issues, outlook and other initiatives[3]

Source: CalSTRS investment policy

Question 6: What specific actions should we consider taking as part of our investment processes?

This will in part be determined by an organisation's position on climate change, as the level of action will tend to escalate the stronger the position that an organisation has taken. Typically, the type of actions that investors take will be one, some, or all of the following[11]:

- Measure carbon and climate-related exposure[12]
- Integrate climate-related impacts into investment decision-making processes
- Undertake scenario analysis and asset allocation review[13]
- Set explicit targets to cap exposure to high carbon/fossil fuel assets
- Divest from high carbon assets and companies[14]
- Invest in low carbon, energy efficient and climate resilient assets and/or benchmarks[15]
- Engage with fund managers to encourage integration into investment processes across asset classes
- Engage with companies and exercise the right to vote on climate-related resolutions to encourage higher standards of climate change measurement, management and disclosure[16]
- Engage with policy makers and regulators to reinforce climate action[17]
- Engage with end-beneficiaries and stakeholders to gauge expectations and communicate climate-related actions and outcomes
- Collaborate with other investors or join climate change investor groups to engage with companies and reinforce actions[18]
- Report and disclose key actions, metrics and outcomes[19]

By way of guidance, some examples of different actions being taken by international investors across some of these areas are summarised in Figure 10.

Figure 10: Examples of actions in response to climate change

Actions	Likely Underlying Beliefs (Illustrative purposes)	International Investor Examples
Manage climate-related risks and opportunities as part of fiduciary duty	We believe that climate change poses a material financial risk to the global economy and ecosystem, whilst also presenting new investment opportunities, and we endeavour to evaluate, measure and monitor these impacts as part of our fiduciary duty to our clients and/or beneficiaries.	**CalPERS, Public pension fund, US** "Investment Belief 9: Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error. As a long-term investor, CalPERS must consider risk factors, for example climate change and natural resource availability that emerge slowly over long time periods, but could have a material impact on company or portfolio returns." [1]
Integration into investment processes	We believe that the integration of climate change risks and opportunities into investment decision-making processes will help to bolster the long-term performance and resilience of our investments.	**Canada Pension Plan Investment Board (CPPIB), Pension Fund, Canada** "We have developed a cross-departmental Climate Change Working Group (CCWG) that actively reviews climate change risks and opportunities in light of global developments. The first focus is a bottom-up review of our investment due diligence as it relates to the consideration of climate change risks and opportunities. The second focus is to consider approaches for a top-down assessment of climate risk across our total portfolio. The CCWG's other focus is to consider how climate change is positioned in our overall risk framework."[2]
Asset allocation shifts	We believe that investing in low carbon, energy efficient and climate resilient assets can improve the resilience of our investment portfolio in the shift to a low carbon economy.	**Environment Agency Pension Fund, UK** "We aim by 2020 to: Invest 15 per cent of the fund in low carbon, energy efficient and other climate mitigation opportunities. This will contribute to our wider target to invest at least 25 per cent of the Fund in clean and sustainable companies and funds, across all asset class."[3]

Divestment from fossil fuel/high carbon assets	We believe there is a risk that some fossil fuel and high carbon assets may become downgraded or potentially 'stranded' due to regulatory and technology shifts in the shift to a low carbon, more energy efficient economy.	**Allianz Group, Insurance and Asset Management, Global** "Allianz stops financing coal-based business models by divesting equity stakes in coal-based business models by the end of March 2016; fixed income stakes can be held until maturity (run-off). Definition of coal-based business models: · Mining companies deriving 30% or more of their revenues from mining thermal coal. · Electric utilities deriving 30% or more of their generated electricity from thermal coal."[4]
Proxy voting climate resolutions	We believe that exercising our right to vote on climate-related resolutions as they arise will encourage companies to shift towards a low carbon, more energy efficient economy across their operations and activities.	**NY State Common Retirement Fund, US** "The Fund believes that environmental responsibility is a necessary element of doing good business and supports efforts aimed at preservation of the environment. The Fund believes that [shareholder] proposals that require additional disclosure can enhance shareholder value by providing shareholders with information critical to informed decision-making."[5]
Engagement with companies	We believe that we can impact on corporate behaviour through engaging with investee companies on climate-related issues and encourage them to pro-actively measure, manage, mitigate and disclose their transition to a low carbon economy.	**Blackrock, Asset Management, Global** "Given climate risk is a universal issue, we believe disclosure standards should be developed that are applicable to listed companies across each market and, ideally, that are globally consistent. Over the course of the coming year, we will engage companies most exposed to climate risk to understand their views on the TCFD [FSB Task Force on Climate-related Financial Disclosure] recommendations and to encourage them to consider using this reporting framework as it is finalized and subsequently evolves over time."[6]
Collaboration with others	We believe that we can enhance our influence on corporations and other investee entities through collaborating with other investors and relevant groups.	**European pension service providers PGGM (Netherlands) and PKA (Denmark)** "We believe that collaborative action [on climate change] between investors, policymakers and regulators is necessary for capital to be the driving force that brings real change. That is why we are determined to engage with likeminded stakeholders, policymakers and regulators."[7]

Source: Publicly available material, direct sourcing from websites and institutional reporting material.

Question 7: How do our overarching climate-related goals align with the possible actions we could take?

This will depend on the overarching goals that an organisation has defined when developing its position on climate change. A summary of how some of the different goals might align with the various actions that investors could take in regard to climate change are provided in Figure 11. For ease of simplicity, the goals have been aggregated according to four areas, namely: managing risks; capturing new opportunities; being part of the solution; and promoting greater transparency.

Figure 11: Alignment of climate-related goals with possible actions

Actions	Goals			
	Measure and manage risk	Capture new opportunities	Be part of the solution	Promote transparency
Measure exposure	●	●		●
Integration into valuations	●	●		●
Scenario analysis and 2 degree alignment	●	●	●	●
Asset allocation review	●	●	●	●
Cap fossil fuel assets	●		●	
Divestment fossil fuel assets	●		●	
Invest in new opportunities	●	●	●	
Engage with fund managers	●		●	●
Engage with companies	●	●	●	●
Engage with policy makers and regulators	●		●	
Engage with end beneficiaries	●			●
Collaborate	●	●	●	●
Disclosure	●	●		●

Source: Compiled by the author from various sources

Question 8: How are some investors utilising climate-related scenarios when evaluating the evidence and its potential impact?

Under the Paris Agreement, world leaders have committed to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C.[20]" This is producing a raft of new government policy measures and regulations, which, together with low carbon technology innovations, is shifting the global investment landscape considerably as we move towards a lower carbon future.

Furthermore, the physical impact risks are increasingly posing a threat to the functioning of some local communities and economies, placing essential services, infrastructure, transport and safety of populations at risk. This is underpinning the need for investment flows not only into climate-mitigation assets but also into adaptation to improve the social and economic resilience of economies now and into the future[21].

To help navigate these shifts and future pathways, scenario analysis is emerging as a tool to help organisations evaluate their investment exposure at the portfolio wide, regional and asset class level, as well as providing a platform for ongoing assessment and review. Indeed, international investors have participated in, and supported, various initiatives in this regard, including the development of scenario tools and frameworks[22], as well as the TCFD recommendation that corporations and investors need to utilise climate-related scenarios[23].

Question 9: What information should we disclose in relation to our climate change activities?

The most useful guidance for organisations (including investors) in relation to disclosure standards is the final recommendations contained in the TCFD report which include reference to an organisation's governance, strategy, risk management and adoption of metrics/targets (Figure 12)[24]. The TCFD recommendations have received widespread support by international corporations and investors, with the industry's focus now shifting towards adoption and implementation, including the IGCC's *Transparency in Transition: Guide to Investor Disclosure on Climate Change*[25].

Figure 12: Evolving standards of disclosure on climate-related impacts

Taskforce for Climate-related Financial Disclosure (TCFD): Recommended Disclosures in relation to an organisation's 'Strategy'

"Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.

a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario."

Source: TCFD Final Report (June 2017)

Question 10: In what format should we disclose our climate-related activities?

The international standards around climate change disclosure by investors are rapidly evolving for both corporations and financial institutions, with the TCFD[26] providing an additional catalyst for discussion and action by international investors. The main examples of disclosure that have emerged to date include:

- Website content (most common), including policies, carbon exposure, with periodic updates of climate-related activities, highlighting any notable outcomes or achievements
- Annual RI/ESG reports (becoming more widespread) with a section or discussion on climate change.
- Climate change specific reports (not yet widespread although guidance and best practice standards are rapidly developing[27])
- Annual investor reports with a section or discussion on climate change (generally not widespread)

CONCLUSIONS AND NEXT STEPS

Investors in the Asian region, whether domestic Asian institutions or international asset owners or managers, have identified that regionally specific resources and capacity building expertise are needed to incorporate climate risks and opportunities into their investment strategies and processes. This guide was designed to help and provide a range of international peer examples that may assist investors with building the knowledge and skills needed as they transition their investments to the new and low carbon economy.

AIGCC intends to use this guide to engage with investors in Asia via a range of one-on-one meetings, private roundtables, and industry events.

We would welcome feedback or insights you would like to share, or know of more examples of climate investment strategy adoption in Asia, please get in touch.

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ANNEX A: DEVELOPING A STRATEGIC POSITION – EXAMPLES

In addition to some of the examples provided in the main body of the guide, the following table highlights the strategic position that some institutional investors have taken with respect to climate change. This list is not intended to be exhaustive but illustrative of the approaches being taken by different types of investors across different regions.

Investment institution:	Position statement excerpt:
AP2 The Second AP Fund, Sweden	A CEO approved climate change position paper sets out the Fund's beliefs, integration process and key actions to contribute to the low carbon transition. Highlights of the beliefs are summarised below. "Climate issues, and above all climate change, represent both huge risks and big opportunities for long-term investors such as AP2. Climate change is deemed to have the potential to impact long-term returns considerably. The starting point of our climate work is to lessen the financial risk and leverage the opportunities by contributing to the transition. AP2's climate ambition is to develop our portfolio in line with the two-degree target. This is achieved by integrating climate analysis into the investment process and by, based on the fund's mission, contributing to the transition into a two-degree society. By driving sustainability issues, we can help the portfolio companies identify opportunities and risks at an early stage, which will have an impact on our returns. We believe that a long-term, responsible approach to the environment, ethics and corporate management increases the value of the companies. By integrating the financial analysis with environmental, ethical and corporate management analysis in our management, we can create a better basis for our investment decisions." http://www.ap2.se/globalassets/hallbarhet-agarstyrning/klimat/klimatstrategi-2016_gb_161114.pdf
CalPERS Public pension fund, USA	A board approved core investment belief makes specific reference to climate change. "Investment Belief 9: Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error. As a long-term investor, CalPERS must consider risk factors, for example climate change and natural resource availability that emerge slowly over long time periods, but could have a material impact on company or portfolio returns." https://www.calpers.ca.gov/docs/board-agendas/201603/invest/item07b-00.pdf

Sumitomo Mitsui Trust Holdings	A Group level position statement, in a standalone feature booklet on climate change is available on its website. It outlines the priority given to climate change ('SuMi TRUST Group Recognizes Climate Change as a High Priority') and identifies the climate change materiality issues for the group: • "Taking into account how borrowers and investees impact society and the environment • Pursuit of business opportunities with environmental and social themes • Climate changes (physical impacts) • Reducing the Group's environment burden" The statement also outlines the five Action Guidelines to mitigate climate change, listed below. 1. "Implementation of Measures and Support to Help Mitigate Climate Change: In addition to actively taking measures to reduce greenhouse gas emissions in our own business operations, we are making efforts, as a corporate citizen, to support activities that mitigate and adapt to climate change. 2. Provision of Products and Services: We are working on developing and providing products and services that help mitigate climate change. Our fi nancial functions are being leveraged to promote energy conservation and encourage the use of renewable energy. 3. Collaboration with Stakeholders: We engage in dialogue and cooperation with our stakeholders as we work to mitigate climate change. 4. Education and Training: We will ensure that these guidelines are fully implemented at group companies, and will actively conduct education and training to mitigate climate change. 5. Information Disclosure: We will actively disclose information related to our efforts to mitigate climate change."
NZ Super Fund Superannuation fund, New Zealand	A board approved climate change position statement, podcast from the CIO and various material on its website highlight the Fund's beliefs with respect to climate change, some of which are provided below. "Climate change is a complex issue that presents material risks and opportunities for investors. These risks and opportunities come from multiple, interacting drivers, including physical and natural resources, regulatory action and technological innovations. The impact of climate change is felt variably across different investment sectors, geographies and asset classes. In fact, some of these impacts are already inevitable. In 2015 we signed the Paris Pledge for Action, which affirms our commitment to a safe and stable climate in which temperature rise is limited to under 2 degrees Celsius, and pledged our support to ensuring that the level of ambition set by the COP21 Paris climate agreement is met or exceeded. Given the Fund's long-term horizon and purpose, it is important that the risks and opportunities stemming from climate change are factored into our investment strategies and ownership practices. The goal of our climate change strategy is to make the Fund more resilient to climate-related risk. We believe it will improve our portfolio." https://www.nzsuperfund.co.nz/how-we-invest-balancing-risk-and-return/climate-change

Aviva Insurance and investment management group, UK	A CEO approved position statement sets out the organisation's beliefs with respect to climate change, the highlights of which are provided below. "Climate change is a strategic issue for the insurance sector. Left unchecked, climate change will continue to affect the actuarial assumptions underpinning the insurance products that our industry provides. It will also render significant proportions of the economy uninsurable, shrinking our addressable market. Aviva is determined to make its own contribution to tackling climate change. This is not at odds with business or investment. In fact, it is a business imperative. Climate change is material to the long-term success of many of the companies and economies in which we invest. Over the coming decades, climate change presents strategic issues to businesses in many different industries, including our own." https://www.aviva.com/media/thought-leadership/climate-change-value-risk-investment-and-avivas-strategic-response/
Norges Bank Investment Management Asset management unit of Norges Bank and Manager of Government Pension Fund, Global, Norway	The organisation has set out its beliefs as part of a climate change strategy document. The paper sets out the purpose of having the statement, its relevance to investment management decisions, and expectations in terms of corporate behavior. Some highlights are below. "The point of departure for our climate change expectations is our long-term financial objective of safeguarding the fund's assets. The challenges of climate change, both the physical impacts and the regulatory and technological responses, may give rise to risks and opportunities for companies. How companies manage these, may drive long-term returns for us as a shareholder. The scientific basis for climate change is widely accepted. Climate change has the potential to affect the global economy. The economic impacts of climate change on specific markets and regions are complex, varied, and uncertain, rendering the timing and extent of impacts hard to predict on a company level. Climate outcomes may affect company and portfolio return over time. To reduce future risk and increase opportunities, Norges Bank Investment Management have an interest in well-functioning carbon markets and other measures that may contribute to an efficient transition to a low-emissions economy. Our expectations are high-level guidance for companies. We expect companies to address climate change in a manner meaningful to their operations and wish to support their efforts to manage the risks and pursue the opportunities." https://www.nbim.no/globalassets/documents/climate-change-strategy-document.pdf?id=5931
HESTA Australian based superannuation fund	A board approved climate change policy outlines the Funds climate change policy principles, objectives, implementation (including restrictions and exclusions), collaboration, monitoring, reporting, communicating and review. In terms of the Fund's beliefs, some highlights are provided below. "HESTA believes that climate change has the potential to translate into both risks and opportunities for investments across asset classes that need to be managed, or may be captured. These climate change risks and opportunities have the potential to impact investment risks and returns and as such, considering these issues alongside traditional financial and business risk factors in making investment decisions can improve long-term risk-adjusted returns to members. In this way, HESTA sees the incorporation of climate change considerations into the investment processes and decision making as entirely consistent with HESTA's fiduciary duty to act in the best interests of fund members. In fact, HESTA believes that the proper management and mitigation of climate change risks or the capitalisation of climate change opportunities will deliver superior returns over the long-term and that failure to manage and mitigate climate change risks or capitalise on climate change opportunities constitutes a risk that must be taken into account in investment decisions." https://www.hesta.com.au/content/dam/hesta/Documents/Climate_Change_Policy.pdf

First State Investments Global investment management	A responsible investment report and related web content sets out the organisation's strategy towards climate change, the governance arrangements, its risk management processes and the key metrics and targets that it has adopted. Some of the highlights in terms of climate-related beliefs are provided below. "We accept the science of climate change and that a transition to a low carbon global economy is underway. As investors we understand this will impact different assets in different ways, both in relation to their contribution to climate change in the form of greenhouse gas emissions, but also their exposure to changes occurring in the physical environment. In addition to managing risk we recognise that companies may become well positioned to provide the solutions needed to reduce emissions and adapt to a changing climate. These companies may offer compelling long term risk adjusted investment returns aided by changes in policy, technology and consumer demand. In this report over the last several years we have provided case studies of both kinds. We also accept that as allocators of capital, stewards of our clients assets and active shareholders in companies on their behalf, the individual and collective decisions we make as investors will influence the nature and speed of the transition. We recognise our responsibility to be a positive influence in this regard. The gap between the capital investment required to meet climate change objectives and that currently being deployed is significant. Investors require support from policy makers to shift capital at the speed and scale required. However, as stewards of our clients' savings we cannot simply wait for this to occur because the long-term interests of our clients are tied to a stable climate. We must do our part by skilling-up and working closely with a wide variety of stakeholders to deploy capital towards multiple financial, social and environmental objectives. This shared responsibility requires transparency from all stakeholders. In this light we have been following the growing trend towards improved climate change disclosure. We have prepared this dedicated climate change disclosure to align as much as possible with the Task Force for Climate-Related Financial disclosures (TCFD) and The Global Investor Coalition on Climate Change – Guide to Investor Disclosure." http://ri.firststateinvestments.com/our-approach/featured-content/climate-change/
Wespath US based investment management	The Fund has developed a strategic response to climate change, including its beliefs, a review of the evidence and intended actions along three pillars (avoid, engage, invest). https://www.wespath.org/assets/1/7/4897.pdf Some highlights in terms of its beliefs are provided below. "As a long-term investor, Wespath favours investing in companies that have sustainable business practices. We believe that in many markets coal will be heavily taxed or significantly replaced by alternative fuel sources—absent the development of technologies to mitigate coal's environmental impact. This could result in a meaningful deterioration in the value of securities in companies that derive a significant portion of their revenues from the production and consumption of thermal coal. Wespath continues to believe that constructive engagement is the most powerful tool for effecting corporate change and supporting the transition to a low-carbon economy. Engagement may therefore be required for companies in the mining and electric utility sectors that are close to the threshold for exclusion. In these cases, Wespath will review the company's historic and projected involvement in the coal industry before recommending engagement or exclusion." http://www.wespath.com/investment_philosophy/climatechange/

Source: Publicly available material, direct sourcing from websites and institutional reporting material.

ANNEX B: FORMULATING A STRATEGIC RESPONSE – EXAMPLES

In addition to the examples provided in the main body of the guide, the following table highlights how some institutional investors are formulating their strategic response to climate change as part of their investment strategy. This list is not intended to be exhaustive but illustrative of the approaches being taken by different types of investors across different regions.

Investment institution:	Policy excerpt:
NZ Super Fund Superannuation fund based in New Zealand	The Fund has a Board approved climate change investment strategy document: https://www.nzsuperfund.co.nz/sites/default/files/documents-sys/NZSF%20 Climate%20Change%20Board%20Strategy%20Paper%2020%20Feb%202017.pdf As well as a Board approved Carbon Reduction paper: https://www.nzsuperfund.co.nz/sites/default/files/documents-sys/NZSF%20 Climate%20Change%20Reduce%20Board%20Paper%206%20April%202017.pdf The board approved a target to reduce the carbon emission intensity of the Fund by at least 20%, and reduce the carbon reserves exposure of the Fund by at least 40% by 2020. The Guardians intend to publicly report on the Fund's carbon footprint in relation to these targets annually. The Fund has shifted its global passive equity portfolio (NZ$14 billion) into a low-carbon portfolio, based on a bespoke carbon measurement methodology for listed equities developed by the Guardians in concert with MSCI ESG Research. https://www.nzsuperfund.co.nz/news-media/nz-super-fund-shifts-passive-equities-low-carbon

Local Government Super (LGS) Australian based superannuation fund	LGS has a sustainable and responsible investment policy that sets out its approach to how it integrates ESG issues into investment processes, but it does not have a climate-specific policy. Within that policy is reference to climate change, where LGS commits to: • "Manage the risks and take advantage of the opportunities associated with climate change; • Monitor the carbon performance of the portfolio and strive for improvements; • Ensure that climate change risks are considered by LGS's advisors and investment managers; • Ensure that climate change risks are analysed as part of the due diligence procedures for new investments; • Participate in climate change related collaborative initiatives; and • Communicate the climate change performance and activities to members." https://www.lgsuper.com.au/assets/Documents/LGS-Sustainable-and-Responsible-Invest-Policy.pdf The Fund also provides a copy of its response to the Asset Owner Disclosure Project (2017) via its website. https://www.lgsuper.com.au/assets/Documents/AO0624-LGSuper-AODP-Global-Climate-Risk-Survey-2017.pdf The Fund also disclosed its response to the 2 Degree Investing Initiative on climate-related disclosure (2017) via its website. https://www.lgsuper.com.au/assets/Documents/International-award-on-investor-climate-LGS-application.pdf
ERAFP French Public Sector Pension Fund	The Fund has a general position statement on climate change published on its website. It does not have a climate-specific policy, although climate change is mentioned as part of its board approved SRI charter that assigns major importance to the need to limit GHG emissions. https://www.rafp.fr/en/article/combating-climate-change The Fund committed to the PRI-led Montreal Pledge to measure and report its carbon emissions on an annual basis. The Fund has invested €750 million of its passively managed equity investments into a bespoke solution designed together with Amundi, which has reduced the carbon intensity by "some 40%". The Fund is also moving to invest €50 million between now and the end of 2017 into international equity funds aimed at combating climate change. https://www.rafp.fr/en/sites/rafp_en/files/file/pr_climate_change.pdf

Cathay Financial Holdings Financial Services Company, Taiwan	The company has a board-approved declaration of 'Sustainability Values' that includes its environmental policy. https://www.cathayholdings.com/holdings/-/media/eba9de239c7643febf42234d06d14a52.pdf?la=en&hash=59DACC0727765C46258705A88CE4A11979A5AC77 The 5 pillars of the environmental policy include: **1.** Management of direct environmental impacts, includes complying with regulations, establishing environmental objectives, monitoring, reducing and reporting energy usage and waste and resource consumption, as well as introducing ISO and LEED environmental management and building certifications. **2.** Supply chain management, includes encouraging supplier compliance, working with suppliers to influence environmental performance, purchasing products that conform to environmentally friendly, energy and water-saving products to reduce environmental impact. **3.** Integrating core competences, includes complying with CFH's Responsible Investment and Lending Policy, which references the Principles for Responsible Investment, the Principles for Sustainable Insurance, the Equator Principles. Develops and provides products and services that respond to the impact of climate and environmental change and supports investment in low-carbon technologies. **4.** Stakeholder engagement, includes promoting environmental education, participating in public policy debates, encouraging stakeholder and green supply chain management and conservation, and participating in local, domestic and international green initiatives, environmental improvement and education. **5.** Policy implementation and reporting, includes oversight from the Corporate Sustainability Committee, with the Green Operation Working Group responsible for implementing the policy and providing training, guidance, and resources, as well ensuring compliance of employees. The environmental management objectives and performance is disclosed in the corporate social responsibility report and on its website. https://www.cathayholdings.com/en/holdings/csr/intro/env/strategy
TPT Retirement Solutions (Formerly The Pensions Trust) UK based workplace pension fund provider	The Trust has a board-approved climate change policy. The abbreviated highlights of the climate change policy include: "Understanding how exposed our portfolio is to climate change. This will include a review of our portfolio to understand where there might be value at risk. Making sure that new and existing investments are managed in way that takes account of climate change risks. We will also incorporate climate change risk analysis and reporting requirements into new mandates (where appropriate) and make sure this is part of the discussion during manager update meetings. Actively engaging with the wider investment community and policy makers on climate change including being a member of the Institutional Investors Group on Climate Change (IIGCC)." http://www.tpt.org.uk/docs/default-source/investments/responsible-investment/tpt-climate-change-policy The Fund has also produced a Climate Change Disclosure report http://www.tpt.org.uk/docs/default-source/investments/responsible-investment/tpt-climate-change-report

AustralianSuper Superannuation fund, Australia	The Fund has a climate change statement on its website, the key features of which include: • ESG integration, focused on improving outcomes through the assessment, integration and valuation of ESG factors in the investment process. • Stewardship, exercise the rights and responsibilities of being a large shareholder – including voting and engaging with companies. Communicate long-term investment interests to companies to improve returns for members. • Providing choice, offering a range of investment options including the Socially Aware option. • Supporting activities, participating in collaborative initiatives such as the IGCC, CDP and reporting on the fund's climate change activities. https://www.australiansuper.com/investments-and-performance/how-we-invest/esg-active-owner/esg-in-practice/climate-change.aspx
Temasek Temask Investment company managed on commercial principles with the Singapore Government as the sole equity shareholder.	The Charter mandates Temasek to deliver sustainable value over the long term. In line with its commitment to sustainability and good governance as a steward, institution and investor, Temasek has in July 2017 articulated its support to the UN Sustainability Goals, of which climate change is a key pillar: "As an organisation we do things with tomorrow clearly in our minds and aim to do our part to help build an 'ABC world', which stands for an 'active' world with a robust economy and good opportunities for all people; a 'beautiful' world with cohesive and inclusive communities; and a 'clean' world with fresh air, clear waters, and cool earth." http://www.temasekreview.com.sg/steward/abc-a-sustainable-world.html
Cbus Australian based superannuation fund	The Fund has a board approved position statement on climate change that is publicly available on its website. https://www.cbussuper.com.au/content/dam/cbus/files/governance/policies/Climate-Change-Position-Statement.pdf Climate change is also briefly mentioned in its ESG Policy. https://www.cbussuper.com.au/content/dam/cbus/files/governance/policies/ESG-Policy.pdf The purpose of the climate position statement is to "support making decisions that lead to better long-term returns for our members. Setting this foundation will enable a consistent framework and approach for considering climate change impacts on our investments." This includes "advocating for a Just Transition which seeks to ensure workers and communities adversely affected are not left behind and support actions to create decent work." The statement also includes a commitment to measure, monitor and disclose the carbon emissions from its investment portfolio. A strategic roadmap is currently under development to build on these principles.

AP4 The Fourth Swedish National Pension Fund	The Fund has publicly issued various position statements, research papers and targets with respect to climate change via its website and through press statements. http://www.ap4.se/en/search/?q=climate+change+policy The Fund mentions climate change in its board approved Ownership Policy but it does not have a board approved climate-specific policy. http://www.ap4.se/globalassets/dokument/rapportarkiv/ovriga-rapporterdok/ap4_ownershippolicy.pdf The Fund has defined 4 goals with respect to climate change: **1.** Increase investments in low-carbon strategies to 100% of the global listed (passive) equity portfolio by 2020. **2.** Measure and disclose carbon footprint in the listed equity holdings. **3.** Identify how to measure the carbon footprint of other asset classes. **4.** Urge investors to measure their carbon footprint and invest in low-carbon strategies. **5.** Contribute to making green bonds attractive so that the asset class grows. **6.** Share knowledge concerning low-carbon strategies and green bonds. http://www.ap4.se/en/reports/hallbarhets--och-agarstyrningsrapport-20152016/sustainability/targets-within-climate-change/ The Fund shares its goals and outcomes on an annual basis via its website: http://www.ap4.se/en/esg/targets-and-outcomes/ The Fund has progressed it implementation of the internal sub-portfolios based on low-carbon strategies. The European low-carbon portfolio was accompanied in late 2015 with two sub-portfolios, a North American and Pacific sub-portfolios. AP4 has now invested in low-carbon portfolios covering all regions in global stock markets. http://www.ap4.se/en/esg/climate-and-the-environment---a-focus-area/ap4s-low-carbon-investments/

AXA Global insurance and investment management	The company has a board approved climate change position paper that sets out its beliefs, assessment of the potential impacts, goals and the role of insurance and asset management providers, the actions that the organisation is taking including through collaboration, research, products, services and investments. Some of the key initiatives are provided below. https://cdn.axa.com/www-axa-com%2F1b503ed0-104e-4fe1-9b4f-cf6ea62844ae_axa_and_climaterisks_2014.pdf Published research on the risks associated with climate and their potential evolution from an insurance perspective. https://www.axa.com/en/newsroom/publications/climate-risks-ipsos Formed a stakeholder advisory panel focused on contributing to a stronger, safer and more sustainable society. Attended by the CEO, Chairman of the Board and other Management Committee members. https://www.axa.com/en/about-us/stakeholder-advisory-panel Participates in various collaborative initiatives and commitments. https://www.axa.com/en/about-us/commitments Divested approx. €0.5bn from companies most exposed to coal-related activities. Goal to triple investments in green assets to over €3bn by 2020. Efforts to integrating climate change into its investment process and has signed the Montreal Carbon Pledge to measure and publicly report its carbon footprint on an annual basis. Joined the African Risk Capacity Initiative, a regional insurance pooling mechanism that helps mitigates the effects of climate-related weather events. https://www.axa.com/en/about-us/axa-and-climate-change
Ilmarinen Finnish based insurance and pension fund provider	The company has a climate change policy that has been approved by the ownership policy management team. The policy sets out the company's mission, how climate change relates to its active ownership responsibilities, how it can contribute to preventing climate change through its activities, some of which are summarised below. Applying climate principles across its investment operations, including its investments in listed equity, real estate, forestry and funds. Applying climate principles in engagement with stakeholders, including participating in public forums and distributing its climate policy. Transparency principles in reporting, including the annual publication of a sustainability report, as well as supporting the Montreal Carbon Pledge. Setting a roadmap for action from 2016-2020, including 8 goals and related measurable outcomes. https://www.ilmarinen.fi/siteassets/liitepankki/ilmarinen/sijoitukset/vastuullinen-sijoittaminen/ilmastoperiaatteet_en_paivitetty_28.2.2017.pdf Climate change is also featured prominently in the company's annual sustainability report, including carbon metrics and 2 degree alignment analysis. https://www.ilmarinen.fi/siteassets/liitepankki/ilmarinen/taloudellisia-tietoja/vuosikertomus/ilmarinen_sustainabilityreport_2016.pdf

CalSTRS US based public pension fund	The Fund has a board approved investment policy for mitigating ESG risks that identifies 21 ESG risk factors, one of which is climate change. The policy is an appendix to its investment policy. https://www.calstrs.com/general-information/investment-policy-mitigating-environmental-social-and-governance-risks The Fund has a board approved divestment policy that includes semi-annual performance reporting to the CIO and annual review by the CIO and Investment Committee. https://www.calstrs.com/sites/main/files/file-attachments/m_-_divestment_policy.pdf The Fund's investment team produces an annual Green Initiative Task Force report that is approved by the CIO. It includes the Fund's climate-related actions across the following broad areas: • Risk management with respect to climate impacts. • Reviewing fund managers climate-related capabilities. • Engaging with corporations on climate issues. • Voting on climate related shareholder proposals. • Climate related research efforts and participation. • Allocation to low carbon, energy efficient assets. • Performance of sustainable investment assets. • Issues, outlook and other initiatives. https://www.calstrs.com/sites/main/files/file-attachments/green_report_2016.pdf
Standard Life Investments UK based insurance and investment management	The company has a climate change statement issued and produced by the ESG team, outlining the organisation's approach to managing climate-related impacts, some highlights of which are provided below. "We have a responsibility to our clients to consider actively how climate change and associated regulatory trends will impact the value of their investments. Given the stakes, we expect governments across the globe to increase regulatory pressure in order to address the long-term impacts of climate change. Companies will need to adapt and demonstrate their climate resilience at both operational and strategic levels." Actions include: • Integration into decision making • Engagement and voting activities • Bespoke client solutions • Public policy engagement • Focus on real estate https://www.standardlifeinvestments.com/RI_Climate_Change.pdf The ESG team also produced a paper on the environment, setting out considerations for companies and investors. https://www.standardlifeinvestments.com/RI_Environment_White_Paper.pdf

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2. https://www.fsb-tcfd.org/news/
3. https://igcc.org.au/transparency-transition-guide-investor-disclosure-climate-change/
4. The UNGC is derived from the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption
5. The SDGs represent a universal set of goals, targets and indicators that came into effect in January 2016. UN member states have agreed to use to frame their agendas and political policies out to 2030. There are 17 overarching goals with 169 targets focusing on on key areas including poverty alleviation, democratic governance and peacebuilding, climate change and disaster risk, and economic inequality. In addition to government level support, a growing body of companies, investors, civil society groups and individuals are pledging their recognition and support for the SDGs. Further information can be found here: https://sustainabledevelopment.un.org/sdgs
6. http://igcc.org.au/Resources/Documents/Climate-Change-Investment-Solutions-GuideFINAL.pdf
7. https://www.ipcc.ch/report/ar5/syr/
8. http://www.unpri.org/wp-content/uploads/3.Responsibleinvestmentandfiduciaryduty.pdf
9. For example, Australian law firm Minter Ellison noted that the process of information gathering and deliberation of climate change is critical to satisfying the duty of due care and diligence. http://www.minterellison.com/publications/articles/Institutional-investment-corporate-governance-and-climate-change-what-is-a-trustee-to-do/
10. https://www.ipe.com/news/esg/major-european-pension-investors-commit-to-un-development-goals/10015051.fullarticle; https://www.adb.org/site/sdg/main
11. For further examples and guidance on the actions that investors can take with respect to managing the climate-related impacts, see: http://igcc.org.au/Resources/Documents/Climate-Change-Investment-Solutions-GuideFINAL.pdf; http://igcc.org.au/resources/Pictures/InvestorsGotTheSignal_FINAL.pdf
12. http://investorsonclimatechange.org
13. http://investorsonclimatechange.org/portfolio/montreal-pledge/
14. https://www.mercer.com.au/content/dam/mercer/attachments/asia-pacific/australia/investment/sustainable-growth/mercer-climate-change-study-2015.pdf
15. http://divestinvest.org; https://350.org;
16. http://investorsonclimatechange.org/portfolio/low-carbon-registry/
17. http://investorsonclimatechange.org/engage/
18. http://investorsonclimatechange.org/portfolio/global-investor-statement-climate-change/
19. http://investorsonclimatechange.org/reinforce/
20. See the FSB TCFD final report, as well as TRANSPARENCY IN TRANSITION: A Guide to Investor Disclosure on Climate Change (2017) http://igcc.org.au/resources/Pictures/IGCC%20TRANSPARENCY%20in%20TRANSITION%20FINAL.pdf;
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