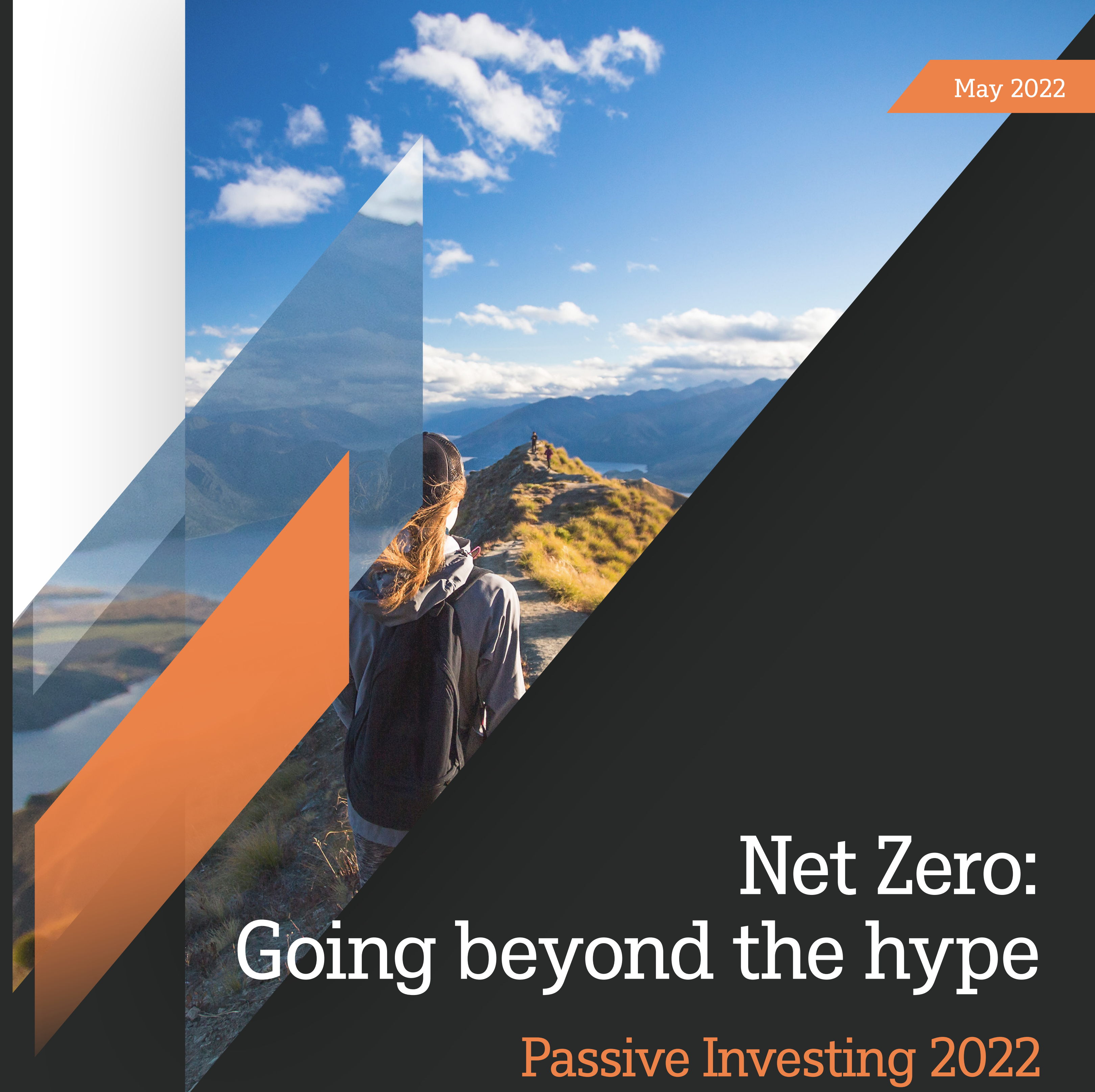

May 2022

Net Zero: Going beyond the hype

Passive Investing 2022

Foreword

The science is unequivocal: human activity is warming and will continue to warm our planet. Fighting climate change by achieving net zero CO_2 is therefore one of the most urgent tasks of our time. Indeed, a new industrial revolution has already arrived, as investors are rechanneling capital towards companies that are pioneering green industrialisation.

For their part, pension plans worldwide have net zero in their sights, but the real journey is only just beginning, according to DWS and CREATE-Research's 2022 report, which is based on a survey of 50 large pension plans from North America, Europe and Australasia that collectively manage €3.3 trillion of assets. Only 16% of respondents have fully embedded the goal in their asset allocation, while 60% believe it unlikely that the goal will be achieved, even if Russia's invasion of Ukraine vividly underscores the long-term importance of fully embracing renewable energy. This is why this year’s report is titled 'Net zero: Going beyond the hype.'

Against this background, we at DWS are more convinced than ever that the road to net zero must not be seen as a single track. This goal can only be achieved with more radical action, which means not just curbing the use of fossil fuels but also preserving and restoring nature and specifically protecting carbon sinks, namely our oceans and forests, which together absorb around 40% of CO_2 emissions.

Stronger engagement is another important lever. When it comes to interaction with our investee companies, DWS has been engaging systematically for over 20 years, particularly in Europe. We expect company boards and management to manage risks associated with climate change, and will hold them accountable in case they fail to respond adequately to such risks, or fail to provide the necessary disclosure.

On the passive side, the EU's Paris-Aligned & Climate Transition indices mark a radical departure from the previous generation of low-carbon indices that aimed to reduce emissions relative to their parent indices without targeting an explicit temperature scenario. When asked how important the EU indices are likely to be in achieving net zero targets, 52% of respondents answered ‘very important’.

This timely report shows there is no single answer and no single path to net zero. It needs a concerted push towards that goal. I hope you find this as auspicious as I have.

Asoka Woehrmann
CEO, DWS

Acknowledgements

"The future is not something we enter; the future is something we create."

Leonard I. Sweet
Writer, teacher and preacher

This is the fifth annual pension survey in a research programme first started by DWS and CREATE-Research in 2018 to highlight the foundational trends in ESG and passive investing.

This year's survey looks at how pension plans are advancing towards net zero to meet the targets set by the 2015 Paris Agreement.

It provides a timely perspective on the role played by finance in delivering this ambitious vision on the ground, and the nature of the complementary actions needed from governments and regulators to turn it into reality. After all, it's one thing to set the goal, but quite another to deliver it. Ambition must be matched by action.

My foremost thanks go to 50 large pension plans in seven key fund jurisdictions for participating in our interview survey.

Their practical insights shed light on the challenges ahead, especially in the context of the Russian invasion of Ukraine, which is forcing Western nations to seek alternative sources of fossil fuels in the immediate future to ensure energy security.

I am also very grateful to DWS for sponsoring the publication of this report without influencing its findings in any way. Their arms-length involvement has helped to canvass a wide spectrum of views in the pension landscape so as to deliver an impartial assessment of current trends and their future evolution.

My grateful thanks also go to IPE for helping to conduct the survey and especially to its editor Liam Kennedy for his wise counsel and unstinting encouragement throughout the history of this series.

Last but not least, I would like to thank four colleagues at CREATE-Research: Anna Godden for desk research, Lisa Terrett for project management, Naz Rajan for data analysis and Dr Elizabeth Goodhew for editorial support.

If, after all the help I have received, there are errors and omissions, I am solely responsible.

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Just click on the selected chapter.

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Executive summary

Key takeaways

- The net zero goal is unlikely to be met. COP26 has passed the climate baton on to capital markets but a decarbonised investment portfolio does not yet equate to a decarbonised planet.
- To properly price in climate risks, capital markets need cold hard incentives as much as sanctions. The invisible hand of markets needs to be complemented by the visible boot of governments.
- Pledges made at COP26 will likely force governments and regulators into a radical reset. If anything, the invasion of Ukraine has reinforced the need for a drive towards clean energy.
- Climate change remains the new foundational trend in both active and passive funds, targeting a double bottom line: doing well financially and doing good environmentally.
- The design features of the new generation of custom-built climate-based index funds are set to transform passive investing by tracking the Paris targets instead of tracking their parent indices.
- Stewardship is now the linchpin of climate investing – as consequential as asset allocation, if not more so. Best practice in the active space is as relevant in the passive space.

"Collectively, our climate ambition and action to date have fallen short on the promises made in the Paris Agreement on climate change."

Alok Sharma
President of COP26 speaking at the end of the event

COP26 was a mixed blessing

This UN-convened intergovernmental event in Glasgow in November 2021 strengthened the 2015 Paris Agreement by attracting new pledges, ensuring that 87% of the world's greenhouse gas (GHG) emissions and 89% of its economy are now covered by net zero targets. More than 80 key countries also signed the Global Methane Pledge to cut emissions of potent GHG by 30% by 2030. Governments also agreed to review their emissions pledges by the end of 2023, instead of every five years.

Yet, many felt an air of deflation, as the world's two largest coal-burning countries – China and India – refused to sign up to phasing out the dirtiest of fuels. The doubling of annual financial aid to $40bn to support climate action in the developing world also fell short of expectations.

Indeed, in these and other key areas – like project finance and innovation – governments seem to have passed on the climate baton to the finance sector, due to the complexity of trying to persuade scores of countries – each with its own economic and political agenda – to act in unison for the greater good. Inevitably, the event turned into a 'finance COP', with the launch of the Glasgow Finance Alliance for Net Zero (GFANZ).

It involves 450 key financial institutions in a private sector plan to steer the planet towards net zero GHG emissions by 2050, where the quantity emitted is matched by the amount removed from the atmosphere.

Money talks, and the power of capital markets is immense. The necessary pathways will involve a huge capital reallocation from fossil fuel to renewable energy and energy efficiency. This will also provide a historic opportunity to 'build back better' after the severe social and economic dislocation from Covid-19. Hence, there is also a more nuanced view of COP26: it delivered more than expected but less than needed.

Aims and research method

For their part, pension plans worldwide have embarked on their net zero journey in the belief that climate change is Janus faced: it carries opportunities as well as risks.

Managing around $48 trillion of assets, pension plans are now at the vanguard of the net zero journey. This report provides a stock-take on their experience so far by addressing four pertinent questions:

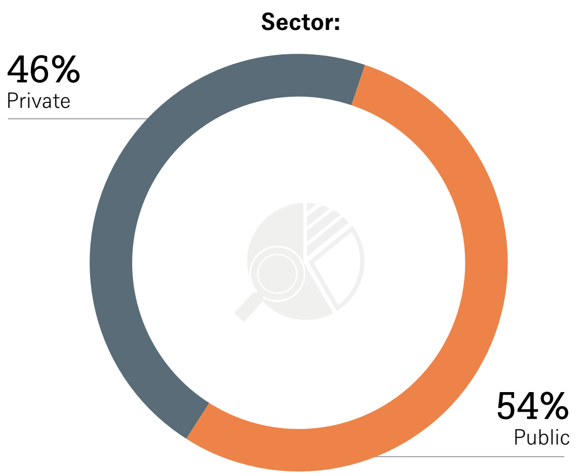
- How likely is it that the net zero goal will be met post-COP26?
- What are the barriers that need to be addressed by GFANZ and national governments?
- How does the goal feature in active and passive investing by pension plans currently?
- How has asset stewardship become a linchpin in the net zero journey?

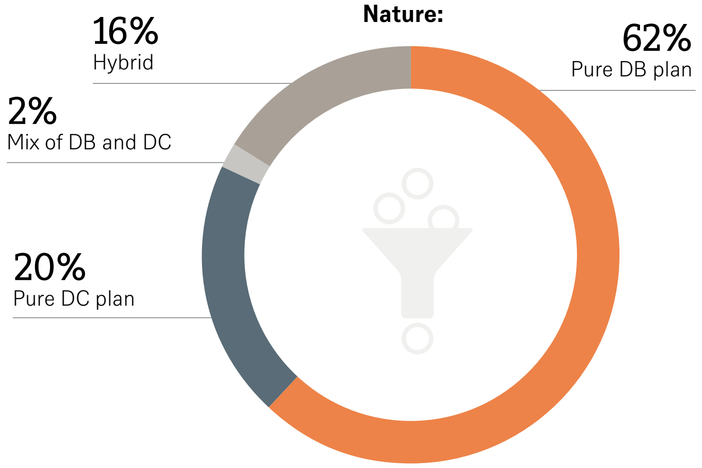
This report is based on a telephone survey of 50 large pension plans based in North America, Europe and Australasia, collectively managing €3.3 trillion of assets. Their background details are given in Figure 1.0.

Figure 1.0

Which sector does your pension plan cover, and what is the nature of your plan?

% of respondents





Source: CREATE-Research Survey 2022

Survey highlights (% of respondents)

How likely is it that the net zero goal will be achieved?

16% Have fully embedded the goal in their asset allocation

42% Are in the implementation phase

60% Believe it unlikely that the goal will be achieved

How does climate investing feature in active and passive portfolios?

74% Have adopted it or are doing so in the active portfolio

42% Have adopted it or are doing so in the passive portfolio

52% Exclude carbon polluters from their portfolio

How has stewardship become so crucial to decarbonisation?

80% Use stewardship as the principal vehicle of climate investing

78% Engage in proxy voting & shareholder resolutions

64% Have embraced the mindset of an active owner, not a trader

How are passive funds used in climate investing?

56% Think passives are a permanent feature of their climate portfolio

52% See the EU indices as 'very important' for delivering net zero

56% Expect to use the EU indices on a notable scale

Key findings

1. The exact path to a net zero world is unknown but the direction of travel is clear

Our survey respondents' substantive adoption of climate investing was prompted by the 2015 Paris Agreement. It aimed to limit global warming to 2°C above the preindustrial level – or preferably 1.5°C – by 2050. Since then, they have come a long way, as Section 2 shows. But the real journey towards net zero is only just beginning.

This much is clear from the current state of their adoption cycle (Figure 1.1, left chart). Sixteen per cent have already embedded the goal into their investment portfolio; a further 42% are in the process of implementing it; 22% are close to decision making and the remaining 20% are at the awareness-raising stage. Thus, the goal is being pursued by almost three in five respondents.

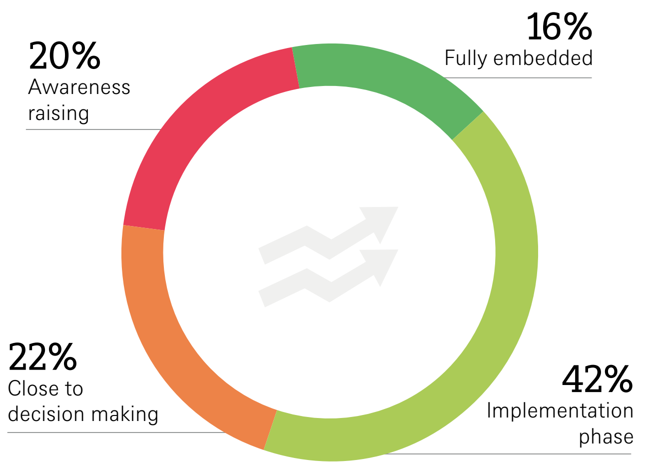
But the pension sector is still in the foothills of net zero action. Only 28% have set interim goals and milestones that emphasise the urgency of climate action by showing how they will get there (Figure 1.1, right chart). On the upside, a typical interim target now involves a 25% reduction in the portfolio's carbon intensity by 2025 and a 60% reduction by 2030.

Overall, there is widespread belief that net zero is a highly capital-intensive venture. Annual physical investments need to be three times higher in 2030 than they were during the period 2016–20, according to UN estimates. While existing technologies can help achieve the required carbon reductions before 2030, reductions thereafter will have to come from technologies that are still in a nascent stage. They will require substantial capital allocation from the private sector.

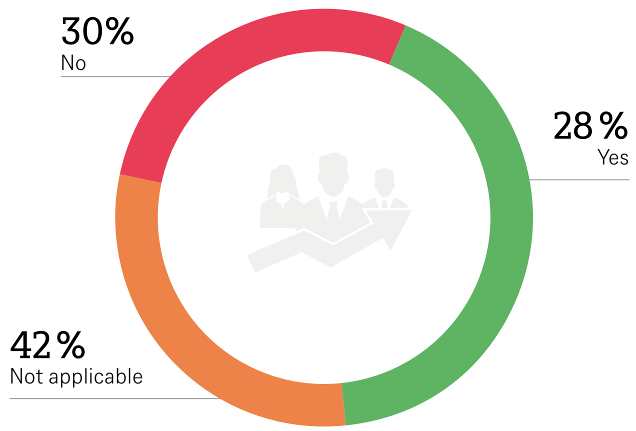
Figure 1.1

In which stage is your pension plan currently with respect to its net zero strategy?

% of respondents



Does your pension plan have interim targets in its net zero strategy?



Source: CREATE-Research Survey 2022

"The net zero goal is the single biggest collective human endeavour in history. Our challenge is how to get there. "

An interview quote

A twin-track approach

Hence, pension portfolios are now seeking to reduce carbon emissions while actively ensuring that residual emissions are fully offset via natural carbon sinks, such as forests and oceans, or via technologies like carbon capture, storage and utilisation, or both (see Case study 1a).

This holistic approach runs with the grain of stated priorities of national governments too: increasing the share of renewable energy in the electricity sector; reorienting the transportation sector towards battery-powered vehicles; directing the innovation effort at harder-to-abate sectors like aviation, cement, steel and agriculture; and conserving and restoring forests and other terrestrial ecosystems to act as natural carbon sinks.

Unsurprisingly, there was a flood of corporate climate pledges before and during COP26. One in three of the largest public companies in G20 now has a net zero target, up from one in five in 2020, according to the international nonprofit Net Zero Tracker.

Thus, finance, governments and industry are now joined in a common endeavour to transition from the unconstrained use of polluting fuels to tackling the resulting negative externalities – the uncompensated costs on wider society. These not only include environmental damage; they also cover second-order effects like mass migration, water scarcity and zoonotic diseases.

Case Study 1a

An active corporate owner rather than a holder of paper securities

Our net zero goal has been primarily driven by the search for risk-adjusted returns over a longer time horizon. We aim to look beyond the blind spots that come from short termism and detect new risks that are unfamiliar to conventional risk models, based on past price behaviours. We strongly believe that a singular focus on financial returns when investing in a company is unwise if its business practices both negatively affect the natural environment and are affected by it. As a 'universal owner', we have significant stakes in thousands of companies around the world. Divesting them is not a viable option.

Instead, we engage with these company boards to identify risks and encourage them to progress along an appropriate transition pathway set for their industry by independent nonprofits like the Science Based Targets initiative and the Transition Pathway initiative.

The size of our stake and the longer time horizon give us huge heft in two areas: first, in investing in leading-edge technologies with long gestation periods like carbon capture, utilisation and storage systems; and second, in choosing climate laggards and helping them become climate leaders over time, thus creating value for our plan members as well as for wider society. We also have seats on the boards of the companies that we believe will be the ultimate winners in the race to net zero.

Just as importantly, such active involvement helps us to build an information edge on how the climate transition is playing out on the ground. This helps us to target 'green' alpha.

A Canadian pension plan

"Mentions of 'net zero' in US corporate press releases have risen fivefold in two years."

An interview quote

A collaborative effort
To underscore the collective nature of their efforts, at this early stage of their learning journey, many of our respondents have joined various networks of like-minded peers to exchange ideas on best practice and collaborate in areas of common interest. The networks in question include Climate Action 100+, the UN Principles for Responsible Investing, Institutional Investors Group on Climate Change and the Net-Zero Asset Owners Alliance.

The latter has now set a new target for 2030. By then, its members must have cut their portfolio-linked emissions by at least 49 per cent and set new reporting requirements using guidance issued by the nonprofit Science Based Targets initiative (SBTi) when evaluating the robustness of emission-reduction efforts of the largest carbon emitters globally. This is done by aligning all financing activities with relevant reduction pathways so that all assets can achieve the net zero goal by 2050.

The Asset Owners Alliance also works closely with the Net Zero Asset Manager initiative, which enjoins its members to set interim targets and support climate-related shareholder proposals at corporate AGMs. Together, they are seeking to develop a nuanced understanding of the challenges associated with the decarbonisation of every asset class in the portfolio. These range from collaborative engagement with polluters to linking the pathways to their impact measures.

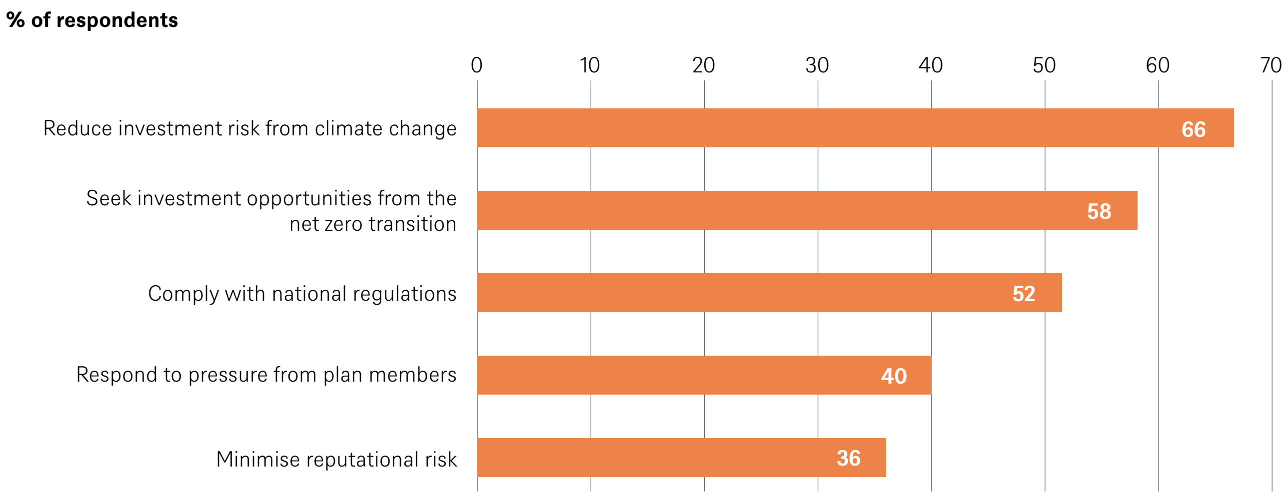
To cap it all, new ESG regulations and soft laws are emerging around the world, according to the UNPRI. Globally, there are over 750 policy tools, including 159 new or revised policy instruments in the first eight months of 2021, according to the latest available data. Most of them apply to the environmental pillar.

Hence, the net zero goal is not just empty words: there is a concerted push towards it.

2. Cold financial logic is the key driver of the net zero target

From the pension plan standpoint, acting on climate change is less about altruism and more about hard-nosed bottom-line benefits (Figure 1.2). More than half of the respondents identified three key drivers of their net zero target: reducing investment risk (cited by 66%), seeking investment opportunities from the transition (58%), and complying with national regulations (52%).

Figure 1.2
What are the key drivers of your pension plan's approach to the net zero target?



Source: CREATE-Research Survey 2022

"GFANZ will fail unless it encourages governments to be partners rather than bystanders."

An interview quote

Risks and opportunities
On the risk side, one or more of four risks currently feature in our respondents' investment processes: transition, physical, litigation and systemic.

Transition risk arises from the accelerated obsolescence of fossil fuel reserves ahead of their economic life under different policy pathways. However, fears about the resulting stranded assets have receded somewhat recently, as Western nations have become ultra-cautious about ensuring energy security in the wake of the recent Russian invasion of Ukraine.

Physical risk, in contrast, has become more prevalent, as adverse climate events in this century have become more extreme, ferocious and frequent.

Litigation risk arises as third parties seek compensation from collateral damage from climate events. Systemic risk arises when asset prices do not reflect the climate risks inherent in them.

To manage these risks while targeting opportunities, investment approaches are evolving along four key dimensions.

First, the role of the climate factor has flipped in strategic asset allocation: from a stock selection activity to a top-down asset value driver alongside GDP, inflation and interest rates. Like these long-established drivers, climate change is now having a significant impact on our daily lives.

This forward-looking approach incorporates various scenarios. Climate change now sits at the heart of the investment policy benchmark, which provides clear direction and a reference point for the net zero journey. This in the belief that risk models based on past price behaviour are no longer much of a guide to the future.

Decarbonisation is the second aspect of this gradual evolution. Increasingly, portfolios are targeting year-on-year decarbonisation in line with the Paris targets by avoiding the assets most at risk of becoming stranded while redirecting capital towards the rapid upscaling of wind, solar, thermal, tidal and hydrogen energy as well as carbon capture storage and utilisation systems.

Stewardship is the third aspect of this gradual evolution. It involves proxy voting and tabling resolutions at corporate AGMs and having a year-round dialogue with corporate boards. It aims to ensure that pension capital is greening the portfolio and, more broadly, the global economy. Such engagement is seen as the principal instrument to migrate companies from 'dark brown' to 'light green' to 'dark green'. This is especially the case now that climate reporting requirements have come into effect before companies have been mandated to disclose the required data. After all, pension investors need metrics and milestones on corporate behaviours. But COPs are about the aggregate negotiating position of the assembled governments, which often result in softer macro outcomes.

The idea behind stewardship is to hardwire the Paris targets into corporate strategy and its implementation on the ground in ways that lend themselves to meaningful dialogue on corporate climate action and its outcomes.

Rise of passive exposures
The deployment of passives in green portfolios is the fourth and final dimension of the evolution now in progress. New indices are now being rolled out that integrate climate risk into their makeup. Some are bespoke. Others increasingly target the EU's two latest climate benchmarks: One is the Paris-Aligned Benchmark, which requires a 50% reduction in Greenhouse Gas (GHG) emissions compared with a fund's parent index in year one

> "Companies should quantify what they plan to do in the near term. Making a 2050 pledge does not mean you don't really have to change anything today."

An interview quote

and then a 7% year-on-year reduction of GHG emissions relative to the fund itself. The other is the Climate Transition Benchmark, which is weighted to position the portfolio firmly on a decarbonisation pathway.

Both seek to underweight – or exclude – companies with fossil fuel reserves and/or excessive GHG emissions. They also overweight companies with higher green revenues.

Their importance is underscored by a simple imperative: benchmarks are a central feature of finance. They give investors a yardstick against which to measure their performance. The EU's benchmarks are seen as best practice and are expected to be emulated in other investment jurisdictions around the world over time.

Thus, the net zero target is set to promote finance at the heart of concerted action to curb global warming (Case study 1b).

3. Net zero faces an Everest of a task

On current reckoning, only 16% of our respondents believe it is 'very likely' that their net zero target will be met and a further 24% say 'somewhat likely', leaving the remaining 60% saying 'not likely' (Figure 1.3). That doesn't mean the COP26 pledges are useless. It means they are the start, not the end, of efforts to get the world on track for net zero.

The key obstacle is that capital markets are not currently pricing in climate risks on a scale necessary to redirect capital towards the net zero goal (Case study 1c). Environmental pollution remains the

Case Study 1b

Passing the baton to the can-do private sector

Our biggest challenge is the lack of policy direction from our federal government in Canberra. Sitting on vast reserves of high-grade coal, Australia has long shied away from setting any hard targets on carbon reduction. The targets set in the last decade by a previous government were subsequently disowned by its successor. During the last election in 2017, big lobby groups swung public opinion by highlighting the immediate hardships resulting from having stranded assets.

It was only on the eve of COP26 that our government finally made a net zero pledge, with no interim target for 2030 and heavy reliance on future technologies. Even so, the government's publicly stated view remains that the climate crisis will ultimately be solved by can-do capitalism, not by interventionist regulations and fuel taxes that only force many companies out of business. Our government also believes that COP26 has passed the climate baton from governments to capital markets, which are already actively investing in major projects on adaptation and mitigation.

The launch of GFANZ – commanding assets of around $130 trillion – only goes to show what private capital can deliver when freed from government diktat. COP26 was less like its predecessors and more like a second Davos where the corporate titans of the global economy meet every January to map out our future.

Fortunately, GFANZ is all too aware that it can only complement governmental actions, not substitute them. Capital markets cannot tackle negative externalities like carbon emissions in the absence of incentives and sanctions from governments.

An Australian superannuation fund

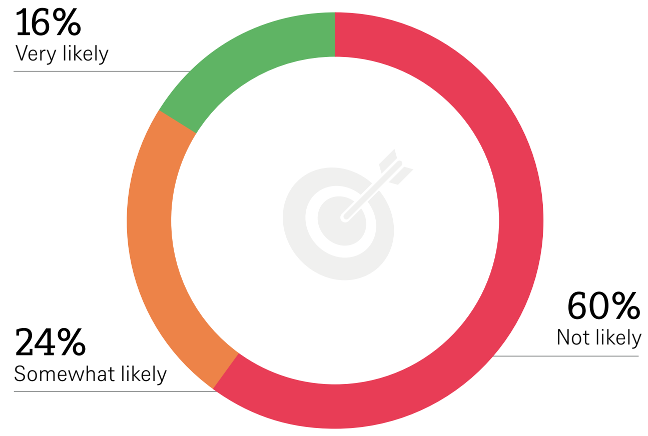
> "What is needed is a radical reset – and fast."

An interview quote

Figure 1.3

On current reckoning, how likely is it that the net zero target will be achieved?

% of respondents



Source: CREATE-Research Survey 2022

biggest negative externality that today's capital markets have yet to tackle. They need advance signals on sanctions and incentives that can assist the essential reallocation of capital. These are slow to materialise because of two sets of mutually reinforcing factors.

a. Immediate factors

Many companies are pledging to hit their net zero targets in almost three decades' time without committing to concrete action that can be monitored and for which they will be held accountable. It is unclear if these targets are in line with what climate scientists are saying: the world needs to cut human-caused CO_2 emissions by 45% from 2010 levels by 2030, and reach net zero around 2050 to keep global warming below 1.5°C. There is no check on whether or not companies follow the GHG Protocol to disclose their emissions under Scope 1 (emissions from own operations), Scope 2 (emissions created in the supply chain) and Scope 3 (emissions created by its customers' products).

Nor is it clear if companies plan to put more emphasis on reducing emissions than on the softer option of using offsetting mechanisms like tree planting or carbon sequester technologies.

In addition, not all companies are presented by their regulators with reporting standards and definitions that can be used to provide audited climate-related information. Thus far, standards have been mixed, politicised and voluntary. Worse still, available carbon footprint data are backward looking, with an average time lapse of around two years, and reveal little about the climate readiness of a company. To date, companies have demonstrated a poor track record in meeting self-declared emission-reduction goals. The European Union and the UK have made some progress in this area lately.

This much is clear from *Global Companies Failing on Climate Goals*, a recent study from research and data provider MSC. It showed that publicly listed companies are already on track to burn through their 1.5°C emissions budget within five years of COP26. The budget indicates the CO_2 emissions that can be emitted globally, beyond which point a given temperature outcome (e.g. above 1.5°C) is irreversibly locked in.

b. Fundamental factors

The net-zero aspiration goes beyond the massive accounting effort involved in calculating the carbon emitted, avoided or removed from investment portfolios. It is also about rewiring the global economy and society. Left to themselves, capital markets cannot do that, constrained as they are by market failure and market inefficiency.

Failure occurs when governments do not penalise unsustainable business practices that don't hit a company's profits. Inefficiency occurs when markets fail to reward a sustainable company unless and until it delivers tangible bottom-line benefits on its net zero journey, based on the current accounting rules. Thus, the ecosystem of capital markets remains centred on short-term financial goals regardless of the uncompensated damage they inflict on wider society.

The real problem here is that climate change is a slow-burn issue with indiscernible impacts on a year-to-year basis but with the potential for exponential growth once tipping points are reached. Cognitive psychology shows that humans have difficulty responding to nonlinear relationships. Most markets simply ignore mounting risks until suddenly they are forced into an abrupt repricing as irreversible effects kick in.

The role of governments is critical in tackling these two formidable handicaps. A recent survey of global chief executives found that only 18 per cent believe governments have given them the clarity they need to set goals in line with a 1.5°C warming trajectory, according to the UN Global Compact and Accenture study *Climate Leadership at the Eleventh Hour*. Governments and regulators need to take four sets of actions.

First, those financial mechanisms for curbing carbon emissions and promoting alternative energy need to be implemented or extended to large swathes of national economies. Early experiences of pricing devices such as carbon taxes and emission trading systems – in France, Germany, Sweden and the UK – have shown them to be powerful levers on the net zero journey.

Second, financial regulators in banking, insurance and investment need to ensure that key players in their sectors have future-proofed their portfolios from the systemic risks of global warming. Current progress is more evident in Europe than in North America and Asia-Pac.

Third, financial regulators also need to deliver a green taxonomy that provides a robust template, consistent definitions and reliable data on corporate climate footprint, all backed by mandatory carbon disclosure. Again, early progress in Europe needs to be emulated in North America and Asia-Pac.

Finally, governments need to ensure that their net zero agenda has a social dimension that delivers a just transition. The International Energy Agency highlights that 60% of oil and gas reserves, and over 80% of coal reserves, should remain unused to meet the 2°C target. The massive transformations that the climate transition envisages will definitely have significant social impacts on job security and quality, on health, and on sustainable housing and transportation. It also means governments of rich countries finally honouring their pledges on transition finance to developing countries, first made at the 2015 Paris conference and again at COP26.

Case Study 1c

Slower price discovery of climate risks

Capital markets worldwide have been slow in pricing climate risks for three reasons. First, they can't easily detect risks or opportunities in climate change until they are clear on how government action will create firm incentives as well as hard sanctions. Policy pathways from governments in critical areas like carbon pricing and carbon emission systems have been patchy since the Paris Agreement of 2015.

There is no universally accepted carbon price in the current generation of trading systems. Nor have there been enough projects on blended finance in critical areas like carbon capture. The main reason is fickle public opinion. Citizens in mature democracies worry about global warming but are unwilling to make the sacrifices to tackle it unless they see quick benefits.

The second reason is today's quarterly capitalism. It favours shorter time horizons, unrealistic return expectations, momentum trading, a faster velocity of trades and the constant search for hot products. Long-term investing, as required by climate change, remains the exception, not the rule.

The final reason is the slow progress on a decision-useful taxonomy, with standardised methodology, consistent definitions and reliable data. Until the recent introduction of the EU's taxonomy for sustainable finance, there were no legal requirements for companies to report their climate risks.

As investors' hopes have run ahead of their expectations, greenwashing has been the inevitable outcome. Markets desperately need high quality validated data that assists with the price discovery of climate-linked assets.

A US pension plan

> "It pays to look at the current reality and question what progress looks like."
>
> **An interview quote**

4. Fresh concerns since COP26

The climate challenge is existential. Much is riding on the pledges made at COP26. The expectation is that progress is likely to be marked by small steps rather than giant leaps on account of new concerns: strategic and geopolitical.

a. Strategic concerns

These centre on whether capital markets are likely to start pricing climate risks in earnest after COP26. As Section 2 (Figure 2.3 on page 21) shows, our survey respondents expect further progress despite its limited achievements. This is in the belief that capital markets require sustainable economies, which, in turn, require sustainable societies. The latter now face existential threats from global warming. Hence, our respondents are investing in climate action while also taking enabling actions to ensure that their investments deliver progress towards net zero goals.

As Section 2 (Figure 2.4 on page 23) also shows, such actions include exercising stewardship, developing zero tolerance towards greenwashing, holding senior executives accountable for outcomes, and tilting the plan governance and skill sets towards climate investing. In all, they reflect the mindset of a long-term active owner, not a trader.

However, if markets do not price in climate risks on a significant scale while our respondents are making allocations in line with their policy benchmarks, they may come under pressure from their sponsors to change their climate approach – especially if the stocks of oil companies continue to rebound massively, after tanking in 2020. At a time when many pension plans continue to have funding deficits, they may well be forced to shift their climate strategy down a gear when faced with three sets of challenges: financial, reputational and societal.

First, if climate risk is not duly rewarded by capital markets, 70% of our respondents believe that this could impair their own finances, as the opportunity cost of climate investing increases further while markets continue to reward GHG polluters (Figure 1.4). 62% believe that bubbles may form in climate-related assets due to continuing investor inflows, which could eventually end in tears, as happened with the dot.com bubble in 2000. Hence, 58% worry about the resulting mis-selling scandal. As John Maynard Keynes famously remarked: "Markets can remain irrational longer than you can remain solvent." Investors too far in front of discounting climate change might find they miss out on years of strong returns before any repricing occurs.

Second, 56% of pension plans believe that they and their asset managers might suffer reputational damage, if their climate investments fail to deliver the targeted returns. 50% fear a weakened sponsor covenant.

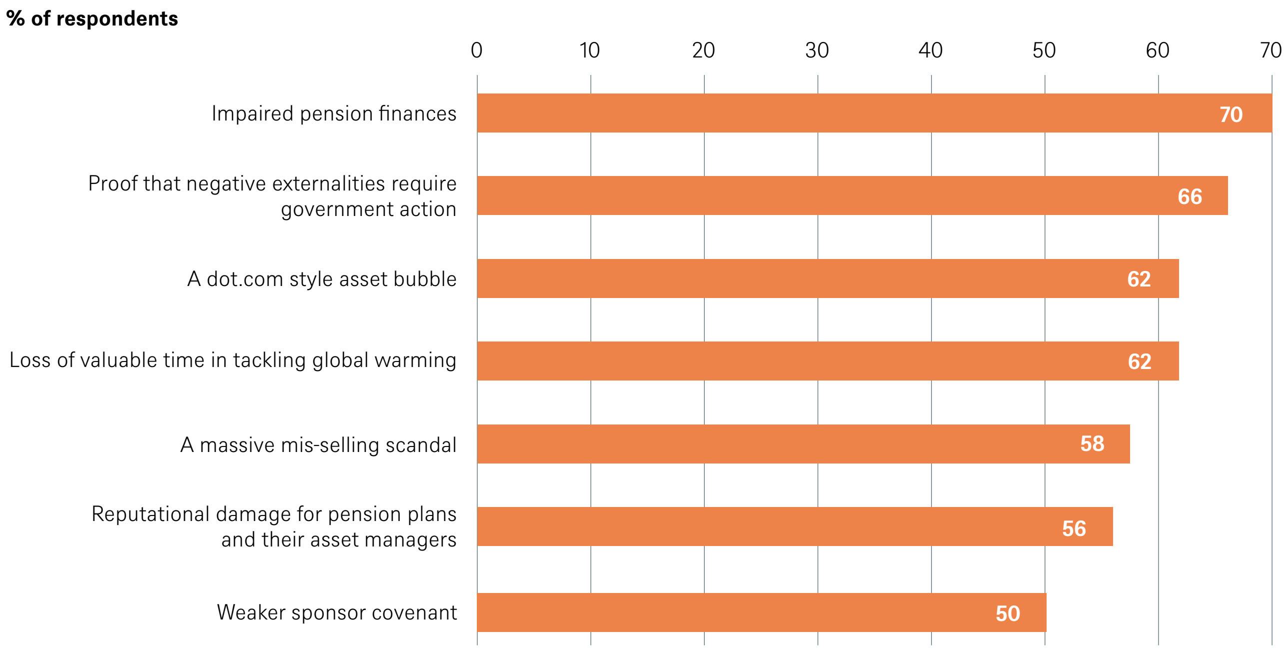
Finally, 62% worry about the loss of valuable time in tackling global warming by relying on capital markets. 66% worry that the climate ball will be passed back to governments, as a result.

b. Geopolitical concerns

Since COP26, there has been discernible backsliding by governments, with the onset of the energy crisis in 2021 when fuel prices sky-rocketed. Since demand for fuel is price inelastic, there is a disproportionate impact on lower income families, forcing governments to act in response to public pressure. This is more urgent of late as inflation has become hot and sticky on both sides of the Atlantic. Curbing it is now the top priority of central banks.

Additionally, President Joe Biden's signature "Build Back Better" agenda has faced headwinds in the US senate. The core proposal, envisaging an investment of $555 billion in clean energy, has been rejected – for now. On taking office, President Biden's decision to rejoin the Paris Agreement was seen as a game changer at the time, as was his subsequent leadership role at COP26. Now, it is unclear how much of his ambitious agenda will survive after the mid-term congressional elections in November 2022. Similarly, new rules on the mandatory disclosure of carbon footprint by corporates, recently announced by the SEC, face a tough time in the courts.

Figure 1.4
What will the consequences be if capital markets remain slow to price in climate risks?



Source: CREATE-Research Survey 2022

"A prolonged sunset for fossil fuels has been delayed – yet again."

An interview quote

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Oil is on a roll. Its price has increased to well above $100 a barrel just two years after the collapse caused by the worldwide lockdowns with the onset of Covid-19. Hence, just three months on from COP26, energy security has shot up the political agenda in ways previously unimaginable. This was even before the Russian invasion of Ukraine. It is already, on its own, seen as a major potential setback for the net zero movement – in the short term at least. This is because countries that are leading the charge on net zero – like France, Germany, Italy and the UK – are also significantly dependent on Russia for their energy needs. Their search for alternative sources of energy is bound to lead to increased investments in fossil fuel elsewhere in the world.

This scenario is at variance with the long-held view by climate experts that well over half of today's coal and oil reserves have to be stranded if the net zero goal is to have any credibility. This looks unlikely, if major consumers of Russian oil and gas switch to other sources due to the swinging economic sanctions imposed by the West. Thus, cautious national interests will likely collide with the actions required by the Paris target.

Indeed, if the sanctions and the war lead to a worldwide recession, as seems likely, progress on the net zero journey could be delayed yet again, as was the case after the 2008 global financial crisis, which diverted governments' attention while averting a 1929-style global depression. Investment in new infrastructure, research and development, and new business models – as required by the net zero scenario – now has to compete even more fiercely against governments' immediate economic, social and humanitarian priorities forced by the invasion.

There is, however, a silver lining. It is also likely to galvanise the drive towards strategic energy autonomy as a national priority in Europe. The war is a tragedy, but it also prompts a moment of clarity. Once it is over, our survey respondents envisage a renewed drive towards developing solar, wind, hydro and thermal energy in their domestic economies. Nuclear energy is likely to be declassified from 'dirty' to 'green'; just as there is now a rethink on ESG and defence companies, whose products seek to keep citizens safe in today's geopolitical turbulence.

Conclusion

- "We can't get to net zero by flipping a green switch. We need to rewire our entire economies." Our survey results resonate with these cautionary words made by Mark Carney, co-chair of GFANZ at COP26.
- Great collective human endeavours in pursuit of a noble cause have rarely run smoothly. The net zero journey is no exception: there will be bumps along the road.
- That does not detract from our respondents' fundamental belief that the climate challenge is also an opportunity in disguise for long-term investors to earn good risk-adjusted returns.
- The Russian invasion vividly underscores the importance of doubling down on renewable energy. This could perhaps be its only positive legacy.

2

The climate investing journey

What is the current state of progress?

Pension plans' climate investing journey started in earnest after the 2015 Paris Agreement in the belief that it is financially material to business performance as well as tackling an existential threat to society. Pace has been variable, being faster in active funds than passive funds.

The advance is seen as a foundational trend that marks a new way of investing. So far, it has relied on three approaches: stewardship that promotes decarbonisation, exclusion of carbon polluters and integration in the investment process. Data shortcomings have duly come under the spotlight.

Investment performance thus far has been favourable, and there are expectations that it will get even better as markets start pricing in climate risks on a bigger scale on account of progress in areas like carbon pricing, blended finance and mandatory data disclosure post COP26.

1. The current adoption cycle

Devasting wildfires, hurricanes, rainfall, floods and other climate-led environmental disasters are now happening with increasing frequency and ferocity across the world. Once intangible, such events have now become far more vivid because of TV, smartphones and media coverage of the severe damage they cause.

In turn, they have served to highlight transition risks such as stranded assets, as societies seek to move away from the GHG emissions that are believed to be a root cause of climate change.

Our survey respondents are reacting by seeking to minimise these physical and transition risks in their investment portfolios. Based on the traditional adoption cycle, the pace is somewhat variable between the two broad fund categories (Figure 2.1).

In active funds, 44% report that their climate portfolio is in the 'mature' phase, a further 30% report that they are in the 'implementation' phase. Only 4% report that they are in the 'awareness raising' phase.

In passive funds, 24% of our respondents are in the 'mature' phase and 18% in the 'implementation' phase. These numbers are higher now compared with 21% and 15%, respectively, in our 2020 survey.

At the other extreme, 28% are still at the 'awareness raising' phase, compared with 43% in our 2020 survey.

"There aren't many growth stories that include 'human survival' among their drivers."

An interview quote

Both sub-portfolios rest on the familiar belief that companies that help the world adapt to an unstable climate will also be presented with significant growth opportunities, as headwinds grow stronger for traditional, carbon-heavy businesses. No asset class will be untouched or immune from these twin trends.

Even so, capital markets have yet to price in either of these trends on a notable scale. Oil, gas and coal companies are, in fact, being discounted to varying degrees. But there is skittishness in the markets that indicates that investors are still unsure. Their portfolios constantly seem to be reframing their views.

Sign of market failure

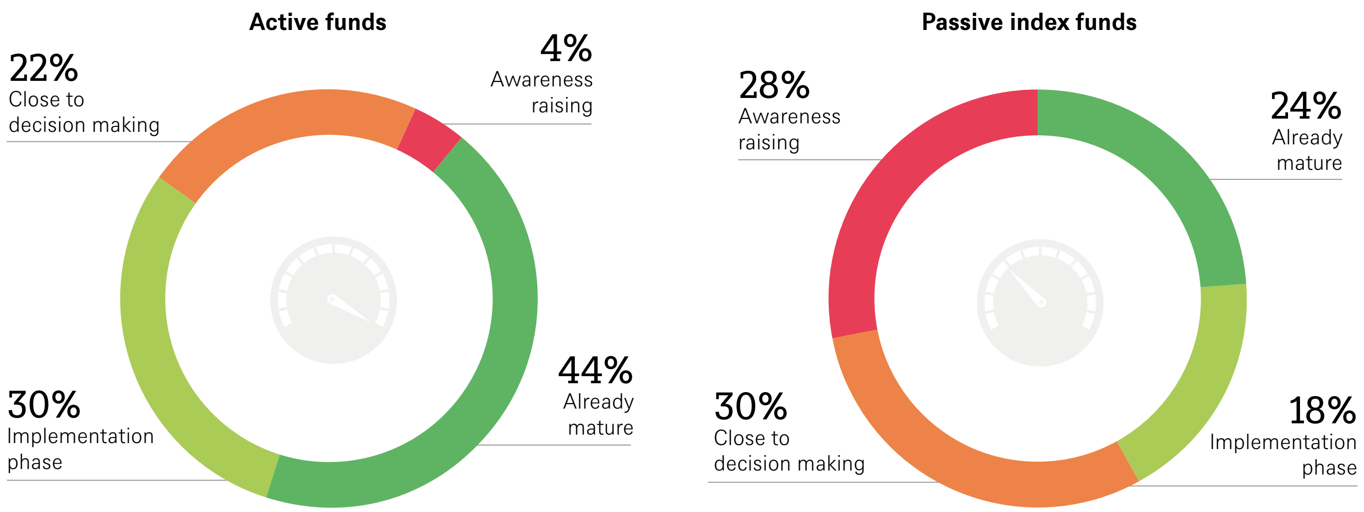
Hence, market failure, as defined in Section 1, is all too evident – more so in America and Asia-Pac and less so in Europe. Also, more so in bonds than in equities and illiquid assets. Hence, early adopters of climate investing expect to harvest good consistent returns as policy makers and regulators implement some of the actions pledged at COP26.

For now, the main thrust of climate investing is directed at selected companies across the principal pathways to decarbonisation. They fall into one or more of three sectors: renewable energy, especially wind and solar; electrification aimed at reducing the current overreliance on the internal combustion engine; and resource efficiency via higher standards of efficiency in domestic and industrial processes as well as in buildings and appliances.

Figure 2.1

In which phase is your pension plan currently with respect to investing in climate change?

% of respondents



Source: CREATE-Research Survey 2022

"Global warming is changing the context of investing. And our fiduciary with it."

An interview quote

Another notable feature of the new approach is the inclusion of scenario planning in the asset allocation process. It's a sea change in the way pension plans set their policy benchmark where climate change has become a key value driver (Case study 2a).

Thus, the evolution of sustainable investing has come a long way from simple values-based investing and is now advancing towards the very heart of pension portfolios. This is in the belief that prime mover advantage could be very significant once governments up the ante.

2. Evolution of the fiduciary role

As well as leading to the reshaping of asset allocation, climate change is redefining the fiduciary role of pension trustees. As fiduciaries, they certainly want good consistent investment returns for their members. But with global warming, they are also becoming increasingly concerned that their investments will destabilise the quality of life and wellbeing of their members in the long run. They want their members to retire on a planet that is fit for living.

Case Study 2a

Asset allocation is about scenario planning

The widely predicted irreversible tipping points in climate change call for scenario planning. That means reversing the role of the climate factor in strategic asset allocation: from a bottom-up stock selection activity to a top-down asset value driver alongside GDP, inflation and interest rates. Like these long-established drivers, climate change will have a significant impact on daily lives. Investing by looking in the rear-view mirror means missing all the future resulting upsides.

We are involved in Institutional Investors Group on Climate Change (IIGCC) round tables on scenario analysis to engage in best practices with peers and refine our approach further. Following the TCFD recommendations, three scenarios now feature in this new forward-looking approach.

At the positive end lies the 'Paris' scenario. It envisages that governments will implement policies that overtly aim to deliver their nationally determined contributions (NDCs) pledged at COP26, thereby accelerating innovations around renewable energy and carbon capture and storage systems.

At the other extreme lies the green 'cold war' scenario. It envisages that the carbon-pricing countries will create regional trade barriers to create a level playing field, via border adjustment taxes, to protect their domestic companies from competitors who are slow to reduce the carbon intensity of their exports.

In between these two extremes is the 'muddling through' scenario. It envisages that the current rate of progress towards a low-carbon future will continue in fits and starts that fail to meet the Paris targets.

Since the Russian invasion of Ukraine, the first scenario is unlikely, since policy priorities will change if there is a global recession. However, the war is unlikely to derail our strategic pivot towards climate investing.

A French pension plan

Hence the fiduciary role is being duly updated to take account of the quality of life and general wellbeing of pension members. The old historic focus on 'best financial interests' is now being augmented by considerations like quality of life and the viability of the societies in which their members live. This is now most evident in the US where the Department of Labor has relaxed the sole focus on financial returns and allowed ESG investing that carries material investment risks.

This, in turn, sheds light on the approaches used when investing in climate change and their outcomes so far.

a. Investment approaches

As the left chart in Figure 2.2 shows, far and away the most important investment approach is stewardship that actively encourages decarbonisation among investee companies (cited by 80% of our respondents). It aims to encourage these companies to hardwire the Paris targets into corporate strategies and their implementation on the ground, in ways that permit meaningful dialogue on specific activities and their outcomes. After all, targets are illusory if they lack short-term milestones, regular monitoring and meaningful accountability.

Climate transition is a huge business opportunity. It will require an investment of around $100 trillion, according to estimates from GFANZ. One of the key aims of stewardship is to ensure that companies are able to capitalise on this once-in-a-generation window. As their shareholders, pension investors want to be partners in this venture. Indeed, among the largest pension plan respondents, climate stewardship now extends to 100% of their assets.

Other approaches are also being used. 52% use exclusionary screening and expel carbon polluters from their portfolios. 48% use ESG integration that avoids polluters and includes innovators in renewable energy as well as those turning from climate laggards to transition leaders. Finally, only 18% use impact investing – targeting measurable financial and climate outcomes. The reason is the all-too-familiar Achilles' heel of climate investing: data shortcomings.

Impact investing rests on the three building blocks of climate investing: materiality, intentionality and additionality. They provide a measure of how material climate change is to a company's bottom line, and if it is material, what that company intends to do about it. If it acts, does it generate measurable financial and environmental outcomes?

Alas, the current infrastructure of data, skills and technology falls well short of providing reliable data even on materiality, let alone the other two building blocks (Case study 2b). Overall, the available data require step improvements on three critical issues: whether the net zero goal applies to the whole business or just part of it; whether the goal is backed up with a credible action plan; and finally, how robust the framework for monitoring progress is.

b. Outcomes so far

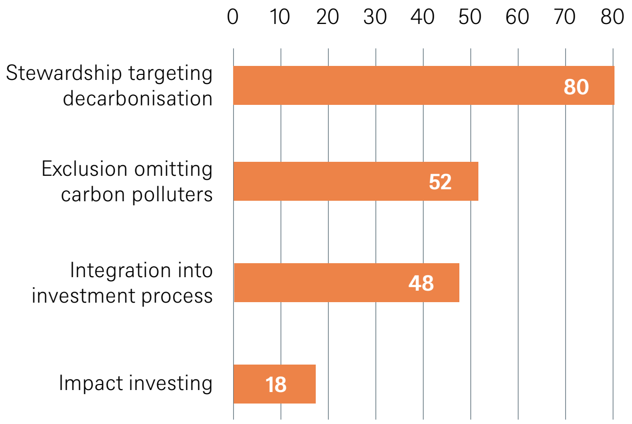
Despite these shortcomings, when asked how their climate investing has fared since the big market dislocation at the outset of the pandemic in 2020, 32% reported that it performed 'better than the rest of the portfolio', 26% reported 'the same as the rest of the portfolio', 14% reported that it performed 'worse than the rest of the portfolio', and the remaining 28% thought it was 'too soon to say' (Figure 2.2, right chart).

Overall, therefore, the scorecard looks encouraging.

Figure 2.2

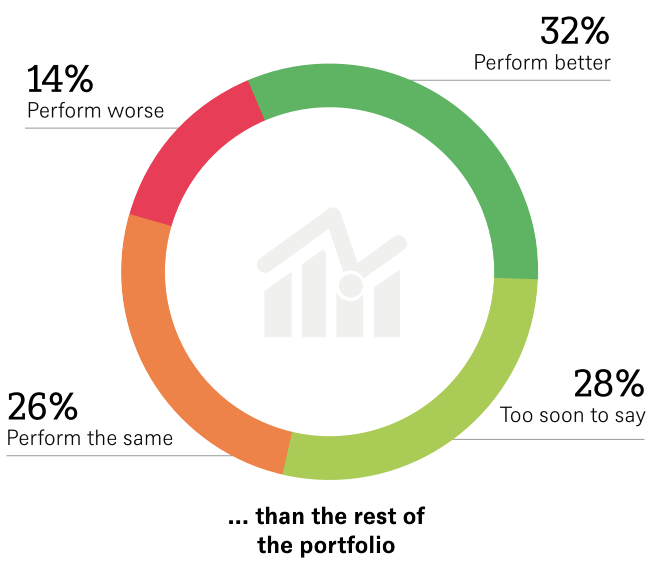
What approaches does your pension plan use when investing in climate change?

% of respondents



Which of the following statements applies to your pension plan's climate investing since the big market dislocation in March 2020?

% of respondents



Source: CREATE-Research Survey 2022

> "As a card, divestment can only be played once. But equally, we avoid toothless engagement that is nothing more than grandstanding."
>
> **An interview quote**

Case Study 2b

Climbing a steep learning curve of data

Our net zero portfolio has adopted a trajectory of 7% decarbonisation each year to meet the goals of the Paris Agreement. It sounds simple in theory but is not easy in practice. As an early pioneer in this area, we have come a long way by adapting our governance structure, skill sets, talent pool, IT systems and staff incentives; but data challenges remain formidable.

All the available data on corporate carbon footprint are backward looking with an average time lag of around two years. As yet, there are few forward-looking metrics that can help us to assess how a company is likely to progress on its net zero journey in future. A trajectory that defers tackling decarbonisation is pretty meaningless. We avoid such companies.

To compound the problem, data from different vendors often tell conflicting stories. The reason is that they use proprietary definitions, research methodologies and weighting systems. As such, their data are modelled, not measured. They may or may not be a true reflection of the underlying reality. Furthermore, most of the required data is self-reported and self-serving: focusing on good news and filtering out bad.

Now the five leading sustainability and integrated reporting bodies are working towards a comprehensive corporate ESG reporting system, with the creation of the International Sustainability Standards Board, announced at COP26. It will do away with the current plethora of acronyms known as 'ESG alphabet soup'. The next step is for regulators to implement the mandatory disclosure of the carbon footprints of listed companies.

An Italian pension plan

The rise of the 'S' pillar – What is the current state of progress?

Before that historic dislocation, the naysayers held that the true test of climate funds is not in attracting net inflows while stock markets are riding high, it is how resilient the flows are when the inevitable correction comes. On that criterion, climate investing has fared better and indeed our survey respondents have been raising their allocations accordingly.

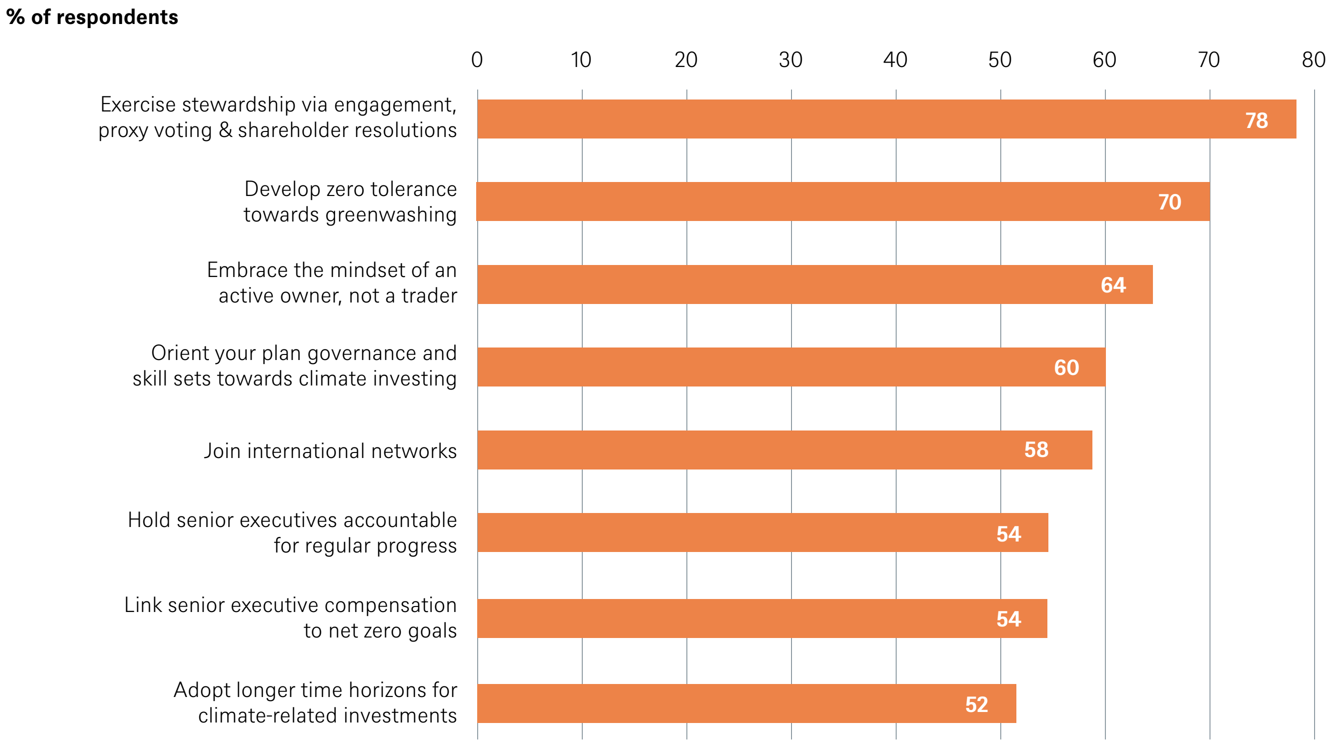
But as we saw in Figure 1.4 in Section 1 (page 13), our survey respondents worry that good performance may turn into bubbles that could burst before long, if performance is driven more by inflows from strong momentum than by fundamentals that capital markets have yet to fully price in. Markets need sanctions and incentives; after all, today's investing remains anchored in Modern Portfolio Theory, which is totally oblivious to environmental degradation from corporate action. The theory is centred on the short term for measuring and reporting corporate performance and investment returns. This is further reinforced by the standard reporting cycle for publicly listed companies.

However, as we shall see in the next subsection, there are hopes that the tyranny of quarterly capitalism is set to weaken as governments begin to implement their COP26 pledges.

3. Stewardship is the new linchpin

Climate investing is being backed by the creation of a new infrastructure that aims to convert climate goals into reality. The underlying aim is to ensure that a green portfolio equates to a green planet via a value chain of supporting activities. These are set out in Figure 2.3. They fall into two neat clusters.

Figure 2.3
What actions are your pension plan taking to make a reality of its climate goals?



Source: CREATE-Research Survey 2022

The rise of the 'S' pillar – What is the current state of progress?

"The 'free rider' problem is ever present in stewardship, as its benefits are enjoyed by all investors following the efforts of only a few."

An interview quote

a. Guiding principles

The first cluster centres on the principles that promote an ownership mindset. 64% of our respondents have embraced the role of active owner, not trader. They do not see themselves purely as owners of paper assets. In law, they are not responsible for the actions of the companies they invest in; but that does not absolve them from responsibility when their business activities cause uncompensated damage to the natural environment. Hence, they invest in companies that can transition to a low-carbon future while capitalising on all the associated opportunities. It also means zero tolerance for greenwashing: the repurposing of existing funds to enhance their green credentials as a marketing gimmick (70%).

In this respect, they see stewardship as vital. No wonder it tops the list at 78%. It means managing assets prudently by engaging directly with investee companies and exercising voting rights, filing or co-filing shareholder resolutions, having a say on political lobbying activities and fostering a year-round dialogue on issues around value creation and climate impact (Case study 2c).

This form of shareholder activism is the new linchpin: it is as consequential as asset allocation decisions, if not more so. The latter could easily reshuffle asset ownership between investors without tackling environmental damage from corporate action.

Specifically, the divestment of fossil fuel producers from pension portfolios does not starve them of capital. Most of them sit on large free cash reserves. If the true goal is to stem climate change, then sitting down face-to-face and working with those who can make the biggest impact seems like a prudent course of action. Most feel that engagement and advocacy are the only effective approaches for true change; this in the belief that those who are part of the problem can also be part of the solution.

Case Study 2c

Stewardship requires a carrot-and-stick approach

Active stewardship is the cornerstone of our climate change strategy. It covers 100 per cent of our assets, many of which are already benchmarked against the Paris targets. We engage in proxy voting, table shareholder resolutions and demand transparency around corporate lobbying activities relating to climate change.

We vote against management resolutions as much as directors who are unsupportive of our climate agenda.

It is easy to divest in the belief that big energy producers have been too slow to respond to global warming, because they fear they will end up with assets stranded well before the end of their economic lives. However, once you are out, you lose your say over what energy companies should do. Last year, the supermajor ExxonMobil finally agreed to adopt a net zero goal in response to shareholder revolt. It shows what we can achieve by collaborating with our like-minded peers.

We prefer not to punish climate villains, but to galvanise them into action to deliver a low-carbon future, in the belief that those who are part of the problem can also be part of the solution. Besides, voting with your feet does not work with fossil fuel companies that have enough free cash flow to meet their capital needs.

However, our patience has clear limits. We realise that our own role is most effective if we retain the ultimate option of divestment. We were not afraid to press the red button when it became clear that years of engagement with some of the super oil majors failed to deliver results.

A Dutch pension plan

The underlying aim is also to strike a balance between not turning the economy off and putting in place a meaningful transition pathway.

b. Implementation practices

As Figure 2.3 shows, the second cluster is about turning guiding principles into practice by taking a number of actions: orienting their governance and skill sets towards climate investing (60%); holding top executives accountable for regular progress (54%); linking executive compensation to net zero goals (54%); and adopting longer time horizons for climate-related investments (52%).

Notably, 58% are joining international networks to share best practices, collaborate on corporate engagement and avoid the familiar 'free rider' problem. After all, in economic terms, stewardship is also a nonexcludable public good. That means that the benefits of engagement are enjoyed by all investors, irrespective of whether or not they behave as responsible long-term owners by investing in stewardship.

In order to counter that, many of our survey respondents belong to various asset manager/asset owner networks that work collaboratively when engaging with their target list of companies. These include the UN Principles of Responsible Investment, Climate Action 100+, the Institutional Investors' Group on Climate Change and the Net Zero Asset Owners' Alliance.

They typically vote against resolutions and directors, not against companies. They also have year-round behind-the-scenes dialogue to ensure that not only are their views on adaptation and mitigation heard and acted upon, they also deliver targeted results.

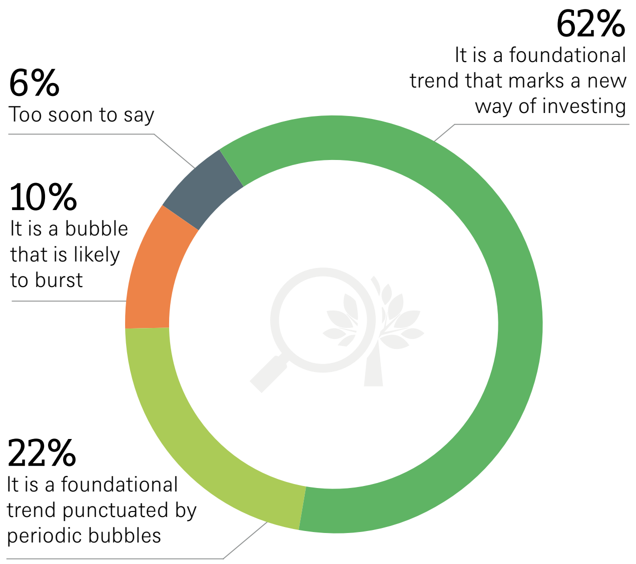
4. Markets expect fresh tailwinds

Section 1 outlined the severe challenges facing the net zero ambition. Even so, these have yet to deter the commitment to climate investing. Indeed, quite the reverse (Figure 2.4, left chart).

Figure 2.4

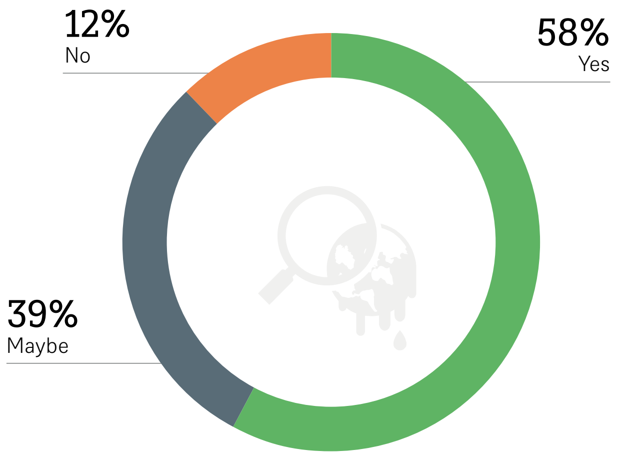
Which of the following statements apply to climate investing?

% of respondents



Do you expect capital markets to start factoring in climate risk on a notable scale in the wake of COP26?

% of respondents



Source: CREATE-Research Survey 2022

"We want to make sure that we do not leave any return on the table."

An interview quote

It shows that 62% of our respondents believe that it is now a foundational trend that marks a new way of investing. A further 22% believe that it is a foundational trend that will be punctuated by periodic bubbles as capital markets misprice climate risks from time to time. Only 10% believe that it is a bubble that will eventually burst.

This assessment is corroborated by our respondents when they were asked whether capital markets will start factoring in climate risk on a notable scale in the wake of COP26: 58% said 'yes', 30% said 'maybe'; and 12% said 'no' (Figure 2.4, right chart).

For all its shortcomings, COP26 gave fresh momentum towards climate pricing by providing impetus in three areas: public policy on carbon pricing, accelerated innovations in renewable energy and mandatory climate reporting by corporates (Case study 2d). When asked to identify the key elements that would drive progress from here on, two sets were identified by our survey.

Case Study 2d

COP26 is set to up the ante on the pricing process

Yes, the pledges delivered at COP26 were too weak and countries are not on track to meet even the weakest of them. It is easy to sign on the dotted line, but actions must speak louder than words. And yet there is also a more nuanced view: COP26 delivered more than expected but less than was needed.

It drew pledges that, if implemented in time, could limit global warming to 1.8°C, well below the 2.7°C trajectory envisaged before the conference. At the time of the Paris Agreement, it was inconceivable that all the major carbon-emitting nations would make pledges and agree to be held accountable for their actions within five years.

COP26 also elicited agreement on a set of unified reporting standards to replace a myriad of practices in individual nations. Progress was made on the phasing out of coal, reducing methane emissions, a commitment to cleantech, carbon pricing and new reforestation schemes to augment existing carbon sinks. The prominent role accorded to GFANZ underpinned the major role that finance will play in funding the transition to a low-carbon future.

Above all, with the US rejoining the Paris Agreement, omens are good that markets will start pricing carbon risks in earnest. Carbon pricing versus voters' wallets continues to be a defining issue post-COP26.

But progress in three critical areas will soon begin to make the difference: public policy on carbon pricing; accelerated innovations in alternative energy and carbon capture technology; and harmonised mandatory standards of reporting.

A Swedish pension plan

a. The GFANZ initiative
GFANZ has pledged that "we must build a financial system entirely focused on net zero".

Sceptics see this vision as pious hot air. After all, banks have provided some $4 trillion of fossil fuel financing since the 2015 Paris Agreement. But there is a new behavioural dynamic at work now. These titans of finance have picked up the mantle of climate warriors by promising to boldly go where they have not been before. From here on, they will be judged not by what they say, but by what they do and what they deliver. Climate activists are demanding rigorous KPIs.
The reputational risk for GFANZ is enormous. Their actions will come under intense scrutiny from their employees, their customers, mass media and wider society.

For its part, GFANZ is expected to step up pressure on governments to underpin their net zero pledges with clear and credible policies in five key areas: carbon pricing, the phasing out of coal, aid for developing countries, alternative energy and mandatory carbon-related financial disclosure.

b. Other COP26 pledges
The flood of pledges before and during COP26 suggests that the pace of corporate climate action is accelerating. One in three of the largest public companies in G20 countries now has a net zero target, up from one in five last year, according to the Net Zero Tracker.

190 countries and companies signed up to phasing out coal-powered electricity generation within the next two decades; however, these did not include China or the US. Yet there was also a commitment to end all investment in new coal power generation, with all seven of the G7 nations pledging to do so this year. The European Central Bank now requires all lenders in its region to estimate the risk they could face from climate change in both their lending and trading operations in the next round of stress tests.

The rise of the 'S' pillar – What is the current state of progress?

"Banking supervision was very slow. But a switch has been flipped by the European Central Bank."

An interview quote

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Finally, the Glasgow Climate Pact finalised the rulebook of Article 6 of the Paris Agreement regarding carbon-trading markets. The new agreement provides clear accounting guidance for emissions trades between nations as well as providing a new crediting mechanism to broaden access to those countries wanting to attract further clean investment through the global carbon market.

These developments will also go some way towards smoothing the path of the most ambitious climate initiative to date: the EU's Green Deal, which aims to slash emissions from 1990 levels by at least 55% by 2030. It envisages faster emission cuts, the end of the internal combustion engine, ambitious renewable energy targets, the effective use of land and forests as carbon sinks and a carbon border adjustment mechanism to ensure that Europe is not undercut.

Conclusion

- The developments mentioned above will likely spur the gradual or partial repricing of climate-related risks.
- If that fails to happen, at some stage, it is feared that markets may see abrupt and disorderly price changes, resulting in a domino-like scenario akin to a "climate Minsky moment". This remains a possible but less probable scenario post COP26.

3

Rise of passive funds

How are passives deployed in climate investing?

Active and passive investing is no longer a binary decision, as pension plans are seeking a pragmatic balance between them within their core–satellite model. Passives are becoming a part of the core portfolio while actives are becoming strategic satellites.

As a result, pension investors are seeking to better tailor their index funds to target specific climate change themes while taking ownership of proxy voting. The customisation mimics the performance of an established index while seeking to minimise unintended factor exposures.

The EU's two proposed benchmarks – Paris Aligned and Climate Transition – are a major advance by targeting an absolute 1.5°C scenario. They mark an improvement on the previous generation of low-carbon indices, which merely sought to reduce emissions relative to their parent indices.

1. An era of coexistence for actives and passives

From being diametric opposites, actives and passives are becoming complementary in an average pension portfolio, notwithstanding the consistent rise of passives over the past 20 years.

As Figure 3.1 shows, 56% of our survey respondents believe that passives will become a permanent feature of their portfolios. Even so, 64% believe that the two will coexist as equal portfolio partners.

In contrast, 30% believe that passives will fall out of favour when actives regain their mojo. Only 20% believe that passives will displace actives over time. The implied complementarity is the new reality (Case study 3a).

It rests on the changing level of market efficiency over a cycle. As active managers buy underpriced stocks and sell overpriced stocks, price anomalies are reduced and markets become more efficient, making passives more attractive.

After all, passives thrive when no one has an informational advantage; however, as more money flows into passives, valuations become distorted, since stocks are bought because they are in an index, not because of their intrinsic merits. The resulting price anomalies open the door for actives.

Historically, this cyclical pattern had the habit of bringing all strategies down to earth thanks to the eternal law of mean reversion: what goes up must come down and what comes down must go up.

> "Indices have good price momentum in both directions. That can be good and bad."
>
> **An interview quote**

However, this has not happened since 2005 when passives took off in earnest.

Since then, the majority of active managers have struggled to beat their chosen benchmarks after costs. Those that did found it hard to repeat over extended periods. The principal contributory factor is the ultra-loose policies of central banks in the aftermath of the 2008 credit crisis. They pumped around $16 trillion of liquidity into markets in order to prevent a 1929-style depression. As an unintended consequence, asset prices have become overinflated, benefiting the good, the bad and the ugly indiscriminately.

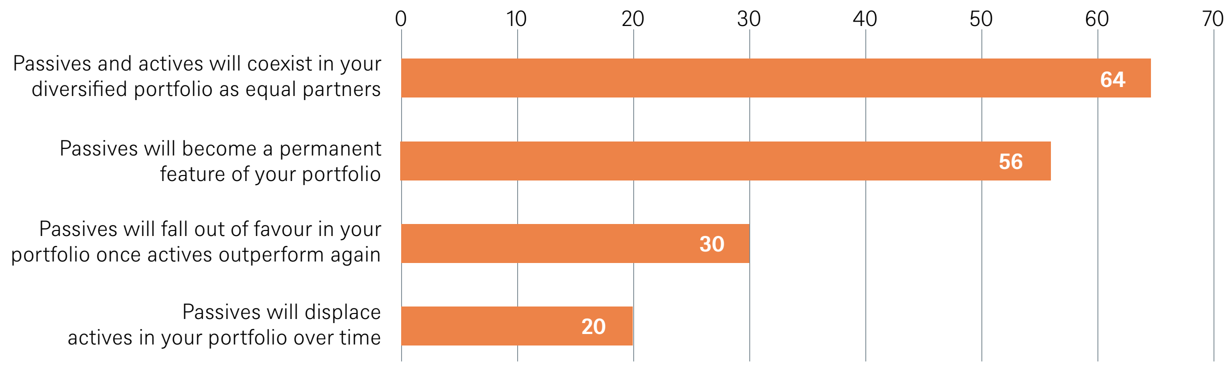
They have also raised correlations between and within asset classes while subduing volatility. Thus, value investing, which has long relied on the notions of fair value and mean reversion, has been sidelined. However, as central banks start unwinding their crisis-era stimulus, we are now in the early stages of a regime shift – from monetary to fiscal policy, from deflation to inflation and from low volatility to high volatility. Conditions are ripe for value investing.

But the pendulum is unlikely to swing too far away from passives because markets are becoming more informationally efficient, as too many active managers are fishing in the shrinking pool of alpha. This much is clear from the fact that passive vehicles now hold just over 50% of all US publicly traded equity assets, according to Bloomberg figures. There and elsewhere, the new mantra is "passive unless…".

Notably, their significant cost and governance advantages have lately carried passive strategies into the ESG space via two key innovations that we shall come to later in this section: customisation and stewardship.

Figure 3.1
Which of the following statements summarises your pension plan's views about active vs passive investing?

% of respondents



Source: CREATE-Research Survey 2022

> "Indices that do not take ESG factors into account will soon become history."
>
> **An interview quote**

Case Study 3a

Actives vs passives: the rise of pragmatism

Commentators often oversimplify investing as a binary choice between what they perceive as two competing alternatives: actives and passives. They also overlook the fact that choosing a standard index is really an active asset allocation decision. Also, the way an index is constructed ultimately drives the selection of securities and, in some cases, the countries or regions in which an indexed portfolio will invest. Above all, there is a tendency to lionise a strategy just when it is performing well at a given phase of the market cycle.

This applies particularly to passives, which have benefited from central banks' ultra-expansionary monetary action since the 2008 credit crisis, which effectively put a floor under asset values and dampened volatility.

These policies lifted all boats and worked against value investing. The resulting price distortion has worked against actives. However, the pendulum is unlikely to swing all the way back in their direction, when central banks unwind their crisis-era monetary policies. This is because the rise of passives is a foundational trend that will limit the scale of future reversal.

Hence, our portfolio now follows the core–satellite model. In sectors and geographies where markets are efficient and highly liquid, we use passives at the core, covering cap-weighted indices and their refined versions such as smart beta and alternative risk premia. Currently, around 45% of our assets are managed this way.

In contrast, the satellites cover sectors and geographies where markets are inefficient and illiquid; we use actives to harvest the resulting alpha opportunities. We also use actives during periods of high volatility: they have more degrees of freedom than their passive peers who have to remain invested, come what may.

This way, our portfolio seeks to target momentum when it is working and long-term risk premia when that looks promising. There is one exception, however: we see climate investing as a long-term story. Thus, it sits in the buy-and-hold bucket, even though it relies on passives as well as actives.

A UK pension plan

2. Customisation: the new frontier of passives

When it comes to investing in climate change via passives, traditional off-the-shelf indices remain the key vehicle (Figure 3.2). They are used by 42% of the survey respondents, whereas the newly emerging custom-built exposures are used by 28%. Indeed, 34% use both.

In asset-weighted terms, off-the-shelf versions predominate. For a modest amount of tracking error, they can have a meaningful impact on climate metrics – be that carbon emissions, biodiversity or water scarcity.

However, future growth is likely to centre on custom-built exposures that integrate climate risks into their makeup. The reason is that off-the-shelf low-carbon indices seek to reduce emissions relative to their respective parent indices without targeting an explicit temperature scenario.

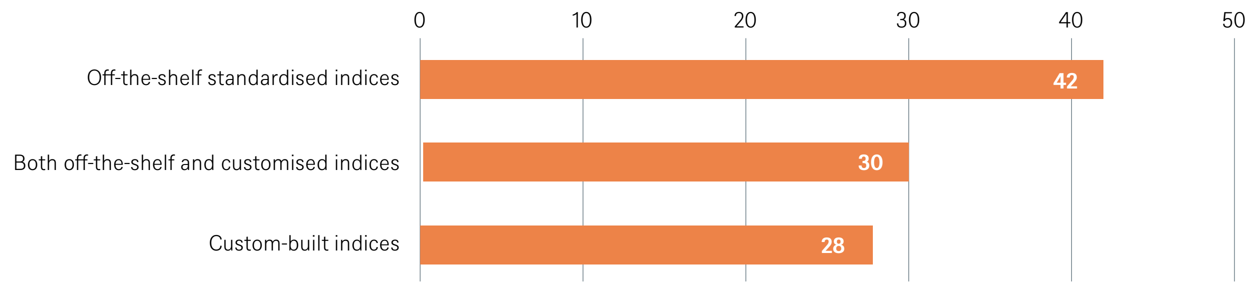
In contrast, the custom-built versions are explicitly linked to the absolute 1.5°C target scenario goal. They underscore a key merit of index exposures: by using technology, they are democratising access, improving transparency and providing choice.

> "The days when stewardship was a box-ticking exercise using a boilerplate narrative are gone. We are mandated to be agents of change."

An interview quote

Figure 3.2
What types of indices are being used in your pension plan's passive portfolio oriented towards climate change?

% of respondents



Source: CREATE-Research Survey 2022

A novel design feature
There is no one-size-fits-all approach to climate investing. It means different things to different investors depending on their specific sustainability and financial goals. Custom-built indices are, therefore, a logical evolution.

They also have one important feature. Pooled vehicles such as traditional index funds or ETFs only give the investor indirect ownership of a security via their external managers. This makes it more difficult for an investor to become a direct active owner. In contrast, custom-built indices allow the opportunity to take ownership of voting – to those with the necessary governance expertise and resources to do so.

By definition, passives cannot divest their positions in poorly performing stocks. They are forced owners of the shares they hold. They don't have a choice unless they change or deviate from the benchmark. The alternative is to ramp up their engagement efforts significantly. That's why customised indices are gaining traction for those who are keen to boost the quality of their beta via engagement.

In the climate context, most custom-built indices now seek to meet the requirement of the EU's two newly introduced instruments: Paris-Aligned Benchmarks (PABs) and Climate Transition Benchmarks (CTBs), which are described more fully in the next subsection.

Broadly speaking, they target an absolute reduction in carbon emissions over the next ten years by underweighting – or excluding – companies with fossil fuel reserves and/or excessive GHG emissions. They also overweight companies with higher green revenues.

Importantly, they also integrate the data from the Transition Pathway Initiative on each sector's preparedness for a low-carbon future. Their main aim is to enable a more wholesale transition of the investment universe towards Paris alignment by diverting private capital flows towards sustainable corporate activities (Case study 3b).

Rise of passive funds – How are passives deployed in climate investing?

> "The EU labels will become as popular as organic labels for food products."

An interview quote

Following the release of the European Commission's minimum standards for these two benchmarks, index providers have started to build eligible, science-based indices with two key attributes: full disclosure on their alignment with the 1.5°C pathway and an easy access to clearly labelled tools that align with it.

The importance of PABs and CTBs is underscored in a recent analysis by the nonprofit CDP (formerly Carbon Disclosure Project) of more than 16,500 investment funds worth $27 trillion, as reported in Pension Expert, 28 October 2021. It shows that less than 0.5 per cent of assets are currently aligned with the Paris temperature target of 'well below 2°C'. Most global funds assessed are currently invested in assets with an expected temperature path of more than 2.75°C of global warming, the analysis claimed.

To enhance their alignment, the EU has taken the lead in devising a gold standard for ESG investment in general, with its Sustainable Finance Disclosure Regulation, as set out under its Article 8 and Article 9.

Essentially, Article 8 funds will have some level of broad ESG integration, while Article 9 funds will have specific sustainability targets as the driving force behind their investment mandate. Together, on the Luxembourg-domiciled fund market, they total €2.5 trillion, according to research from Morningstar's report 'SFDR – The First 20 Days'.

Case Study 3b

The rise of bespoke indices

Because of our unfunded status, we cannot afford to take market risks inherent in the off-the-shelf climate indices now widely available from all index providers. Besides, such indices vary markedly in their scope. Not all indices are created equal. There is no widely accepted industry-wide singular climate benchmark. Outcomes are heavily influenced by the choice of metrics, data and their vendors' proprietary methodology.

So, we are now experimenting with a bespoke index that allows us to follow idiosyncratic climate themes that are of interest to our trustee board, such as carbon footprint, biodiversity and water management. The index excludes certain sectors – notably fossil fuel – and allows us to tilt the portfolio towards companies that are at the leading edge of green technology and renewable energy.

Another benefit is the area of engagement. In the past, as pooled vehicles, off-the shelf indices only gave us indirect ownership of a security. All stewardship activities were performed by the asset manager: such as proxy voting at AGMs and the ability to table shareholder resolutions.

On the downside, we recognise that a bespoke index could inadvertently create unintended factor bets which could affect the portfolio's risks and returns. We aim to minimise that with better corporate disclosure coupled with enhanced reporting standards. The move towards bespoke indices is a reflection of a major switch in our strategic asset allocation where our climate goals are built into our investment 'policy' benchmark.

This move is further facilitated by the arrival of the EU's benchmarks.

A German pension plan

3. The EU indices will transform passive investing

The EU's Action Plan shows that policymakers are, for the first time, promoting the climate indices to explicitly help direct private investment flows towards sustainable corporate activities.

They mark a radical departure from the previous generation of low-carbon indices that aimed to reduce emissions relative to their parent indices without targeting an explicit temperature scenario. The EU's proposed benchmarks are built around an absolute 1.5°C target scenario.

These benchmarks take a standard large or mid cap index and explicitly integrate climate action objectives. As such, they are asset allocation tools designed to replace standard indices.

The first of these indices is the Climate Transition Benchmark. Its underlying asset mix is weighted or excluded to position the portfolio firmly on a decarbonisation pathway. It permits fossil fuel investments in the transition process.

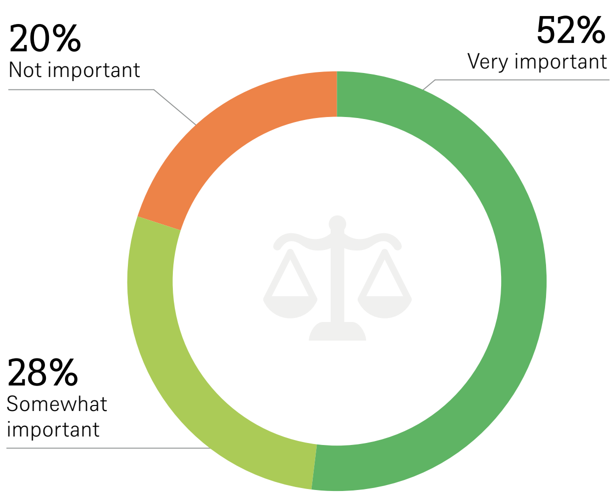
The Paris-Aligned Benchmark goes one step further in this ambition by putting portfolios immediately in line with where they need to be in 2030: an immediate 50% reduction in carbon intensity, and the exclusion of fossil fuel-related activities. This is the key intermediate step to carbon neutrality by 2050. It also lends credibility to the net zero journey. Overall, it targets a 7% year-on-year reduction in carbon emissions plus a 1.5°C limit on global temperature rise by 2050.

When asked how important the EU indices are likely to be in achieving net zero targets, 52% said 'very important', 28% said 'somewhat important' and the remaining 20% said 'not important' (Figure 3.3, left chart).

Figure 3.3

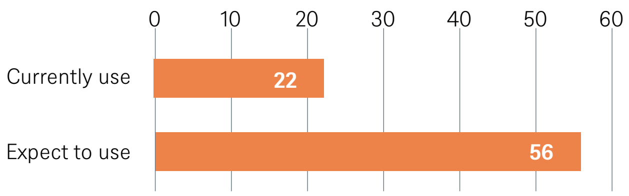
How important are the EU indices likely to be in delivering your plan's net zero targets?

% of respondents



Do you currently use or soon expect to use the EU indices on a notable scale?

% of respondents



Source: CREATE-Research Survey 2022

"One day there will be no such thing as climate investment.
It will be so inherent in the investment process that it will just be investing."

An interview quote

As for their adoption, 22% of our respondents use them currently on a notable scale and 56% expect to use them (Figure 3.3, right chart).

Their expected growth is underpinned by two desirable design features.

First, even if the world increases its carbon footprint and misses the 2050 goal, these new indices will stick to their decarbonisation trajectory regardless. Thus, climate action is hardwired into these indices, come what may.

Second, index providers are required to increase their disclosures of alignment with Paris Agreement goals for all significant indices, and in ways that enable investors of all sizes to have easy access to labelled financial tools that align their investments with a 1.5°C pathway (Case study 3c).

Third, both EU indices are based on a parent index: typically, the classic large-cap and mid-cap free float weighted index of the corresponding region. All indices use a sector allocation that mimics the parent index and uses diversification features, following the client needs.

Last, but not least, these indices will attract regulatory oversight in ways that climate indices have not previously done. CTB and PAB labels will soon become the badge of product integrity and quality assurance that ESG funds have sorely lacked

Case Study 3c

Index managers have huge voting clout

Historically, passive fund managers have simply replicated an index at minimal cost by following a systematic rules-based strategy that can be hyperscaled. Their critics viewed them as lazy owners of companies who allowed unaccountable management to serve their own interests above those of their shareholders, thus hurting the quality of beta returns.

As such, they were interested in neither engagement nor divestment because, by definition, they were the forced owners of the shares they owned. Engaging with companies was not thought to create value in the index arena, where the battle was being fought on headline fees and headline fees alone.

But this state of affairs started to change radically as investors increasingly embraced passives as they progressed along their climate journey.

First, index managers discovered that they had every incentive to exercise their stewardship role – via the sheer weight of their holdings – by being the ultimate long-term investors. As index investing has proliferated, passive managers now hold a higher share of companies' equity than ever before. They are more able and willing to promote sustainable practices that increase investor returns. They encourage firms to improve practices that benefit companies, investors and society at large.

Second, the arrival of bespoke indices is a major boon for a large pension plan like us. They not only give us voting rights with constituent companies, we also have the benefit of incorporating our idiosyncratic views on climate issues into the construction of the index. Our experience with off-the-shelf indices has shown that not all indices are created equal: their underlying methodology definitely impacts end outcomes.

A Danish pension plan

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so far. Greenwashing, which has significantly tarnished the ESG brand, has finally met its nemesis.

For all their innovative features, however, the credibility of these indices is only as good as the integrity of the corporate carbon emissions data they rely on.

In many fund jurisdictions, current data-reporting practices leave companies to decide for themselves which climate factors are material and how they should be presented.

This self-selective reporting is inevitably self-serving. Only metrics that show the investee companies in a good light are reported. Hence, progress towards the mandatory reporting of data is vital to ensure the integrity of these indices.

Starting out in the EU, these indices provide a regulatory template that is likely to be emulated in other regions. Their success may well stigmatise 'dirty' indices – those not compliant with the EU benchmarks – once the data issues are resolved.

Conclusion

- Over time, climate investing and fundamental investing will converge, as societies demand zero tolerance towards negative externalities – like environmental pollution and biodiversity loss.
- Doubtless, net zero will be a huge challenge for the investment world: there is no single answer, no single path to net zero. But as this section has shown, net zero methodologies are evolving rapidly.
- To a large extent, issues such as data inadequacies and greenwashing reflect the birth pangs of a new – and better – form of investing that is being reshaped by the net zero goal.
- The whole exercise is an adaptive journey of learning by doing in the belief that perfection cannot be the enemy of progress.

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