

PARIS ALIGNED ASSET OWNERS

2022 Progress Report



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Introduction

This publication explores the progress that Paris Aligned Asset Owners signatories have made since the first asset owner net zero commitments were announced by the Paris Aligned Investment Initiative in 2021.

As the initiative's first Progress Report, it presents an overview of the actions taken by signatories to implement their net zero commitments, as well as the work underway by the investor networks and their members to develop methodologies and support implementation.

The report is structured around the initiative's 10-point net zero commitment statement which is signed by signatories on joining the initiative. The commitment statement covers a range of areas from target setting to stewardship, industry collaboration and policy advocacy. We focus on providing an analysis of the targets set to date, showcasing best practice and innovation in the range of strategies and approaches that asset owners have developed to reach their net zero goals.

The report will be useful for asset owners considering developing a net zero strategy or looking for inspiration, as well as external stakeholders that would like a better understanding of the initiative and how asset owners are taking meaningful steps towards supporting the net zero transition.

Signatories

Who are the Paris Aligned Asset Owners?

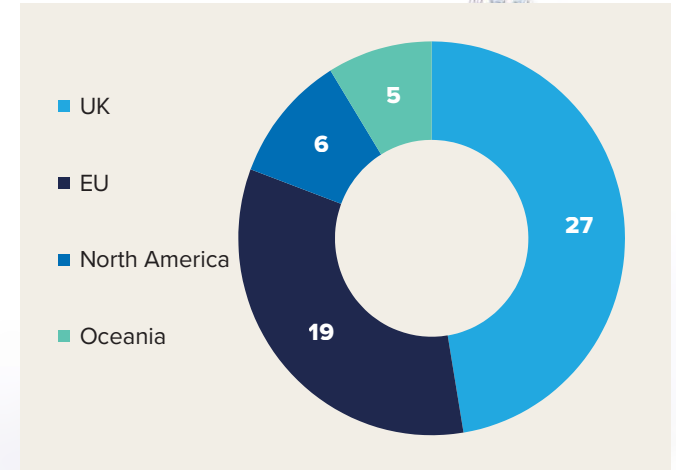
Paris Aligned Asset Owners is an international group of asset owners committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner, in line with global efforts to limit temperature warming to 1.5°C above pre-industrial levels, with low- or no-overshoot.

The group is an outcome of the Paris Aligned Investment Initiative, which was established in May 2019 as a collaborative investor-led forum (coordinated by AIGCC, Ceres, IGCC and IIGCC) to support investors to align their portfolios and investment activities to the goals of the Paris Agreement.

As of November 2022, there are 57 Paris Aligned Asset Owners from Europe, North America, and Oceania. Below is a full list of Paris Aligned Asset Owner signatories.

Paris Aligned Asset Owners is governed by a steering group of nine asset owners, supported by four regional investor networks. The initiative is a partner to the UN Climate Champion's Race to Zero campaign and a member of the Glasgow Finance Alliance for Net Zero (GFANZ).

Figure 1. Regional distribution of Paris Aligned Asset Owner signatories



Steering Group

Adam Matthews (Co-Chair)
[Church of England Pensions Board](#)

Claudia Kruse (Co-Chair)
[APG Asset Management](#)

Akaash Sachdeva
[HESTA Superannuation](#)

David Adkins
[Lloyds Banking Group Pensions Trustee Limited](#)

Dewi Dylander
[PKA](#)

Faith Ward
[Brunel Pension Partnership](#)

Liz Gordon
[New York State Common Retirement Fund](#)

Michael Marshall
[Railpen](#)

Peter Smith
[TPT Retirement Solutions](#)

Investor Networks

AIGCC
[Asia](#)

Ceres
[North America](#)

IGCC
[Australasia](#)

IIGCC
[Europe](#)

Collaborations



Signatories

ABP

Accident Compensation Corporation

AP Pension

AP2 (Second Swedish National Pension Fund)

AP7 (Sjunde AP-fonden)

Avon Pension Fund

Barclays Bank UK Retirement Fund

BBC Pension Trust Ltd

Brunel Pension Partnership

BT Pension Scheme

Church of England Pensions Board

Church of Sweden

Cornwall Pension Fund

Devon County Council

Elo Mutual Pension Insurance Company

Environment Agency Pension Fund

Government Superannuation Fund Authority

HESTA

HSBC Bank Pension Trust (UK) Ltd.

Investment Management Corporation of Ontario
(IMCO)

Lægernes Pension

Lærernes Pension

Ilmarinen Mutual Pension Insurance Company

Lloyds Banking Group Pensions Trustee Limited

London Pensions Funds Authority

National Grid UK Pension Scheme

National Provident Fund

National Trust for Places of Historic Interest or Natural
Beauty

NEST Corporation

New York City Board of Education Retirement System
(BERS)

New York City Employee's Retirement System (NYCERS)

New York State Common Retirement Fund

New Zealand Super Fund

NN Group

Northern LGPS (Greater Manchester, Merseyside, West
Yorkshire)

Oxfordshire County Council Pension Fund

Pædagogernes Pension

PenSam

Pensioenfonds Metaal en Techniek

Pensioenfonds Zorg en Welzijn (PFZW)

PensionDanmark

PKA

Royal London Mutual Insurance Society

RPMI Railpen ('Railpen')

Scottish Widows, part of Lloyds Banking Group

Sierra Club Foundation

South Yorkshire Pensions Authority

Strathclyde Pension Fund

Superannuation Arrangements of the University of
London (SAUL)

Teacher's Retirement System of the City of New York

Tesco Plc Pension Scheme

The Church Pension Fund

TPT Retirement Solutions

Tredje AP-fonden AP3

Velliv, Pension & Livsforsikring A/S

West Midlands Pension Fund

Wiltshire Pension Fund

Timeline

Key events relating to Paris Aligned Asset Owners (PAAO)

Key methodology updates to the Net Zero Investment Framework (NZIF)



Note: links to all resources are included in the Appendices.

10-point net zero commitment

What have Paris Aligned Asset Owners committed to?

Paris Aligned Asset Owners have made a voluntary commitment to deliver against a 10-point net zero commitment statement, in a manner consistent with their fiduciary duties. At the heart of the commitment statement is the goal to transition their investments to achieve net zero portfolio greenhouse gas (GHG) emissions by 2050, or sooner, and support emissions reductions in the real economy.

Paris Aligned Asset Owner Net Zero Commitment

As asset owners with millions of beneficiaries around the world, we reiterate our full support for the Paris Agreement and strongly urge governments to implement the actions that are needed to achieve the goals of the accord, with utmost urgency.

Recognising the need to address the risks that investors and their beneficiaries face from climate change, investors are taking action, but we acknowledge that there is an urgent need to accelerate the transition towards global net zero greenhouse gas emissions and do our part in helping deliver the goals of the Paris Agreement.

Our institution's commitment recognises that investors across the globe have different opportunities, constraints and starting points for achieving net zero emissions and there are a range of methodologies and approaches available to investors to set targets and implement strategies. In some asset classes or for some investment strategies, agreed net zero methodologies do not yet exist. We will, therefore, work to address these challenges, including through the Paris Aligned Investment Initiative.

Our commitment is based on the expectation that governments and policy makers will deliver on their commitments to achieve the 1.5°C temperature goal of the Paris Agreement, and in the context of fulfilling our fiduciary obligations.

In this context, my institution commits to the following consistent with our fiduciary obligations:

Access the commitment statement [here](#).

- 1. Transitioning our investments to achieve net zero portfolio GHG emissions by 2050, or sooner*
- 2. Implementing this commitment with the aim of achieving real economy emissions reductions and undertaking a comprehensive set of actions available to investors, drawing on the Paris Aligned Investment Initiative's Net Zero Investment Framework*
- 3. Setting objectives and targets, including an interim target for 2030 or sooner for reducing scope 1, 2 and 3 emissions associated with our portfolios and setting a target for increasing investment in climate solutions, consistent with a fair share of the 50% global reduction in CO₂ identified as a requirement in the Intergovernmental Panel on Climate Change special report on global warming of 1.5°C*
- 4. Where offsets are necessary where there are no technologically and/or financially viable alternatives to eliminate emissions, investing in long-term carbon removals.*
- 5. Ensure any direct and collective policy advocacy we undertake supports policy and regulation relevant for achieving global net zero emissions by 2050 or sooner*
- 6. Implementing a stewardship and engagement strategy, with clear voting policy that is consistent with an objective for all assets in the portfolio to achieve net zero emissions by 2050 or sooner*
- 7. Engaging with asset managers, credit rating agencies, auditors, stock exchanges, proxy advisers, investment consultants, and data and service providers to ensure that funds, products and services available to investors are consistent with achieving global net zero emissions by 2050 or sooner.*
- 8. Setting a target and reducing our operational (scope 1 and 2) emissions in line with achieving global net zero emissions by 2050, or sooner.*
- 9. Disclosing objectives and targets, and publishing a clear Investor Climate Action Plan for achieving these goals as soon as possible, no later than one year from making this commitment, and reviewing and updating targets every five years or sooner.*
- 10. Reporting annually on the strategy and actions implemented and progress towards achieving objectives and targets, and in line with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.*

Methodology – the Net Zero Investment Framework

Paris Aligned Asset Owners commit to:

1. Transitioning our investments to achieve net zero portfolio GHG emissions by 2050, or sooner
2. Implementing this commitment with the aim of achieving real economy emissions reductions and undertaking a comprehensive set of actions available to investors, drawing on the Paris Aligned Investment Initiative’s Net Zero Investment Framework Since 2019, investors have collaborated to develop what is now the most widely utilised net zero methodology by financial institutions, the Net Zero Investment Framework.

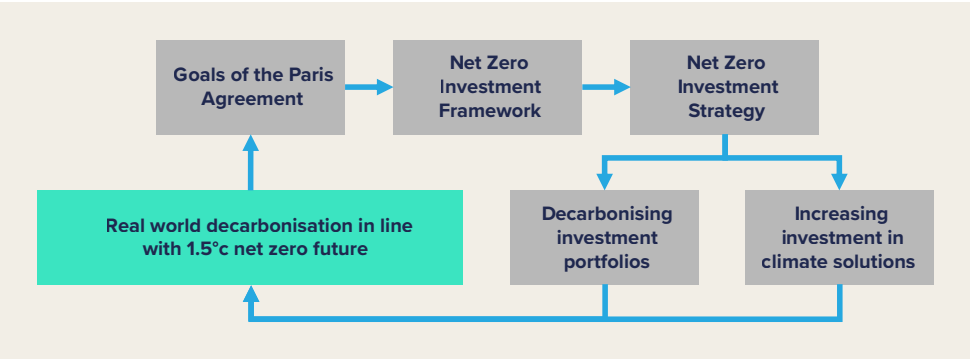
The Net Zero Investment Framework outlines a set of recommended targets, datasets, and actions that asset owners and asset managers can use to support the transition of assets in a portfolio and align investment portfolios to the Paris Agreement’s 1.5°C temperature goal. This is explored in more detail in [Commitment 2: Achieving real economy emissions reductions.](#)

The framework sets out core components that define a net zero investment strategy and proposes that a net zero investment strategy should focus on two alignment objectives:

1. Decarbonising investment portfolios in a way that is consistent with achieving global net zero GHG emissions by 2050 or sooner
2. Increasing investment in the range of climate solutions required to meet that goal

Access the Net Zero Investment Framework [here.](#)

Figure 2. The flow of investor actions to support real world decarbonisation



Message from the PAI Steering Group Co-chairs

The growth in net zero commitments from financial institutions over the last few years has been a positive step forward. As a founding member of the Glasgow Finance Alliance for Net Zero (GFANZ), Paris Aligned Asset Owners has been helping to drive this momentum across the finance industry.

With conflict in Europe that has led to an energy crisis and affected food security and the cost-of-living for people around the world, asset owners are navigating simultaneous challenges of a recovery from the COVID-19 pandemic, the energy crisis, and climate change.

Given the likelihood that climate change will only exacerbate challenges relating to energy and health, asset owners maintain that increasing our decarbonisation and adaptation efforts could contribute towards a common solution across all these fronts. We believe that this can help deliver economic growth, job creation, energy independence and affordability, and wider environmental and public health benefits.

Collaborative, investor-led forums such as the Paris Aligned Investment Initiative, have been pivotal in developing the industry standards to help inform financial institutions towards net zero and resilience goals. As climate change continues to impact their investments, asset owners are focusing on implementing the net zero commitments that have been made in order to accelerate flows of private capital into low-carbon and climate resilient solutions.

The first Paris Aligned Asset Owners Progress Report brings together the strategies that asset owners have developed over the last year and the actions they have taken to deliver against their commitments. It recognises the role that asset owners, on behalf of their beneficiaries, must play in the transition to a net zero and climate resilient future, as well as the innovation and dedication that they are demonstrating in playing their part in delivering this future.

The approaches detailed in this report show that asset owners are not focused only on “greening” their portfolios but delivering real world emissions reductions across all sectors of the economy and supporting a just and equitable transition across regions of the globe. In 2022, we’d like to highlight areas of action that support the decarbonisation of the economy.

98% of signatories have committed to increasing investments in climate solutions – the technologies and services required to decarbonise key industries such as energy, construction, and transport. Many asset owners have measured their current allocation and set ambitious quantitative targets ranging from 6% to 25% of AUM by 2030.

Our theory of change to deliver real world decarbonisation, as outlined in the Net Zero Investment Framework (NZIF), involves a significant focus on using stewardship and engagement to support companies in our portfolios to transition to net zero. We want to support companies to succeed in this complex multi-decade transition. This year, asset owners have increased their engagement with companies and refined the requests made of them to mitigate risks posed by the transition and ensure businesses are resilient. Asset owners have also set out the steps they will take when insufficient action is taken. Asset owners and asset managers together have stepped up engagement efforts, taking a time bound and structured effort.

In 2022, many signatories have updated and disclosed fossil fuel investment policies. Guidance from the International Energy Agency was clear; there are limits on the activities of fossil fuel companies within a 1.5°C scenario with low- or no-overshoot. Asset owners have doubled down on efforts to engage with such companies to join the transition to net zero, lowered thresholds at which they are willing to remain invested and set out clear time-bound expectations of these companies, which may end in divestment or exclusions when they fail to meet expectations.

Whilst we are encouraged by the progress made to date, we know that more is needed. If we are to collectively deliver against the Paris Agreement goals, and act in the best interests of beneficiaries, asset owners must continue to collaborate to maintain the high ambition expected of us and drive the innovative, practical solutions required for the global transition. We hope this Progress Report provides some insights to others whilst acting as a call for even greater collaboration across all actors that are required to shape this transition – asset owners, asset managers, all financial institutions, corporates, civil society, policy makers and regulators.



Adam Matthews

Chief Responsible Investment Officer
Church of England Pensions Board



Claudia Kruse

Managing Director Global Responsible Investment and Governance
APG Asset Management

2022 Executive Summary

In 2022, Paris Aligned Asset Owners have adopted a range of strategies and approaches to deliver against their net zero commitments.

The variety of actions taken to date demonstrate the dedication of signatories to delivering emissions reductions across our economy whilst supporting a just and equitable transition across the globe.

This report is structured around the 10-point net zero commitment statement Paris Aligned Asset Owners sign when joining the initiative.

Commitment 1

Three key areas of action in 2022: target setting for real world decarbonisation, innovative financial products to transition portfolios, development of comprehensive strategies to deliver on net zero targets.

Commitment 2

23 asset owners outline an approach to investment in fossil fuels. Strengthened engagement and escalation strategies targeting fossil fuel companies becomes a focus in 2022. Plus, a deep dive into asset class specific strategies.

Commitment 3

40 asset owners set a total of 92 targets to guide their net zero strategies for real world change. Four types of targets, guided by the Net Zero Investment Framework, focus on forward-looking alignment, engagement with assets, investment in solutions, and portfolio decarbonisation.

Commitment 4

Signatories avoid using offsets to reach net zero targets. Corporates are encouraged to follow a mitigation hierarchy and investors aim to advance industry guidance on the use of offsets.

Commitment 5

40 signatories form a segment of the 603 investors that sign the Global Investor Statement to Governments on the Climate Crisis. Key areas of policy advocacy in 2022 include SEC proposals in the U.S., 1.5°C aligned national targets in Australia, and transitioning planning in Europe.

Commitment 6

14 signatories set quantitative targets for engagement and stewardship. Asset owners refine expectations of companies, prioritise laggards, and set time-bound milestones linked to escalation actions, utilising voting policies, shareholder resolutions and litigation.

Commitment 7

Signatories drive innovation in net zero-aligned financial products and services in collaboration with asset managers, index providers and proxy advisors. Asset owner collaboration with asset managers becomes essential for the delivery of net zero and support a just transition.

Commitment 8

50% of signatories add operational emissions targets to their ambitions to reduce financed emissions from their investment portfolios.

Commitment 9

Through PAll, asset owners contribute to the wealth of guidance now available to financial institutions on net zero transition planning. Signatories set out comprehensive strategies to deliver against their targets.

Commitment 10

With disclosures of progress against targets due from 2023, signatories enhance TCFD reporting to report progress against net zero goals.



Commitment 1: Transitioning investments

**Transitioning our
investments to achieve net
zero portfolio GHG emissions
by 2050, or sooner**

Paris Aligned Asset Owners can take a range of actions to transition their investments to achieve net zero portfolio GHG emissions by 2050, or sooner. The 10-point commitment statement draws out some of the levers asset owners can use to facilitate the transition, creating a structure on which asset owners can guide their net zero strategies and reinforcing the actions embedded within the Net Zero Investment Framework.

Whilst Commitments 2 – 8 explore the range of actions signatories are taking to transition their investments in depth, this section contains some highlights and innovations from Paris Aligned Asset Owner signatories between 2021 and 2022.

Highlight 1: Transparent target setting and progress against targets

Paris Aligned Asset Owner signatories have set a range of targets and goals to establish the ambition of their net zero investment strategies. Signatories are required to disclose targets and objectives within 12 months of making the commitment and update targets at least every five years. To date, 40 of 57 signatories have disclosed initial targets. All target disclosures can be found in the initiative's *Initial Target Disclosure* report [here](#).

Figure 3. Total number of signatories and disclosures to date



Signatories are guided by a combination of four target types set out in the Net Zero Investment Framework. The combination of ‘top-down’ portfolio level targets and ‘bottom-up’ asset-level targets aims to incentivise asset owners to deliver against their net zero targets in a way that supports assets in their portfolio to transition and thereby, drive decarbonisation of the real economy. Meanwhile, the portfolio decarbonisation reference target acts as an accountability mechanism to ensure that assets are transitioning at the pace required by sectoral and regional net zero pathways and translating into emissions reductions at the portfolio level. Meanwhile, increasing allocation to climate solutions aims to direct additional capital to the technologies and industries required to reduce emissions across all sectors of the economy.

WHAT DOES THE NET ZERO INVESTMENT FRAMEWORK RECOMMEND?

PORTFOLIO LEVEL TARGETS

- A <10-year CO₂e emissions reduction target, with 5-year interim target milestones
- A <10-year goal for allocation to climate solutions

ASSET LEVEL TARGETS

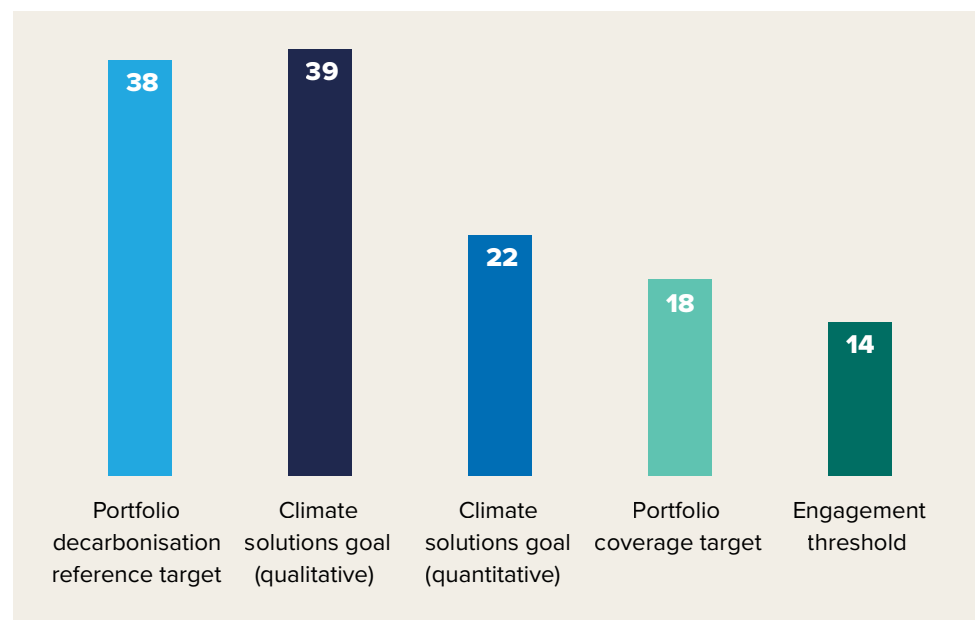
- A 5-year portfolio coverage target for increasing the percentage of AUM in material sectors that are net zero or meeting criteria to be considered ‘aligned’ or aligning’ to a net zero pathway
- An engagement threshold which ensures that at least 70% of financed emissions in material sectors are either assessed as net zero, ‘aligned’ with a net zero pathway, or the subject of direct or collective engagement and stewardship actions

For further details of the recommended targets, and the rationale for the combination of these targets, see the Net Zero Investment Framework Supplementary Target Setting Guidance [here](#).

Signatories are already setting multiple types of targets, with the two portfolio-level targets most common:

- 95% of signatories have set a portfolio decarbonisation reference target.
- 98% of signatories have made a qualitative goal to increase investment in climate solutions, where possible.
- 55% of signatories have set a quantitative target for increasing investment in climate solutions, often expressed as a proportion of total AUM.
- 45% of signatories have set a portfolio coverage target to increase the proportion of assets classified as net zero, 'aligned' or 'aligning' to a net zero pathway.
- 35% of signatories have established a quantitative engagement threshold, most often expressed as a proportion of financed emissions under engagement and stewardship actions.

Figure 4. Number of targets set by signatories per target type



Many signatories have indicated that targets for climate solutions, portfolio coverage, and engagement are still under development, with many working to establish a baseline of current performance on which to set targets. Whilst its common practice for investors to measure emissions relating to the decarbonisation of their portfolios, methodologies and data to inform the other three types of targets are still relatively nascent. This is particularly the case for climate solutions whereby there has been an absence of definitions and standardised metrics for investors to apply across asset classes and in aggregate at portfolio level. Likewise, although the Net Zero Investment Framework recommends alignment definitions across asset classes, data coverage and quality across alignment criteria is still improving.

Despite there being little precedent to follow, asset owners such as NN Group are leading the way in terms of establishing ambitious targets underpinned by robust and transparent methodologies and data sources.



DEEP DIVE: SETTING TARGETS FOR A NET ZERO STRATEGY

NN GROUP

NN Group is an international financial services company which holds approximately \$199 billion general account assets.

12 months after signing the Paris Aligned Asset Owner commitment in March 2021, NN disclosed its initial targets with the aim to deliver real world impact by focusing on a range of alignment actions. NN Group has developed strategies and targets covering its corporate investment portfolio (listed equity and corporate fixed income), real estate and sovereigns.

NN Group has set a portfolio coverage target that will increase the proportion of assets in the corporate investment portfolio that can be considered to be at least 'aligning' towards net zero, as outlined in the Net Zero investment Framework. NN Group has gathered data and mapped its holdings against a range of criteria to determine the current alignment status of all corporate holdings. The analysis includes whether a company has set an ambition to achieve net zero GHG emissions by 2050 or sooner and nearer term targets, discloses scope 1, 2, and material scope 3 emissions, as well as emission intensity performance. In addition, for high impact companies (defined by companies included in Climate Action 100+ engagement or the TPI assessment from Transition Pathway initiative), the analysis also includes the presence of a quantified decarbonisation strategy and capital allocation plan. Multiple data sources were triangulated and combined with internal analyst research to perform the baselining assessment, including:

- Climate Action 100+ Net Zero Company Benchmark
- ISS ESG Climate Solutions data (carbon footprint and carbon budget assessment)
- Science Based Target initiative (SBTi)
- TPI assessment from Transition Pathway Initiative
- CDP

As part of this target setting process, NN Group has developed strategies for listed equity, corporate fixed income, sovereign bonds and real estate. Strategies include scoring investments against a set of current and forward-looking alignment criteria and setting targets.

For the corporate investment portfolio, NN Group developed a data hierarchy to identify the data sources that best fit each alignment criteria, as defined by data type 3 (raw dataset as listed in the IIGCC Net Zero Investment Framework recommended public data sources, with additional private vendor data to increase the coverage). It is clear that data gaps exist, particularly concerning the credibility of corporate decarbonisation strategies and capital allocation plans (criteria 5 and 6, respectively). In addition to public data sources, NN's external asset manager utilises research from their analysts to inform their view of a corporate's alignment status.

Analysts can incorporate information and fundamental analysis to provide more recent and granular picture of a company's alignment. NN Group expects that the data hierarchy would evolve over time as improved data quality and coverage becomes available. Further details will be provided in NN Group's climate action report to be published later in 2022.

For more details of targets set by NN Group and information about NN Group's strategies for real estate and sovereign bonds, see its target disclosure [here](#).

NN Group's targets for the corporate investment portfolio

Portfolio decarbonisation reference interim targets

Reduce the financed emissions (tCO₂e per Euro million)

- 2021 baseline*: 125 tCO₂e per Euro million invested
- 2025 target: -25%
- 2030 target: -45%

*Based on underlying emissions data from 2019

Portfolio coverage target

Using a range of criteria to assess holdings, increase the share of AUM that is considered at least 'aligning' to net zero

- 2021 baseline: 29%
- 2025 target: 45%

Engagement target

Increase the proportion of financed emissions that are either 'aligned' or under engagement and stewardship actions

- 2021 baseline: 66%
- 2025 target: 75%

Allocation to climate solutions

Across asset classes, increase the proportion of AUM invested in the range of technologies and solutions to support climate change mitigation

- 2030 target: an additional €6 billion, taking the total AUM invested in climate solutions to around €11 billion, or approximately 6% of AUM

Highlight 1 (continued)

After disclosing targets, PAAO signatories are required to report annually on the strategy and actions implemented and progress towards achieving targets. For most signatories, annual reporting on progress will begin in 2023. In some cases, signatories are already disclosing key information, such as portfolio emissions, stewardship and voting policies, outcomes from engagements and strategies for specific asset classes. Asset owners utilise reporting mechanisms such as TCFD and annual reports, which are often supplemented by more detailed stewardship reports and sustainability reports.

Historically, metrics relating to portfolio emissions have been important to understand the relative climate impact of an investment portfolio. Asset owners have therefore been measuring and tracking portfolio emissions for a number of years. Emissions reductions at the portfolio level can be achieved in multiple ways, such as through emissions reductions in underlying assets, divestment, or re-allocation of assets to sectors, industries or geographies that are already lower carbon. Signatories commit to undertaking actions that contribute to real world emissions reductions. Primarily this can be achieved by transitioning underlying assets through stewardship and engagement and re-allocating to best performers within industries. Transparency is therefore key to understanding how investment portfolios are meeting emissions targets, and whether the actions taken by investors are actually encouraging real world change. Swedish pension fund, AP2, uses attribution analysis to help the fund understand the drivers of its portfolio emissions reductions.





DEEP DIVE: UNDERSTANDING THE DRIVERS OF CHANGE IN PORTFOLIO EMISSIONS

AP2

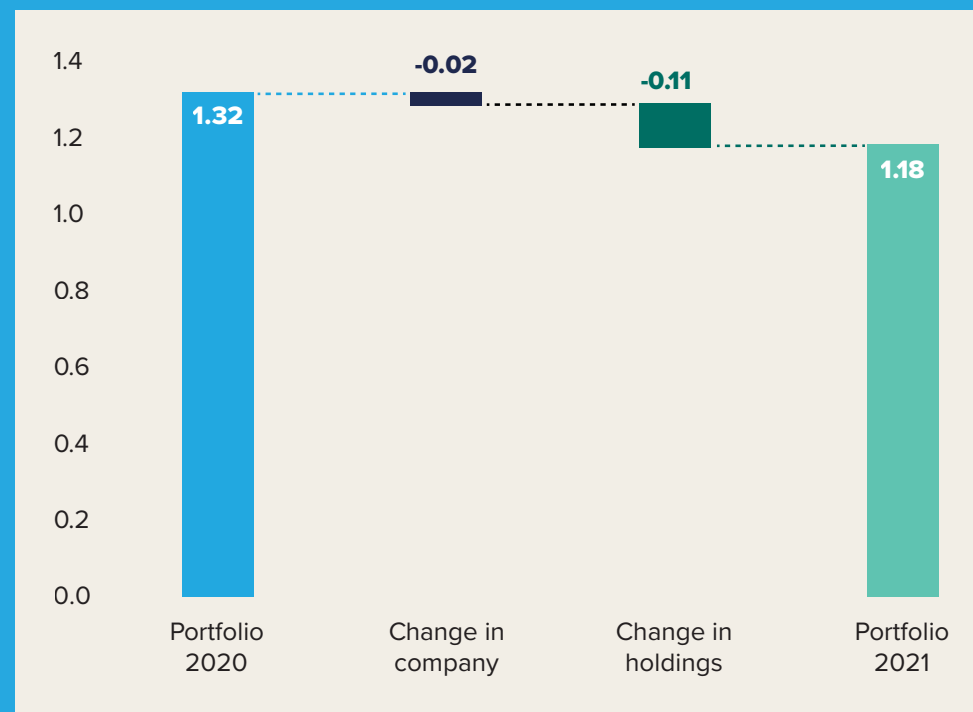
Andra AP-fonden has committed to net zero emissions by 2045, in line with the Swedish national target. The work to reduce portfolio emissions is ongoing and actions to date include the implementation of a Paris-aligned benchmark for all listed equities and credits, which has resulted in significantly reduced portfolio emissions (-36%) from 2019-2021.

While the net zero target is set for portfolio emissions, Andra AP-fonden's underlying objective is to contribute to the reduction of global emissions and the Paris Agreement target of limiting global warming to 1.5°C. If the Fund would only focus on, and measure, the portfolio's absolute emissions, emissions intensity and footprint, an important aspect could be overseen – understanding the drivers of change and to what extent these contribute to actual reductions of global emissions. The Fund could potentially achieve its reduction targets solely by shifting the portfolio to low-emitting assets.

Andra AP-fonden used its internally developed emissions data tool to analyse changes in portfolio emissions and to assess how these can be attributed to either changes in holdings or to changes in actual company emissions. Changes in company emissions represent actual reductions in emissions, why this is in focus in the Fund's climate strategy and stewardship efforts. The Fund also developed its reporting to include this measure, both in absolute emissions and emissions intensity, as illustrated in the graph to the right which has been adapted from AP2's 2021 TCFD report.

The graph presents an attribution analysis of the change in carbon footprint between 2020 and 2021 for Andra AP-fonden's portfolios for global equities and corporate bonds, in accordance with Paris-Aligned Benchmark metrics. The graph shows that most of the decrease is due to changes in the Fund's holdings, and company changes in emissions also contribute, but to a lesser extent.

Figure 6. Causes of change in AP2's carbon footprinting between 2020 and 2021, MT CO₂e



The analysis shows that more of the change needs to come from company emissions reductions and this is where Andra AP-fonden is focusing its climate efforts going forward. Internally, the emissions attribution analysis can be used to understand emissions changes with more granularity, in different parts of the portfolio, to identify which sectors, geographies and companies contribute the most and least to actual emissions reductions. Andra AP-fonden uses the conclusions from this analysis to actively engage with companies, both directly and in investor collaborations, to encourage companies with high emissions or insufficient mitigation plans to adopt and deliver on robust emissions reduction plans, and to report transparently.

Highlight 2: Cross-industry collaboration to develop net zero investment products and solutions

For asset owners to transition their whole portfolios, they require investment products that support their net zero goals. As indicated in *Commitment 7: Engaging with industry*, this requires collaboration across the finance industry to innovate and ensure asset owners have access to the solutions and services that enable them to transition. Many signatories have been collaborating with key industry partners such as asset managers, index providers, investment consultants, and data vendors.

One of the greatest challenges for signatories to date has been transitioning passively managed investments. The following page highlights an initiative by Brunel Pensions Partnership to design benchmarks that enable passive funds to target net zero. The initiative was possible through the collaboration with FTSE Russell, the index, data and analytics provider, and Legal & General Investment Management.



DEEP DIVE: DEVELOPING NEW PARIS ALIGNED BENCHMARKS

BRUNEL PENSION PARTNERSHIP

Brunel believes asset owners and asset managers need to act with added urgency to ensure finance can be part of the solution to climate change. A major element of the action needed is transitioning passive funds to Paris-aligned benchmarks. Globally, passive investments rose above \$15 trillion in 2020.







In November 2021, Brunel Pension Partnership opened the London Stock Exchange to mark its transition of what is now £4 billion to the new FTSE Russell Paris aligned benchmark series that it developed in coordination with FTSE Russell, the index, data and analytics provider.

The benchmarks form a core element of Brunel’s partnership’s collective commitment and journey to net zero. Legal & General Investment Management (LGIM) manages the Brunel passive equity funds now adopting the new benchmarks; the Brunel transition is one of the largest passive fund launches (by AUM) in LGIM history.

FTSE Russell’s two EU Climate Benchmarks Index Series not only meet the carbon emission 10-year reduction targets of the Paris-aligned benchmark criteria (50%) and Climate-transition benchmark criteria (30%), respectively, but go a step further by integrating forward-looking metrics and governance protections from the Transition Pathway Initiative (TPI). TPI provides assessments of how the world’s largest and most carbon exposed companies are managing the climate transition.

Exposure to any given index constituent rises or falls according to several exposure objectives, covering fossil fuel reserves, carbon reserves and green revenues, as well as forward-looking alignment with Paris goals, as shown in Figure 7. The indices also set a limit on the active weighting of banking sector constituents, given that funding of large carbon emitters is a significant factor in climate change, but is poorly reported. Crucially, the indices are also designed flexibly, in order to enable them to evolve as data improves, in line with research developments.

Figure 7. Climate exposure objectives within Brunel’s benchmark series

	Fossil fuel reserves	Underweight companies with fossil fuel reserves
	Carbon emissions	Over or underweight companies according to their carbon intensity
	Net Zero pathways	Apply annual decarbonisation (carbon emissions reduction) target - to reach 'Net Zero' by c.2050
	Green revenues	Overweight companies engaged in the transition to a green company
	TPI Management quality	Over or underweight companies according to their climate governance activities
	TPI Carbon performance	Over or underweight companies according to their carbon reduction commitments

Highlight 3: Development of strategies to achieve net zero targets

Transparency of investor actions towards net zero is key to demonstrating progress, as well as barriers to progress. Signatories are required to develop climate action plans to demonstrate how they will meet their net zero commitments.

In some cases, signatories have already started to develop net zero strategies or climate action plans which clearly articulate their ambitions and targets, and the actions that will be taken to achieve those. For this highlight, we focus on the climate action plan developed by one of the largest public pension funds in the U.S., The New York State Common Retirement Fund. Examples of other climate action plans produced by PAAO signatories are included in *Commitment 9: Disclosing objectives and targets and a plan for achieving goals*.





DEEP DIVE: A COMPREHENSIVE CLIMATE ACTION PLAN

NEW YORK STATE COMMON

In 2020, The New York State Common Retirement Fund adopted an ambitious goal to transition its portfolio to net zero greenhouse gas emissions by 2040, a date 10 years earlier than other U.S. pension funds, and in 2019 it created climate action plans to achieve these goals.

New York State Common's Climate Action Plan includes:

- Establishing industry-specific minimum standards and risk assessments to evaluate companies in high-impact sectors, starting with thermal coal mining companies, on their readiness to transition to a low carbon economy
- Utilising those assessments and standards to prioritise and evaluate engagements and inform investment and divestment decisions
- Creating a formal, multi-asset-class Sustainable Investment & Climate Solutions (SICS) Program with dedicated staff to pursue climate solution investments
- Committing an additional \$10 billion to the above SICS Program, leading to a total \$20 billion commitment over the next decade; and
- Enhancing the Fund's capacity to assess climate risks.

Two areas are of particular importance to The New York State Common Retirement Fund's climate action plan: investment in climate solutions and corporate engagement

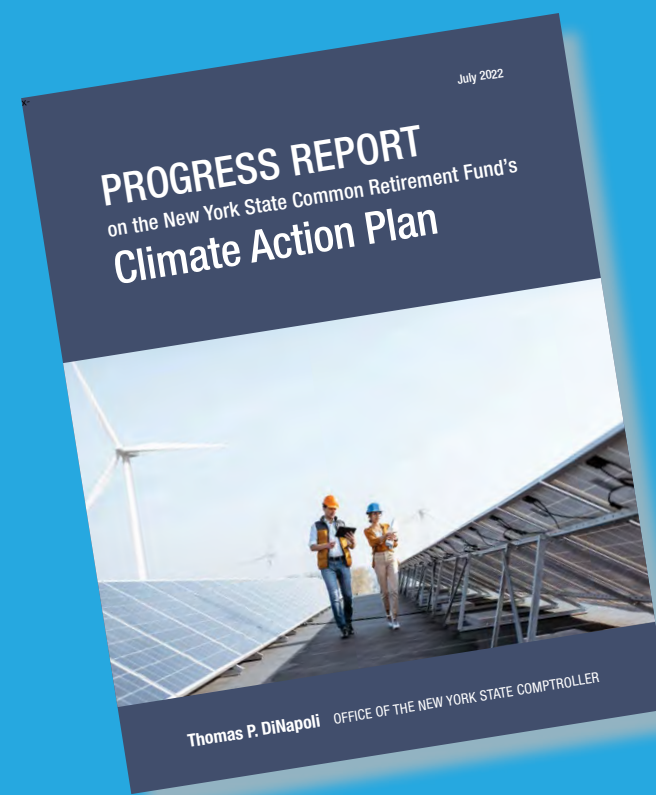
Investment in climate solutions


The plan calls for doubling investments in Sustainable Investment & Climate Solutions (SICS) from \$10 billion to \$20 billion across all asset classes. The Fund's July 2022 Progress Report on the Climate Action Plan describes recent SICS investments, including a \$2 billion investment in the FTSE Russell's Russell 1000 TPI Climate Transition Index, over \$1 billion in the fixed income portfolio invested in solar-related asset-backed securities that fund solar panels and installation services in addition to green bonds that fund renewable energy and green buildings, and a \$750 million commitment to the Brookfield Global Transition Fund to reduce greenhouse gas emissions and energy consumption. The Fund considers divestment a "last resort" and prefers engagement to encourage companies to adopt transition strategies, such as investing in technologies that reduce emissions.

Engagement

The Fund engages with portfolio companies across high-impact climate sectors, including oil and gas production, coal mining, electric and natural gas utilities, automobile manufacturing, airlines, banking, materials, and real estate industries. The Fund urges them to establish net zero transition strategies, align CAPEX with the Paris Agreement, and adopt greenhouse gas emissions reduction targets and TCFD-based reporting.

The Fund also collaborates with other investors through Climate Action 100+, Ceres, and the CDP Non-Disclosure Campaign. It is also an active filer of shareholder proposals, filing over 150 climate-related shareholder resolutions since 2008 and reaching more than 70 agreements with portfolio companies. In 2021, the Fund voted against 404 individual directors at 88 companies that failed to address climate risks.





Commitment 2: Achieving real economy emissions reduction

Implementing this commitment with the aim of achieving real economy emissions reductions and undertaking a comprehensive set of actions available to investors, drawing on the Paris Aligned Investment Initiative's Net Zero Investment Framework

In the year following the first net zero commitments, signatories have been developing strategies that utilise a range of levers to transition their underlying investments and subsequently, their investment portfolios.

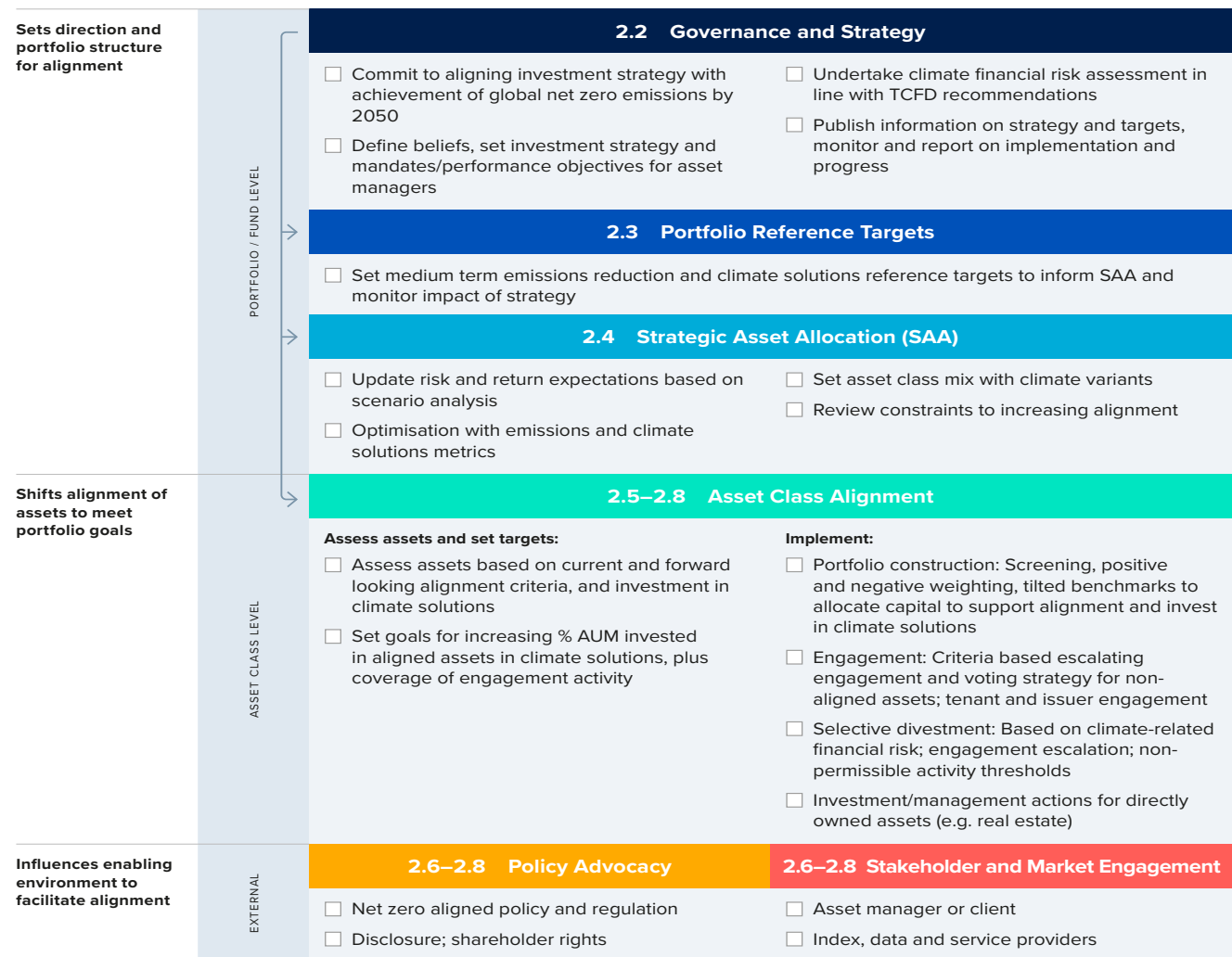
Setting targets is the first step many signatories take towards developing their net zero strategies. The types of targets chosen by signatories are important to incentivise emissions reductions in the real economy. The Net Zero Investment Framework recommends a combination of four targets that incentivise signatories to support underlying assets to transition and invest in the climate solutions providers required to drive decarbonisation. Target setting is explored in detail in *Commitment 3: Setting targets and objectives*.

Signatories have started to develop comprehensive net zero strategies that define the actions that will be taken to achieve targets. Some common actions include industry collaboration, such as with index providers and investment consultants, to develop new or improved tools and products for net zero. Policy advocacy to advocate for a supportive regulatory and policy environment on key topics such as corporate disclosures, shareholder rights, and real economy policies such as those relating to carbon pricing and building retrofits.

What does the Net Zero Investment Framework recommend?

The Framework sets out core components of a net zero investment strategy. Within each component, a broad menu of actions allows asset owners with different characteristics and constraints to utilise the range of levers best suited to their investment strategy.

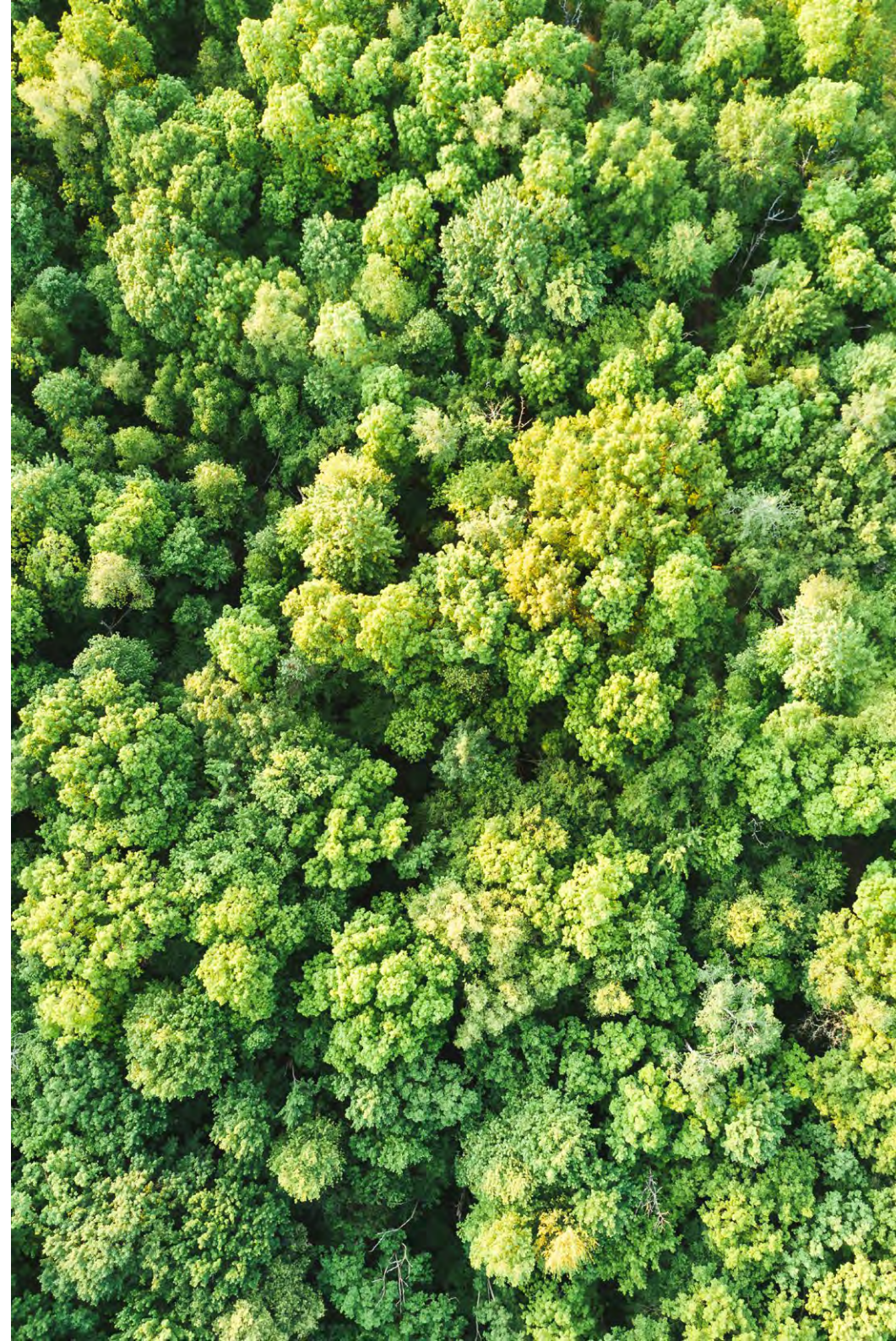
Figure 8. Core components and actions recommended in the Net Zero Investment Framework



As methodologies and data sources differ across asset classes, many signatories have started to develop asset class specific roadmaps. Currently, the Net Zero Investment Framework covers four asset classes with a number of others in development. Table 1 below shows the status of asset class specific methodologies.

Table 1. Status of asset class methodologies within the Net Zero Investment Framework

Listed equity	Finalised	Access the methodologies via the Net Zero Investment Framework 1.0 here .
Corporate Fixed Income		
Real estate		
Sovereigns		
Infrastructure	Finalised	Access the methodology here .
Private equity for LPs and GPs	Under development	Access the draft methodology here .
Derivatives and hedge funds	Under development	Access the discussion paper here .
Sovereigns (ASCOR, the Transition Pathway Initiative)	Under development	IIGCC is one industry partner. For more information, see here .



DEEP DIVE: TRANSITIONING REAL ESTATE ILMARINEN MUTUAL PENSION INSURANCE COMPANY

Ilmarinen signed the Paris Aligned Asset Owner commitment in 2021. The Board of directors has confirmed an ambitious net zero by 2035 goal for the investment portfolio.

Using the Net Zero Investment Framework as a guide, in 2021 Ilmarinen established two asset class specific roadmaps:

- Finnish real estate
- Direct listed equity roadmaps.

The roadmaps set out interim targets, actions to achieve the targets, and indicators to monitor progress towards the portfolio's net zero 2035 target.

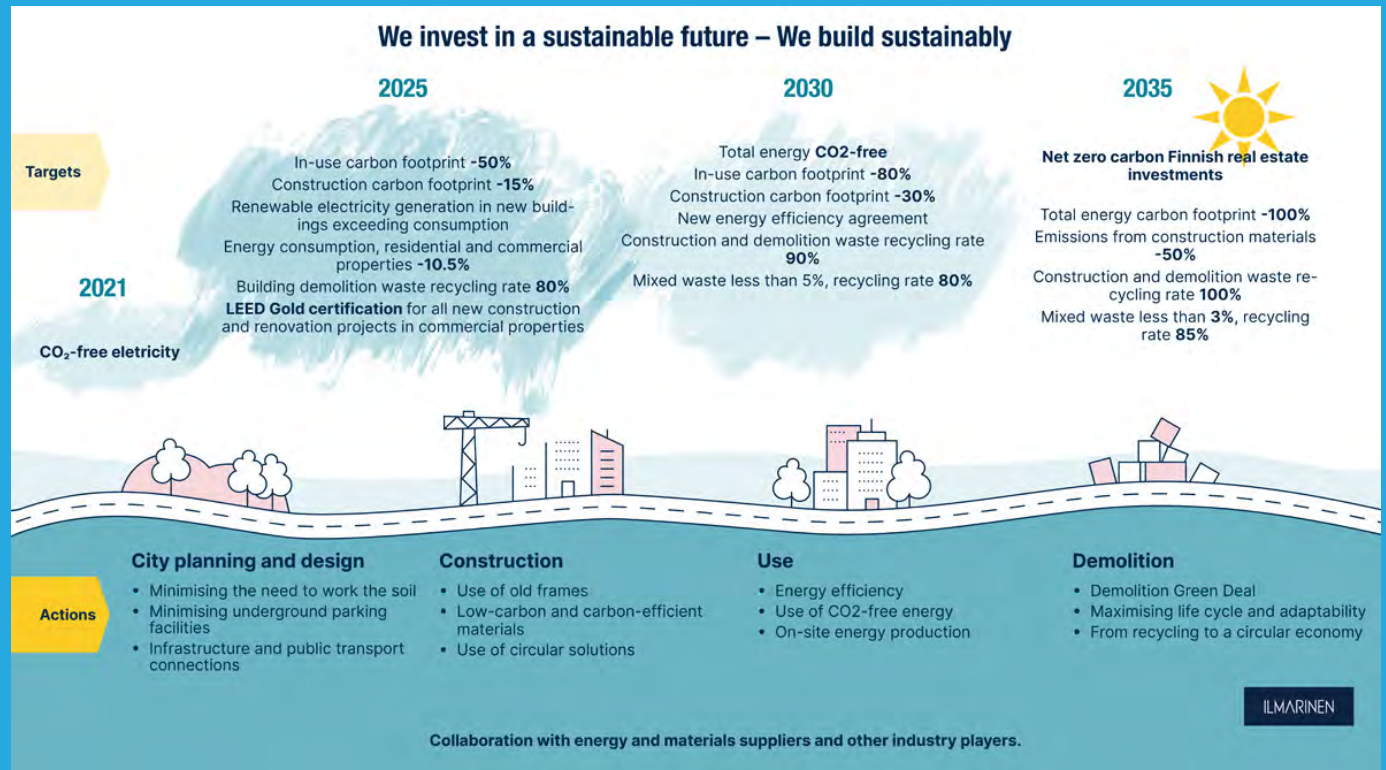
Extensive co-operation throughout the value chain is required to achieve the climate goals. For the real estate roadmap, Ilmarinen interviewed key partners and stakeholders as well as expert organisations in the industry. Ilmarinen has outlined the capabilities and timeframe for reaching the lowest possible emissions and in-use energy consumption. These discussions have opened new doors for co-operation and driven collaboration for a low carbon built environment.

Ilmarinen's real estate climate roadmap takes the building's life cycle into consideration. Increasing both energy and material efficiency and decarbonising the energy and materials used are key factors, as well as circular economy solutions. The aim is to reduce both construction and use phase emissions, as well as adopting construction solutions that are as low carbon and sustainable as possible. Optimising energy efficiency plays a major role; structural energy efficiency and sensible in-use energy consumption go hand in hand with a low carbon economy.

An important step in 2021 was achieving use-phase fossil free energy. For district heat, the net zero carbon target will be reached by the end of 2030 at the latest.

It is possible that the life cycle of buildings will not be fully decarbonised by 2035. Therefore, Ilmarinen will utilise compensation as a last step of the mitigation hierarchy as a complementary solution to achieve a net zero carbon life cycle for buildings.

The principles and targets set out in the roadmap will be implemented through internal guidelines concerning maintenance, design and property development.





DEEP DIVE: CASH AND RISK MANAGEMENT STRATEGIES

AVON PENSION FUND

In 2022, IIGCC has been working with investors to develop guidance for new asset classes, including infrastructure, private equity, derivatives and hedge funds. On average, the asset classes already covered by the Net Zero Investment Framework (listed equity, corporate fixed income, real estate and sovereign bonds) represent over 75% of an investment portfolio and therefore, are the most important for the transition to net zero. However, some Paris Aligned Asset Owner signatories have started working in partnership with others in the industry to develop approaches for asset classes that do not yet have established net zero methodologies.

Avon Pension Fund (£5.5billion) has interim targets in place to monitor and quantify progress against its net zero targets. Avon has already made significant changes to its investment strategy, including £1.4 billion allocated to Paris-aligned and sustainable equity strategies and over £400 million committed to renewable infrastructure projects. To continue driving impact, Avon's focus is now on extending the climate policy into asset classes not covered by the Net Zero Investment Framework, which often face structural or regulatory barriers which makes climate-aware investing particularly challenging.

Integrating climate metrics and targets in cash investments and instruments

Significant capital is being invested in renewable infrastructure which typically draws capital over time as opportunities arise. Holding a large cash allocation in readiness is sub-optimal from a return perspective. In partnership with BlackRock, Avon designed a solution which invests in a suite of ETFs optimised to match its strategic asset allocation. It includes a Paris-aligned ETF which broadly tracks Avon's £520 million investment in Brunel's Paris-aligned fund. Avon monitors the ESG score and carbon intensity of this liquidity strategy to ensure it is aligned with its climate objectives. For the cash Avon holds, it was an early adopter of environmentally aware liquidity funds which employ positive and negative screens and commit a portion of fees generated to acquiring and retiring carbon offsets, whilst delivering the conventional money market fund metrics of yield, liquidity, and credit quality.

Integrating climate metrics and targets in risk management frameworks

To control leverage in the fund used to house Avon's liability hedging instruments, Avon is required to hold physical assets in the form of a passive equity fund. Avon works with the industry to address the structural and regulatory hurdles associated with holding certain low carbon & transition-aligned funds in investment vehicles otherwise reserved for derivative strategies. Through this, Avon aims to be a catalyst for change as it takes its first steps toward replacing the market-cap indices currently used with synthetic instruments directly referencing climate benchmarks.

"Avon has been at the forefront in developing innovative investment solutions to progress the net zero agenda. Working together with BlackRock and the wider industry to develop unique structures, in areas that present challenges to investors, is testament to their thought leadership and commitment. We are hopeful that other investors will take inspiration from this partnership approach as they seek to deliver on their own climate ambitions."

Justin Wheeler, BlackRock.

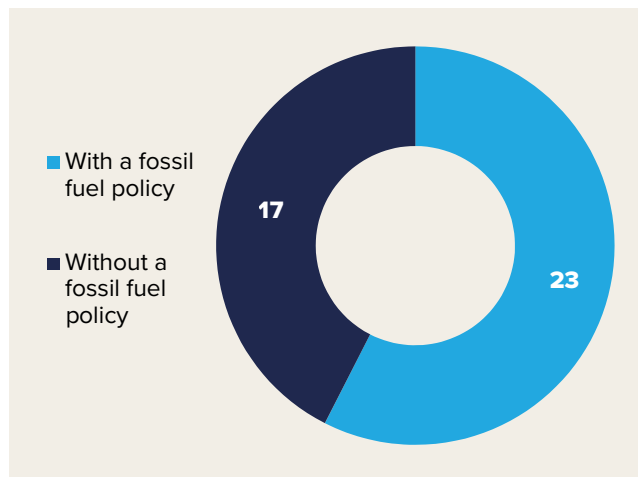
Another lever for transitioning investment portfolios well utilised by signatories is the development and implementation of policies for investment in fossil fuels. Signatories are asked to disclose details of their fossil fuel investment policies at the same time as disclosing targets and objectives to the initiative.

What does the Net Zero Investment Framework recommend?

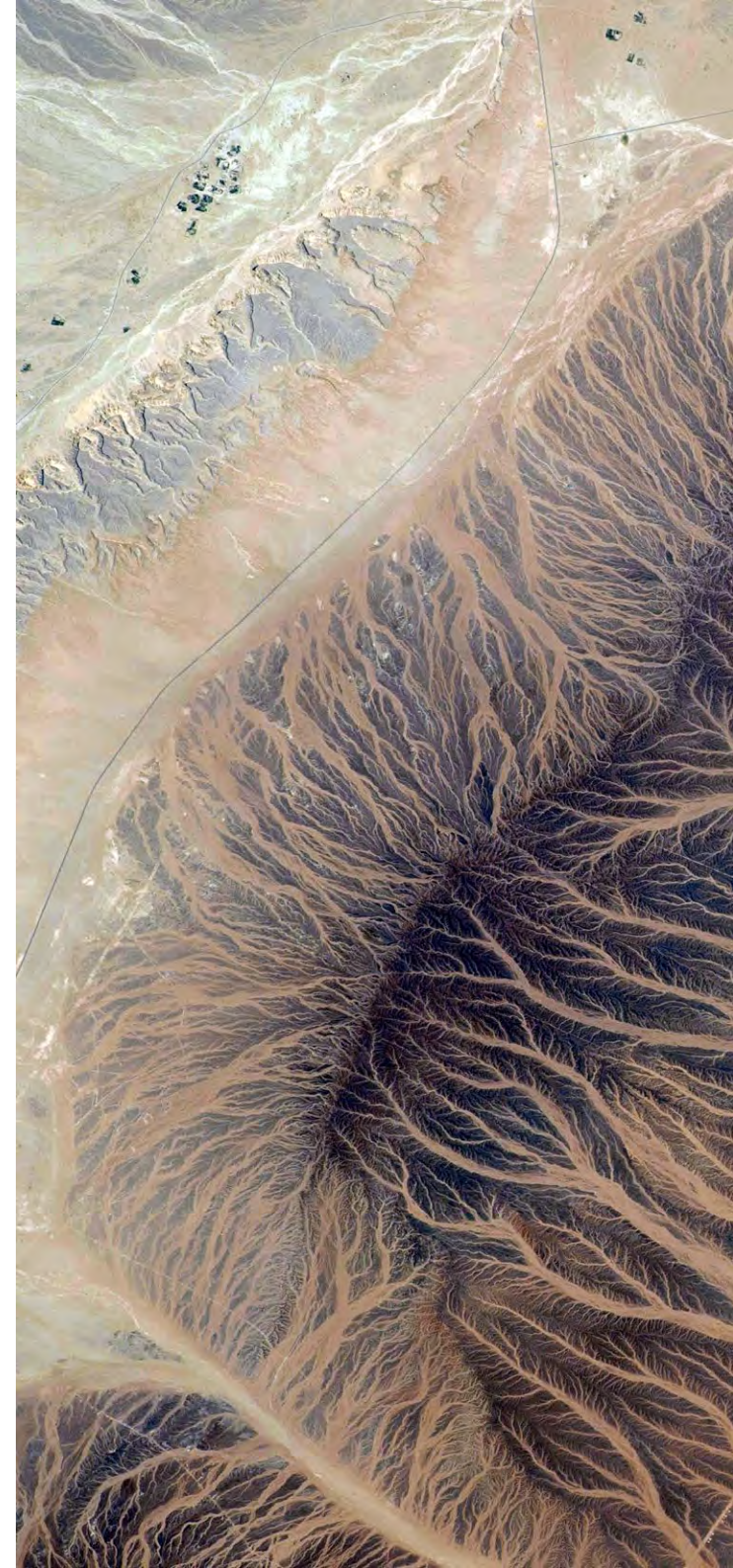
Drawing on the Net Zero Roadmap from the International Energy Agency (IEA), the Net Zero Investment Framework recommends that signatories do not allocate additional capital to companies that are planning or constructing new thermal coal projects and associated infrastructure (power, mining) or taking forward new exploitation of tar sands.

Where investors are existing shareholders or bondholders in such companies, active and escalating engagement strategies are recommended, with the aim of ensuring no new thermal coal generation is developed and no further tar sand resources are exploited. Phase out of existing unabated capacity and activity should be undertaken in line with net zero pathways. In advocating for these transition plans, investors should recognise the need for a just transition in countries or regions where there is significant economic dependence on thermal coal power or mining.

Figure 9. Number of signatories with a fossil fuel investment policy



To date, the majority of signatories (58%) that have made disclosures have fossil fuel investment policies in place or under development. The types of policies vary but often include exclusions of companies that derive a certain proportion of sales or revenues from carbon-intensive activities such as those relating to coal mining, or fossil fuel extraction from tar sands or oil and gas.





DEEP DIVE: ADOPTING A STRENGTHENED FOSSIL STRATEGY

AP PENSION

Danish pension company AP Pension revised its [fossil fuel policy](#) in 2022. The revised policy ensures the company's USD 23 billion fund will only be invested in fossil fuel firms on a net zero pathway and aligned with the Paris Agreement. The strategy includes the following exclusion criteria:

- Coal companies: excluded if they have more than 5% revenue from the extraction of thermal coal or have expansion plans
- Utility companies: excluded if they have more than 25% revenue from energy production with thermal coal or they have expansion plans
- Fossil companies are excluded if they have more than 5% revenue from the extraction of tar/oil sands
- Oil and gas companies are excluded if they have more than 20% revenue from upstream activities

Fossil fuel companies which are assessed to have taken steps towards net zero but cannot yet demonstrate a transition compatible with the Paris Agreement will be placed on AP Pension's observation list.



Whilst the exact thresholds differ, many signatories have prioritised activities highlighted by the IPCC or the IEA as inconsistent with limiting global temperatures to 1.5°C above pre-industrial levels. Many are also revising their current policies and introducing tighter thresholds or further exclusions. Signatories also include an assessment of a company's transition plans and response to targeted engagement as important factors in determining if an exclusion should be applied.

DEEP DIVE: FOSSIL FUEL INVESTMENT POLICY PENSIOENFONDS ZORG EN WELZIJN (PFZW)

PFZW is responsible for the pension policy and the pension capital of nearly 3 million current and former employees in the care and welfare sector in the Netherlands. The pension fund manages the invested capital, which amounted to €277.5 billion at the end of December 2021.

The GHG emissions of fossil energy companies represent a large part of the financed emissions in PFZW's listed equities portfolio. Bringing the emissions of these companies down in line with a 1.5°C emissions pathway is an important step towards achieving PFZW's goal of a 50% reduction in tCO_{2e}/EURmln invested.

Time-bound expectations of fossil fuel companies

PFZW sets expectations of fossil fuel companies to commit to the Paris Agreement goals of limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C, within the next two years. PFZW will only remain invested in fossil fuel companies that have a convincing and verifiable climate transition strategy in line with the Paris Agreement by 2024. From 2024, PFZW will no longer invest in companies in the fossil fuel sector that do not meet these requirements.

PFZW will apply the following criteria when determining whether investments can be made in companies active in the fossil fuel sector:

- Companies must have a GHG emissions reduction target.
- Companies must make a clear commitment to 'Paris' by the end of 2022 and thus to the 1.5°C temperature target. If they fail to do so, investments in these companies will be sold in 2023.
- Companies that have committed to 'Paris' must draw up a convincing and verifiable climate transition strategy to support their commitment by the end of 2023. This strategy should include short- and medium-term targets in line with 'Paris'. If they do not, they will no longer be eligible for investment in 2024.

Engagement with fossil fuel companies

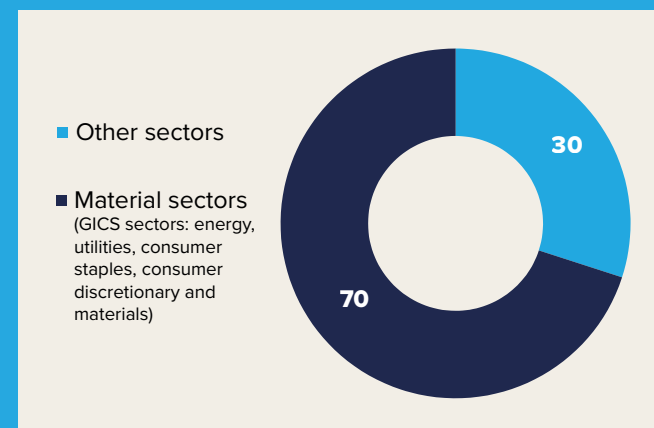
The timeline above gives companies the opportunity to implement a viable plan to reform their business models. During this period, PFZW will intensify its shareholder dialogue with companies that are willing to make the transition. PFZW will use its voting rights more emphatically in climate-related resolutions and Board proposals. Specific attention will be paid to stopping extraction in Arctic areas and PFZW will insist on stopping investments in new fossil fuel supply.

If necessary, a vote will be taken against the (re) appointment of directors who are making insufficient contribution to the transition of their company. To the extent possible, PFZW will join forces with like-minded parties to strengthen its influence. PFZW will continue intensive shareholder dialogue with the companies in this sector that do qualify for investment in 2024.

Expanding engagement to other materials sectors

PFZW's active ownership program is currently directed at fossil fuel companies in the energy sector. The financed emissions of these companies represent some 20% of total financed emissions of the PFZW listed equities portfolio. However, PFZW recognizes that addressing the demand side of fossil energy is also important. Therefore, it will expand its engagement program towards companies in other material sectors (GICS sectors: energy, utilities, consumer staples, consumer discretionary and materials). Financed emissions of material sectors – including the energy sector – represent some 70% of total emissions in listed equities for PFZW, as shown here.

Figure 10. Percentage of financed emissions by sector



Commitment 3:

Setting objectives and targets

Setting objectives and targets, including an interim target for 2030 or sooner for reducing scope 1, 2 and 3 emissions associated with our portfolios and setting a target for increasing investment in climate solutions, consistent with a fair share of the 50% global reduction in CO₂ identified as a requirement in the Intergovernmental Panel on Climate Change special report on global warming of 1.5°C

Paris Aligned Asset Owner signatories have set a range of targets and goals to establish the ambition of their net zero investment strategies. Signatories are required to disclose targets and objectives within 12 months of making the commitment and update targets at least every five years. To date, 40 of 57 signatories have disclosed initial targets. All target disclosures can be found in the initiative's *Initial Target Disclosure* report [here](#).

Highlight 1 above sets out the types of targets signatories are recommended to set. This section provides a deeper exploration of the different types of targets set by signatories, including the internal processes taken to establish targets, and the methodologies and data sources underpinning targets. The first case study provides insight into the journey that HSBC Bank Pension Trust (UK) Ltd. went through internally to develop and publish targets that were appropriate for the pension scheme.

DEEP DIVE: FIRST STEPS TO SETTING A MEANINGFUL GHG EMISSIONS TARGET

HSBC BANK PENSION TRUST (UK) LTD.

In 2021, HSBC Bank Pension Trust (UK) Ltd. (HSBC) set out to define an appropriate emissions target for the UK Pension Scheme in line with its investment and climate objectives, and the goals of the Paris Agreement. In recognition of the consideration and resource required, HSBC set up the Climate Risk Working Group (CRWG), to recommend a suitable objective to the Board.

The CRWG consisted of four Trustee Directors, three representatives from the Pension Scheme Executive and two advisors, with input from the Scheme's legal advisor, investment managers and other subject matter experts. The CRWG met monthly and was governed by a set of principles and Terms of Reference, approved by the Trustee and its work was overseen by the Asset and Liability Committee and the Trustee Board.

Financial outcomes for members and the legal basis for putting a net zero target in place were key starting points, along with a wide range of inputs on net zero and climate risk. Questions discussed ranged from high level to detailed, with key questions debated including:

- Should the objective be to drive real economy emissions reduction or achieve a net zero portfolio decarbonisation?
- What is the relationship between climate risk and net zero targets?
- What is in scope for the climate target in terms of asset classes and scopes of emissions?
- Should the targets be absolute or intensity based? What are the different timeframes for the targets?
- What mandate changes would the Trustee be prepared to make?

- How is the approach different for the DB and DC schemes, noting their different asset class exposures and time horizons?
- What are the views of the Sponsor and how can we consider that in our decision making?
- What might the emissions reduction journey plan look like?
- How do carbon footprinting, risk mitigation and alignment interact?
- Should the Trustee follow the PAII Net Zero Investment Framework to set and implement its objective?

After six months, the CRWG made the following recommendation to the Trustee Board: commit to achieving net zero GHG emissions across the Scheme's DB and DC assets by 2050 or sooner, along with a set of interim targets. The Board approved this recommendation and delegated the responsibility to implement the recommendations of the CRWG to the Asset and Liability Committee.



Portfolio decarbonisation reference target

Target description: A <10-year CO₂e emissions reduction target, with 5-year interim target milestones

Target aim: An accountability mechanism to ensure that investors' engagement with investees and its actions to support alignment at the asset level are yielding the necessary portfolio level emissions reductions required by a 1.5°C emissions trajectory applicable to a portfolio.

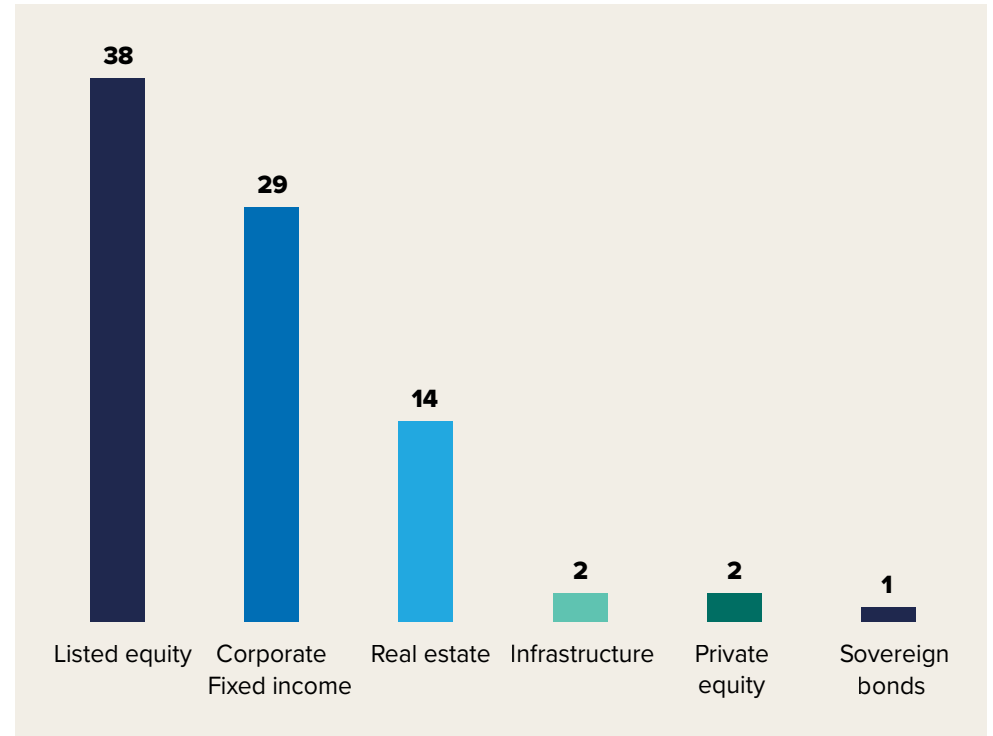
Signatory progress: 70% of signatories have set short-term targets for 2025 or sooner, with others setting targets for 2030 in addition or in place of 2025 targets. As targets disclosed must be consistent with a fair share of the 50% global reduction in CO₂ as set out in the IPCC Special Report on Global Warming of 1.5°C, most signatories have opted for 50% CO₂e reduction by 2030 and net zero portfolio emissions by 2050. Three signatories aim to reach net zero by 2035, and another three by 2045.

Investors use a mix of metrics to measure portfolio emissions. Financed emissions based on the PCAF methodology and Weighted Average Carbon Intensity (WACI) are the most utilised. Many signatories also track and disclose absolute emissions relating to the portfolio.

Scope 1 and 2 emissions have been covered by all signatories, with many planning to integrate scope 3 in the near future. A number of asset owners are already integrating scope 3 emissions into interim portfolio decarbonisation targets. Many include scope 3 emissions within the alignment assessments required by the portfolio coverage target and in engagement activities, for example for real estate, energy, and mining sectors. The initial target disclosures show that signatories plan to integrate material scope 3 emissions in 2023 as confidence in data improves.

In the first year after becoming a signatory, asset owners have prioritised certain asset classes for target setting and strategy development. Listed equity and corporate fixed income are the asset classes on which interim targets are most frequently set, as shown here.

Figure 11. Asset classes included in scope of signatories' portfolio reference decarbonisation targets





DEEP DIVE: INTEGRATING CARBON EMISSIONS INTO LISTED EQUITY AND CORPORATE BOND PORTFOLIOS

PKA

Committed to contribute to the objectives of the Paris Agreement and be net zero by 2050, PKA has set its first carbon reduction target of 29% by 2025. The target covers scope 1 and 2 emissions of PKA's investments in listed equity, real estate, and corporate bonds. By the end of 2022, PKA will set an additional carbon reduction target for 2030 which will also cover investments in direct infrastructure. PKA has already achieved carbon reduction of 43% on the three asset classes. However, the expectation is that the decarbonisation rate will fall as more asset classes are included within targets and scope 3 emissions are integrated.

To set the targets, PKA uses recommendations from the Net Zero Investment Framework and sets targets using carbon footprint (CO₂/invested capital) as a measure. PKA's listed equity and corporate bonds are managed by external asset managers, and to ensure ongoing progress on carbon reduction of these mandates, a Weighted Average Carbon Intensity (WACI) has been implemented as the internal measure for carbon emission reduction. Like carbon footprint, using WACI allows for the managers to draw comparison between different portfolios, peers, and benchmarks. Unlike carbon footprint, it allows for an intuitive and stable comparison between portfolio companies. PKA and the external managers have agreed to construct the portfolios in a way that, as a maximum, reaches 70% of the WACI of PKA's benchmark. This approach to portfolio construction is not expected to affect PKA's risk/return ratio. With this approach, combined with being an active owner and engaging with companies about their net zero strategies, PKA aims to contribute to a net zero future.



Investment in climate solutions

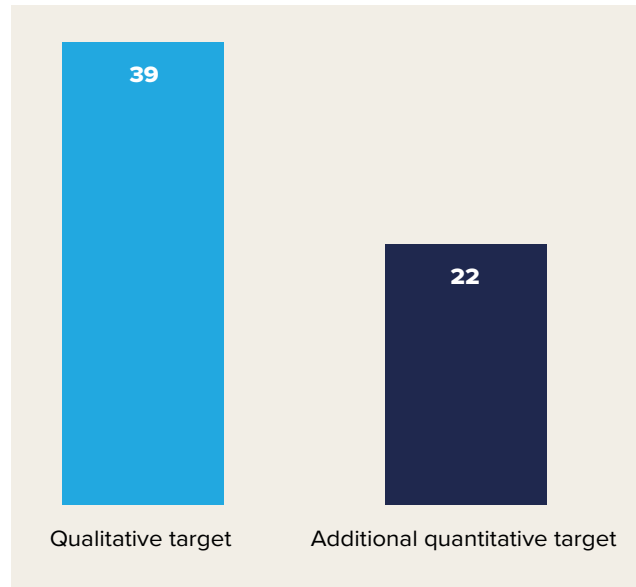
Target description: A <10-year goal for allocation to climate solutions

Target aim: Direct capital to the key activities, technologies, products and services required to support decarbonisation of the economy, across key industries and regions.

Signatory progress: 98% of Paris Aligned Asset Owners that have disclosed targets have established either a quantitative target or qualitative goal for increasing investments in climate solutions. Increased investment in climate solutions is a core element of the initiative's underlying methodology – the Net Zero Investment Framework. As the EU Taxonomy was finalised only recently and coverage and quality of taxonomy-aligned data is still improving, signatories have used various methodologies in the interim for defining and measuring climate solutions. The initiative is currently working with investors to develop a methodology for defining and measuring climate solutions that will leverage the EU Taxonomy and support industry standardisation.

Many asset owners have focused on SDG7: Clean and Affordable Energy, developing bespoke classifications across different assets classes. Others have used green classifications provided by data vendors or asset managers. Despite the absence of an industry standard that can be applied across an investment portfolio, signatories have measured their current allocation and set ambitious quantitative targets ranging from 6% of AUM to 25% of AUM by 2030.

Figure 12. Types of climate solutions targets set



Initiative work: IIGCC's Climate Investment Roadmap provides a breakdown of investment requirements within a net zero scenario, with granular technology and regional breakdowns. The Roadmap also provides a framework for investors to prioritise technology investment and methods to establish Paris-benchmarks for climate solutions and optimal metrics measure allocation to solutions within investment portfolios.



Northern LGPS is the partnership between the Greater Manchester (GMPF), Merseyside (MPF) and West Yorkshire (WYPF) Local Government Pension Scheme (LGPS) funds, holding £46 billion AUM and representing 880,000 members and over 1,100 contributing employers.

Northern LGPS understands environmental factors can be financially material and, as such, should be part of the assessment and monitoring of investments in all asset classes. Achieving sustainable, long-term financial returns underpins the ability to pay pensions and a focus on ESG issues helps reduce risks to the partnership's beneficiaries. Hence, as well as setting a whole portfolio decarbonisation target of 50% emissions reduction by 2030 and net zero by 2050, Northern LGPS has committed to scaling up investments in climate solutions by 2030, as recommended by the Net Zero Investment Framework.

Measuring and setting targets for increasing allocations to climate solutions by 2030

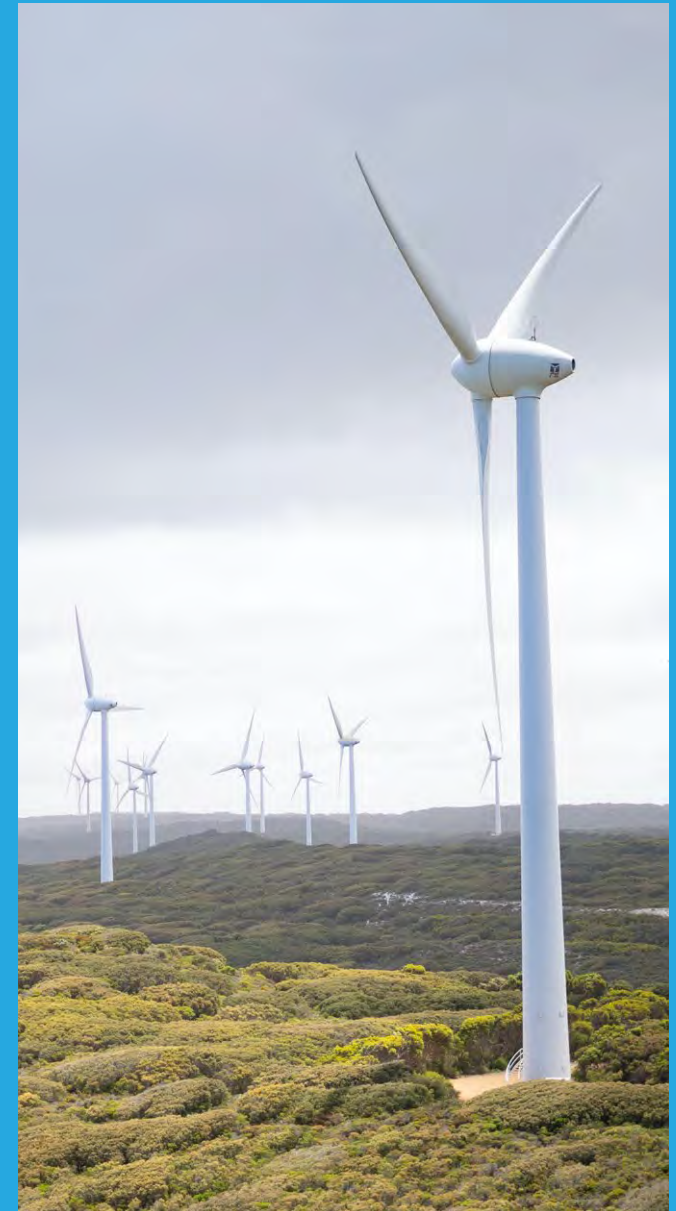
Northern LGPS recognises the need to increase investment in the range of technologies required to support decarbonisation of sectors across the economy whilst also providing an attractive investment opportunity. Therefore, Northern LGPS analysed its current and projected investment in climate solutions in line with the methodology set out by IIGCC and the [Climate Investment Coalition](#), and joined the [collective COP26 pledge from Nordic and UK pension funds to increase investment in climate solutions by USD130 billion by 2030 and track progress against this target over time.](#)

In April 2015, GMPF and the London Pensions Fund Authority formed a joint venture to invest directly in infrastructure assets, with a focus on the UK. The joint venture is structured as a limited liability partnership and has been named GLIL Infrastructure LLP (GLIL). As part of the LGPS pooling discussions, West Yorkshire, Merseyside and Lancashire County Council pension funds joined GLIL in 2016. In 2018 GLIL was re-structured as an open-ended FCA Regulated fund to facilitate potential new members. Additional commitments made by existing members mean GLIL now has committed capital of approximately £3.6 billion. GLIL has invested £2.1 billion through thirteen transactions since 2015.

One third of GLIL's AUM is currently invested in climate solutions, with growth a key objective for the Northern LGPS pool; investments in climate solutions are expected to grow in parallel. Going forward, Northern LGPS will continue to be at the forefront of scaling up investments in climate solutions in the asset owner-space, emphasised by the partnership's commitment to increase investment in climate solutions to approximately \$2 billion by 2030, up from \$1 billion in the baseline year of 2021.

Clyde Wind Farm

An early transaction of GLIL was the purchase from SSE of a 21.7% stake in Clyde wind farm for £150 million, followed by an additional £30 million and £88 million in 2017 and 2018, respectively. Clyde now has a total generation capacity of 522MW, making it one of the largest onshore windfarms in Europe.



Portfolio coverage target

Target description: A 5-year portfolio coverage target for increasing the percentage of AUM in material sectors that are aligned to net zero pathway or meeting criteria to be considered “aligned” or “aligning” to a net zero pathway.

Target aim: Incentivise the transition of underlying assets in a portfolio by assessing the current alignment of assets with net zero pathways and the forward-looking transition-potential of assets, capturing changes in climate performance over time.

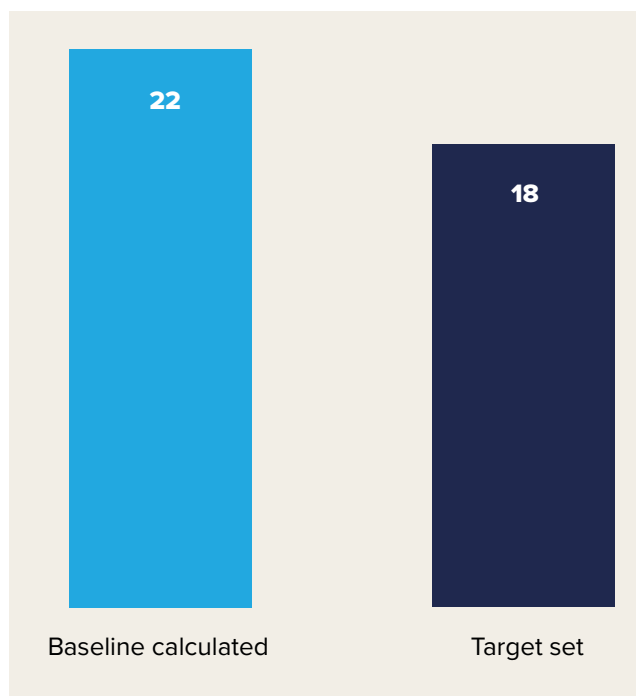
Signatory progress: Recommended alignment criteria and categorisations are set out in the Net Zero Investment Framework and Supplementary Target Setting Guidance. However, due to the granular data and resource-intensive processes required to perform a thorough alignment assessment across a portfolio, many Paris Aligned Asset Owners are still performing the assessment to understand their baseline or have adopted a more conservative approach, using fewer alignment indicators.

18 signatories have set a portfolio coverage target to date. Many have adopted the Net Zero Investment Framework’s recommendation of a 2025 target as well as a goal for reaching 100% of assets at least “aligning” to net zero by 2040 or sooner. In addition, 7 signatories have calculated a baseline without yet setting a target, whilst many others disclose that alignment assessments are a work in progress.

A key driver of investors’ progress towards net zero is the way in which they support their portfolio companies to transition. As a first step, many Paris Aligned Asset Owners have undertaken an assessment of the transition plans of companies in their portfolios. This includes mapping companies against multiple current and forward-looking criteria, as set out in the Net Zero Investment Framework and shown here.

Performing this assessment across a public equities portfolio is a significant undertaking, requiring large quantities of data from various sources and a good understanding of the portfolio companies under assessment. Significant challenges remain for investors looking to implement this across a portfolio, particularly in relation to access to quality and reliable data that match investors’ alignment criteria. Initiatives such as the Climate Action 100+ Net Zero Company Benchmark and the Transition Pathway Initiative are crucial to support investors’ alignment goals.

Figure 13. Portfolio coverage target



Criteria to assess the Paris-alignment of companies

- 1. Ambition:** A long term 2050 goal consistent with achieving global net zero
- 2. Targets:** Short- and medium-term emissions reduction target (scope 1, 2 and material scope 3)
- 3. Emissions performance:** Current emissions intensity performance (scope 1, 2 and material scope 3) relative to targets
- 4. Disclosure:** Disclosure of scope 1, 2 and material scope 3 emissions
- 5. Decarbonisation Strategy:** A quantified plan setting out the measures that will be deployed to deliver GHG targets, proportions of revenues that are green and where relevant increases in green revenues
- 6. Capital Allocation Alignment:** A clear demonstration that the capital expenditures of the company are consistent with achieve net zero emissions by 2050

Additional criteria to be incorporated where feasible

- 7. Climate Policy Engagement:** The company has a Paris-Agreement-aligned climate lobbying position and demonstrates alignment of its direct and indirect lobbying activities
- 8. Climate Governance:** Clear oversight of net zero transition planning and executive remuneration linked to delivering targets and transition
- 9. Just Transition:** The company considers the impacts from transitioning to a lower-carbon business model on its workers and communities
- 10. Climate risk and accounts:** The company provides disclosures on risks associated with the transition through TCFD Reporting and incorporates such risks into its financial accounts



DEEP DIVE: AN ALIGNMENT METHODOLOGY USING PUBLICLY AVAILABLE DATA

AP7 (SJUNDE AP-FONDEN)

AP7 (Sjunde AP-fonden) is a universal owner with over 3,000 listed equities globally. AP7 has set a portfolio coverage target of 50% of the ICAP portfolio by 2025. For more detail of AP7’s targets, see their target disclosure here.

The alignment methodology is set out below, highlighting:

- AP7’s approach to limited data
- Baseline calculations
- The assessment and measurement of alignment.

AP7 bases the assessment of company net zero alignment on publicly available data from the Climate Action 100+ Net Zero Company Benchmark and Transition Pathway Initiative. Both are asset owner led initiatives providing reliable and transparent data. However, data coverage is currently limited.

Table 1. Data coverage for AP7 equity portfolio

	Number of companies	AUM (million SEK)	Financed GHG emissions (tCO _{2e})
AP7 equity portfolio	3 056	829 128	3 932 182
AP7 equity portfolio – net zero data coverage	7.2%	11%	62%

Due to issues of data coverage AP7 developed an approach to targets based on an ‘ICAP Portfolio’. This portfolio is composed of the companies with the largest carbon footprints (scope 1 and 2), which in aggregate correspond to at least 70% of financed emissions for the entire fund.

Table 2. Data coverage for ICAP portfolio

	Number of companies	AUM (million SEK)	Financed GHG emissions (tCO _{2e})
ICAP portfolio	132	86 349	2 753 580
ICAP portfolio % of entire portfolio	4.3%	10.4%	70%
ICAP portfolio – net zero data coverage	74%	44%	83%

Whilst the ICAP portfolio represents only 10% of the total assets under management, it represents 70% of financed emissions. Net zero data covers 74% of companies and 83% of financed emissions in the portfolio.

Company alignment categorisation is evaluated using the [Supplementary Guidance on Target Setting](#) for the Net Zero Investment Framework. Portfolio companies are evaluated and categorised according to the alignment maturity scale based on publicly available sources in the following hierarchy:

1. Climate Action 100+ Net Zero Company Benchmark (March 2022 or latest available)
2. Transition Pathway Initiative (TPI) – Carbon performance metrics and underlying datapoints within the Carbon Management assessment (April 2022) *Net zero categorisation and criteria used for assessment.*

AP7 takes a conservative approach to categorisation of companies:

- TPI carbon performance of “1.5 degrees” on short- or medium-term targets is a requirement for “aligning” status (“below 2 degrees” is not sufficient)
- AP7 recognises that the CA100+ Net Zero Company Benchmark and TPI criteria are not identical which may lead to discrepancies between evaluation methods implemented by investors
- Data from Science Based Target Initiative (SBTi) may be incorporated in future reporting as methodologies and guidance develops.

Table 3. Net zero categorisation and criteria used for assessment

	“Aligned”	“Aligning”	”Committed”	”Not aligned”
Net Zero Company Benchmark	Higher impact companies: Yes, on criteria 1-6 Lower impact companies: Yes, on criteria 2, 3, 4	Yes, on criteria 2 and 4 Partial fulfilment of criteria 5	Yes on criteria 1	All other CA100+ companies
TPI data		Management quality: Yes, on Q3, Q4, Q5, Q7, Q8, [Q12 where applicable] Carbon performance: “1.5 degrees” in 2025 or 2035		All other companies

Baseline results

Companies identified as “Achieving”, “Aligned”, “Aligning” and “Committed” are defined as “transitioning companies”, which constitutes our asset level alignment portfolio coverage target.

Linking alignment assessment to corporate engagement

AP7 has identified a list of priority companies for active ownership. The list consists of all companies within the ICAP Portfolio (covering 70% of financed scope 1 and 2 emissions), as well as additional companies which are climate disclosure laggards or have significant scope 3 emissions.

AP7 has set a target on active ownership:

- 2025: 100% of the priority companies will be subject to active ownership activities

Active ownership tools include collaborative and bilateral dialogue with companies, annual meeting actions, public blacklisting and legal processes. In addition, AP7 exercises its voting rights for all companies in its portfolio, (approximately 4000 meetings per year) with a strong voting policy on climate.

Table 4. Baseline results for ‘Transitioning companies’ in the ICAP Portfolio on which the asset level alignment target is set

	Achieving	Aligned	Aligning	Committed	Transitioning companies	Not aligned	No data
% Companies	0%	0%	5.3%	20.5%	25.8%	48.5%	25.8%
% AUM	0%	0%	2.1%	11.0%	13.1%	31.3%	55.6%
% Financed emissions	0%	0%	2.3%	29.9%	32.2%	50.6%	17.2%
	Transitioning companies						

Engagement threshold

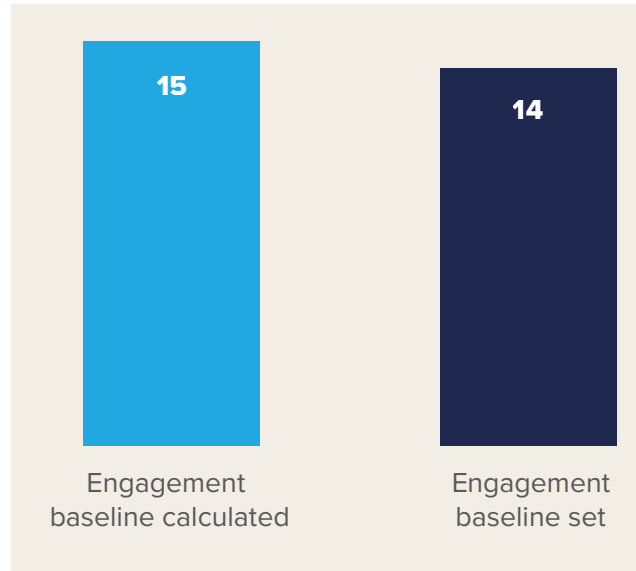
Target description: An engagement threshold which ensures that at least 70% of financed emissions in material sectors are either assessed as net zero, “aligned” with a net zero pathway, or the subject of direct or collective engagement and stewardship actions. The threshold should increase to at least 90% by 2030 at the latest.

Target aim: Ensure adequate and ongoing engagement with assets that are not yet aligned with a net zero pathway, focusing on the most material GHG emitters in a portfolio. In combination with the portfolio coverage target, driving portfolio emissions reductions via the transition of underlying assets in a portfolio.

Signatory progress: Many signatories have established engagement and stewardship policies and either carry out engagements with companies directly or instruct external managers to engage on their behalf. A number of signatories have indicated that they are or have already updated their stewardship policies and practices to incorporate their net zero strategies more explicitly.

35% of signatories that have disclosed initial targets have set a quantitative threshold for engagement, expressed as a proportion of financed emissions under engagement. 38% have established their current engagement baseline. These targets often reflect the recommended ambition outlined in the Net Zero Investment Framework of 70% of financed emissions in the shorter-term, working towards 90% of financed emissions under engagement by 2030.

Figure 14. Engagement threshold target



It's also common for signatories to identify a number of “priority” companies for engagement. The prioritisation can be based on multiple criteria. Financed emissions and companies in high emitting sectors such as oil & gas and transport are often primary factors, supported by other considerations such as:

- The future emissions potential of the company (particularly in relation to scope 3 emissions)
- Jurisdiction of the company as this shareholder rights differ across jurisdictions
- Key thematic issues such as coal phase out or emissions from land use
- Opportunities to engage directly or through collaborative initiative such as Climate Action 100+ and likelihood of success.



Signatories have been guided by the six-step process set out in the [Net Zero Stewardship Toolkit](#), produced by IIGCC and released in 2022. The Toolkit provides a framework for investors to help prioritise high impact corporate engagement and hold laggard companies to account through six key steps.

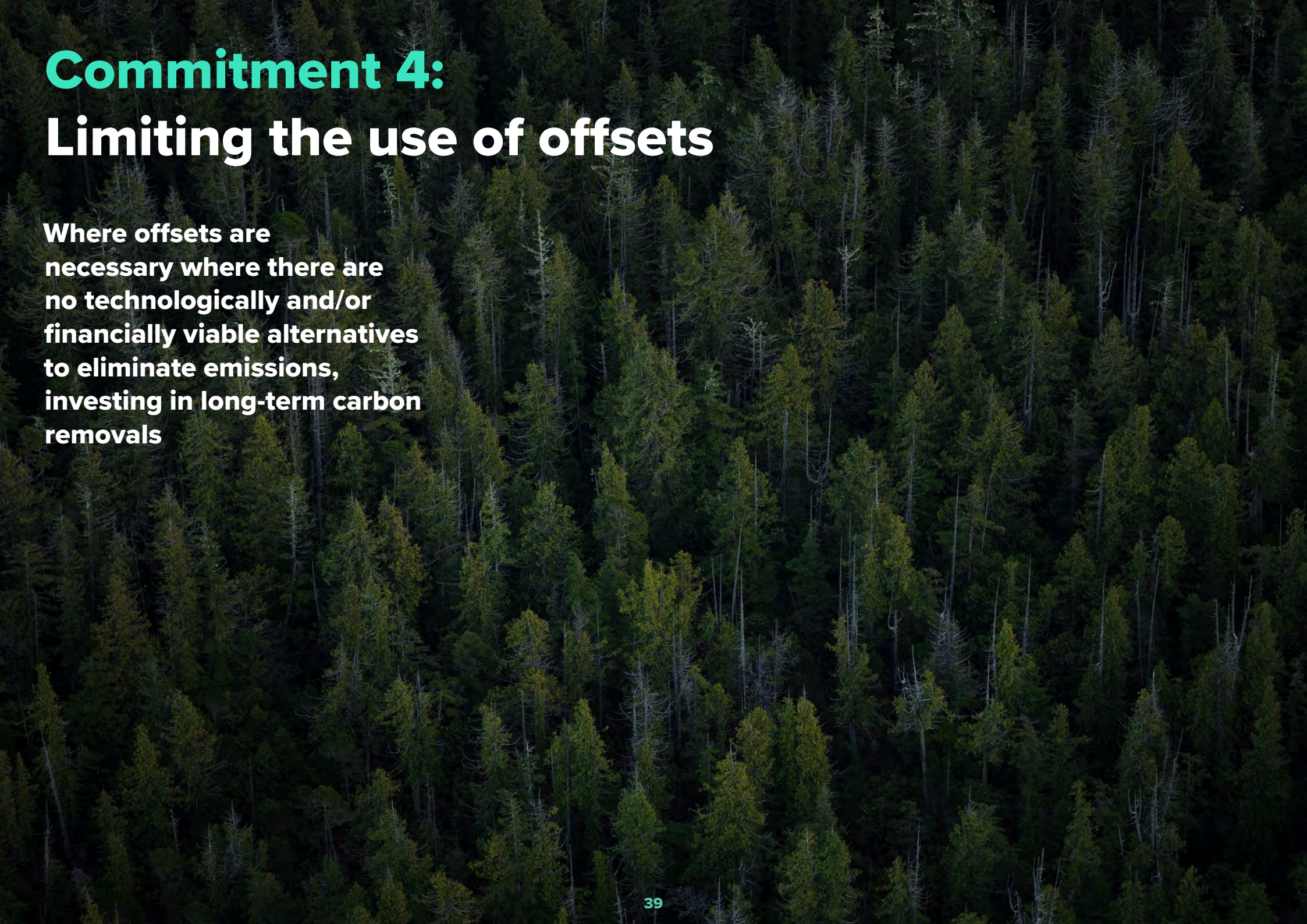
For asset owners, the process to determine which companies to prioritise for engagement is often a mixture of internal policies and practices and those of their external managers. Alignment between asset owners and managers is therefore crucial for successful implementation of asset owner stewardship approaches and engagement targets, and thus real world emissions reduction. Signatories are starting to establish specific stewardship expectations of managers that engage with companies on their behalf, utilising IIGCC's Net Zero Stewardship Toolkit.

For more information about the engagement and stewardship activities signatories are undertaking, including escalation strategies, voting policies, and engagement on key topics such as the just transition, see *Commitment 6: Implementing a stewardship and engagement strategy, with voting policy.*



Six step process within IIGCC's Net Zero Stewardship Toolkit

- 1. Undertake portfolio analysis and use the stewardship framework for prioritisation of key engagements**
- 2. Set net zero alignment criteria, time bound company level objectives and portfolio goals**
- 3. Develop an engagement strategy for priority companies**
- 4. Develop a baseline engagement (minimum level) and voting policy approach for all companies**
- 5. Asset owner and manager alignment and engagement**
- 6. Transparency and disclosure**

An aerial photograph of a dense forest of tall, thin trees, likely conifers, covering a hillside. The trees are dark green and densely packed, with some lighter green areas visible. The lighting is somewhat dim, suggesting a shaded forest environment.

Commitment 4:

Limiting the use of offsets

Where offsets are necessary where there are no technologically and/or financially viable alternatives to eliminate emissions, investing in long-term carbon removals

Paris Aligned Asset Owners are committed to prioritising mitigation of GHG emissions over offsetting to achieve their net zero goals. Therefore, signatories have not disclosed plans to use carbon offsets to achieve portfolio emissions targets. Whilst there is little tailored guidance as to how investors should use offsets across the portfolio, Ceres has published [Evaluating the Use of Carbon Credits](#) to help investors assess the integrity of corporate net zero commitments and the use of carbon credits to deliver on those commitments. Consistent with the SBTi Corporate Net-Zero Standard, Ceres suggests that corporates should follow a mitigation hierarchy, as detailed here.

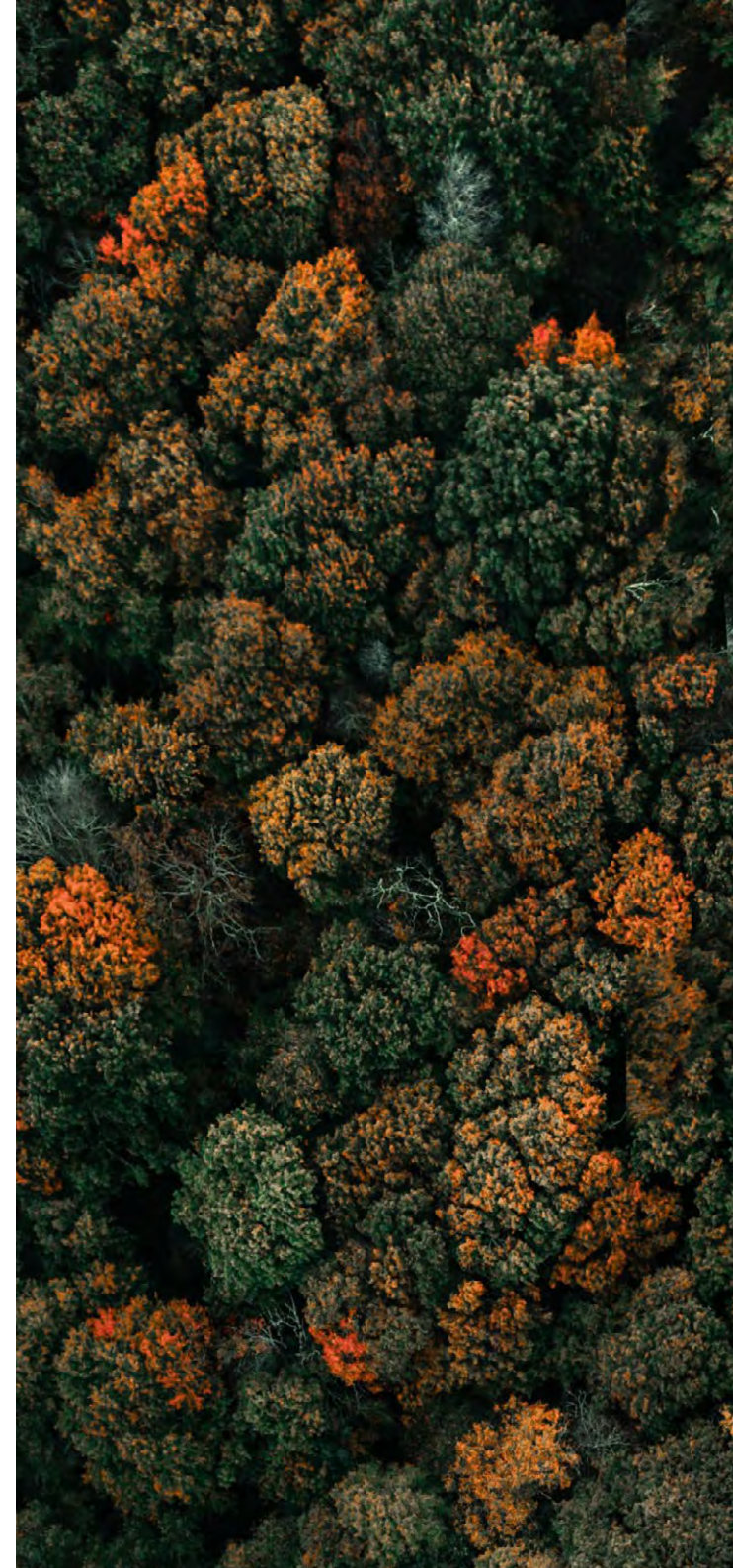


IIGCC has additional work underway to provide guidance on the credible use of offsets for investors and their portfolio companies. This aims to answer provide clarity on key questions such as “how should portfolio residual emissions be calculated?” and “what is the appropriate use of offsets by companies before 2050?”.

Despite the fact that asset owners appear to be encouraging companies to follow the ‘mitigation hierarchy’ and prioritise emissions reductions within their value chain before any offsetting measures, discussion continues around the role for investors (and companies) in the use of offsets to balance out residual emissions as part of net zero strategies on the way to 2050. This recognises the need to scale up the market for carbon offsets, invest in natural climate solutions with biodiversity benefits, and bridge the transformation where corporate progress remains inadequate.

MITIGATION HIERARCHY FOR CORPORATES

1. Prioritisation of value chain emissions reductions (scope 1, 2, and 3) following an emission pathway that limits warming to 1.5°C
2. Neutralisation of residual emissions that are unfeasible to abate
3. Finance emission reductions and carbon removals outside their value chains (e.g., by purchasing carbon credits)



Commitment 5:

Undertaking direct and collective policy advocacy

Ensure any direct and collective policy advocacy we undertake supports policy and regulation relevant for achieving global net zero emissions by 2050 or sooner

The policy and regulatory environment can either help or hinder investors aiming to align portfolios and the transition of assets within portfolios. For example, policy frameworks can help unlock capital flows to low carbon technologies and solutions and ensure investors have sufficient flow of quality, comparable, and decision useful information for assessing the credibility of investee transition plans. Engagement with policy makers, regulators, and other stakeholders should therefore form a core part of an investor's net zero strategy.

Signatories engage on "real economy" climate change policies and sustainable finance policy. Guidance from the Investor Agenda and within the Net Zero Investment Framework set out key asks investors can make and different modes of engagement and advocacy.

Key asks

- Enhanced NDCs including 1.5°C aligned targets for 2030
- Deadlines for fossil fuel phase out
- Mandatory TCFD reporting by companies
- Incorporation of transition plans into TCFD
- Company disclosures on climate solutions and alignment to net zero
- Disclosure of energy use data
- Shareholder rights across jurisdictions
- Carbon pricing
- Net zero pathways with granularity at sector and region level
- Policy to increase retrofits

Modes of engagement and advocacy

- Direct engagement with policymakers and/or regulators
- Writing position papers on specific policy areas
- Publishing research supporting policy actions
- Joining government-led technical advisory groups
- Signing investor letters to policymakers
- Media and public outreach
- Responding to policy consultations

Policy and regulatory environments differ across regions and the investor networks support investors with tailored policy asks most relevant to their jurisdictions. For example, Ceres has been instrumental in amplifying the investor voice following a U.S. Securities and Exchange Commission proposed rule mandating that publicly held companies report on their climate risk and opportunities. IIGCC has been active in responding to a number of "real economy" policy measures proposed by the European Commission, including those established under the EU's 'Fit for 55' package. IIGCC has also engaged on a range of sustainable finance policies, including the EU's strategy for financing the transition to a sustainable economy, and the evolving regulatory framework for sustainable finance in the UK. Recent policy asks from investors in Australia, led by IGCC, are highlighted below.

2022 Global Investor Statement to Governments on the Climate Crisis

Signed by 603 investors globally, with \$41 trillion USD in AUM, the statement advocates for governments to enact ambitious policies that would leverage the private capital required to effectively address climate change.

The 2022 statement contains the most ambitious policy recommendations from investors to date, including five priority actions:

1. Ensure that 2030 targets in NDCs the 1.5°C temperature goal
2. Implement domestic policies across the real economy and take early action to deliver 1.5°C-aligned 2030 targets.
3. Contribute to the reduction in non-carbon dioxide GHG emissions and support the effective implementation of the Global Methane Pledge.
4. Scale up the provision of climate finance from the public and the private sector for mitigation, and for adaptation and resilience, with a particular focus on the needs of developing countries.
5. Strengthen climate disclosures across the financial system.

Read the full statement [here](#).

Over the last financial year NZ Super has worked closely with the Treasury and the other Crown Financial Institutions (CFIs) to develop the [Crown Responsible Investment Framework](#) that was announced by the Minister of Finance in late 2021. This Framework includes a commitment to reporting against common carbon metrics.

NZ Super has reported on progress against their own commitments in detail through its [2022 Climate Change Report](#) and has signed the 2022 Global Investor Statement to Governments on the Climate Crisis.

Over the last year, NZ Super has made submissions supporting action on climate to:

- The External Reporting Board on the Climate-related disclosure standards (twice)
- The Ministry for the Environment on the Emissions Reduction Plan
- The Climate Change Commission on the Climate Action Plan
- The New Zealand Infrastructure Commission

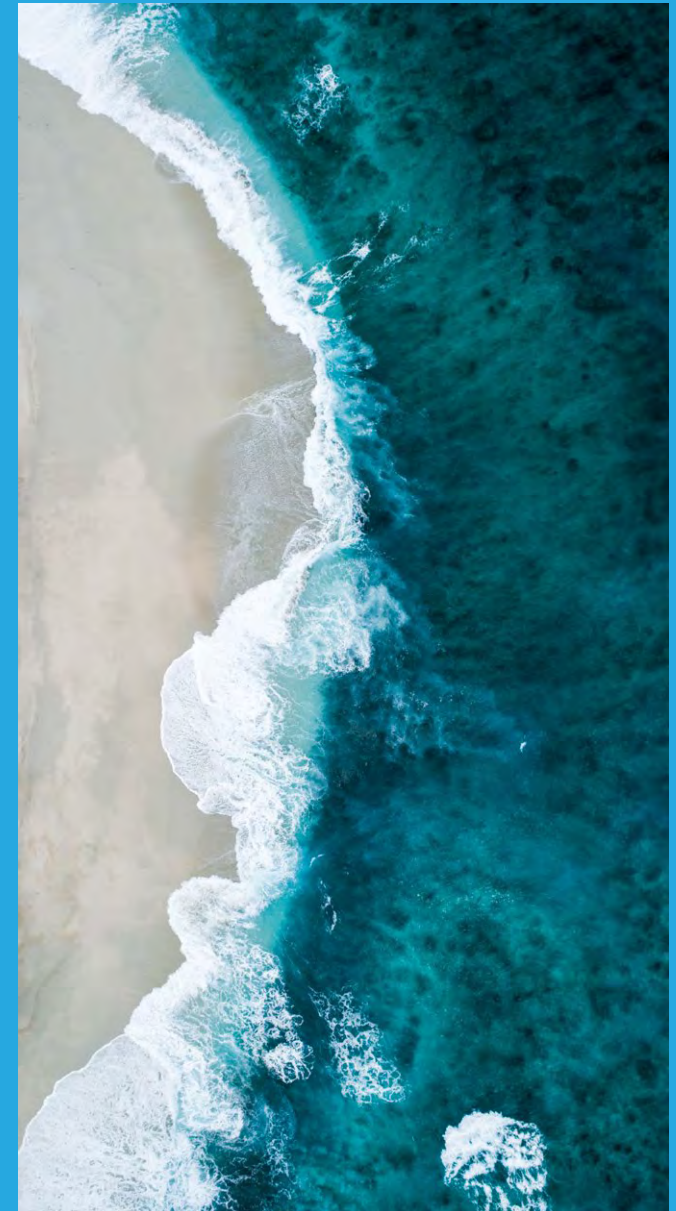
All public submissions can be found [here](#).

Policy priorities for the Australian government

In October 2022, on behalf of members with more than \$3 trillion in Australian funds under management, IGCC released policy priorities for the Australian government that will unlock capital to fund Australia's transition to net zero. These include:

- Aligning national emissions targets to 1.5°C, which implies a 2035 target of approximately 75% reduction.
- Establishing sector goals to 2050, based on advice from the Climate Change Authority, to guide policy and investment.
- Ensuring that the country's current carbon pricing tool, the safeguard mechanism, is aligned with 1.5°C.
- Establishing a National Transition Authority to support a just and orderly transition to net zero.
- Unlocking private sector investment in adaptation and including climate risk in all relevant planning, land use rules, and direct investment policies.

Download the report [here](#) or summary slides [here](#).

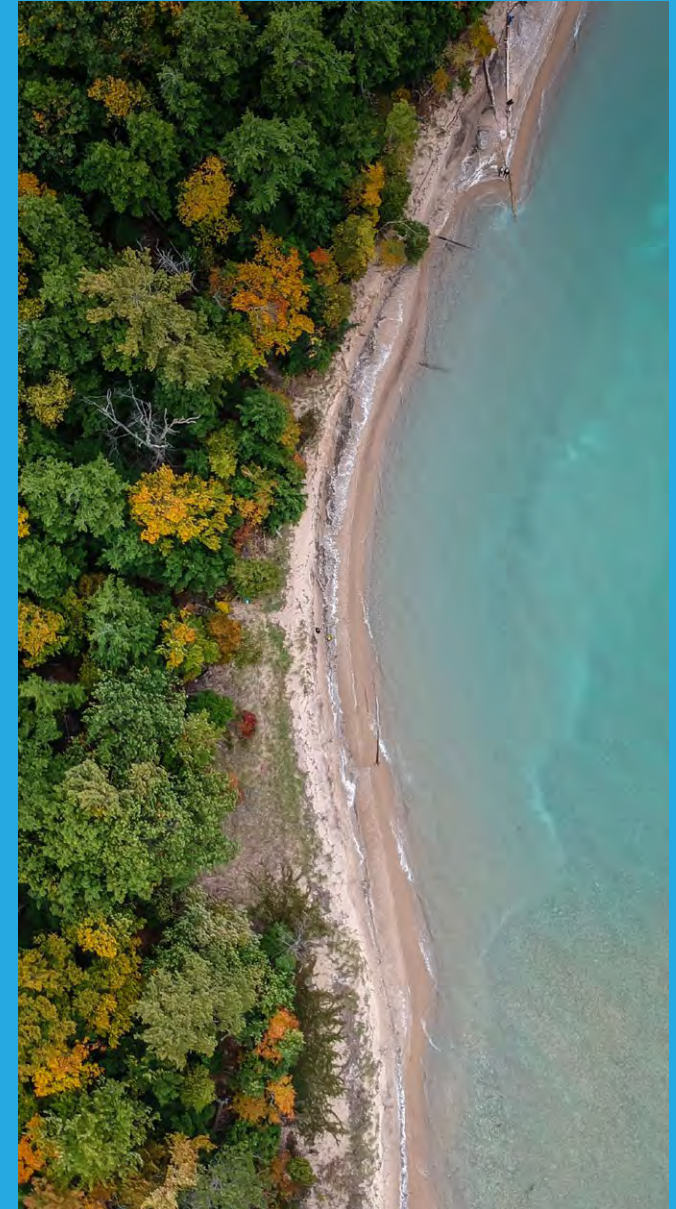


Railpen responded to three key public policy consultations in July 2022 on climate-related disclosures on risks, opportunities and transition planning:

1. The UK Transition Planning Taskforce (TPT)
2. The Glasgow Financial Alliance on Net Zero (GFANZ)
3. International Sustainability Standards Board (ISSB)

Railpen responded with a view to enhance and standardise the form and substance of climate considerations in corporate and financial disclosures. A selection of Railpen's key recommendations include:

- To use existing TCFD recommendations as a foundation from which to build specific, consistent and comparable disclosure for investors.
 - To support ISSB to ensure interoperability of the standards with national and regional reporting frameworks to allow for comparability across jurisdictions.
 - For climate-related disclosures, to apply an 'inside-out' approach ('double materiality'), requiring corporates to consider and report issues financially material to their business and their own systemic impact on the environment, market and society.
 - To prioritise basic mandatory (quantitative & qualitative) disclosures from corporates, followed by investors, due to the dependencies of investors on corporate disclosures when implementing their own transition plans.
 - To ensure alignment with sector neutral and sectoral templates being developed by industry initiatives. Examples: IIGCC NZIF, Railpen's CRIANZA framework, TPT, Moody's, PACTA.
- To prioritise a standard framework and metrics for forward-looking alignment assessment, including additional forward-looking elements such as the long-term business vision and model for the corporate in a low carbon economy.
 - To adhere to best practice principles on offsets and their intended use to address residual emissions versus reaching emissions reductions targets as highlighted in the Exposure Draft.



Commitment 6: **Implementing a stewardship and engagement strategy, with voting policy**

**Implementing a stewardship
and engagement strategy,
with clear voting policy
that is consistent with an
objective for all assets in the
portfolio to achieve net zero
emissions by 2050 or sooner**

One of the most powerful levers asset owners have to contribute to the net zero transition is through stewardship and engagement of the assets within their portfolios. They are supported in this by asset managers, many of whom have also committed to implementing a stewardship and engagement strategy, with a clear escalation and voting policy, in way consistent with all assets transitioning to net zero by 2050 or sooner through a similar 10-point commitment via the Net Zero Asset Managers initiative (NZAM).

An unprecedented change in stewardship practices has already begun and more specific, time bound objective setting combined with escalation is starting to become the norm. Many Paris Aligned Asset Owners have started to develop and implement escalation strategies and communicate expectations for transition planning clearly to the companies they invest in. Australian superannuation fund, HESTA, provides a good example.



DEEP DIVE: IMPLEMENTING AN ESCALATION FRAMEWORK HESTA

H.E.S.T. Australia Ltd., as trustee for HESTA, has been engaging with emissions intensive companies through both direct and collaborative programmes for a number of years. In 2021, HESTA introduced an engagement escalation framework (“the Framework”).

In July 2022, as part of implementing the Framework, HESTA conducted its annual assessment of the climate change transition progress of companies that are key contributors to portfolio emissions. The assessment identified that AGL, Origin, Santos and Woodside faced significant decarbonisation challenges, requiring a major shift in their strategies to offer low carbon energy products. These companies have now been moved to a “watchlist” position according to the Fund’s engagement escalation framework which means that they are subject to closer engagement and monitoring.

HESTA informed AGL, Origin, Santos and Woodside that they were placed on a watchlist under the Framework and sought a response from the companies on how their climate strategies align with a 1.5°C pathway. Origin, Santos and Woodside were also asked to outline how they will demonstrate that the Final Investment Decision (FID) on major projects is consistent with a carbon budget aligned with a 1.5°C pathway.

The Framework also considers the use of votes against “Say on Climate” resolutions, Directors’ elections, support or filing of shareholder resolutions and/or consideration of divestment, where HESTA considers there is inadequate evidence of progress to address risks and it is in members’ best financial interests.

Nearly all Paris Aligned Asset Owner signatories are involved in, and lead on, collaborative climate engagements through Climate Action 100+, an investor initiative to ensure the world’s largest corporate greenhouse gas emitters take necessary action on climate change. A significant industry advancement in 2022 was the development of the [Net Zero Stewardship Toolkit](#), co-authored by IIGCC and Paris Aligned Asset Owner signatory, Railpen, and developed with the IIGCC Net Zero Stewardship Working Group, which is co-chaired by Railpen and NZAM signatories, EOS Federated Hermes and JP Morgan Asset Management.

The toolkit provides a framework for investors to identify priority companies for engagement (a necessary step for setting an engagement threshold target, see *Commitment 3*), establishing time-bound objectives for companies to develop and implement transition plans, and accompanying escalation actions when those objectives are not met.

The toolkit sets out a range of voting and non-voting stewardship and escalation tools at the disposal of investors. These include:

- Director votes
- Shareholder resolutions
- ‘Say on Climate’ votes
- Direct outreach to companies, including management responsible for implementing climate objectives and securing “check-ins” with Board members
- Engagement through collaborative initiatives such as CA100+
- Writing private letters and public statements/letters to the company’s Board
- Engagement with other actors in a company’s value chain
- Litigation

A full list of escalation actions that can be deployed by investors is available in Exhibit F of the Stewardship Toolkit, covering both equity and bond investors, with further guidance on credit stewardship in development involving Paris Aligned Asset Owner signatories.

Shareholder votes in particular are a critical tool for asset owners. A number of signatories have strengthened their voting policies in 2022, reinforcing their organisation’s commitment to net zero and delivering this with action, including PMT and Scottish Widows.

In 2022, PMT introduced its new climate strategy which outlines how the fund is tightening its net zero commitments for companies in the portfolio. In an approach shaped by consultation with its beneficiaries, the sectors they work in, and wider society, PMT significantly expanded its climate engagement program.

PMT's voting policy is one of the key components of the strategy. In 2022, for companies that are significant GHG emitters (for 2022, the current Climate Action 100+ focus company list), PMT voted against or withheld from the incumbent chair of the responsible committee in cases where the company was not taking the minimum steps needed to understand, assess, and mitigate risks related to climate change to the company and the larger economy. Minimum steps are defined as:

- Detailed disclosure of climate related risks according to the TCFD, including board governance measures, corporate strategy, risk management analyses, and metrics and targets
- Appropriate GHG emissions reduction targets (i.e. any well-defined GHG reduction target)

PMT's AGM voting strategy is aligned with the engagement objectives set by its climate engagement program. Within this program, PMT engages with more than 50 companies in the Oil & Gas and Utilities sectors. The following voting elements were executed for the companies PMT engaged with:

- PMT voted against re-election of all the board members at companies that did not communicate a public net zero emissions ambition for 2050. When there was no re-election on the agenda, PMT voted against the discharge of incumbent board members.
- PMT voted against the remuneration policy, annual remuneration and bonuses for incumbent board members when GHG emissions reduction was not one of the remuneration indicators.
- PMT proactively assessed climate resolutions, "Say on Climate" votes and votes 'flagged' by Climate Action 100+ and voted according to alignment with Transition Pathway Initiative (TPI) assessment of the 1.5°C degrees pathway.
- For each company where PMT leads the investor engagement through Climate Action 100+, PMT assessed the opportunity of 'flagging' a vote, which entails pre-declaring the intended vote on a specific voting item by a lead investor for Climate Action 100+. For two companies, Engie and TotalEnergies, this resulted in 'flagged' votes.
- PMT assessed the filing of shareholder resolutions on a case-by-case basis. At one company, TotalEnergies, this resulted in the (unsuccessful) filing of a shareholder's resolution on climate.

Furthermore, PMT publicly called on fellow investors to use their voting rights to accelerate the pace of the transition in all carbon intensive companies. PMT published a statement together with a group of other Dutch institutional investors in April 2022. In this [statement](#), the group urged fellow institutional investors to:

1. Take a critical approach to evaluating a company's climate transition plan and ensure voting guidelines are aligned.
2. Only vote in favour of a company's climate transition plan if it is aligned with the Paris Agreement, which should at least address the three objectives outlined in the statement.
3. Vote in favour of shareholder resolutions that encourage progress towards the Paris Agreement 1.5°C warming scenario.
4. Consider using escalation actions if objectives are not met, such as voting against the re-election of directors or voting against remuneration schemes that do not link executive pay to performance on climate targets.

Together with the same group of investors, PMT released a second statement in October 2022. The group calls on the oil and gas sector to (i) boost the availability of low-carbon solutions, (ii) explain how natural gas acts as a transition fuel, and (iii) not use the high oil prices as a reason to increase oil investments.



DEEP DIVE: VOTING POLICIES FOR SEGREGATED AND POOLED FUNDS

SCOTTISH WIDOWS

To play a greater role as active stewards of investments on behalf of its customers, Scottish Widows launched [Voting Guidelines](#) in 2022, aligned with its ESG beliefs. The guidelines cover various ESG factors, from climate to biodiversity, human rights and board diversity.

On climate, the Voting Guidelines support an annual shareholder vote on climate transition plans (“Say on Climate”) as Scottish Widows believes that shareholders can encourage better disclosure of corporate climate metrics and transition plans, as well as greater shareholder engagement and board accountability.

Scottish Widows will generally support voting against the Say on Climate, the report & accounts, and/or re-election of directors or members of a relevant committee in the event where there is:

- Insufficient climate disclosures
- The climate strategy lacks a credible transition plan, along with clear interim targets aligned with the latest science
- Lack of detail on climate governance and associated link to executive compensation
- No disclosures on climate lobbying activities
- No commitment to future capex alignment with the goals of Paris Agreement
- No disclosure to indicate that the company incorporates Just Transition considerations into its climate transition strategy.

Given that voting is largely delegated, these guidelines outline expectations for the asset managers Scottish Widows works with, shared with them as an ‘expression of wish’. Scottish Widows monitor how core investment managers vote against the guidelines and engage with them on areas of divergence. Where Scottish Widows holds a significant stake in a company, certain votes are directed themselves when they relate to stewardship priorities, as initiated in the 2022 AGM season.

Pooled Fund Voting Implementation and wider collaboration

The [Taskforce on Pension Scheme Voting Implementation](#), in which Scottish Widows played an integral role, recommended in September 2021 that fund managers should voluntarily offer pooled fund investors the opportunity to set expressions of wish. At the end of 2021, BlackRock announced it would be allowing pooled fund clients to vote their own shares through the adoption of a choice of ISS voting policies. Scottish Widows saw this announcement as an industry first, as the asset management industry has largely been reluctant to allow asset owners influence over voting. Scottish Widows worked closely with BlackRock on this development. Scottish Widows chose the ISS Socially Responsible Investment Policy, which was most closely aligned with Scottish Widows’ guidelines and progressive across a range of ESG factors. Since September 2022, Scottish Widows has been putting the policy into practice across a range of eligible funds and markets with BlackRock, having implemented it for segregated mandates several months prior.

This experience has also enabled Scottish Widows to collaborate with other asset owners through [Occupational Pensions Stewardship Council](#), specifically on an engagement campaign with asset managers, which kicked off at the end of 2021 and was directly supported by the Minister for Pensions and Financial Inclusion. Scottish Widows wrote to 44 large asset managers asking them about a range of options they would provide to their clients from enabling clients to share bespoke voting policies, communicating areas of misalignment between them and facilitating forward looking conversations, to allowing clients to override any significant votes.

37 responses were received and while only two respondents had formally implemented alternative approaches, asset managers showed an openness to considering client voting in pooled funds. The full report with findings can be found [here](#).

With expectations relating to engagement embedded into the Paris Aligned Asset Owner and Net Zero Asset Managers (NZAM) commitments, there is a growing focus on structured alignment between asset owners and asset managers in the stewardship process. For Paris Aligned Asset Owner signatories, it is important that methodologies for corporate alignment assessments and milestones (see *Commitment 3*), as well as voting and escalation actions, are refined and synced with that of any external managers. In 2022, asset owners have increased attention on ensuring that engagement activity from an asset manager delivers what the asset owner requires to align their own portfolios with net zero, optimises use of resources, and ensures consistency of goals and approaches across asset owner portfolio engagement efforts.

An important element of asset owner – asset manager delivery of net zero stewardship strategies is transparent and consistent reporting on portfolio alignment, engagement strategies, tracking and reporting. The Toolkit sets out four measures investors can take:

1. Engagement with asset managers that have not set net zero goals
2. Agreement on company alignment expectations between asset owners and communication to managers
3. Asset manager reconciliation across clients on corporate alignment milestones
4. Transparency and reporting, including development of standardised reporting templates for asset owners to use with managers

When a company does not respond positively to engagement and other escalation actions fail, legal resource against companies or specific directors can be an effective tool and help secure positive climate outcomes, objectives or returns.

Swedish Pension Fund, AP7, started working actively on responsible climate lobbying of corporates in 2015. Since then, AP7 has contributed to global standard on lobbying practices, engages in long-term dialogue with its portfolio companies on the topic, and uses its shareholders rights at AGMs to escalate the issue when necessary. The most recent example involves taking legal action against German car manufacturer, Volkswagen, in collaboration with other asset owners.

Six key steps within IIGCC's Net Zero Stewardship Toolkit

1. **Undertake portfolio analysis and use the stewardship framework for prioritisation of key engagements:** A process to identify companies in scope for engagement, to prioritise these engagements and allocate resource based on the importance of key companies to achieving portfolio goals and real-world emissions reduction.
2. **Set net zero alignment criteria, time bound company level objectives and portfolio goals:** Development of a framework of company net zero alignment criteria to be used to determine if companies can be classified as aligned and to set company level time bound objectives and milestones that drive stewardship priorities and enable measurement of portfolio alignment goals.
3. **Develop an engagement strategy for priority companies:** The establishment and implementation of strategies to increase alignment of priority companies, with clear escalation actions to be used where time bound objectives are not met. This step addresses the core portfolio alignment objectives under the various alignment frameworks.
4. **Develop a baseline engagement (minimum level) and voting policy approach for all companies:** The establishment and implementation of baseline engagement and voting approach, to be undertaken as a minimum for the maximum number of companies in material sectors within the boundaries of relevant portfolios and clear escalation actions to be used where time bound objectives are not met. This step addresses the requirement under NZAM and PAAO to implement a stewardship strategy across all AUM.
5. **Asset owner and manager alignment and engagement:** Guidance to ensure alignment of engagement priorities and objectives to reduce duplication and enhance impact by collaborating where valuable.
6. **Transparency:** A framework to inform disclosures on the net zero stewardship strategy.



DEEP DIVE: ACTIVE OWNERSHIP FOR RESPONSIBLE CLIMATE LOBBYING

AP7 (SJUNDE AP-FONDEN)

Corporate lobbying that negatively influences political decisions on climate change continues to be a widespread challenge for legislators, despite many companies officially declaring their support for the Paris Agreement. AP7 (Sjunde AP-fonden) expects corporations to demonstrate good governance and to assess whether, and to what extent, their corporate lobbying is aligned with the Paris goals. Where there is misalignment, AP7 expects corrective actions to be taken.

AP7 has taken a multifaceted, long-term approach to addressing this challenge through collaborative active ownership.

Long-term dialogue

In multi-year dialogues with corporations, investors have made the case for responsible climate lobbying and pushed for transparency. AP7 is thematic co-lead on lobbying within IIGCC and has worked closely with CA100+ lead investors to progress dialogue on the topic with key European companies.

Development of a standard

Together with Church of England Pensions Board and BNP Paribas Asset Management, AP7 instigated the development of the [Global Standard on Responsible Climate Lobbying](#). After extensive consultation, the Standard was launched in 2022 providing a framework for companies to report on responsible climate lobbying in practice. Climate policy engagement is evaluated in criteria 7 of the CA100+ Net Zero Company Benchmark and one of the alignment criteria for corporates in the Net Zero Investment Framework.

Acting at AGMs

Shareholder resolutions play an important role to drive corporate reporting on climate lobbying. AP7 began filing resolutions at general meetings in the United States in 2016 and has subsequently filed at European and Australian companies, in some cases over multiple years. In total, AP7 has brought 21 shareholder resolutions on climate lobbying to vote and withdrawn several more after reaching agreement with companies prior to meetings.

Legal case in Europe

When progress in engagement with Volkswagen stalled in 2022, investors tabled an amendment to the company's Articles of Association intended to ensure that future reporting incorporates climate lobbying. The company refused to table the amendment. As a result, investors are taking the matter to court in a case which tests whether VW has the right to refuse this AGM agenda item. Led by AP7, 6 asset owners (AkademikerPension, AP2, AP3, AP4, AP7, the Church of England Pensions Board) are represented by German law firm Hausfeld Rechtsanwälte LLP and supported by legal charity ClientEarth. A ruling in the investors' favour would reinforce the position of minority shareholders in Germany and incentivise German companies to engage in constructive dialogue with them. The case could also have implications for other civil law systems in Europe.

Results

Since AP7 started working actively on climate lobbying in 2015, 57 major corporations globally have published industry association reviews. Over 50% of the European companies in scope for the Climate Action 100+ initiative have published at least one climate lobbying review, and the majority of these have committed to repeat this disclosure annually. The efforts, persistence and collaborative spirit of many investors and other stakeholders have contributed to these results. For assessments of the quality of climate lobbying disclosures, see [InfluenceMap](#), as data partner of CA100+.

A universal active owner

AP7 is the default alternative within the Swedish premium pension system. With a diversified equity portfolio of more than 3,000 companies, AP7's ESG strategy focuses on active universal ownership, complemented with impact investments. AP7 believes that, in collaboration with like-minded responsible actors, the greatest impact can be achieved through active ownership.

Whilst there is a lot of focus on stewardship practices of equity investors, there is increasing work underway to support bondholders to engage. Bondholders may wish to take a more dynamic approach to identifying priority companies based on the cycle of issuances and the opportunity to make more strategic choices regarding which companies they have openings to engage with.

It's also important that asset owners use engagement as a tool to support assets in other asset classes to transition and consider key themes beyond emissions reductions such as resilience to physical climate risks, deforestation and the just transition. Two examples from Tesco Pension Investment and Royal London demonstrate good practice in these areas.

Engagement with new property fund manager

When a commitment was made to a property investment in the care home sector, for the Income Generating Assets Portfolio, Tesco Pension Investment (TPI) reviewed the fund manager's ESG approach and considered that improvements could be made. TPI engaged on a number of ESG issues. Its work in support of the Trustee's climate objectives is detailed here.

TPI, on behalf of the Trustee, worked with the manager to establish a bespoke "fund of one" investment programme for the Scheme. It was able to negotiate a commitment that the fund would be managed to a 2050 net zero target from the outset. The manager also made a commitment to provide ESG reporting to include absolute emissions and emissions intensity, and to adopt an approach to flood risk assessment that is consistent with the principles of TPI and the Trustee.

The improvements to the terms will help TPI and the Trustee to improve its data coverage and support the Trustee's net zero goals. The investment will also benefit from enhanced protection against climate change induced flood risk. The agreement is a step forward in encouraging fund managers to engage on climate related risks and disclosures and therefore in protecting long term value for the Scheme.

As per TPI's escalation policy, TPI will continue to engage with the manager to ensure that the commitment is implemented, with appropriate monitoring in place. TPI will liaise with the manager to ensure timely delivery of meaningful emissions data and to monitor the manager's application of the agreed ESG approach. The Trustee will also continue to be informed of TPI's engagement activities on a quarterly basis.

Engagement with tenants

The Scheme is funding the development of the UK's first BREEAM Outstanding rated office building in the UK, in Bristol. In order to ensure that the building's environmental credentials are maintained once the building is in use, TPI engaged with the prospective new tenants to ensure that they understood the energy efficiency features of the building and would not compromise these standards through their own fit out and use of the space. The engagement has the following results:

- TPI was able to agree "Green" lease clauses, including commitments to share energy usage data, and to promote efficient energy performance.
- TPI and its advisers reviewed fit out specifications to ensure that they did not reduce the building's efficiency.
- TPI agreed a memorandum of understanding with a major tenant of the building, which commits both parties to energy efficient management of the building. It includes information about the energy use information the tenant will provide, how it will source energy, and further details about its own commitment to the environment. It provides the Scheme with additional comfort beyond the provisions of the lease.
- TPI, on behalf of the Trustee, secured the provision of energy usage data to support its own data coverage and quality.
- TPI, on behalf of the Trustee, was also able to use the Outstanding target rating of the development to help to secure blue-chip tenants with their own ambitious emissions reduction targets.

In line with TPI's escalation policy, TPI will continue to engage with tenants to ensure that lease clauses are adhered to and that the building continues to operate efficiently. The Trustee will also continue to be informed of TPI's engagement activities on a quarterly basis.



When assessing the alignment of holdings in a portfolio, it is recommended that signatories use net zero pathways that are regionally or country specific. This accommodates the varying rates at which different economies are expected to transition. According to the IEA's net zero scenario CO₂ emissions in advanced economies fall to net zero by around 2045, and globally by around 2050. The pace of the transition will also vary across sectors, with the oil & gas and electricity sectors in advanced economies required to accelerate their decarbonisation to unseen levels.

As many economies in emerging and developing markets are still fossil fuel dependent today, Paris Aligned Asset Owner signatories are focused on ensuring their actions support a just and equitable transition. When energy systems are reliant on coal and other fossil fuels, for example, it is important that engagement and stewardship efforts involve working with the fossil fuel companies underpinning the energy system, as well as their workforce and local communities, to firstly understand and then support their transition. Earlier in 2022, a group of 12 UK pension funds, including Paris Aligned Asset Owners – the Church of England Pensions Board, BT Pension Scheme, Railpen, Brunel Pension Partnership, and Nest – committed to explore how greater impact could be achieved through a shared understanding of the need, opportunity and mechanisms to provide investments that support the climate transition in emerging economies. Other pension funds, such as Wiltshire Pension Fund and Royal London work with their asset managers to ensure that just transition considerations are built into engagement efforts and an overall understanding of the role of the transition of the company within its regional and economic context.



DEEP DIVE: INCORPORATING JUST TRANSITION FACTORS INTO CORPORATE ENGAGEMENT ALIGNMENT ASSESSMENTS

WILTSHIRE PENSION FUND

In 2022, Wiltshire Pension Fund supplemented emissions analysis of its portfolios with forward-looking analysis of the alignment of holdings with net zero pathways. The analysis utilised company-specific climate indicators from CA100+ Net Zero Company Benchmark and the Transition Pathway Initiative and has enabled the Fund to identify the largest GHG emitters in the portfolio that perform poorly when their climate commitments and transition plans were assessed.

Following the results of the analysis, Wiltshire Pension Fund engaged with its asset managers to develop a better understanding of the companies' performance and the steps the managers are taking to engage and escalate climate performance with the companies. Mining company, Anglo American, was identified through the Fund's analysis as it is heavily reliant on coal. Through conversations with their asset manager, Ninety One, the Fund found that Ninety One is working with the board of Anglo American to support decommissioning and develop a decarbonisation strategy. For example, Ninety One is working with Anglo American to advance their efforts to achieve net zero operations in South Africa, including through significant build out of renewable energy.

Grupo Mexico was another company identified. Disclosure issues and delayed updates to data provided by rating agencies means that obtaining accurate information to assess the company's emissions profile has been a challenge. However, Ninety One filled the information gap, showing that Grupo Mexico is consistently improving ESG credentials. For example, GHG emissions peaked in 2017 and have since been in decline year on year. In addition to its emissions profile, through its deeper understanding of the company, Ninety One was able to highlight the social credentials of the company, emphasising its role in providing good employment to local communities in which it operates. For example, the average wage of a Grupo Mexico employee is 11 times higher than the national average, it was the first company in Mexico to offer profit sharing to its employees, and the company has taken action to significantly improve health and safety practices.

Through initial analysis of its holdings and subsequent communication with its external managers, Wiltshire Pension Fund was able to understand and consider the broader ESG context in which these companies are operating, whether they have an active role in responsibly decommissioning fossil fuel assets or providing social benefits to local communities.





DEEP DIVE: CORPORATE ENGAGEMENT ON THE JUST TRANSITION

ROYAL LONDON

Royal London's customers, members, employees and the companies that Royal London provides workplace pensions to will all be impacted by the transition to a low carbon economy. Royal London wants to minimise the likelihood of the transition becoming a life shock.

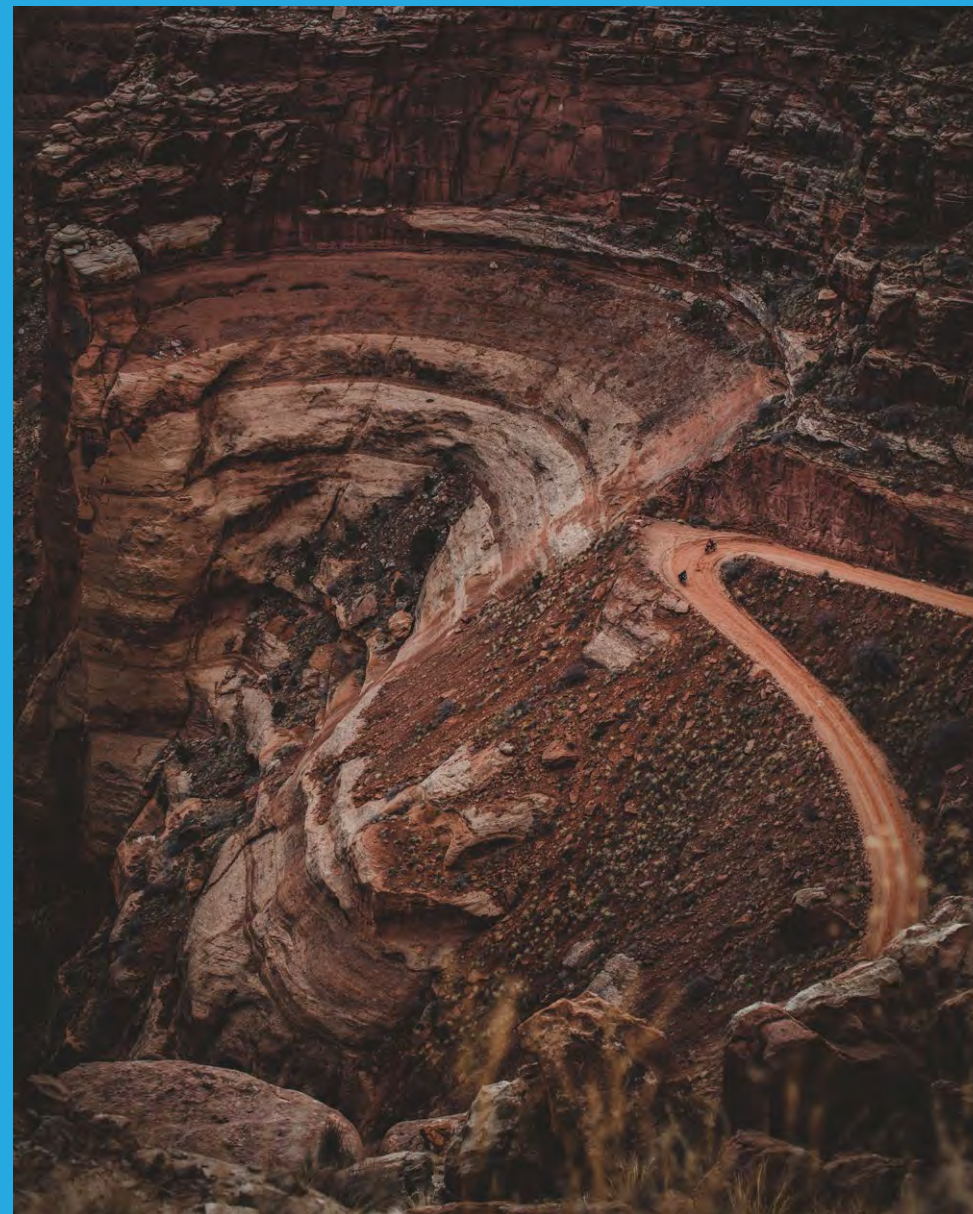
The social risk of not taking climate action could be a significant barrier, if not addressed. Financial and social inclusion are also important drivers of Royal London's Purpose. Royal London believes that ensuring a Just Transition goes hand in hand with its decarbonisation and social inclusion aims.

Royal London is a large investor in the energy utilities sector, which has a critical role in decarbonising the economy by shifting away from fossil fuels towards green electrification. During 2021, in partnership with Friends Provident Foundation, Royal London continued active discussions with a number of utility companies about the trends transforming the power sector.

While most were already working on decarbonisation plans, the majority had not yet established specific approaches to addressing the social implications of their decarbonisation efforts. To remedy this, Royal London asked the companies to publish a Just Transition plan ahead of COP26. SSE published their plan in 2020 and five more companies responded in 2021:

- March 2021: E.ON published a section on Just Transition in its climate transition plan
- August 2021: National Grid committed to addressing the Just Transition in its Responsible Business Charter
- September 2021: Centrica published its Just Transition plan
- October 2021: EDF published its Just Transition plan
- November 2021: Scottish Power published its Just Transition plan

See Royal London's Annual Report and Accounts (2021) [here](#) for more details.



Commitment 7:

Engaging with industry, including asset managers and data providers

Engaging with asset managers, credit rating agencies, auditors, stock exchanges, proxy advisers, investment consultants, and data and service providers to ensure that funds, products and services available to investors are consistent with achieving global net zero emissions by 2050 or sooner





DEEP DIVE: TRANSITIONING TO PARIS-ALIGNED BENCHMARKS NZ SUPER

For a net zero economy, the whole financial system needs to transition. Asset owners have an influential role in generating a demand for the financial products and services they need to transition their own portfolios, thereby, driving innovation across the industry to provide more net zero-aligned products and services.

Alongside policy advocacy, the Net Zero Investment Framework identifies market engagement as a key component to transitioning investments. For asset owners, collaboration with asset managers and investment consultants will be integral to the development and delivery of a net zero strategy. Engaging other actors such as data vendors, index providers, and proxy advisors will also ensure a robust information base, tools and services on which to deliver net zero.

Paris Aligned Asset Owners have been working closely with asset managers to update mandates to include climate goals, develop funds to tilt portfolios towards net zero, and engage with the underlying constituents. The highlights included here showcase signatories collaborating with investment managers to design new funds, assessing asset managers' climate strategies and activities to inform manager selection and monitoring.

The NZ Super Fund has shifted about 40% of its overall investment portfolio to market indices that align with the [Paris Agreement](#). The changes apply to the Fund's index-tracking Reference Portfolio benchmark and its corresponding \$25 billion of passive investments in global equities. The changeover to the [MSCI World Climate Paris Aligned Index](#) and the [MSCI Emerging Markets Climate Paris Aligned Index](#) commenced in June 2022, with the new benchmark taking effect on 1 July 2022.

The changes will further reduce the Fund's exposure to carbon emissions as well as deliver better environmental, social and governance (ESG) outcomes across the board. They will also significantly reduce the number of publicly listed companies that the Fund owns directly.

The NZ Super Fund undertook many months of technical analysis weighing up a range of risk, return, cost and implementation considerations to ensure that making this shift will not have a detrimental impact on investment returns. The Fund also considered a range of ESG enhanced portfolios to ensure the selection of a set of portfolios that would have the best impact on social and environmental outcomes, including meeting net zero commitments.



HSBC



DEEP DIVE: MITIGATING CLIMATE RISK THROUGH FUND DESIGN

HSBC

Climate change considerations have long been considered in HSBC Bank Pension Trust Ltd's (HSBC) investment approach for its Defined Contribution (DC) pension scheme members. In 2016 it partnered with LGIM, FTSE Russell and Redington to develop the Future World Fund, which is a climate-tilted passively managed multi-factor global equity fund. The aim of the fund is to provide investors with exposure to a well-diversified global equity investment portfolio which uses climate tilts and four investment factors (quality, value, size and low volatility) to determine the benchmark weights of the underlying companies in which to invest. The Future World Fund also benefits from LGIM's [Climate Impact Pledge](#) which involves a programme of engagement, governed by a clear and transparent engagement framework, underpinned by divestment, where appropriate.

In 2021 HSBC sought to improve the positive climate characteristics of the Future World Fund, given that the fund's value factor investment benchmark characteristics were conflicting, at times with the fund's climate factor tilts. With support from investment advisor, LCP, HSBC began engaging directly with LGIM to understand the investment issues and to encourage the investment manager to review its processes. It also sought to improve the positive climate characteristics of the underlying benchmark index with FTSE Russell, the benchmark provider.

After considerable discussion and analysis, FTSE Russell made a number of benchmark construction changes which were incorporated in two steps in March and September 2021. The principal changes to the index which the fund tracks included modernising the existing tilting process to target more stable exposure across the desired factors, adding:

- New minimum weighted average carbon emissions intensity reductions of 30%
- A 100% increase in green revenues
- A 50% reduction in weighted carbon reserves intensity relative to the unadjusted market cap weighted benchmark index
- The introduction of a bespoke thermal coal exclusion position.

In addition, LGIM incorporated the FTSE Transition Pathway Initiative scores on both management quality and carbon performance, adding a new forward-looking dimension to security selection.

The outcome from this work has been to ensure the Future World Fund keeps pace with developing climate thinking and more effectively mitigates climate risk in the portfolio construction process.

Many Paris Aligned Asset Owners invest primarily through asset managers, with some of the larger funds having up to 40 external managers. It is therefore crucial that asset owners understand to what extent and how climate related risks and opportunities are being managed within each mandate or investment strategy, and what the climate outcomes are for each. This information is often then integrated into manager selection and engagement. Approaches from the Church Pension Fund Finland and UK Master Trust, Nest, and Australian superannuation fund, HESTA are highlighted below.

DEEP DIVE: ENGAGEMENT AND MONITORING OF MANAGERS' CLIMATE PERFORMANCE

THE CHURCH PENSION FUND FINLAND

The Church Pension Fund is predominantly invested through external asset managers. By conducting an annual ESG survey, the Church Pension Fund monitors the ability and resources of asset managers to assess the risks and opportunities arising from climate change. The survey, covering practices of asset managers across all asset classes, includes dedicated climate questions on both a firm and fund level.

The survey template is used as part of the due diligence conducted when selecting new asset managers and funds. The annual results are an important tool for the Church Pension Fund's engagement with asset managers. By providing feedback to all asset managers and funds, the managers may improve their practices, for example, in climate target setting and reporting, or carry out more active advocacy with portfolio companies.

In addition to asset manager engagement based on ESG surveys, the Church Pension Fund's net zero strategy includes:

- Engaging with selected asset managers based on results from the annual portfolio climate impact assessment conducted by ISS (covering listed equities and corporate bonds)
- Encouraging companies to develop climate strategies and related reporting and to set targets for reducing carbon risk
- Increasing investments in climate solutions across asset classes, targeting 10% of AUM allocated to green investments by 2025.

Firm level

1. Does your organisation have a policy or strategy that cover climate change related risks and opportunities? Please provide a link to the policy.
2. Has your organisation set interim targets? Please disclose your interim targets.

Fund level

1. Do you set any climate related targets (incl. decarbonisation) for this fund? Please describe the targets.
2. Do you implement fossil fuel exclusions for this fund? Describe the thresholds and details of your exclusion criteria including any exceptions allowing investment in transition companies.
3. Describe this fund's approach for assessing and managing physical risks from climate change.
4. Do you track the share of Paris aligned (net zero) / not aligned companies in the fund? What is the proportion of financed emissions in material sectors that already meet net zero aligned criteria?

Many Paris Aligned Asset Owners are using the findings of surveys and performance assessments to inform further engagement with managers. Examples from HESTA and Nest shows that signatories are initiating a feedback loop between managers' climate performance and increasing expectations to support clients to meet their own net zero goals. In the case of Nest, this includes time-bound objectives that managers must demonstrate progress against or risk losing their mandate.



DEEP DIVE: CLIMATE ANALYSIS OF INVESTMENT MANAGERS HESTA

In 2020, HESTA became the first major Australian superannuation fund to make a commitment to reach net zero carbon emissions by 2050 across its portfolio. HESTA's external investment managers have a key role in supporting implementation of HESTA's climate targets.

In Financial Year 2021/2022, as part of regular performance monitoring of its external investment managers on responsible investment issues under their mandates, HESTA conducted a deep-dive into the outcomes achieved by the application of managers' climate change policies and processes. The results of the analysis are being used by HESTA to inform ongoing priorities for engagement with external managers.

HESTA assessed investment manager responses against three pillars:

- **Risk Management** – How managers are underwriting climate risk
- **Opportunity** – How managers are investing in climate opportunities
- **Engagement** – How managers are engaging with material carbon emitters to reduce global emissions (as opposed to portfolio emissions)

Two key findings from the engagement included:

1. Managers with a sustainability focus to their investment approach demonstrated better climate risk management technique.
2. Net Zero Asset Managers initiative signatories demonstrated better engagement outcomes than other managers.



DEEP DIVE: SETTING TIME-BOUND OBJECTIVES FOR EXTERNAL MANAGERS NEST

Nest has been at the forefront of asset owner action to support the net zero transition. The pension fund developed a [Climate Change Policy](#) in 2020/21 which sets out an ambition to align its investment strategy with the 1.5°C global goal by reaching net zero emissions across its investment portfolio by 2050 at the latest. An important part of Nest's climate strategy focuses on the fund's engagement with its external investment managers.

In December 2020, Nest wrote to all existing external investment managers to set out its expectation that they will work towards aligning the portfolio they manage for the Scheme with a 1.5°C global warming limit. Specifically, Nest has formulated three key expectations for all investment managers:

- **Reducing emissions** – Nest expects its investment managers to develop a strategy to align the portfolio with the 1.5°C global warming limit.
- **Reporting** – Nest expects investment managers to report on the climate-related risks and opportunities in the portfolio they manage using the TCFD framework.
- **Voting** – Nest expects its investment managers to exercise their voting rights and engagement resource to positively influence the companies in their portfolio to transition to a low carbon economy.

To ensure delivery against these expectations, Nest set objectives and benchmarks for each fund manager based on how far they have already progressed in evolving their investment approach towards a low carbon economy. Nest set time-bound, mandate-specific climate-related objectives for existing managers and expects all objectives to be met by 2023 at the latest. If limited progress has been made in any individual portfolio by the end of 2023, Nest will withdraw their members' assets.

In total, Nest set 69 objectives across 23 portfolios and 13 fund managers. As of 31 March 2022:

- 65.2% objectives had been met
- 7.2% of objectives were on track
- 14.5% of objectives were in progress
- 13% of objectives had not progressed.

To set a comprehensive set of net zero targets, assess the forward-looking alignment of assets in a portfolio, and undertake engagement with companies, investors require a lot of data, as explored in Commitment 1 and Commitment 3. Currently asset owners utilise a range of public data sources, such as those recommended in the Net Zero Investment Framework:

- Transition Pathway Initiative (corporates)
- Climate Action 100+ Net Zero Benchmark (corporates)
- Science Based Targets Initiative (corporates)
- Carbon Risk Real Estate Monitor (real estate)
- The Climate Change Performance Index from Germanwatch (sovereigns)

With diversified portfolios, asset owners may also need to complement the above data sources with data sets from private vendors. This will help increase data coverage across a portfolio.

To support this effort, IIGCC published [Delivering Net Zero: A Data Catalogue For Investors](#). The catalogue provides a detailed analysis of data sets and products in the market from 16 participating vendors. The catalogue will help investors find and assess the most relevant data sources for their needs. It will be particularly useful for any investor following the Net Zero Investment Framework and performing the recommended forward-looking asset alignment assessments.

16 private data vendors participate in the first edition of IIGCC's Data Catalogue

Arabesque (ESG Book)	Clarity AI	ISS ESG	Planetrics
Arcturus	FTSE Russell	Moody's	S&P Global
Carbon4 Finance	Iceberg Datalab	MSCI	Sustainalytics
CDP	Impact Cubed	Ortec Finance	Urgentem

The catalogue covers the following asset classes; corporates, real estate and sovereigns, as well as overarching data such as GHG emissions, climate solutions, fossil fuel exposure. The catalogue contains:

- Key findings and results of a dummy portfolio test
- Data needs for the Net Zero Investment Framework and data acquisition strategies
- A detailed and technical review of vendors' offerings
- One page summaries for each data vendor



Whilst engagement with asset managers is likely to be the most important industry engagement action signatories can take to deliver against their own net zero targets, engagement with other industry stakeholders will also be key.

IIGCC members have been engaging proxy advisors since 2021 to ask them to develop a suite of proxy advice solutions for investors and then make a public commitment to support net zero investing. Writing to Glass Lewis and ISS in November 2021, investors requested further action in four key areas:

1. Systematically consider and progressively incorporate the transition to a net zero economy into the benchmark policy
2. Development of a speciality net zero policy
3. Facilitate custom net zero solutions
4. Make a public commitment to support net zero investing

Further work is underway to continue engagement with proxy advisors on important topics such as benchmark policies, director accountability, and climate accounting and auditing.

Supported by IIGCC, investors have been engaging with auditors on climate risk since 2019, and in late 2021 and early 2022 investors wrote to the Big 4 in the UK and France respectively, seeking assurance that material climate risks were being integrated into company audits.

Asset owners rely heavily on companies in their portfolios to set out plans to transition their business models. Companies will need to understand transition risks and opportunities to do this. For example, a coal power company will need to consider rising carbon taxes and falling costs of renewable energy.

In order to deploy capital effectively, it is important for shareholders to see evidence that companies and their auditors are reflecting the impacts of the net zero transition on assets, liabilities, profits and losses in their financial statements. In line with existing regulation, investors expect auditors to alert them where material climate risks are not taken into account.

Investors have four key expectations of auditors:

- Confirm that critical accounting estimates reflect material climate risks, in line with accounting standards
- Confirm whether critical assumptions and estimates are aligned with a 1.5C pathway
- Alert shareholders to any inconsistency between narrative disclosures and financial statements
- Confirm dividend resiliency when climate impacts are accounted for

Auditors may provide this information through their disclosure of key or critical audit matters, and consider whether this would necessitate a qualification to their opinion on the financial statements.

There are welcome signs that some Lead Audit Partners are enhancing their focus on climate risks in their audits, and engagement is ongoing.

Investor Expectations for Paris-aligned Accounts

November 2020

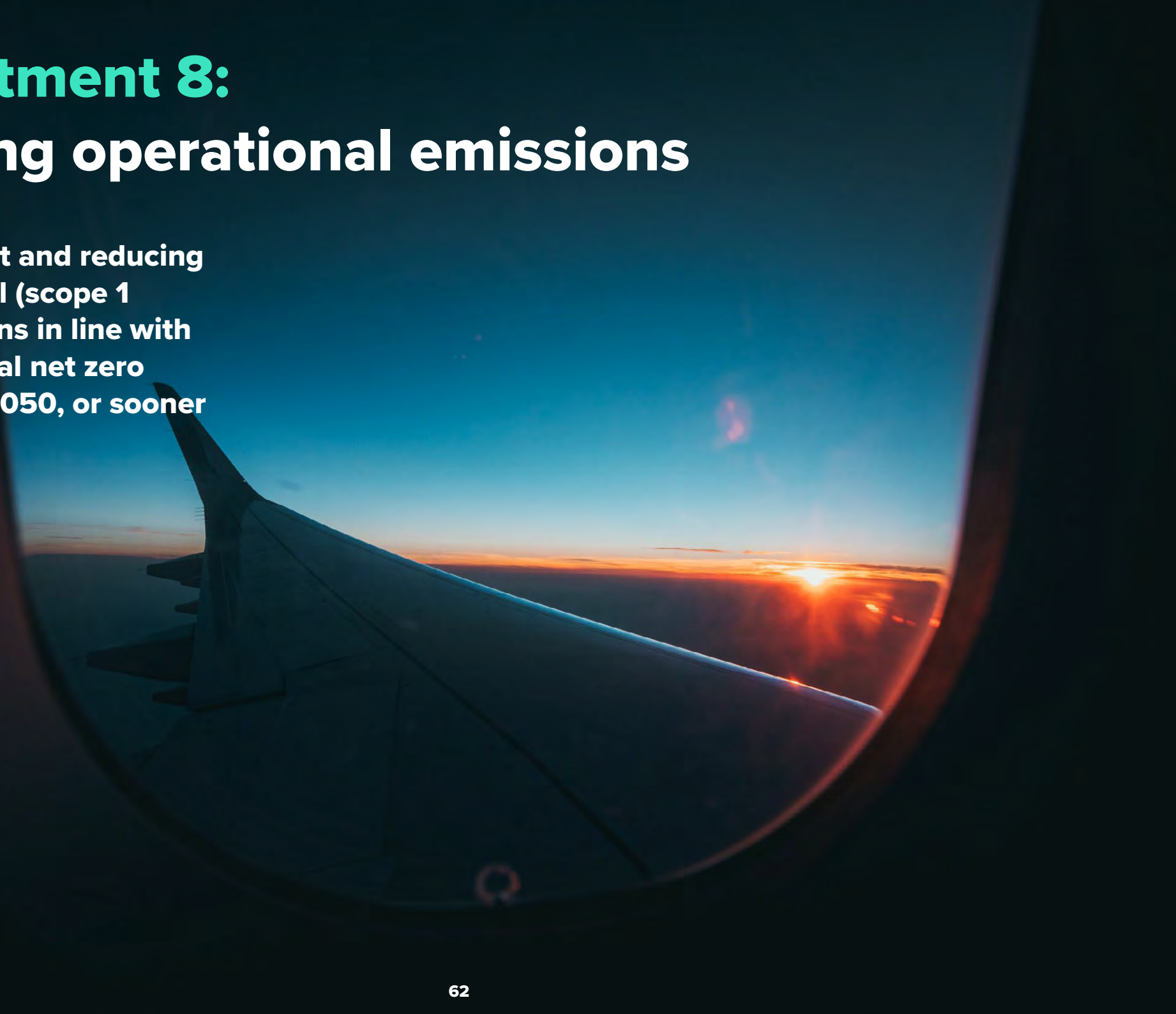


IIGCC
The Institutional Investors
Group on Climate Change

Commitment 8:

Reducing operational emissions

Setting a target and reducing our operational (scope 1 and 2) emissions in line with achieving global net zero emissions by 2050, or sooner

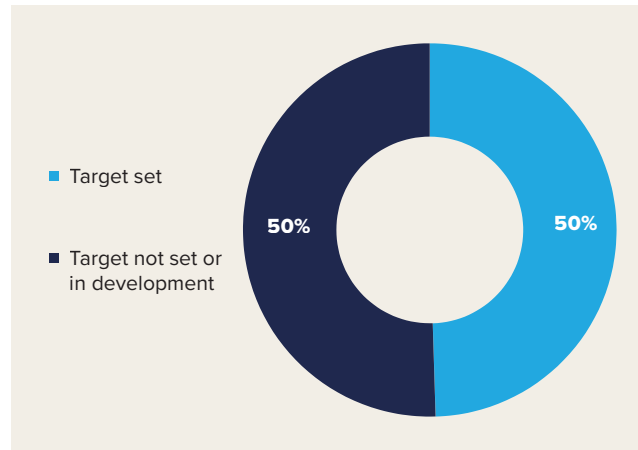


Portfolio emissions of financial institutions are, on average, over 700 times larger than the financial institution's direct emissions. Paris Aligned Asset Owners, therefore, are primarily focused on driving reductions of their organisation's financed emissions.

However, Paris Aligned Asset Owner signatories recognise that taking action to reduce operational emissions is important to maximise contribution to emissions reductions in the economy and show consistency between signatories' own actions and the requests made of portfolio companies, other assets, policy makers and others.

50% of Paris Aligned Asset Owner signatories that have disclosed targets to date also have a target covering their organisation's operational emissions. A number of signatories, whilst having not yet set a target for reducing operational emissions, are already carbon neutral. Many other signatories have noted that operational emissions targets are a work in progress and outlined the developments made so far. For some, this includes a calculation of baseline emissions from energy use in buildings and employee travel, for example. In the absence of quantified targets, other signatories have outlined actions taken to reduce operational emissions, such as by switching to renewable and/or carbon neutral energy providers, energy efficiency upgrades to buildings, reducing employee travel by air and increasing the use of online meetings and staff working from home, reducing employee commuting.

Figure 15. Number of signatories with operational emissions targets





DEEP DIVE: OPERATIONAL EMISSIONS STRATEGY ROYAL LONDON MUTUAL INSURANCE SOCIETY

Royal London has committed to achieving net zero direct operational emissions by 2030 (scopes 1 and 2). Through renewable energy procurement and energy efficiency in offices, amongst other measures, Royal London has achieved its 2025 targets three years early, though recognises there may have been some positive impacts on emissions as a result of the pandemic.

Energy and electricity

- Royal London has reduced its scope 1 emissions by 68% from a 2019 baseline. 99% of electricity across its operational estate (scope 2) was sourced from renewable energy sources in 2021.
- Working with its facilities management partner, Mitie, Royal London has implemented 93 energy conservation measures, resulting in over 1 million kWh of energy savings in both gas and electricity across its offices.

Working with suppliers:

- Royal London works closely with its suppliers and requested that its key supply partners respond to the CDP's supply chain climate change questionnaire. This resulted in a 58% response rate and a strong foundation to build on in 2022.

Sustainable behaviour:

- Royal London installed ten electric vehicle (EV) charging points at its new office in Alderley Park, Cheshire and organised on-site displays of the benefits of electric vehicles to encourage employees to switch.
- All single-use plastic bottles from across its offices have been removed and compostable takeaway packaging has been introduced in its restaurants.
- Through the introduction of QR codes in certain customer communications, Royal London has saved over 200 tonnes of paper. In addition, Royal London saved over 2.5 million sheets of paper through the increased adoption of electronic signature technology.

Empowering employees:

- Royal London recognises its employees play an integral part in supporting its efforts and in 2021 launched the Pawprint app to enable all employees to measure, understand and reduce their carbon footprint.
- Royal London's 'Eco Champs' group grew substantially over 2021, with over 400 employees helping to build a culture of sustainability across the Group.

Whilst continuing to decarbonise, Royal London has maintained carbon neutrality in its direct operational emissions (scopes 1 and 2) through carbon offsetting. In 2021, Royal London's carbon offsetting supported solar energy systems for communities in India.



An aerial photograph of a tropical coastline. A river flows through a lush green forest towards a sandy beach. The ocean is a vibrant turquoise color with white waves crashing onto the shore. The sky is clear and blue.

Commitment 9: **Disclosing objectives and targets** **and a plan for achieving goals**

Disclosing objectives and targets, and publishing a clear Investor Climate Action Plan for achieving these goals as soon as possible, no later than one year from making this commitment, and reviewing and updating targets every five years or sooner

Asset owners are asked to develop a strategy or plan for achieving their net zero targets. Investors can draw on multiple guidance to do this, including the Net Zero Investment Framework core components and related actions, the Investor Agenda's Investor Climate Actions Plans (ICAPs), and the more recent pan-finance sector guidance from GFANZ on Net Zero Transition Plans.

In addition to leading the way with their own commitments and strategy development, many signatories have been early and leading contributors to projects and initiatives that have provided the investment and broader finance industry with the initial concepts, language, frameworks, approaches and methodologies that have ultimately helped drive the ambition and momentum of the sector towards net zero in more recent years. To illustrate, GFANZ now contains seven sector specific alliances, covering banks, insurers, investment consultants and financial service providers. When GFANZ was launched at COP26 in November 2021, only three of these alliances were already in operation, all of which were investor-focussed: Paris Aligned Asset Owners, Net Zero Asset Managers, Net Zero Asset Owner Alliance. Now, GFANZ plays an important role in bringing financial sector actors together to address sector-wide challenges associated with the net zero transition and broaden participation across the financial sector.

In addition to the climate action plan The New York State Common Retirement Fund described in *Transition Highlight 4*, Canadian asset owner IMCO has set out a climate action plan that supports the delivery of its net zero targets for the public sector institutions it acts on behalf of.

Guidance for climate action and transition planning

There is much commonality between the available guidance for signatories developing plans to fulfil their net zero commitments.

Some asset owners may utilise all elements, whilst others may wish to consider which levers they have available based on their own circumstances and constraints and prioritise action where it can maximise impact. Additional levers can be incorporated over time.

Common themes across guidance includes:

1. Governance
2. Risk management
3. Metrics and targets
4. Asset allocation
5. Engagement and stewardship
6. Industry collaboration
7. Products and services
8. Policy and regulation
9. Disclosure





DEEP DIVE: CLIMATE ACTION PLANNING

THE INVESTMENT MANAGEMENT CORPORATION OF ONTARIO (IMCO)

The Investment Management Corporation of Ontario (IMCO) manages over \$79 billion in assets on behalf of broader public sector institutions. In 2021, IMCO committed to achieving a net zero emissions portfolio by 2050 or earlier and joined the Paris Aligned Asset Owners.

Managing climate change and supporting the global transition to a net zero emissions economy are among IMCO's ESG priorities. IMCO's climate action focuses on four areas:

Capital deployment

IMCO pursues climate-positive and transition investment opportunities.

IMCO's investment in Pulse Clean Energy demonstrates both the unique opportunities available to investors and the complexities involved in identifying and capitalising on those opportunities. Battery storage capacity plays a critical role in providing stable, reliable and clean electricity to the grid, enabling the level of intermittent renewables required to achieve net zero. Pulse Clean Energy is leading innovation in energy storage by transforming diesel power generation to battery storage and energy optimization.

Portfolio management

IMCO focuses on further integrating climate-related risks and opportunities into the investment decision making processes, and continuously monitors climate risk across the portfolio.

IMCO requires external managers to complete an ESG due diligence questionnaire, with a dedicated section on climate change, which collects information on the manager's ESG-related policies, processes and performance. The goal is to help IMCO understand the manager's climate approach, and includes questions in the following areas:

- Net-zero commitment, portfolio alignment with low carbon transition and net zero
- Climate risk and opportunities assessment
- Carbon footprinting of scope 1, 2 and if appropriate, scope 3 emissions
- Targets and metrics
- TCFD implementation and reporting

Asset ownership

IMCO engages with portfolio companies and external managers on key issues related to climate and collaborates with like-minded investors and policymakers to drive collective climate action.

IMCO's [proxy voting guideline](#) outlines its expectations of companies to support their management-sponsored climate proposals. Expectations include:

- Commit to net zero carbon emissions by 2050 or sooner
- Set science-based emission reduction targets
- Disclose climate information in line with Task Force on Climate-Related Financial Disclosures (TCFD)

Climate Guardrails

IMCO will establish restrictions and limitations for high-emission sectors to minimize exposure to investments incompatible with a net-zero economy while also supporting assets with a viable transition path.

For IMCO, climate change is a multi-year journey, and it plans to continue to look for opportunities for value creation from the transition to a net zero economy, while mitigating the systemic risks presented by climate change.

Examples from other signatories include UK pension schemes Railpen and Scottish Widows which both define four pillars of their Net Zero Plan and Climate Action Plan published in September 2021 and February 2022, respectively.

The image displays four red pillars representing the pillars of the Scottish Widows Climate Action Plan 2022. Each pillar includes an icon and a title:

- Strategy and governance:** Represented by a shield with a pound sign (£).
- Targets and objectives:** Represented by a target icon with an arrow.
- Strategic asset allocation:** Represented by a network of three nodes connected by lines.
- Stewardship, policy advocacy and market engagement:** Represented by two speech bubbles above two stylized human figures.

To the right of these pillars is the cover of the 'CLIMATE ACTION PLAN 2022' report, which features a woman wearing a red hooded garment against a dark blue background. The Scottish Widows logo is visible at the bottom of the cover.

The image displays four orange pillars representing the pillars of the Railpen Net Zero Plan. Each pillar includes an icon and a title:

- Governance and strategy:** Represented by an icon of a classical building with columns.
- Targets and objectives:** Represented by a target icon with an arrow.
- Asset Class Alignment:** Represented by an icon of a briefcase.
- Policy advocacy and market engagement:** Represented by an icon of a presentation board.

Below the titles, each pillar has a descriptive text box:

- Governance and strategy:** Commitment, beliefs, responsibility & ownership, reporting
- Targets and objectives:** Fund-level GHG reduction targets, climate solution targets
- Asset Class Alignment:** Portfolio-level alignment targets, engagement targets, selective divestment
- Policy advocacy and market engagement:** Strategic policy and market-level engagement, direct and collaborative support for the Paris goals

To the right of these pillars is the cover of the 'NET ZERO PLAN' report, which features a landscape of solar panels under a sunset sky. The Railpen logo is visible at the bottom of the cover.

Commitment 10: Reporting annually on strategy and actions

Reporting annually on the strategy and actions implemented and progress towards achieving objectives and targets, and in line with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.

The first group of asset owners that joined the initiative by signing the 10-point commitment did so in March 2021, disclosing initial objectives and targets at least 12 months later. Therefore, signatories are not formally required to disclose progress against targets until 2023. Despite this, a number of asset owners have disclosed progress either through TCFD-aligned disclosures (discussed further below) and/or through initial case studies submitted to the regional investor networks, several of which are included in this report.

The initiative is currently developing a mechanism through which signatories can report progress annually. As signatories are already subject to a range of mandatory reporting requirements and voluntary disclosures, the initiative is committed to streamlining its disclosures recommendations. Signatories will be supported to incorporate information relating to their progress against the net zero commitment with existing reporting frameworks applicable to their jurisdiction, such as TCFD.



DEEP DIVE: IMPROVING TCFD REPORTING FOR NET ZERO

WILTSHIRE PENSION FUND

Since September 2021, Wiltshire Pension Fund has made progress in many of its climate related activities. This includes improving its annual TCFD report by:

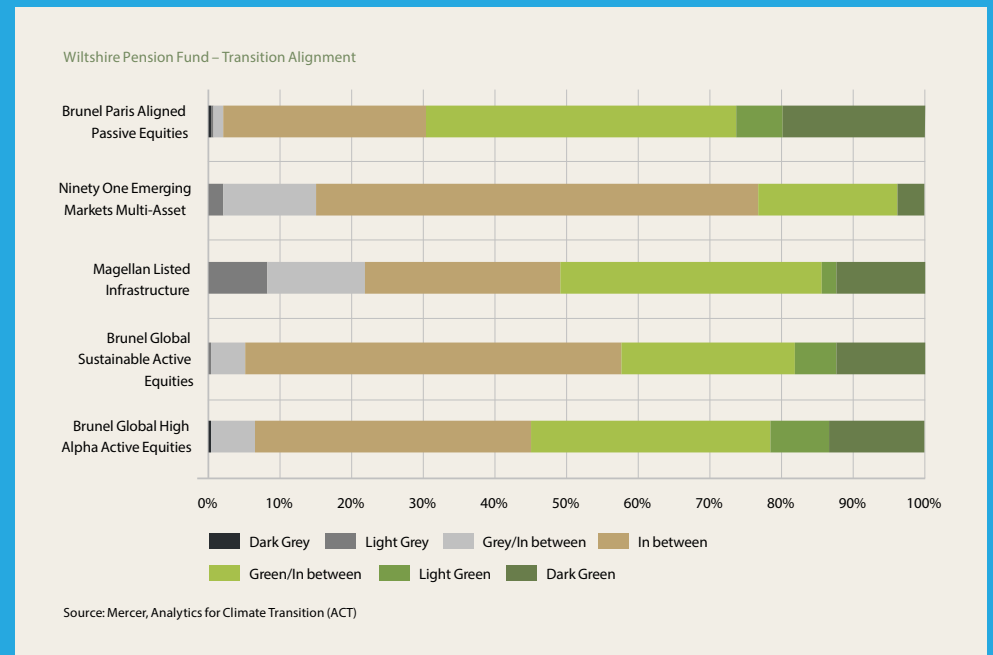
- Recalculating the Fund’s emissions baseline to align with the Net Zero Investment Framework recommendations and Brunel Pensions Partnership
- Integrating additional analysis of holdings to increase coverage of asset classes
- Incorporating forward-looking assessment of holdings to understand the alignment of different portfolios and highlight specific holdings to prioritise for engagement.

Forward-looking alignment analysis of holdings is a central part of the Net Zero Investment Framework. Leveraging Mercer’s Analytics for Climate Transition (ACT), Wiltshire Pension Fund now monitors both the decarbonisation progress and the forward-looking alignment of its portfolios, with holdings labelled shades of green, grey and in between. This analysis will inform the Fund’s net zero strategy, particularly in relation to corporate engagement priorities, and support granular target setting over the next 12-18 months following the disclosure of the Fund’s initial net zero targets in 2022. See *Commitment 6: Implementing a stewardship and engagement strategy* for an example of the Fund’s engagement with highest emitting holdings via its asset managers.

The forward-looking alignment analysis will also allow the Fund to report against any new TCFD disclosure requirements that may come into force for Local Government Pension Schemes in the UK, as is currently being consulted on. At present, many UK pension schemes are in scope of requirements from the Department for Work and Pensions to report, as far as they are able to, one absolute emissions metric, one emissions intensity metric, and a portfolio alignment metric. With the latter akin to the Net Zero Investment Framework’s asset-level alignment approach.

The Fund is committed to transparently reporting on progress made towards its net zero commitment. In addition to TCFD reporting and regular updates to the Wiltshire Pension Fund website, the Fund intends to produce a ‘Climate report’ for 2022/2023 and welcomes policy proposals that would require Local Government Pension Schemes in the UK to have effective governance, strategy, risk management and accompanying metrics and targets for the assessment and management of climate risks and opportunities and disclose these in line with TCFD.

Figure 16. Results of a forward-looking alignment assessment of Wiltshire Pension Fund’s portfolios



As the recommendations from TCFD are moving from a financial related risk focus to include forward-looking alignment and transition planning, there is likely to be further opportunities for asset owners to integrate reporting against their net zero commitment into TCFD disclosures. The Net Zero Investment Framework sets out a set of recommended disclosures that asset owners can make following the four pillars of the TCFD reporting structure: Governance, Strategy, Metrics and Targets, Management.

The PAAO initiative is committed to promoting and facilitating transparency of the actions signatories are taking to meet their net zero commitment.

TCFD also requires investors to measure, manage and report against physical climate risks and opportunities. In 2022, IIGCC and a working group of members have been developing a framework for investors to align their portfolios to the adaptation and resilience goals of the Paris Agreement.

Through collaboration with investors in Oceania and Asia, via AIGCC and IGCC, a discussion paper was published by IIGCC in September 2022. The paper outlines some of the underpinning theory of a “Climate Resilience Investment Framework”, highlighting the importance of addressing risks to assets as well as wider systemic risks. IIGCC proposed a structure and key components of a framework as well as initial indicators for investors to measure action towards resilience goals.

Work to support investors integrate physical climate risks into investment decisions and scale up capital flows towards resilience will continue into 2023.

GOVERNANCE

- The board/CEO level commitment to the goal of achieving net zero portfolio emissions by 2050 or sooner, as relevant for asset owners or asset managers, and responsibility for implementation of the commitment and strategy.
- How climate objectives have been incorporated into mandates and objectives for asset managers, portfolio managers, and other personnel as relevant.

STRATEGY

- The key principles and components of the investor’s strategy for achieving the commitments to net zero and implementing this Framework, and how the strategy and targets represent an investor’s maximum possible effort to reducing emissions and increasing allocation to climate solutions.
- If relevant, how climate metrics, targets and objectives have been incorporated into SAA or similar processes.
- Constraints identified to achieving greater alignment and how these have been addressed, as appropriate.
- The key principles and components of a net zero engagement and stewardship strategy, including escalation and milestones.

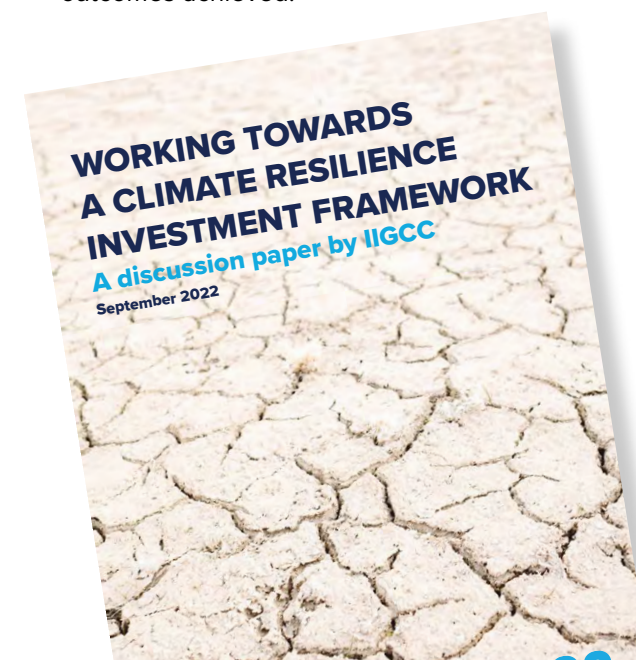
METRICS AND TARGETS

- The targets set including how these targets were calculated, and evidence and information that was used to inform the target setting process as referred to in section 5.
- The science-based scenario(s) or pathway(s) used to guide target setting and assess the alignment of companies, including the name of the relevant model(s), how these meet the parameters in Box 2, and critical assumptions used.
- Methodologies used to assess alignment of assets, and the extent to which these are consistent with the key features of the methodologies recommended in sections 7.1-7.3.

- Performance against targets over time, and any updates or adjustments to targets that are relevant.

MANAGEMENT

- Portfolio construction approaches implemented and/or products developed to facilitate allocation to products that support net zero aligned investing.
- Engagement, stewardship and direct management actions undertaken in line with recommendations in sections 7.1-7.3, performance in relation to the engagement threshold, and key outcomes achieved.
- Voting policy and voting record, including an explanation of any deviations from the policy.
- Policy in relation to exclusions or phase out of fossil fuel investments.
- Where divestment or exclusion has been used, the rationale, and the extent to which this has been the means to achieve targets.
- Information on direct and collective policy actions undertaken across the key areas for advocacy mentioned in section 8, including outcomes achieved.
- Information on market engagement actions undertaken as mentioned in section 8, including outcomes achieved.



Appendices

Joining the initiative

If your organisation is considering making a net zero commitment and would like to discuss the initiative as well as the methodology and implementation support offered by the investor networks, please get in touch.

AIGCC (Asia)

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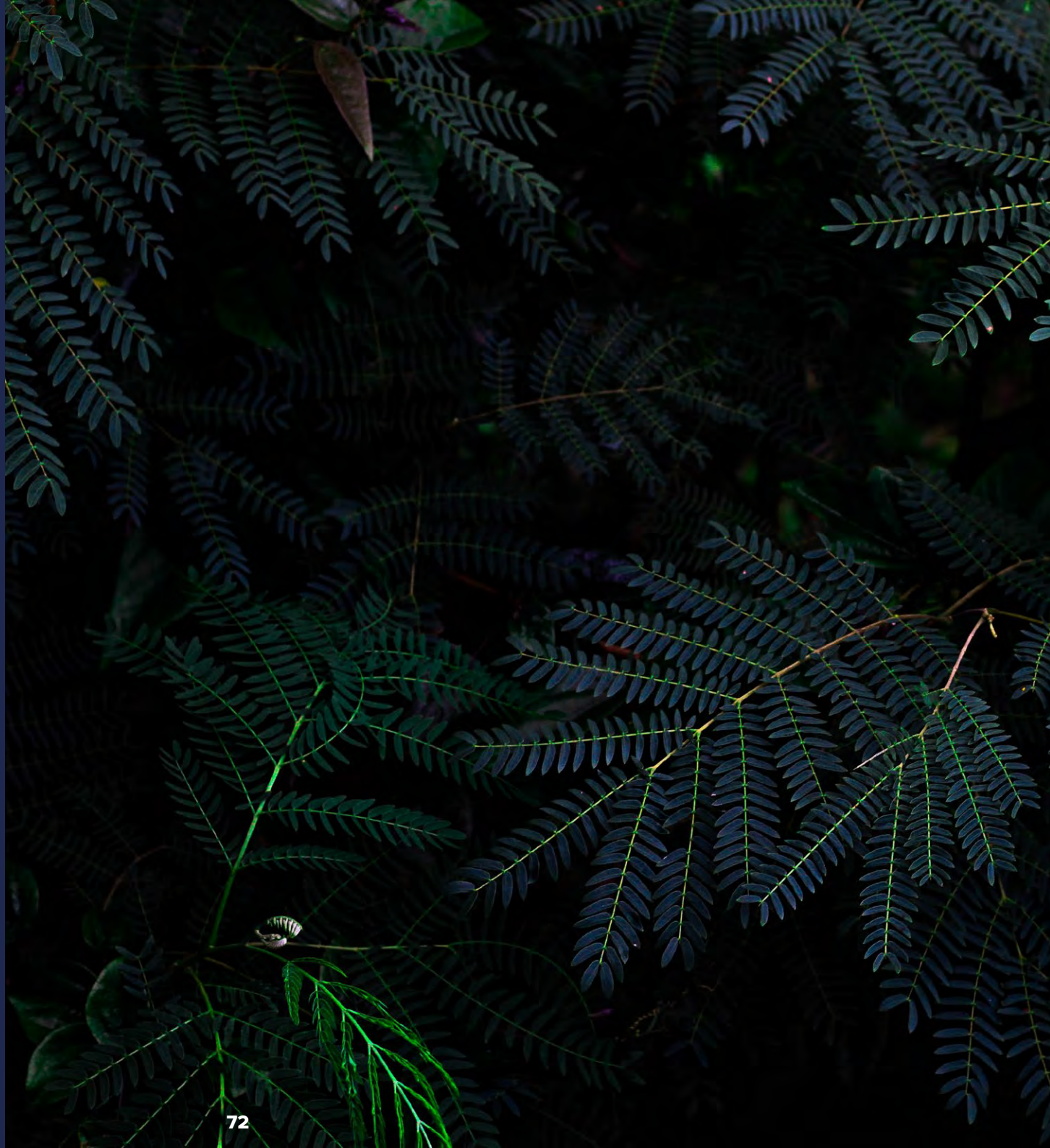
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Investor networks – a summary of methodology guidance and implementation support

The PAII Network Partners (AIGCC, Ceres, IGCC, IIGCC) support asset owners and asset managers to implement the Paris Aligned Asset Owner 10-point commitment statement and develop guidance for net zero investment strategies, primarily through the Net Zero Investment Framework. The table below sets out the range of guidance developed recently by each of the investor networks and collectively within the Paris Aligned Investment Initiative.

Investor Network	Topic	Description	Link
PAII (AIGCC, Ceres, IGCC, IIGCC)	Net Zero Investment Framework (March 2021)	The Net Zero Investment Framework provides a common set of recommended actions, metrics and methodologies through which investors can maximise their contribution to achieving global net zero global emissions by 2050 or sooner. Its primary objective is to ensure investors can decarbonise investment portfolios and increase investment in climate solutions.	Net Zero Investment Framework Implementation Guide
PAII (AIGCC, Ceres, IGCC, IIGCC)	Private equity (February 2022)	The proposed private equity component for the Net Zero Investment Framework, is relevant to both GPs and LPs – it will allow GPs to make and implement net zero commitments for the first time, while LPs can incorporate private equity into net zero strategies for multi-asset class portfolios.	Private Equity Component for the Net Zero Investment Framework
PAII (AIGCC, Ceres, IGCC, IIGCC)	Derivatives and hedge funds (May 2022)	This discussion paper considers how portfolio measurement, asset alignment and portfolio management would be affected by the inclusion of derivatives and hedge funds.	Incorporating Derivatives and Hedge Funds into the Net Zero Investment Framework
PAII (AIGCC, Ceres, IGCC, IIGCC)	Infrastructure (July 2022)	This new component for the Paris Aligned Investment Initiative’s Net Zero Investment Framework provides guidance on aligning and managing infrastructure portfolios with the goal of achieving global net zero emissions by 2050 or sooner.	Proposed Components for Infrastructure
PAII (AIGCC, Ceres, IGCC, IIGCC)	PAOO target disclosures (November 2022)	This publication presents the initial targets disclosed by 40 of the 57 Paris Aligned Asset Owner signatories. Signatories are due to disclose targets one year after signing the commitment, as per the commitment statement .	PAOO Initial Target Disclosures
Investor Agenda (AIGCC, Ceres, CDP, IGCC, IIGCC, PRI, UNEP FI)	Policy advocacy	In the run-up to COP 27, Paris Aligned Asset Owner signatories were among the 532 investors representing \$39 trillion in assets that submitted the 2022 Global Investor Statement to Governments on the Climate Crisis to government leaders from all around the world assembled at the U.N. in September.	Global Investor Statement to Governments on the Climate Crisis
AIGCC	Investor Progress (February 2021)	AIGCC has been undertaking an annual study since 2019 to gather insights on how the market is defining and investing in climate-aligned opportunities, and the barriers to increased investment they continue to face. This report provides the collective view of Asian investors, and non-Asian investors with significant investment in Asia, with funds representing over \$6 trillion total assets under management globally surveyed in December 2021.	Pursuit of Ambitions: Net Zero Investment in Asia (3rd edition)

AIGCC	Corporate Engagement: Asian Utilities Engagement Program (AUEP)	Investor engagement with Asian electric utilities will play a key role in addressing climate risk as the sector contributes approximately 23 per cent of global greenhouse gas emissions and has a young asset age profile of about 13 years (versus an average economic lifetime of 40 years). This report discusses some of the key issues facing the Asian utilities sector and some high-level reporting of the engagement progress to date with the five focus companies.	Asian Utilities Engagement Program 2021-2022 Progress Report
AIGCC	Investor Expectations of the Asian Electric Utilities Companies	This document sets out key insights into trends affecting Asian electric utilities, followed by investor expectations framed in a series of questions that investors can use for constructive engagement with the boards and management of electric utilities.	Investor Expectations of Asian Electric Utilities Companies – Crossover to net zero. Also available in Simplified Chinese, Traditional Chinese, Japanese, and Korean
AIGCC	Member masterclasses	AIGCC held three member masterclasses to support investors on their net zero climate journey and development of investor climate action plans. The topics include: 1) Investment and Governance, 2) Investor Disclosure, and 3) Corporate Engagement and Policy Advocacy.	Investor Practice Masterclasses series
AIGCC	Carbon Capture and Storage (December 2021)	In the decisive decade for decarbonization, the prospect of Carbon Capture and Storage (CCS) deployment has become a discussion of critical importance. To validate whether such capacity projections for 2050 are plausible in the Asian context, AIGCC commissioned Wood Mackenzie to assess the drivers of CCS feasibility, consisting of cost competitiveness to alternatives, policy and regulatory support and storage availability, to assess the competitiveness of CCS in the power generation and steel sectors of China, India, Japan and South Korea.	Carbon Capture and Storage in the decisive decade for decarbonisation – The Case for Asia
AIGCC	Tools on Physical Climate Risks and Resilience	This Guide profiles the tools that are designed for a variety of purposes including portfolio assessment, security selection, strategic and tactical asset allocation, risk management and regulatory reporting. This guide is useful for investors at the beginning of their climate risk journey, and also for those who are more advanced – to screen and determine relevant tools that fit in their investment process, to conduct deep dive analyses and develop investor action and engagement plans.	Riding the wave of physical risks – A compendium of tools and service providers for investors in Asia
AIGCC	Policy Advocacy	AIGCC submitted a response to the U.S. Securities and Exchange Commission on The Enhancement and Standardisation of Climate-Related Disclosures for Investors.	AIGCC Statement on the US SEC Proposal
AIGCC	Policy Advocacy	AIGCC submitted feedback on Exposure draft IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Financial Information.	AIGCC Feedback on ISSB Exposure Draft
Ceres	Policy advocacy	The U.S. Congress passed the Inflation Reduction Act, the most significant climate legislation in U.S. history, was propelled by investor and corporate support in letters and visits with lawmakers organized by Ceres. The Act provides \$370 billion towards renewable energy, clean transportation and environmental justice investments in measures that incentivize further private sector investment.	The Inflation Reduction Act was years in the making, and will power our economy for years to come
Ceres	Policy advocacy	Nundreds of investors have supported a U.S. Securities and Exchange Commission (SEC) proposed rule mandating that publicly held companies report on their climate risk and opportunities, filing written comments testifying to the need for such a mandate. Comments were submitted by institutions including the Office of the New York City Comptroller and the Office of the New York State Comptroller that oversee four of the city and state retirement systems that are signatories to PAAO. Ceres also filed a letter in support of the proposal, hosted a briefing with the SEC Chair Gary Gensler, and convened a direct dialogue between investors and the Chair's office. This proposed rule did not happen in a vacuum. Ceres along with investors around the U.S. and the world with tens of trillions of dollars in assets, has been advocating for standardized, mandatory corporate climate disclosure for decades. Investors with more than \$4 trillion in AUM have also signed Ceres' Statement of Essential Principles, a collective statement of principles that the SEC should incorporate into its final rule. The final rule is expected in early 2023.	SEC Climate Disclosure Ceres final comment letter to the SEC Briefing with the SEC Chair Gary Gensler Ceres' Statement of Essential Principles

Ceres	Investor Climate Action Plans	North American investors are publishing robust Investor Climate Action Plans (ICAPs) that show how they will meet the strong interim targets they have set and articulate how they'll take key climate actions, including corporate engagement, to support the goals of the Paris Agreement. To help more asset owners develop ICAPs and plan their climate journey, Ceres is launching an 8-week ICAPs course in January 2023.	Develop Your ICAPs: A Ceres Course for Asset Owners
Ceres	Investor collaboration	Ceres also continues to run monthly Paris Aligned Investment Working Group meetings for its Investor Network members to foster peer learning on target setting, climate action plans development, net zero implementation and just transition.	Ceres Investor Network
IGCC	Just Transition (July 2021)	This report highlights the challenges and opportunities for Australian communities economically tied to fossil fuel industries, providing an assessment of energy markets and the climate policy landscape. The report includes key actions investors can take to drive a just transition across (1) investment strategy and capital allocation; (2) corporate engagement; (3) impact measurement and evaluation; (4) advocacy and partnerships; and (5) disclosure.	Empowering Communities: How investors can support an equitable transition to net zero
IGCC	Investor progress (June 2021)	IGCC's investor survey provides insights into how Australian and New Zealand investors are responding to climate risk and net zero investment opportunities. 2022 State of Net Zero Investment in Australia and New Zealand reports are launched in November 2022.	Aspiration to Action: Insights into investor progress towards net zero
IGCC	Investor expectations: Company directors (November 2021)	This report finds Australian company directors lack the skills and experience to lead the corporate transition to net zero emissions by 2050. The report provides guidance on what outcomes investors want to see directors and boards deliver as companies set out their net zero ambitions and approaches.	A changing climate: What investors expect of company directors on climate risk
IGCC	Climate disclosures (January 2022)	This report considers emerging global best practice for standards on climate risk disclosure regimes and how they might be adopted into the incoming mandatory regime in New Zealand to enable investors to make well-informed decisions.	Climate disclosures: Lessons from Global Trends for Aotearoa New Zealand
IGCC	Corporate transition plans (March 2022)	This report aims to help companies preparing climate transition plans and investors engaging with these improved plans. By summarising existing guidance it provides a clear set of investor expectations for Australian businesses' climate plans.	Corporate Climate Transition Plans: A Guide to Investor Expectations
IGCC	Sectoral deep dive: Gas (April 2022)	This report highlights that under 1.5°C Paris-aligned scenario new gas projects may be economically challenged, and investors are likely to be cautious of capital expenditure in the sector.	Changing Pathways for Australian Gas
IGCC	Circular economy (June 2022)	This discussion paper provides a briefing on circular economy fundamentals, indications of the investment opportunity, and the link between circular economy approaches and climate mitigation, resilience and adaptation.	Regenerate and Restore: A Circular Economy Discussion Paper for Investors
IGCC	Sectoral deep dive: Hydrogen (August 2022)	Investors want Australia to prioritise the development of a low emissions hydrogen industry, favouring green hydrogen over blue. The report identifies that investors have a key role to play in: <ul style="list-style-type: none"> • Generating demand from hydrogen users for low-emissions hydrogen • Advocating for the creation of robust standards for certifying low-emissions hydrogen • Supporting market enablers of the industry including increasing renewable energy investment • Supporting policy settings that will accelerate the transition away from fossil fuels 	Unlocking investment in the Australian hydrogen industry
IGCC	IGCC: Member masterclasses (2022)	IGCC held five half day masterclasses to support investors on their journey to net zero, bringing together best practice. The sessions focussed on target setting, ICAPs, corporate & policy engagement Just Transition and physical risk & resilience.	Investor Practice Masterclass Series: The Net Zero Journey: Target setting, implementation and overcoming barriers

IGCC	IGCC: three year strategy (September 2022)	In September 2022, IGCC launched its plan to accelerate investment for a clean and resilient economy. It covers the strategic landscape and the three impact strategies that IGCC will implement taking us to the mid-point in this critical decade.	
IGCC	IGCC: Policy priorities (October 2022)	IGCC's policy priorities are based on extensive input from the mainstream of Australia's institutional investment industry, including IGCC's membership and industry peak bodies.	IGCC Policy 2025 Priorities
IIGCC	Target setting (December 2021)	This document provides step-by-step guidance for investors implementing the recommendations of the Net Zero Investment Framework. The guidance will support asset owners and asset managers utilising the Framework to establish their targets in line with their net zero commitments.	The Net Zero Investment Framework: Supplementary Target Setting Guidance
IIGCC	Climate solutions (April 2022)	The Climate Investment Roadmap was developed with support and analysis from Vivid Economics and aims to support investors in understanding the \$126 trillion of investment in climate solutions required to meet the goals of the Paris Agreement.	Climate Investment Roadmap: A tool to help investors accelerate the energy transition through investment and engagement
IIGCC	Adaptation and resilience (September 2022)	This discussion paper acts as a call for input and feedback from the investment community, climate resilience experts, and the wider group of stakeholders that have already pushed the resilience agenda within the financial industry; such as insurers, banks, and regulators.	Working towards a climate resilience investment framework
IIGCC	Data for net zero (October 2022)	The catalogue provides a detailed analysis of data sets and products in the market from 16 participating vendors and will help investors implementing net zero strategies to find and assess the most relevant data sources for their needs.	IIGCC launches data vendor catalogue for investors
IIGCC	Sustainable Finance Disclosure Regulation (April 2022)	The Q&A supports investors with the implementation of the EU's Sustainable Finance Disclosure Regulation (SFDR) and to explore the interaction between SFDR and recommended disclosures under the Net Zero Investment Framework.	Q&A: Net Zero Investment Framework and the Sustainable Finance Disclosure Regulation
IIGCC	Stewardship (April 2022)	The Net Zero Stewardship Toolkit provides investors with a foundational process to enhance their stewardship practices and deliver the rapid acceleration in decarbonisation required to halve emissions by 2030 and give the world a chance achieving net zero by 2050. Signatories have now formed an Asset Owner Alignment working group to develop more specific expectations for asset managers on climate-focused stewardship and provide a functional framework for assessment and monitoring.	IIGCC Net Zero Stewardship Toolkit
CA100+ (AIGCC, Ceres, IGCC, IIGCC, PRI)	Corporate engagement	Climate Action 100+ signatories – about 700 institutional investors, including about 180 from North America, with combined assets of about \$68 trillion – have been engaging with the world's largest corporate emitters and issued a Net Zero Company Benchmark along with recent interim updates on the status of progress by those companies.	Climate Action 100+ Net Zero Company Benchmark

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