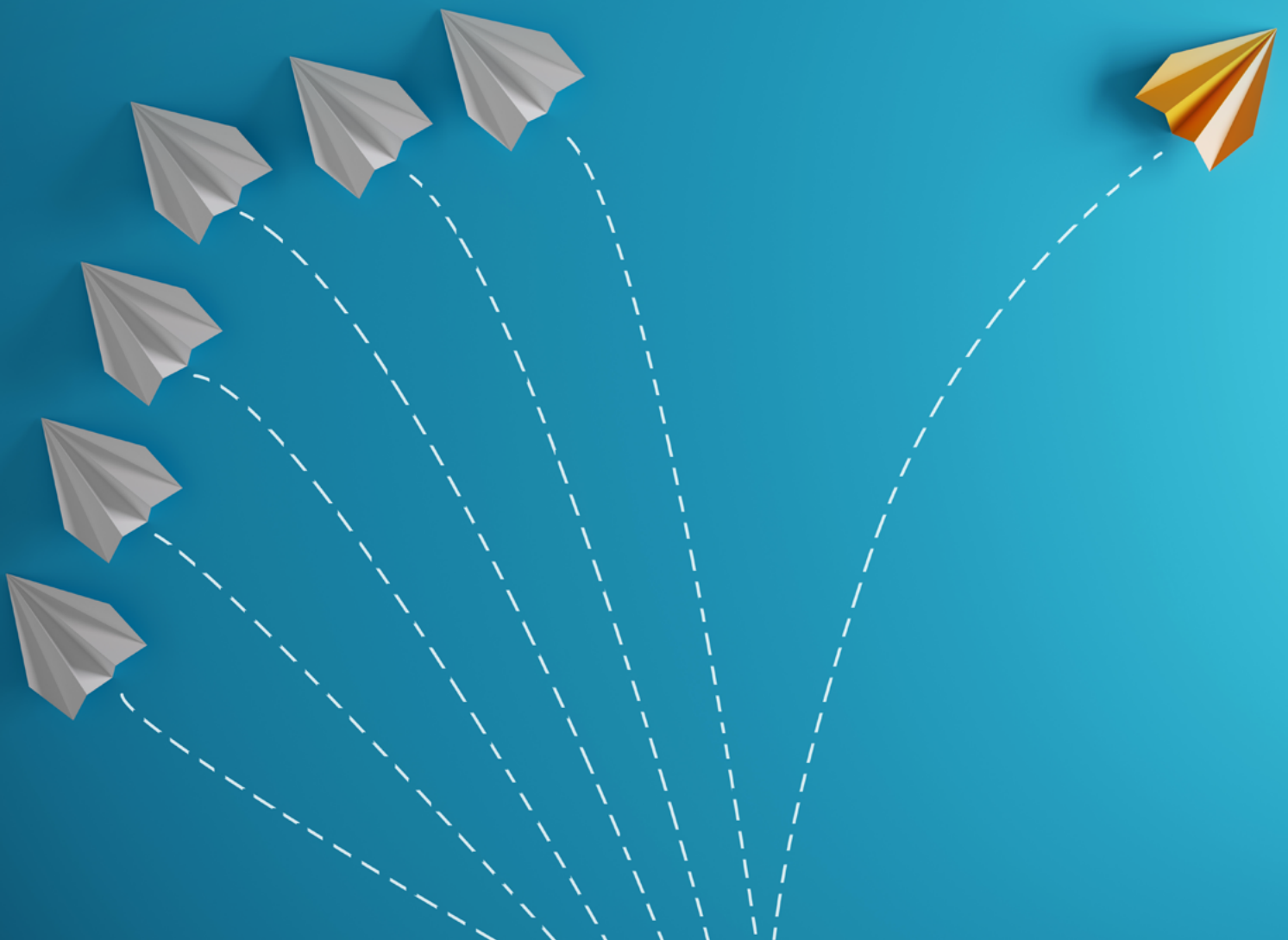


Trendsetters: Transformational Investment Practices of Advanced Investors

WHITE PAPER

MARCH 2021



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Contents

3	Foreword
4	Preface
5	Executive summary
7	Key takeaway 1: Integrating trends into strategic decision-making
11	Key takeaway 2: Benchmarking approaches relative to peers
14	Key takeaway 3: Allocating to investment products and innovation
18	Key takeaway 4: Making progress through engagement and industry collaboration
21	Key takeaway 5: Quantifying and assessing the trends
25	Conclusion
26	Climate change self-assessment workshop
29	Contributors
30	Endnotes

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Foreword

The world is transforming at an unprecedented rate, and to an unparalleled extent. The global investment community is in a period of great risk and great opportunity.



Chow Kiat Lim,
Chief Executive Officer,
GIC, Singapore

This White Paper builds on the strong foundation of the preceding World Economic Forum paper on [transformational investment](#) that enumerated and explained the most challenging global trends facing our economy, environment and society today. In this next phase, we survey how asset owners have responded to these systemic risks, reflect on shared experiences to date and consider the way forward.

The insights from the survey are profound. The breadth and depth of perspective, the extent of integration of global trends into investment processes, and the solutions and engagement plans that have been put in place make one thing clear: the global investment community is moving forward on these trends.

At the same time, it is apparent that we are moving at different speeds, and find ourselves at different stages of the journey. We are forging new paths as there are no established roadmaps. This White Paper highlights the importance of putting in place

the right vision, governance and implementation structure. This is a framework that should then serve us well for every trend and transformational journey ahead.

Above all else, it is clear to me that these global trends are bigger than any of us. The best way forward will likely exceed our individual imaginations and derive instead from our combined wisdom. It is only when we come together with a long-term perspective, share best ideas as this initiative has tried to do, and co-create ever better solutions, that we as a global investment community can succeed – and succeed sustainably – in the years to come.

I would like to express my appreciation to the World Economic Forum and Mercer for their excellent work, and to the Steering Committee for their invaluable insights and guidance. I sincerely hope that every reader of this paper will find its contents informative, practical and also inspiring when navigating all global trends ahead.

Preface



Richard Nuzum,
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Maha Eltobgy,
Head, Shaping the Future
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Economic Forum LLC

Institutional investors need to address evolving global systemic trends (e.g. climate change, geopolitics and low/negative real long-term interest rates) within both their own organizations and their portfolios. The World Economic Forum's multistakeholder platform has collaborated with Mercer to develop insights to benefit the global asset owner community. Findings from meetings with asset owners who have advanced far down the path in addressing such trends will positively influence global investment practices, supporting asset owners in their organizational development and helping them identify transformational investment opportunities associated with these trends.

Our initial White Paper, "[Transformational Investment: Converting Global Systemic Risks into Sustainable Returns](#)", identified the key global systemic trends and a governance framework to address them. This follow-up paper progresses to solutions, revealing the emerging best practice vision, governance and implementation processes that asset owners use to address the trends.

The importance of having a coordinated approach and taking action has never been more evident. The ongoing COVID-19 pandemic serves as a reminder of the critical importance of understanding complex and interconnected systemic risks and having processes to address them. Our understanding of investors' current best practice approaches to addressing these global trends has been developed through several hundred interviews, an asset owner survey, and virtual events with chief executive officers, chief investment officers, chief risk officers, heads of strategy and heads of environmental, social and governance (ESG) over the past two years.

Produced as part of the World Economic Forum Platform on Shaping the Future of Investing, this paper presents actions, initiatives and investment opportunities which asset owners can draw from to pursue forward-looking practices that address today's most challenging global systemic trends. We would like to thank the asset owners, investment managers, policy-makers, academics and other experts who have contributed to this work.

Executive summary

This White Paper builds on findings in the “[Transformational Investment: Converting Global Systemic Risks into Sustainable Returns](#)”

White Paper, which focuses on the investment opportunities and risks of today’s most challenging global trends. Based on further engagement with global asset owners and asset managers, this paper addresses:

- How asset owners adapt decision-making to capture global systemic trends ([takeaway 1](#))
- What differentiates an asset owner’s level of advancement in addressing the trends ([takeaway 2](#))
- What new and tested solutions exist ([takeaway 3](#))

- How asset owners engage with stakeholders to effect regulatory, policy and company-specific change ([takeaway 4](#))
- How asset owners use data and tools to improve investment decision-making ([takeaway 5](#))

The paper summarizes the actions taken by asset owners to integrate the trends into their investment and risk management processes. It synthesizes the findings into a self-assessment framework that investors can use to improve their readiness in dealing with systemic challenges. It also presents investment solutions and opportunities that accelerate the industry’s ability to address the trends (click [here](#) for the “Climate change self-assessment workshop” chart and click [here](#) for additional exhibits).

Global systemic trends that matter most to investors



Climate change*: Risks (e.g. physical and transition) and opportunities (e.g. renewable energy) associated with climate change



Low and negative real long-term interest rates: Return and monetary policy implications for investors and stakeholders



Technological evolution: Risks (e.g. cyberattacks and data fraud) and opportunities (e.g. venture capital and productivity) associated with technological change



Demographic shifts: Implications of ageing populations, changing consumer preferences and migration



Geopolitics: Implications of global inequality, populism, protectionism and threats to free trade



Water security: Environment, human health and economic implications of declining quality or quantity of fresh water

*This initiative’s asset owner survey ranked climate change as the most relevant trend from an investment perspective. As such, this paper’s case studies focus on climate change.



Key takeaways:

1. Advanced asset owners have put in the effort required to integrate the global systemic trends into their strategic decision-making processes, adapting their vision, governance and implementation practices.
2. Many asset owners are not aware of how they compare to peers with respect to integrating the trends. They are not able to assess their practices relative to industry-leading approaches without a benchmark of peer organizational practices.
3. When advanced asset owners do not find investment products in the market that address these trends, they innovate and explore new investment approaches.
4. Advanced asset owners commit to engaging with investee companies and to sharing with the broader community so that the industry evolves and business practices improve.
5. Advanced asset owners understand how to quantify and assess the implications of changing regulations, policies and data availability on these trends, and incorporate these assessments in their investment decision-making.

Report findings informed by:

- Survey results from over 30 influential asset owners (e.g. sovereign wealth funds, pension funds, insurers, endowments, foundations) representing over \$3.4 trillion in aggregate assets
- Over 160 interviews with asset owners, investment managers, data providers, academia and government agencies, including more than 80 interviews with global asset owners
- Multiple World Economic Forum-led industry events with asset owners and investment managers
- Steering committee contributions from GIC Private Limited (GIC), Ontario Municipal Employees Retirement System (OMERS), OPSEU Pension Trust (OPTrust), Swiss Federal Pension Fund PUBLICA (PUBLICA) and Zurich Insurance Group

Investors' progress in integrating the trends varies greatly. Wider awareness of the more advanced practices should benefit the global community. By profiling current practices as "developing" and "advanced", this paper provides asset owners with a self-assessment benchmark, enabling them to compare their vision, governance and implementation practices to peers. Throughout this work, organizations generally under- or overrated advancement relative to peers, illustrating the need for a benchmarking framework that identifies competency gaps and helps investors to catch up with more advanced practices.

Traits of advanced asset owners include:

1. **Diversity of thought:** Cognitive diversity that draws on varied experiences and specialized expertise to access insightful perspectives
2. **Accurate self-assessment:** An ability and willingness to draw from internal and external stakeholders to understand and address organizational shortcomings
3. **Commitment to strategic vision:** A shared belief that taking action today on factors that affect the portfolio over the long term will result in enhanced risk-adjusted returns
4. **Commitment to transparency:** Clear communication to stakeholders from the board and senior leadership regarding beliefs, vision and objectives so that stakeholders align and contribute towards goal fulfilment

5. Culture of innovation: Development of new expertise, questioning of existing norms and exploration of emerging investment themes and processes

6. Willingness to collaborate: Commitment to share best practices with peers and stakeholders so that the industry evolves more quickly, positively affecting regulations and policies

Global systemic trends and challenging issues, such as climate change and social injustice, require international partnership. COVID-19 highlighted the power of international collaboration as vaccine approval came in under 12 months. Similarly, investors' increased attention to reporting on metrics that address business ethics, human rights, diversity and worker safety, among others, will improve transparency and industry responsiveness. Meaningful data will assist investors when establishing, implementing and tracking strategies to capture these opportunities.

This White Paper provides asset owners with ways to better address the global systemic trends and pursue higher risk-adjusted returns. It also provides insight into investment products that asset owners either use already or are considering in order to take advantage of opportunities associated with each trend. For example, approximately one-third of asset owners surveyed are considering allocations to sustainable agriculture and investments through women- and minority-owned organizations, demonstrating that substantial demand for innovative solutions exists.

Key takeaway 1

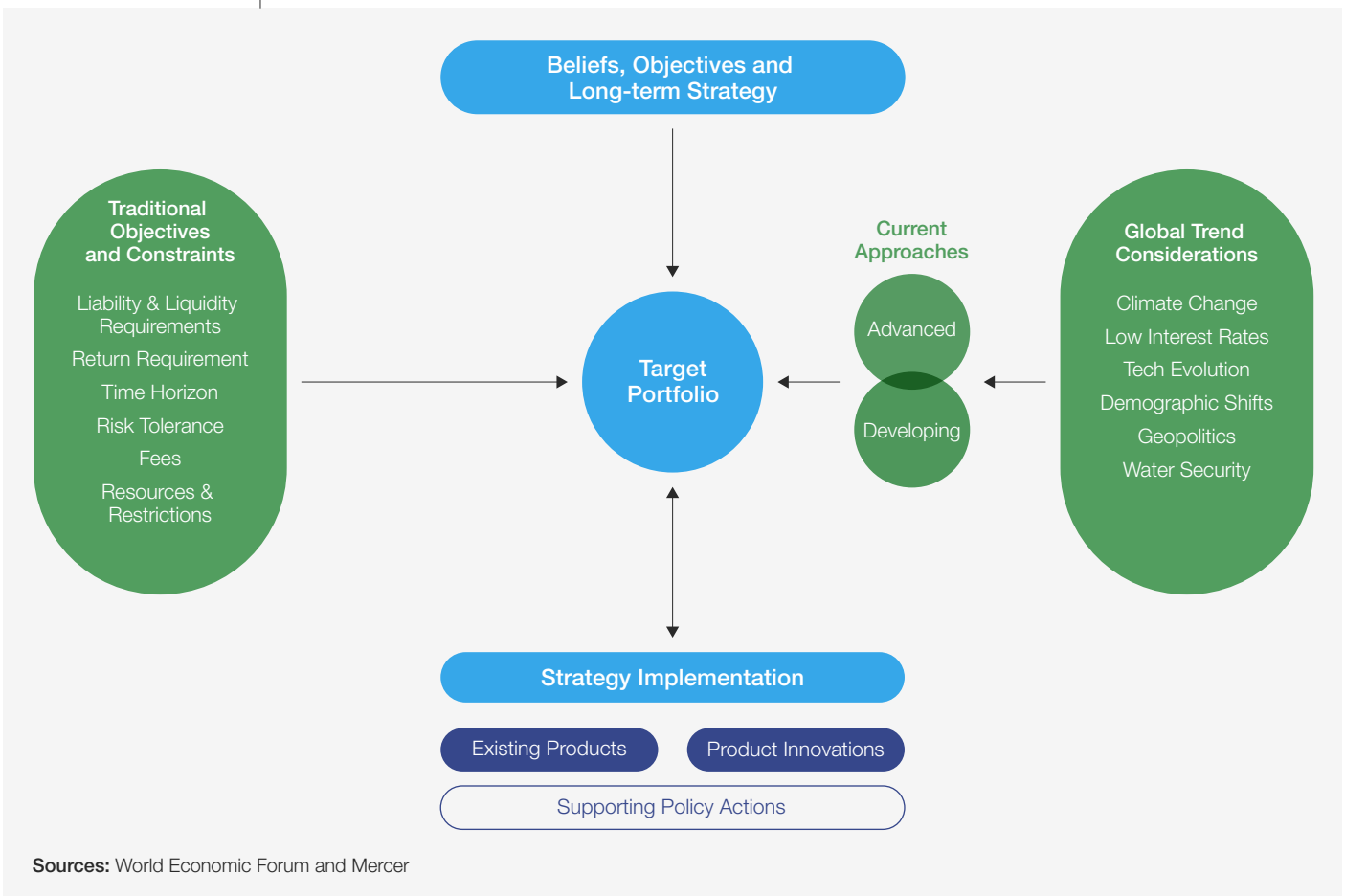
Advanced asset owners have put in the effort required to integrate the global systemic trends into their strategic decision-making processes, adapting their vision, governance and implementation practices.



Asset owners differ in how they integrate the global systemic trends into their target portfolios (i.e. the strategic portfolio that incorporates an asset owner's beliefs, objectives, long-term strategy and constraints). By capturing

these differences, the research identified “developing” versus “advanced” investor practices across the vision, governance and implementation processes used by asset owners (Figure 1).

FIGURE 1: Defining current trend approaches



The World Economic Forum and Mercer’s asset owner survey on how asset owners set their target portfolios indicated that most investors combine objective-driven inputs and opportunistic strategy considerations (such as PUBLICA; see the box to the right). The balance varies by trend, however. For example, more than 60% of participants used a combined approach to address climate change while only 45% used it to address geopolitics. Indeed, 35% used solely an objective-aligned approach to manage the risks associated with geopolitics, partially due to the lack of investment opportunities that solve for geopolitics, which limits more opportunistic approaches.

Some asset owners draw on their objectives and beliefs to set target strategic exposures. For instance, the Environment Agency (UK) Pension Fund aims to invest 15% of total assets in solutions that address low carbon, energy efficiency and other climate opportunities.¹ Other asset owners integrate trend considerations on a one-off, tactical basis – for instance, making opportunistic allocations to renewable energy infrastructure when a fund offers compelling risk-adjusted returns.

PUBLICA: Implementing a climate-efficient public equity index

PUBLICA, a Swiss public pension fund with CHF 42 billion in assets (as of 31 December 2020), annually determines portfolio risk exposure severity based on potential macroeconomic, social, geopolitical, ecological and technological impact. PUBLICA identifies and prioritizes one or two systemic risks each year for intensive study to determine portfolio economic consequences. The analysis concludes with recommendations for the Investment Committee. In 2018, for example, the asset management team identified climate inaction as a major risk, which resulted in the construction and implementation of a climate-efficient public equity index for 100% of PUBLICA’s equity exposure. The index leverages a range of climate scenarios to underweight companies with negative climate exposure and overweight companies that have business models or technologies that reduce greenhouse gas emissions or are best prepared to address climate risk. PUBLICA is applying a similar framework to public bonds.

GIC: Bringing together diverse perspectives, deep expertise and dedicated capital to combat climate change

As Singapore's sovereign wealth fund, GIC's mandate is to preserve and enhance the international purchasing power of the reserves under its management over the long term. GIC believes that climate change materially affects all asset classes and should be approached both defensively and offensively. To get initial buy-in from leadership, GIC collaborated with thought leaders, specialized agencies and scientists to enhance senior stakeholders' understanding of climate change. To get buy-in from the investment teams, GIC hosted internal workshops and identified compelling risk/return implications related to incorporating climate change. Separately but concurrently at the national level, education and buy-in was also supported by the Singapore government's commitment to spending S\$100 billion on climate change protection measures.

From an asset allocation perspective, GIC considers the portfolio's return distribution, which

incorporates traditional factors and how climate change would affect the portfolio in the future. To integrate climate's effects, GIC conducts scenario analysis stress tests and uses tools to understand companies' value at risk due to climate-related factors. GIC is building databases to assess climate implications beyond companies by understanding countries' climate policies and future commitments to a lower-carbon economy.

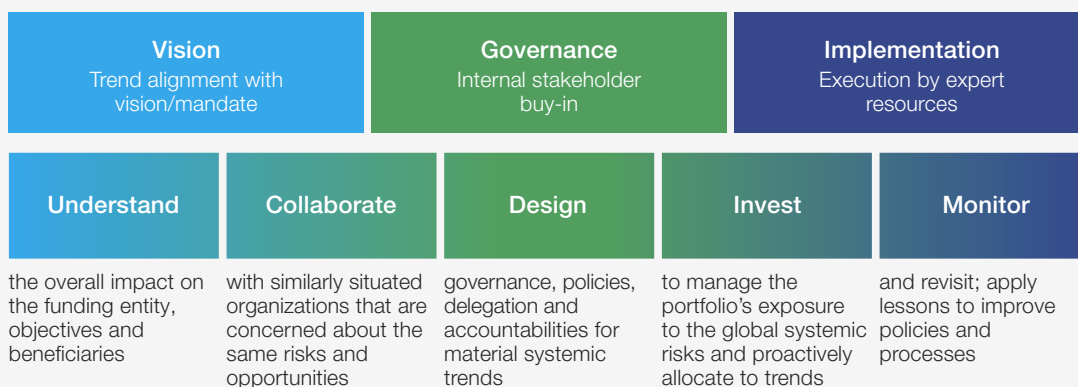
GIC has the capital to invest into a flexible mandate that proactively allocates to sustainable opportunities such as renewable energy, energy efficiency, sustainable agriculture, agriculture technology, green hydrogen, electric mobility and other initiatives that contribute to carbon reduction. GIC believes that future product innovation can result from asset owners investing together and/or directly, sharing research and collaborating on the development of frameworks (such as those outlined in this research) to address complex systemic trends.

Through more than 160 interviews with members of the investment community over the past two years,² the organizational practices that address the trends through vision, governance and implementation were identified (Figure 2). This research differentiates between "developing" and "advanced" investors based on their transformational progress to date, while also defining the governance steps that assist progress. "Advanced" generally represents asset owners that already have invested substantial time and resources to develop and maintain an investment approach that converts a global trend into systematic implementation. They have

evolved their practices across public and private investments, successfully integrating relevant trends into their decision-making and portfolio construction processes. "Developing" generally represents asset owners that are just beginning to address the global trends or do not yet have a robust and systematic approach. Most asset owners today are still evolving, selectively considering the pros and cons of developing specific processes to address the trends. Consideration of investors' varying ranges of advancement helps investors identify where they are on their journeys and how they compare to advanced peers.

FIGURE 2: Transforming trends into sustainable returns

Generating sustainable returns from global trends requires:



Sources: World Economic Forum and Mercer

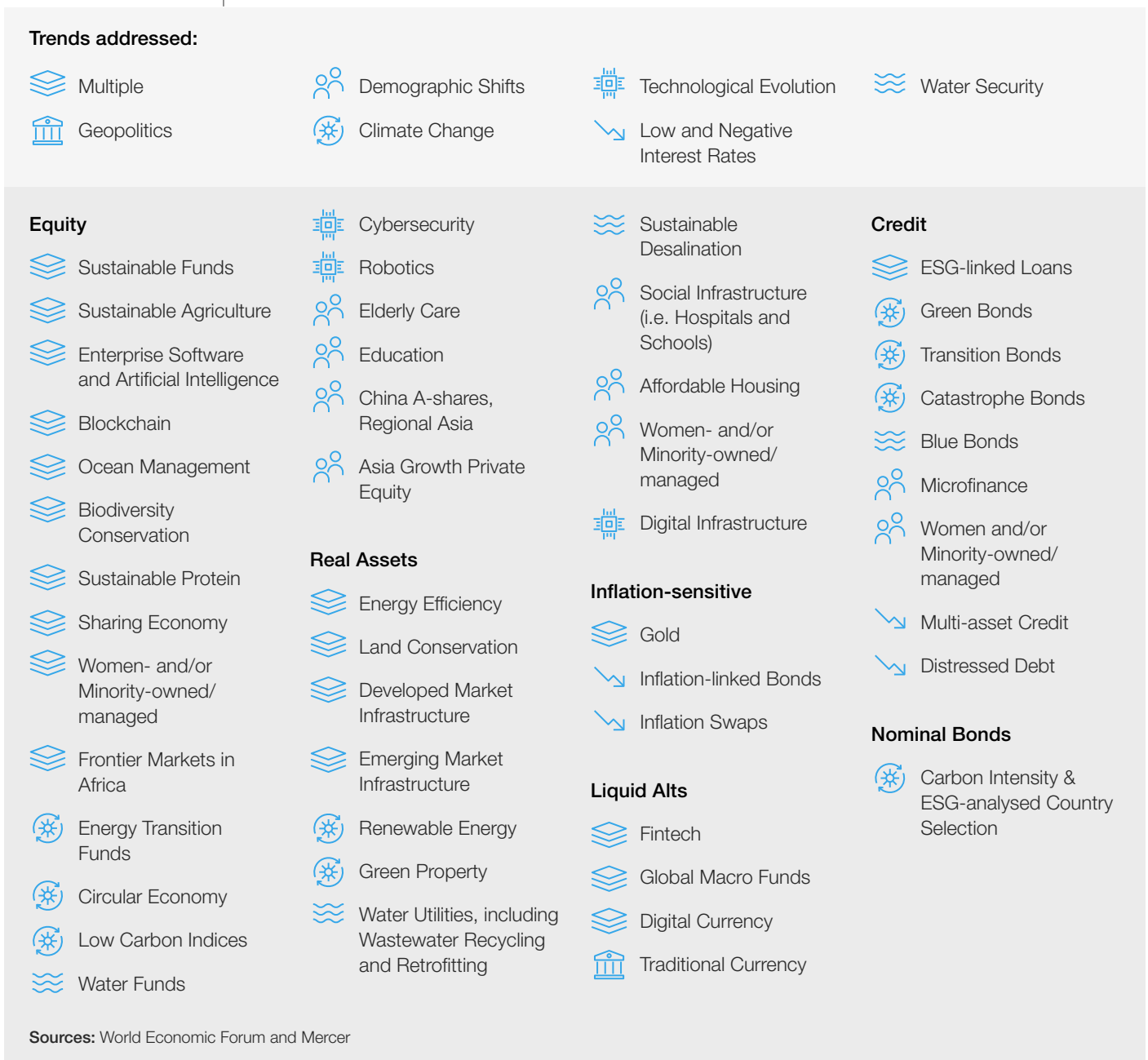
Implementing the trends

Application of organizational practices varies by asset owner and the level of trend relevance to each organization. In the survey, asset owners ranked the trends from most to least relevant (i.e. climate change, low/negative interest rates, technological evolution, demographic shifts, geopolitics and water security), but a wide variation exists. For example, low/negative interest rates are more relevant to liability-constrained investors (e.g. defined benefit pension plans) than to real growth mandates. The survey results also highlighted differences in how the asset owner community perceives the trends from risk and opportunity perspectives. A large portion of participants referenced that they address climate change (55%), low/negative interest rates (57%) and demographic shifts (43%) for both return enhancement and loss reduction

reasons. For technological evolution, more than 80% of asset owners perceived it as linked to return enhancement while, in contrast, 60% of investors address geopolitics to manage risk of loss.

Figure 3 displays a variety of trend-linked investments that asset owners access through funds, co-investments or directly. For example, asset owners are investing into low-carbon indices, sustainable protein and green property to address climate change, and cybersecurity and robotic funds to address technological evolution. Product evolution has accelerated as asset owners engage managers to align with the Sustainable Development Goals (SDGs).³ Additional policy actions, such as global carbon pricing, subsidies or reporting transparency, should accelerate innovation.

FIGURE 3: Investment products that address the trends



Key takeaway 2

Many asset owners are not aware of how they compare to peers with respect to integrating the trends. They are not able to assess their practices relative to industry-leading approaches without a benchmark of peer organizational practices.



Figure 4 illustrates the important variables across asset owners' vision, governance and implementation pillars that differentiate investors' progress today. Reference to these factors helps asset owners to self-assess their level of advancement with respect to a particular trend. Taking climate action as an example, most organizations currently reside at the "developing" stage. Advancing from this level typically requires,

at a minimum, that the vision and supporting mission statements and objectives capture the relevance of climate considerations. The effort required to do this is multifaceted and organizationally intensive since it involves reflection on mission, beliefs and values, buy-in from stakeholders and leadership, and assessment of the challenges of how to integrate climate considerations into fiduciary duties and investment outcomes.

FIGURE 4: Approach differences

	Developing	→	Advanced
Vision			
Mission, Beliefs, Values	Generic	→	Comprehensive
Leadership Buy-in	Emerging	→	Established
Competitive Advantage	Unaware	→	Aware
Governance			
Accountability by Stakeholders/Leadership	None	→	Aligned
Policy and Procedures	Generic	→	Integrated
Research Capability (including staff)	Learning	→	Expert
Implementation			
Strategic/Scenario Analysis	Basic	→	Trend-adjusted
Target Metrics/Benchmarks	Limited	→	Robust
Portfolio Integration	Stand-alone	→	Fully integrated
Engagement	Price-driven	→	Affect change
Measurement/Monitoring	Limited	→	Robust

Sources: World Economic Forum and Mercer

This assessment framework can be used to increase organizational awareness about where obvious gaps exist, and allows asset owners to benchmark progress relative to peers across vision, governance and implementation (click [here](#) for the "Climate change self-assessment workshop" chart and click [here](#) for additional exhibits). Taking climate action as an example, characteristics of advanced asset owners include:

- Assessing competitive advantage relative to peers in allocating to emerging solutions targeted at a low-carbon economy, capturing investments' physical and transition risks, and anticipating structural changes and the impacts of climate-related regulations on investments

- Modelling and analysing climate-related factors' impact on valuations and economic opportunities when developing strategic asset allocation and making investments
- Aligning incentives through standardized reporting on applicable metrics/key performance indicators (KPIs) to internal and external stakeholders
- Integrating the chief sustainability officer or head of ESG fully with the investment team across the sourcing, due diligence, value creation (i.e. engage to affect change) and monitoring processes
- Monitoring and reporting regularly on transition and physical risks to internal and external stakeholders

- Benchmarking overall programme progress against transition milestones (e.g. decarbonization at the portfolio level, carbon budgets by investment team), objectives and policies
- Allocating capital proactively to solutions that address climate change, e.g. renewable energy infrastructure, sustainable agriculture, green property and green bonds

Large asset owners are remarkably diverse by mandate, size, structure and legislative restrictions, and their **vision** reflects this diversity. In many cases, beneficiaries can influence priorities of the leadership teams, as long as this does not impede delivery of target returns. For example, a UK endowment developed its divestment policy due to student protests about the university's exposure to fossil fuels. Additionally, the asset owner survey found that more than 80% of vision or mission frameworks address climate change in some form, and that importance to stakeholders, for instance feedback from beneficiaries, was a driver of this.

With respect to **governance**, establishing leadership and employee accountability is required along with supporting principles and directives reflected in investment policies and procedures. Using climate change as an example, developing organizations may have a responsible investment policy statement, but advanced investors have translated policies into procedures, amended their benchmarks and integrated climate considerations into their investment committee decision processes and materials. Staff understand how to implement climate considerations, with performance evaluations including applicable metrics via remuneration policy.

Implementation varies substantially based on each trend, even though trend-related scenario analysis and stress tests are commonly used for most trends. Some asset owners are very specialized and track portfolios against trend-linked target metrics, such as per annum decarbonization, when accounting for different investment teams' carbon budgets. Others either perceive specific trends as less relevant (e.g. low yields matter less to growth investors), anticipate legal hurdles (e.g. fiduciary liability challenges, especially in the United

States on climate considerations) or have limited awareness of the trends' relevance to their core mandates. Organizational culture, complexity and cost considerations represent other common impediments that advanced asset owners have overcome.

Portfolio integration relates to systematically allocating to relevant trends in the investment decision-making process. Aside from water security and geopolitics, a growing number of trend-aligned sub-strategies are available in the market that meet required risk-adjusted return targets and enable investors to both mitigate risk and proactively invest in opportunities that address the trends. For example, multi-asset credit and infrastructure debt investments act as diversifiers to traditional bond exposure due to low/negative interest rates, and elderly care investments benefit from, and help to address, ageing populations. A large opportunity still exists, however, for investors to make more trend-related investments and for investment managers to launch additional products.

Asset owners cannot manage what they cannot measure. Lack of measurement standardization inhibits investors' ability to manage trend-linked risks and opportunities at the investment and portfolio levels. Organizations that work with data providers, economists, data scientists and investment teams have improved measurement for trend-related exposures. Advanced asset owners are aware of key hurdles that impede measurement and monitoring of these exposures, and have adapted internal measurement processes to adjust for the transition period until metric capture improves.

Asset owners also are hiring chief sustainability officers and/or chief innovation officers to improve understanding, measurement and monitoring of climate change impacts and relevance to investments. Asset owner size generally is not an impediment, as smaller asset owners with limited resources outsource trend-related governance and implementation to industry experts. For instance, a £5 billion pension fund uses a consultant to source investment managers that allocate capital to private and public market opportunities targeted at investments that solve for a lower-carbon economy.

Key takeaway 3

When advanced asset owners do not find investment products in the market that address these trends, they innovate and explore new investment approaches.



The asset owner survey highlighted trend-linked products that investors are already allocating to and those they are considering, but these are not sufficient to meet all institutional investors' needs. Advanced asset owners innovate, creating organizational structures and investment approaches that enable access to compelling opportunities, often before they become mainstream.

Investors are allocating capital to some of the following popular trend-linked solutions (Figure 5):

- Renewable energy infrastructure (more than 70% of participants), likely due to its

scalability, proof of concept and supportive policy intervention

- Energy efficiency (more than 60%), likely given investable public and private market opportunities linked to the transition to a lower-carbon economy and continued technological evolution
- Multi-asset credit (58%) and distressed debt (52%) given their abilities to help address low/negative real long-term interest rates

FIGURE 5: The most common investment products that address the trends



% of respondents (n=31)	Multiple Trends	Climate Change	Low and Negative Rates	Technological Evolution	Demographic Shifts
74%		Renewable Energy			
68%	Developed Market Infrastructure				
65%			Inflation-linked Bonds		
61%	Energy Efficiency	Green Property			
58%		Energy Transition	Multi-asset Credit	Digital Infrastructure	
52%			Distressed Debt		China A-shares Education Affordable Housing
48%	Global Macro Funds	Water Utilities		Cybersecurity (Private Equity)	Asia Growth Private Equity Public Transportation
45%	Enterprise Software and Artificial Intelligence Emerging Market Infrastructure Fintech (Public Equity)				

Sources: World Economic Forum and Mercer

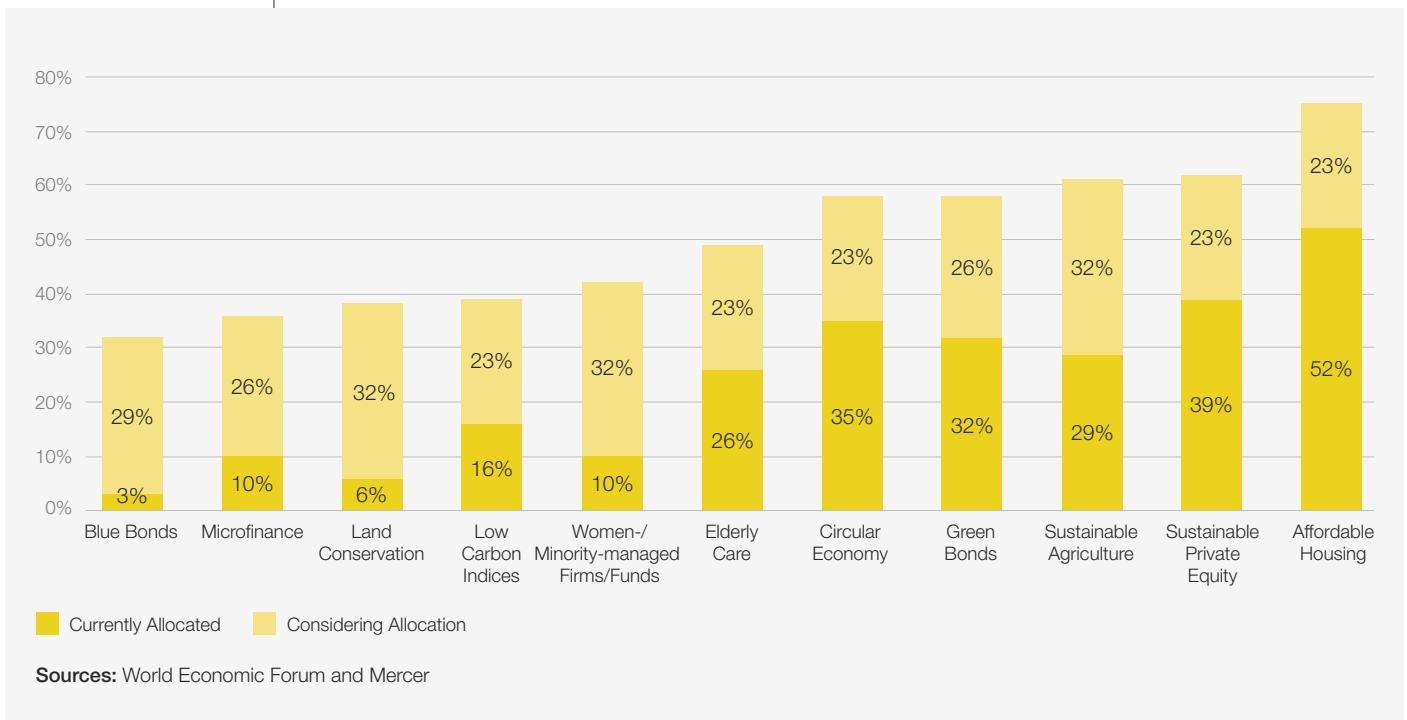
Due to the low and negative interest rate environment, many asset owners are willing to explore more complex investment approaches to increase returns, such as private and emerging market debt and leverage facilities. Investors also use gold and other alternatives for value storage, such as cryptocurrencies. One Canadian pension fund considers interest rate and climate change interrelationships; for example, it now invests in low-carbon infrastructure and green bonds that replace traditional fixed income.

Other popular strategies include infrastructure investments in developed markets, green property, energy transition strategies and digital infrastructure (e.g. data centres and connections, cloud and hosting businesses). To benefit from technological evolution, one Australian superannuation fund investigated alternatives to venture capital by investing in “old-world” companies which intentionally adopt new technologies that create legacy business disruption and simultaneously increase market share.

The asset owner survey identified trend-linked investments under current use and consideration, highlighting strategies in highest demand (Figure 6):

- Almost one-third of participants are considering allocations to sustainable agriculture, such as AgTech venture capital, and land conservation (e.g. conservation easement)
- One-third are assessing private market allocations to women- and minority-owned organizations and managed funds, and more than one-fourth to microfinance
- Over one-fourth are considering allocations to green bonds and blue bonds, such as ocean conservation and sustainable fisheries

FIGURE 6: Trend-related investments allocated to and under consideration



Index providers play an important role in future allocations. They influence capital flows, which in turn affect valuations, tracking error and concentration limits. Index providers have innovated to support investors with sustainability-based solutions, especially as investors focus on benchmarks structured for purpose rather than capitalization (see the HSBC overleaf box). For example, some providers created indices aligned with the EU Paris-aligned Benchmark (PAB) and EU Climate Transition Benchmarks that help to measure transition and physical risk mitigation efforts, as well as to capture opportunities that may benefit from regulatory and policy-related tailwinds.

Many asset owners recognize the need to allocate capital to fulfil the requirements of both investors and societal needs. Unfortunately, numerous investment opportunities, such as African infrastructure projects, are not pursued due to negative prior experiences, foreign exchange or political risk, or asset owner-specific restrictions against investing into certain countries. Survey responses indicated African infrastructure exposure across only 25% of asset owners, despite the opportunity this provides to address multiple trends, such as climate change, demographic shifts, water security, technological evolution and geopolitics. Similarly, despite water risks materially affecting

HSBC Bank UK: A defined contribution pension scheme benchmark evolves into a global climate-balanced index

In 2017, the HSBC Bank UK Pension Scheme transitioned its defined contribution (DC) scheme's default option from a passive global equity mandate to one with a climate tilt to achieve better risk-adjusted returns, protection against climate change risks, and a clear ESG engagement policy within a passive mandate. The DC scheme's benchmark became the FTSE All-World ex Controversial Weapons (CW) Climate Balanced Factor Index, an index based on the FTSE All-World equities index. It excludes the FTSE All-World's CW index and tilts weights towards certain smart beta factors: value, quality, low volatility and size. From there, carbon efficiency/emissions, fossil fuel reserves and green revenues are incorporated.⁴

human health, world hunger, agriculture and political stability, viable projects that meet institutional investors' risk/return requirements remain limited.

To address the financing gap, the Multilateral Investment Guarantee Agency (MIGA) and the International Finance Corporation (IFC) offer products that help to limit risk exposure for investors allocating to new geographies. Many asset owners, however, require additional protections (for instance, government absorption of first loss capital), higher expected returns, increased transparency and more issuances by blue-chip investment banks. Investments that include undiversifiable risk without clear payoff potential will remain underinvested, stated a chief information officer from an Australian superannuation fund, even with additional protections such as MIGA and IFC; the fund's ability to hedge risk or to generate compensatory return are baseline requirements.

The financing gap also exists because emerging trend-linked solutions often are not scalable and require substantial time and resources to assess. Such opportunities also can lack the track records and proof of concept that most asset owners typically prefer. For example, an Australian superannuation fund executive and several other large asset owners explained in interviews that size can create a competitive disadvantage. Due diligence costs on small exposures with limited total return contribution impede the pursuit of innovative opportunities when compared to larger deals.

These challenges apply to some trends (e.g. geopolitics, water security) more than others, such as low/negative rates, demographic shifts and technological evolution. The latter have numerous examples of investment strategies that improve returns or diversify risk. For example:

- Robotics exchange-traded funds (ETFs) to gain exposure to advances in artificial intelligence, 3D printing, automation and space exploration
- Asia growth private equity to benefit from the region's changing healthcare and consumption preferences
- Elderly care infrastructure and real estate aligned to ageing populations

In response to the scale-related hurdles, some investors, such as OPTrust, establish focused teams to address innovation and sustainable investing through incubation portfolios.⁵ To successfully implement such an approach, the organizations typically have separate pools of capital outside of the traditional benchmarked programme with separate governance as well as incentives incorporated into strategic objectives.

To address another common hurdle – new strategies with limited performance history and proof of concept – a large Asian sovereign wealth fund invests small amounts in emerging themes, such as plant-based protein in 2016 or e-commerce in China in 2010. This “seeding” approach enhances internal research and education about the concept and improves the fund's ability to execute when a burgeoning business or strategy becomes a major investment opportunity. If the seeding fails, losses are limited.

The research found that asset owners successfully access strategies to capture returns and mitigate risks for many of the trends, though significant opportunity exists for asset managers and index providers to innovate and evolve products further. Along with incubation portfolios and seeding approaches, investors also pursue investment objectives by engaging companies directly or through industry initiatives.

Key takeaway 4

Advanced asset owners commit to engaging with investee companies and to sharing with the broader community so that the industry evolves and business practices improve.



“What good is a net zero portfolio when the world burns around you?”

Andrew Fisher,
Head of Portfolio
Strategy, Sunsuper,
Australia

When scalable investment solutions are not available, or if asset owners lack the expertise or ability to allocate to strategies aligned to these trends, many still find ways to address them directly or indirectly. Engagement and divestment examples include:

- Exclusion-oriented investing or theme-based ETFs
- Assessing physical and transition risk exposures to underweight companies adversely affected by climate change
- Overweighting companies with business models that reduce greenhouse gas (GHG) emissions and proactively address climate risk
- Engaging with underlying companies to promote change

Asset owners surveyed strongly prefer engagement and selective trend-related strategy investments over divestment and negative screening. When the latter are used, asset owners typically divest from companies with high carbon emissions, limited ability to transition or high stranded asset risk. Some investors choose to decarbonize their portfolios because they wish to support the PAB with assets invested in line with Paris Climate Agreement goals. Andra AP-fonden (AP2), one of Sweden’s national funds that supports state pensions, has adjusted holdings in global equities and corporate bonds to ensure consistency with the PAB. AP2 will not invest in companies that exceed certain revenue levels from coal (1%), oil (10%) and gas (50%), or from utility companies using fossil fuels (50%). AP2’s approach removed approximately 250 companies from the portfolio.⁶

Stranded asset total return swaps represent another form of divestment. For example, Bob Litterman, Investment Committee Chair of World Wildlife Fund in the United States (WWF-US), created the WWF

stranded assets total return swap. The swap allowed WWF-US to hold a long position in the S&P 500 and sell cash flows from potentially stranded assets (e.g. coal and oil sands indices) to its counterparty.⁷ Other investors take short positions in companies that are not adequately addressing sustainability issues and the transition to a lower-carbon economy.

Alternatives to negative screening are also developing. The Transition Pathway Initiative, co-founded by the Church of England’s National Investing Bodies and the Environment Agency Pension Fund (UK), assesses a company’s preparedness for a low-carbon economy by tracking corporate management of emissions, and evaluates how companies’ expected future carbon performance compares to international targets and national pledges made through the Paris Climate Agreement. This publicly available data helps investors to determine the best-prepared companies within a given sector and to differentiate between the good and bad actors.

Surveyed asset owners have approximately two-thirds of their portfolio exposure in liquid assets and the remainder in illiquid holdings, making integration of the trends via both public and private market securities important. Approaches commonly used by asset owners for climate change include:

- Dependency on public markets for scale and familiarity with engagement and stewardship principles
- Increased support for shareholder resolutions that require better corporate disclosures, e.g. commitment to report scope 1 and 2 emissions
- Shareholder activism to improve reporting and measurement by listed companies
- Leveraging private market traits: long-termism and promoting sustainability via access to management and representation on corporate boards



“In order to align fiduciaries with greenhouse gas emission reduction goals, changing consumer preferences and technological advances will move us in the right direction, but alignment of public policy (higher regulatory standards or some form of carbon pricing) will be a powerful accelerant. Investors must incorporate these into investment decisions to the degree they are material, which will vary across sectors and time. Of course, these are not mutually exclusive, but I think a useful paradigm for how investors and public policy should work together in a fiduciary-safe manner to advance societal goals.”

Donald Raymond, Chief Investment Strategist, Qatar Investment Authority, Qatar

More than 90% of survey respondents believed that further regulatory and policy action would accelerate action to address climate change. Asset owners expect policy intervention to affect corporate operating costs and asset values due to changing taxes, subsidies and regulations. In anticipation, asset owners may use the Paris Agreement Capital Transition Assessment (PACTA)⁸ or refer to the Global Investors for Sustainable Development Alliance (GISD).⁹ Interventions can include financial incentives to reward companies that create sustainable stakeholder value or subsidies to encourage alignment with the Paris Climate Agreement and SDGs.

In addition to policy action, asset owner engagement with peers, investment managers, data providers, multistakeholder platforms and corporations has flourished into an

expanding global community committed to addressing global challenges. For example, Figure 7 includes a selection of asset owner relevant industry organizations that engage with stakeholders to:

- Reduce emissions
- Become better educated on climate change and related corporate actions
- Incorporate ESG issues into investment analysis and the decision-making process
- Improve diversity in the investment management sector
- Enhance engagement with central banks
- Accelerate the integration of financial risks into their processes

FIGURE 7: **Asset owner relevant industry organizations**

<u>Climate Action 100+</u>	<u>Global Investor Coalition on Climate Change</u>	<u>Investor Leadership Network (ILN)</u>	<u>Net-Zero Asset Owner Alliance</u>
<u>The Central Banks and Supervisors Network for Greening the Financial System (NGFS)</u>	<u>One Planet Sovereign Wealth Funds</u>	<u>Portfolio Decarbonization Coalition (PDC)</u>	<u>World Resources Institute/Science Based Targets Initiative (SBTi)</u>
<u>The Geneva Association</u>	<u>The Investor Agenda</u>	<u>Principles for Responsible Investment (PRI)</u>	

Source: World Economic Forum and Mercer

Developing asset owners can benefit from peer collaboration and outputs of these organizations as they enhance their vision, governance and implementation approaches.

Key takeaway 5

Advanced asset owners understand how to quantify and assess the implications of changing regulations, policies and data availability on these trends, and incorporate these assessments in their investment decision-making.



Quantifying the impact of these trends (e.g. flooding, migration, ageing populations) can affect corporate valuations. Clear measurement, standards and benchmarks strengthen investors' abilities to act as responsible stewards of capital, and to affect change by creating accountability through company engagement. Although the standards and tools used for measurement and monitoring are evolving rapidly, many investors lament that substantial improvement from current practices is required to understand portfolio-related risks and opportunities and to align portfolios with their organization's objectives.

Advances at data providers have increased access to information. Inadequate standardization and data quality, however, create challenges in measuring and monitoring non-traditional investment metrics. For example, ESG measurement is particularly difficult in private markets and in geographies with varied regulatory standards. A CFA Society survey in 2019 showed that only 21% of asset owners integrate ESG across portfolios despite the potential benefit from evaluating ESG factors across all asset classes.¹⁰ Advanced asset owners who determine how to incorporate ESG analysis into their investment processes should be able to secure an information advantage.

Regulatory advances around the globe and resulting frameworks and standards should support asset owners. For instance, the Task Force on Climate-related Financial Disclosures (TCFD) framework helps investors understand the impacts of climate change on their investments. Meanwhile, standards from the Sustainability Accounting Standards Board (SASB) identify financially material sustainability issues by industry. Lastly, the World Economic Forum's Stakeholder Capitalism Metrics improve consistency and comparability of information reported by companies, increase corporate ESG reporting, and encourage solutions for non-financial reporting.¹¹ When fully adopted, these disclosures will help investors understand financial and operating impacts of global systemic trends. In addition, once standardized SASB scores are readily available for most companies, comparability and investor analysis will improve.

“Corporate value is ultimately driven by the abstract combination of organizational and human capital that enables agile navigation of a broad range of plausible future states. For long-term investors, due diligence on this capability cannot be found in quarterly earnings reports alone. It requires assessment of far less tangible markers of corporate capability.

In my view, central to this is a firm's ethical heartbeat – it frames the way decisions under stress will be taken. And its reflection can be found in how precisely purpose is articulated; how transparently that aligns to identifiers of organizational and individual-employee success; whether there is any appreciation of systems-risk or of stakeholders as advocates; how decision-making is distributed; and the extent to which failure is able to be tolerated as an inevitable part of innovation.”

Alison Tarditi, Chief Investment Officer, Commonwealth Superannuation Corporation, Australia

The “E” (i.e. “environment” for climate change, natural resources, water security, and pollution and waste) and “G” (i.e. “governance” for anti-corruption, risk management, shareholder rights and tax transparency) in ESG are not the only material considerations. Advanced asset owners also increasingly focus on the “S” (i.e. “social” for diversity and inclusion, workplace safety, income inequality, job reskilling, modern slavery, child labour, physical and mental health). There is pressure for asset managers and companies to address inadequate policies and social-related benchmarks that now exist. For example, the World Benchmarking Alliance developed a series of guidelines that rank and measure over 2,000 companies based on contributions to the SDGs.¹² Social-related benchmarks include:

- Gender – How corporations drive and promote gender equality and women's empowerment across their entire value chain
- Corporate human rights – Company policies, processes, and practices used to systematize human rights approaches across the workforce and responsiveness to allegations
- Digital inclusion – How corporations advance a more inclusive digital economy and society

These improvements in measurement advance global efforts to address social and demographic trends. The investment industry must still solve broader ESG measurement challenges, however, especially because many asset owners already operate in jurisdictions that recognize ESG as a material fiduciary consideration.

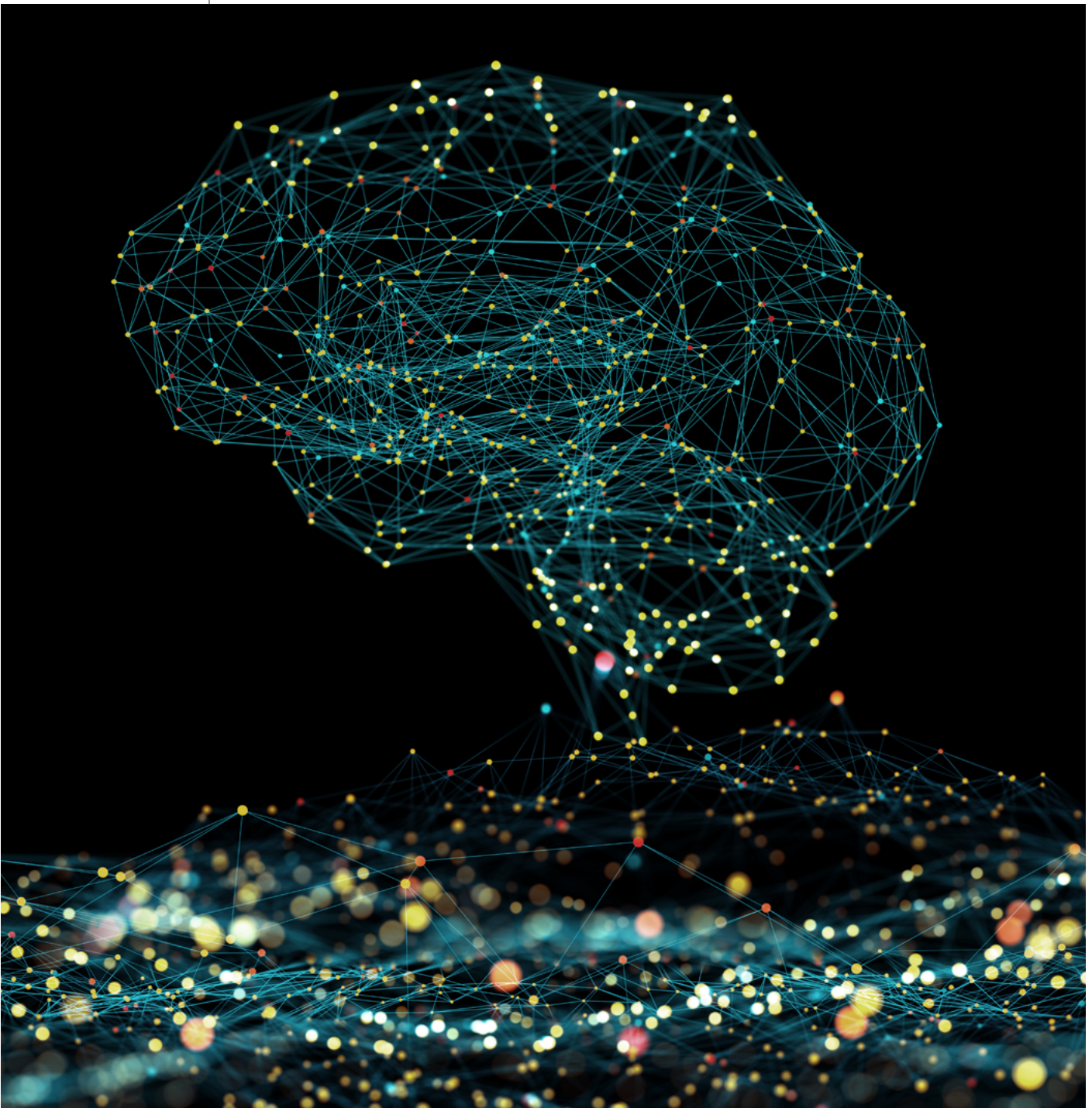
Pension funds in the United Kingdom are required to report financially material ESG and climate change risk.¹³ Meanwhile, in Australia, participants sued a superannuation fund for lack of transparency in accounting for climate change and for not illustrating such analysis.¹⁴ The participants won the suit and set a precedent; Australian schemes now need to clarify how they are addressing climate change. Investors currently under more ambiguous interpretations regarding ESG fiduciary consideration (e.g. United States) can potentially

benefit by anticipating the implications of future regulatory changes and leveraging perspectives from markets that already recognize ESG factors as material to fiduciary considerations.

Some investors complement traditional ESG analyses with information from data analytic providers that rely on artificial intelligence and data science to obtain an outside-in perspective of corporate violations or to measure climate-related risks around the globe. This information enables asset owners to engage with portfolio companies and proactively address areas of concern. For example, RepRisk assesses ESG risks related to 165,000 public and private companies and 40,000 infrastructure projects through its use of artificial intelligence, machine learning and human intelligence. It screens more than 100,000

public media and stakeholder sources daily in 20 languages across 96 ESG factors aligned with international standards and frameworks.¹⁵

As another example, Wellington Management's new climate exposure risk assessment (CERA) tool helps investors across its platform as well as climate research advisory partners CalPERS and Ontario Teachers' Pension Plan better understand companies' physical climate risks, e.g. extreme heat, drought, wildfires, hurricanes, flooding and water access. The CERA tool leverages data science and quantitative models to analyse the impact of climate change on global capital market segments. The tool was developed in collaboration with Woodwell Climate Research Center, a leading climate change think tank that partners with global private and public organizations.



The asset owner survey identified common tools used for investment and risk analysis (Figure 8). Across all trends, the most common included identifying trend-specific investment products, macroeconomic risk analysis, sectoral analysis and scenario testing. Other tools surveyed were only highly applicable to one or two of the trends, such as ESG measurement for climate action and water security or geographical assessments for geopolitics.

Despite the relatively large number of climate change-linked mitigation and adaptation investment solutions available in the market, the asset owners surveyed currently access these only to a moderate

extent. Many asset owners referenced drawing from the climate scenarios highlighted by the TCFD to conduct scenario analysis for climate change.¹⁶

By assessing material risk factors and drawing from the industry's tools, frameworks and standards, investors have the ability to better understand and monitor their investments. Advanced asset owners draw from best practices and emerging tools to position their portfolios for evolving markets and regulatory environments. The resources enhance their understanding of their portfolios and enable advanced investors to be more agile when responding to unforeseen events, such as the COVID-19 pandemic.

FIGURE 8: Usage of investment, monitoring and risk measurement approaches



	Climate Change	Low and Negative Real Long-term Interest Rates	Technological Evolution	Demographic Shifts	Geopolitics	Water Security
Use of Investment Products	2.7	1.8	2.0	2.7	3.3	3.3
Macroeconomic Risk Analysis	2.8	1.6	3.1	2.2	1.9	3.8
Sectoral Analysis	1.9	2.9	1.9	2.7	2.7	2.8
Scenario Testing	2.2	1.8	3.6	2.9	2.6	3.5
Geographical Assessments	2.8	2.5	3.0	2.9	1.5	2.9
Engagement on Targeted Community Initiatives	2.0	3.5	3.2	3.4	3.0	2.9
Engagement with Investee Companies	1.7	3.9	3.3	3.4	3.2	3.0
Assessment of Transition Risks	2.0	3.8	2.8	3.1	3.0	3.6
ESG Measurement and Monitoring	1.5	4.6	2.9	3.3	3.5	2.2
Demographic Data Analysis	4.3	3.5	3.5	1.9	3.7	4.3
Negative Screening	2.8	4.6	4.4	4.7	3.8	3.8

□ High Usage (1.0-2.4) ■ Moderate Usage (2.5-3.5) ■ Limited/No Usage (3.6-5.0)

Results are rounded to the nearest tenth. Based upon a Mercer and World Economic Forum survey of 30 global asset owners with more than \$3.4 trillion assets under management (October 2020).

Sources: World Economic Forum and Mercer

Conclusion

The investment return and risk implications of climate change, low and negative interest rates, technological evolution, demographic shifts, geopolitics and water security will remain significant for decades to come, requiring investors to take action to address these systemic risks and creating opportunities to positively differentiate themselves.

Asset owners can enhance their approach to these risks by self-assessing their progress against the vision, governance and implementation framework developed through this work. Knowledge of more advanced asset owners' investment practices should accelerate organizations' transformations, enabling them to advance more quickly.

Traits of advanced asset owners include:

Diversity of thought: Cognitive diversity that draws on varied experiences and specialized expertise to access insightful perspectives

Accurate self-assessment: An ability and willingness to draw from internal and external stakeholders to understand and address organizational shortcomings

Commitment to strategic vision: A shared belief that taking action today on factors that affect the portfolio over the long term will result in enhanced risk-adjusted returns

Commitment to transparency: Clear communication to stakeholders from the board and senior leadership regarding beliefs, vision and objectives so that stakeholders align and contribute towards goal fulfilment

Culture of innovation: Development of new expertise, questioning of existing norms and exploration of emerging investment themes and processes

Willingness to collaborate: Commitment to share best practices with peers and stakeholders so that the industry evolves more quickly, positively affecting regulations and policies

The features of each trend create opportunities for new investments and approaches. Asset owners typically prefer engagement to divestment. They use investment strategies such as renewable energy infrastructure, inflation-linked bonds, green property and digital infrastructure to benefit from opportunities and mitigate potential losses associated with the trends. Awareness of demand for solutions linked to these trends provides insight into potential capital flows, and can assist asset managers to commit the resources necessary to launch additional relevant strategies. For example, interest in sustainable agriculture and investment via women- and minority-owned firms is on the rise. In addition, asset managers have an opportunity to share with asset owners how their investment products benefit from or mitigate losses associated with the trends.

Data has become increasingly more accessible, so much so that many asset owners express concern about data overload and an inability to decipher data pertinence. Improved industry frameworks and standards should enable access to more meaningful data to enhance investment assessment, portfolio monitoring and engagement efforts. Advanced asset owners who determine how to incorporate ESG analysis into their investment

processes should be able to secure an information advantage. Over time, data quality and availability will improve as asset owners collaborate on best practices and unify demands for the most applicable measurements and transparency from companies and investment managers.

Vision, governance and implementation practices enable agility and determine an organization's ability to fulfil its long-term mission. Advanced asset owners' capacity to adapt differentiates them, embedding the reflexive skills that can quickly reposition their organization to confront emerging trends such as pandemics, inequality and biodiversity. Asset owners can refer to the "Climate change self-assessment workshop" chart in this paper and click [here](#) for additional trend-linked frameworks with examples of steps they can take to advance their approaches.

Climate change self-assessment workshop

Vision	Developing	Advanced
<p>Mission, Beliefs, Values</p>	<ul style="list-style-type: none"> – Senior leadership still building consensus for climate-related goals – Developing climate-related vision statement addressing fiduciary responsibility (if applicable) – Senior leadership gaining an understanding of risk/return implications of climate change on organization’s mandate and their ability to achieve objectives – Creating a transition roadmap – Determining external commitments (e.g. net zero carbon emissions target) – Senior leadership studying climate science and financial implications of portfolio integration – Combining internal/external resources used to educate, train and develop stakeholders 	<ul style="list-style-type: none"> – Senior leadership and stakeholders aligning fully on climate-related goals and relevance to investment mission and beliefs – Comprehensive climate change vision framework addressing key topics (e.g. fiduciary responsibility, timing, carbon emissions targets, transition plan) – Senior leadership understanding risk/return implications of climate change on mandate and ability to achieve objectives – Climate change framework capturing changing regulations – Updating climate change vision to maintain alignment with beliefs – Board actively addressing investment implications of climate change by engaging stakeholders on transition plan implementation and monitoring progress against milestones – Using vision, beliefs and values to align transition roadmap and investment disciplines with long-term sustainability
<p>Competitive Advantage</p>	<ul style="list-style-type: none"> – Senior leadership studying climate change linkages to valuations and economic opportunities due to industry changes (e.g. policies and regulations like EU taxonomy) – Organization having limited visibility into how peers address climate change 	<ul style="list-style-type: none"> – Ongoing monitoring and integration of climate change implications on valuations and economic opportunities for all investment exposures – Organization assessing and anticipating climate-related industry changes, adapting transition framework and commitments accordingly along with required organizational changes – Including forward-looking metrics by industry/sector, considering multiple time horizons and peer perspectives – Briefing senior leadership regularly on organization’s ability to anticipate investment and structural changes (e.g. energy sector shifts) and to adapt portfolio exposures (e.g. portfolio’s transition capacity) – Senior leadership using market research and industry engagement (e.g. Institutional Investors Group on Climate Change) to assess organization’s climate-related competitive strengths and weaknesses relative to peers, and monitoring its own progress in the short, medium and long term – Transparent reporting on methodology for adopting a decarbonization pathway to climate action against a recognized framework, e.g. Intergovernmental Panel on Climate Change (IPCC) emissions scenarios – Having capacity to benefit from a long-term time horizon – Using highly sophisticated tools

Governance	Developing	Advanced
Accountability of Stakeholders/ Leadership	<ul style="list-style-type: none"> – Climate change-related vision and beliefs not being transparent to stakeholders (e.g. managers and other employees) – Lacking clarity on alignment of incentives with organization's long-term objectives – Lacking sufficient guidance for employees on climate considerations within roles – Not defining climate-related metrics for sustainability reporting – Compensation not explicitly connecting individual and/or portfolio team performance to climate-related objectives 	<ul style="list-style-type: none"> – Translating climate change-related vision and beliefs into relevant roles and responsibilities; being consistent with key objectives and transition pathway – Clearly aligning incentives linked to what teams are responsible for and organization's time horizon, e.g. bonuses tied to long-term performance – Organization providing employees with explicit guidance and education on climate considerations – Organization using external and internal commitments to climate frameworks and regularly disclosing progress through reporting, e.g. TCFD – Leadership and stakeholders assessing accountability in fulfilling organization's goals and targets – Aligning annual sustainability reporting of relevant metrics with recognized global climate initiatives – Applying KPIs to staff and leadership
Policy and Procedures	<ul style="list-style-type: none"> – Organization having responsible investment policy but neither procedures nor strategic framework to support integration, policy adoption or reporting – Updating policy and procedures on ad hoc basis – Including forums for informational sharing as part of procedures 	<ul style="list-style-type: none"> – Fully adopting and integrating responsible investment policy – Established investment procedures supporting integration, ongoing policy adoption and climate-related financial disclosures – Regularly updating policy and procedures based on industry changes and organization's evolution – Including forums for informational sharing and collaboration as part of procedures
Research Capability (including staff)	<ul style="list-style-type: none"> – Having limited internal and/or outsourced climate expertise – Having an inconsistent training framework to develop skills that adapt employee practices to climate change considerations – Organization not prioritizing climate change and/or employees addressing it inconsistently 	<ul style="list-style-type: none"> – Fully integrating climate change-related competency across staff; a chief sustainability officer and/or outsourced sustainability consultant, if engaged, serving as an extension of the investment team and working closely together – Organization's investment, risk and operations teams regularly receiving training on evolution of climate-related guidance, e.g. regulations, standards and disclosure frameworks – Organization prioritizing climate research; professionals drawing from multiple data providers to build intellectual capital, respond to structural trends and identify investments that enhance returns and risk exposure

Implementation	Developing	Advanced
Strategic/Scenario Analysis	<ul style="list-style-type: none"> – Beginning to capture climate implications in portfolio scenario analysis – Starting to assess physical and transition risks for at least a portion of portfolio (e.g. listed equity in 2° scenario) – Hosting some external workshops that review climate considerations (e.g. En-ROADs) 	<ul style="list-style-type: none"> – Making a balanced assessment of scenario comprehensiveness, plausibility and probability – Applying climate scenario analyses for portfolios, asset classes and industries/sectors and considering varied temperature scenarios and time frames – Using stochastic and deterministic modelling to quantify physical and transition risks; using analysis for portfolio construction and asset allocation decisions – Using scenario modelling to build consensus (e.g. decarbonization planning and transition capacity) and to guide engagement with managers and companies

Implementation	Developing	Advanced
Target Metrics/ Benchmarks	<ul style="list-style-type: none"> – Using generic industry benchmark to assess and monitor performance, e.g. limited consideration of climate-linked benchmarks and metrics – Potentially committing to net zero emissions target, but no plan to achieve target (e.g. no target carbon budgets) 	<ul style="list-style-type: none"> – Senior management defining relevant benchmarks that achieve climate-related strategic objectives, e.g. active use of climate-linked benchmarks for portfolio assessments – Making external/internal commitments to emissions targets, annual reduction targets via a recognized industry pathway (e.g. IPCC scenarios, SBTi) – Assessing the portfolio with combination of traditional and climate-related metrics (e.g. tracking error, volatility, expected returns and transition climate value at risk, green revenues, renewable exposure)
Portfolio Integration	<ul style="list-style-type: none"> – Integrating climate in only part of the portfolio (e.g. listed equities) and relatively small allocation to climate-linked solutions – Starting to research and participate in industry collaborations to understand impact of climate-related investments 	<ul style="list-style-type: none"> – Organization integrating climate change considerations across the entire portfolio – To achieve emission reduction targets, organization applying a combination of strategic asset allocation, factor analysis and monitoring of companies' progress on transitioning to a lower-carbon economy – Committing to understanding and applying new climate research to stay at the forefront of the activity
Engagement	<ul style="list-style-type: none"> – Proxy voting policy reflecting climate considerations but no tracking of external managers' decisions relative to the organization's policy parameters – Participating in industry initiatives, e.g. Ceres, Investor Group on Climate Change (IGCC) and Asia Investor Group on Climate Change (AIGCC) 	<ul style="list-style-type: none"> – Proxy voting policy and voting record reflecting climate considerations along with manager voting overrides when inconsistencies exist with organization's vision and policies – Engaging with management (to the extent relevant) on significant climate-related risks to the portfolio and performance – Holding investment managers accountable for portfolio changes, including flexibility to "decarbonize at the right price" to prevent avoidable losses (e.g. bubble valuations) – Participating in industry initiatives (e.g. Ceres, IGCC, AIGCC) and periodically leading on local and/or international policy initiatives and submissions – Supporting external platforms that collectively address challenges (e.g. unified standards) to improve financial and risk disclosure transparency
Measurement/ Monitoring	<ul style="list-style-type: none"> – Regularly measuring and tracking material ESG factors for certain asset classes – In the process of understanding what measurement, tracking and reporting would look like in practice if organization makes a commitment to net zero 	<ul style="list-style-type: none"> – Measuring and tracking material ESG factors for all investments (e.g. SASB) – Using metrics to support accountability to emission targets across research and investment teams, senior leadership and board – Reporting metrics Internally and externally (if applicable) related to organization's progress towards commitment to net zero – Understanding and reporting measurement implications on commercial objectives to stakeholders and key decision-makers

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