

Climate votes

**Net-Zero Asset Owner Alliance:
Evidence on the Paris
Alignment of Members'
Disclosure, Proxy Voting,
and Fossil Fuel Bond Investing**



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Executive Summary

\$10.6 trillion

Net-Zero Asset Owner Alliance (NZAOA) is an international group of 74 institutional investors with a combined pool of assets under management (AUM) worth US\$10.6 trillion

One of the seven sector-specific alliances under the Glasgow Financial Alliance for Net Zero (GFANZ), the United Nations-convened Net-Zero Asset Owner Alliance (NZAOA) is an international group of 74 institutional investors with a combined pool of assets under management (AUM) worth US\$10.6 trillion.¹ NZAOA members are committed to transitioning their investments to net-zero emissions by 2050, in line with the latest [Intergovernmental Panel on Climate Change](#) (IPCC) scientific research to follow “no or limited” overshoot trajectories to a 1.5°C scenario. NZAOA members also launched a more ambitious [second edition of the Target Setting Protocol \(TSP2\)](#) at the beginning of 2022. The TSP2 includes objectives for increased engagement, transparent reporting, and emissions reduction and target setting.

Our first annual [2021 analysis of 46 NZAOA members](#) showed patchy progress toward this commitment, with only 28% of members voting on climate-related shareholder proposals. NZAOA membership did not correlate with an increase in direct pro-climate voting compared to peers, and transparency around voting practices was very low. This year, we repeated the study for 73¹ NZAOA members using updated data for 2022. We assessed NZAOA members on their net-zero implementation progress, proxy voting on climate resolutions, and bondholding exposure to fossil fuels. This was evaluated through three interrelated analyses:

¹ At the time of project commencement in August 2022, the NZAOA had 73 members, including CBUS, which has since left the Alliance. All analyses include the 73 members (including CBUS) in the cohort at that time.

1. Climate disclosure practice in publicly issued statements and reports;
2. Climate voting performance by comparing Principles for Responsible Investing (PRI) signatories with NZAOA peers (similar to the 2021 study); and
3. Fossil fuel bondholding behaviour through proportionality analyses using Bloomberg data.



These analyses aim to provide an overview of the different actions NZAOA members take or pledge toward net-zero alignment. The first part of the study examines what individual NZAOA members claim on their websites, as well as on their annual, sustainability, or stewardship reports and how those match the alliance's TSP2 objectives. However, members' claims are not sufficient to judge the initiative's performance, and hence, to ground truth in some of the claims, we conducted two deep dives on their actual climate resolution voting patterns. We also sought to piece together their fossil fuel bond holdings, which, as of 2020, is the key asset class through which new fossil fuel infrastructure projects are funded. These deep dives are crucial, as we investigate both elements of stewardship, as well as the funding channel that is most likely to help phase out fossil fuels.ⁱⁱ

Key Findings & Recommendations

Disclosure Findings:

- 90% of NZAOA members disclose details of their net-zero targets; However, only 26% disclosed information on Scope 3 emissions, which the Alliance considers to be a key requirement.
- 7% of members achieve high disclosure completeness levels on their alignment with TSP2 and 1.5°C pathway goals, 70% of members had medium disclosure completeness levels, and 23% of members had low disclosure completeness.
- Members have much higher disclosure rates around indicators that detail engagement with asset managers (86% reporting) and the engagement process (77% reporting).
- Only 40% report on setting measurable targets for engagement.
- Only 37% of members disclose their climate voting records. Moreover, only 6% of members report on their security lending policy in alignment with net zero.
- Only 26% of members disclose bond engagement, divestment, or denial strategies across fossil fuels.

Recommendations for asset owners:

- Disclose and set measurable targets for engagement and escalation strategies across both equities and debt holdings.
- Report fully on outsourced climate votes, as well as their own climate voting record.
- Disclose involvement in fossil fuel bond engagement, divestment, or new fossil bond denial.
- Disclose and establish an escalation pathway for asset managers that fail to represent the asset owner's net-zero goals, as well as any incentive structures, such as tying asset manager fees to climate performance.

The Alliance should include the above recommendations as mandatory in the next Target Setting Protocol update.



Climate proxy voting findings:

- NZAOA members are more likely to vote “for” climate-related proposals than peers in the non-NZAOA group across the entire sample of climate votes.
- However, on ambitious proposals that require companies to align their strategies with the Paris Agreement, we find that peers in the non-NZAOA group are statistically more likely to vote in favour than NZAOA members.
- Similar to our 2021 study, we find that joining the NZAOA does not result in asset owners improving their voting in favour of climate-related proposals more than peers in the non-NZAOA group. Moreover, when we only look at the founding members of the NZAOA, we find that after they established the NZAOA, they were 29% less likely to vote “for” on climate-related votes compared with their peers in the non-NZAOA group.
- We also find that NZAOA members rarely sponsor climate-related proposals - only three proposals out of 736 climate-related proposals in our Insightia dataset were sponsored by NZAOA members.
- During the 2022 proxy season, NZAOA members did not show consistent leadership in supporting proposals that call for an end to financing new fossil fuel supply. We found a notable lack of support from Storebrand and Aegon, which command large voting shares. Conversely, we found BNP uses its higher voting share largely in support of the same resolutions.



- On a positive note, in 2022, we found that Alliance members frequently overrode proxy adviser voting recommendations on climate resolutions, voting “for” on climate resolutions twice as often as recommended (benchmarked to Glass Lewis).

Recommendations for asset owners:

- Review and update proxy voting policy to reflect their net-zero commitment and emissions-reduction targets before the 2023 proxy season.
- Vote in favour of climate resolutions that promote the asset owner’s net-zero commitment. This includes supporting climate resolutions at fossil fuel facilitators, including banks and insurers, to prevent the expansion of new fossil fuel supply, and increasing support for alignment-oriented climate proposals that require companies to align their business strategy with 1.5°C.
- Publicly state voting intentions in advance and/or initiate ambitious climate shareholder resolutions.
- Communicate clearly that asset managers must represent the asset owner’s net-zero goals and the best interests of both the asset manager’s total client base and the global economy, voting consistently with the 1.5°C pathway and in ways that consider the systemic risks of climate change.

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Seven members hold more bonds issued by fossil fuel companies in the BICS Industry Classification list than Vanguard

Fossil fuel bond investing:

- Seven members hold more bonds issued by fossil fuel companies in the BICS Industry Classification list than Vanguard – an average market holdings benchmark with no focus on sustainability and climate change.
- St James's Place and Dai-ichi Life's proportion of holdings in fossil fuel companies' bonds were nearly twice as much as that of the cohort's average (2.96 times and 2.69 times, respectively).
- A similar distribution is observed for NZAOA members holding bonds in the Toxic Bonds Dirty 30 list of fossil fuel expansionist companies. St. James's Place topped the table in terms of proportional fossil fuel bond holdings, with 6.26 times more than that of Vanguard. Second place was Nippon Life Insurance Group. Nippon's proportion of fossil fuel bond holdings is 8.7%, or 5.23 times as much as that of Vanguard Group (1.7%).
- In comparison with the cohort's average proportion of 1.3%, St. James's Place and Nippon Life Insurance's proportion of fossil fuel bond holdings were, respectively, 8.12 and 6.77 times higher.

Recommendations:

- Fully and publicly disclose aggregate corporate bond holdings and Scope 1, 2, and 3 emissions associated with these holdings by industry sector code.
- Deny new bonds for any fossil fuel company that is expanding output or infrastructure.
- Reduce current exposure to fossil fuel bond holdings, unless the company stops expansion and implements a complete phase-out strategy aligned with principles of equity and a 1.5°C timeline certified by globally recognized, science-based professionals.
- Apply innovative net-zero benchmarks, such as the EU's Paris-aligned benchmarks, which reduce the portfolio's year-over-year exposure to fossil fuels.

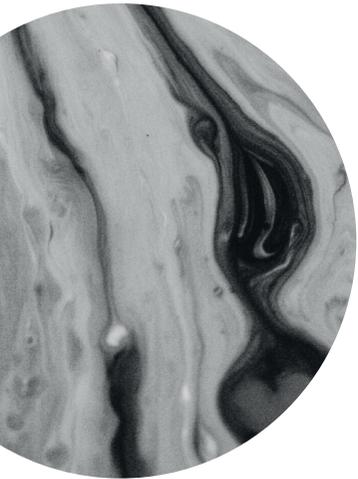
Introduction



The NZAOA represents an important opportunity for its members to deepen their engagement with external asset managers and companies on climate transition pathways. One of the seven sector-specific alliances under the Glasgow Financial Alliance for Net Zero (GFANZ), the UN-convened Net-Zero Asset Owner Alliance (NZAOA) is an international group of 74 institutional investors with a combined pool of assets under management (AUM) worth US\$10.6 trillion. The Alliance's stated goal is for all members to reach net-zero emissions across their portfolios by 2050, in line with a maximum global temperature rise of 1.5°C. In doing so, the NZAOA's purpose is not only to guide members to transition their own portfolios, but also to encourage other investors across private markets to do the same, by demonstrating how investors can deliver results on a 1.5°C target and address climate change across all their business activities.

The Alliance has stated that “asset owners are uniquely placed to influence company behaviour and create momentum for the decarbonisation of the real economy,” acknowledging the important role asset owners play in achieving a net-zero transition through the private market. As providers of finance to enterprises, investors generally have both stewardship rights and responsibilities to ensure that investee companies are producing expected financial returns and implementing environmental, social, and governance parameters in line with investor expectations. The NZAOA leverages investors' most effective and legally compliant strategies to focus on decarbonisation at investee companies across industries. This includes engagement, capital allocation strategies (including capital reallocation and divestment²), and investment opportunities in climate solution capabilities. This strategy was delineated in the [first edition of the NZAOA Target Setting Protocol for Asset Owners](#). Leveraging the previously published strategy and incorporating the latest Intergovernmental Panel on Climate Change (IPCC) scientific research, the NZAOA launched a

2 Although a widely adopted strategy advocated for incentivising company behaviour change to follow more sustainable business models, divestment is also critiqued as an abdication of stewardship responsibilities by limiting the opportunity to positively impact investee company strategy. The NZAOA acknowledges this point and points to divestment as an escalation tactic and last resort in an engagement strategy where the requested ESG change has not materialised.



more ambitious second edition of the Target Setting Protocol (TSP2) meant to align with the IPCC “no or limited” overshoot trajectories to a 1.5°C scenario.

The NZAOA TSP2 update published in January 2022 included higher reduction targets across financed emissions by 2025, from a 16–29% range to a 22–32% reduction in absolute emissions. It also added new 2030 reduction targets at 49–65% or beyond. The 2022 protocol included more granular metrics and directions to approach asset classes in scope, while covering new asset classes such as infrastructure or real estate, with expectations of all members to set interim 2025 targets on the four pillars defined as Sub-portfolio, Sector, Engagement, and Financing Transition. In particular, the TSP2 recommends an immediate cessation of all new investment in fossil fuel production and unabated coal power in order to achieve a net zero by 2050 scenario.

In publishing more ambitious targets, the authors of TSP2 have also acknowledged that members have fiduciary duties that require them to act in

the interests of multiple stakeholders to achieve target returns, and as such, emphasize that TSP2 remains a flexible framework for different portfolios and investing strategies. The TSP2 highlights that members are able to utilise multiple mechanisms through which investors can influence companies to consider ESG measures, which range from engagement through submitting and voting on shareholder proposals at annual general meetings (AGMs), to capital (re)allocation strategies across companies, sectors, and asset classes.

In our 2021 analysis of 46 NZAOA members, we found only 28% directly exercised their share voting rights on climate-related shareholder proposals. Statistical regressions revealed that NZAOA membership did not correlate with an increase in direct pro-climate voting compared to peers with similar commitments in the PRI group. Using data from PRI reports and Insightia, we found NZAOA members had very low transparency on their voting practices. While Alliance members were more likely to vote in favour of climate resolutions as a whole, they did not support more



ambitious climate resolutions that called for Paris-aligned strategies as compared with those not in the Alliance. Members in both the NZAOA and the PRI peer groups were more likely to vote in favour of climate resolutions at fossil fuel companies, however, this behaviour did not extend to ambitious climate resolutions that called for Paris-aligned strategies.

In the light of the TSP2, as well as our previous analysis of the NZAOA's proxy voting record on climate issues for the years 2015–2021, the present study aims to more broadly assess the climate performance of NZAOA members, focusing particularly on: i) their 2022 climate proxy voting record; ii) how members as a cohort and individually are aligned with the Alliance's TSP2 and stated goal of transitioning all members' portfolios to net-zero GHG emissions by 2050 and iii) how members' exposure looks with respect to fossil fuel bonds, which are, as of 2020, the most prominent financial instrument fossil fuel companies use to finance new projects.

This report undertakes scientifically rigorous research to understand the progress of NZAOA members in aligning complex financial portfolios with the latest climate change research through their disclosure on commitment progress and stewardship, as both proxy voters and bondholders. The report is structured in three interrelated studies, which focus on the themes of individual member climate performance disclosure against TSP2 criteria, climate proxy voting, and direct member fossil fuel bond holdings. The report then discusses the key findings across the three studies and provides recommendations to improve both disclosure and practical actions that NZAOA members could take in their pursuit to enable the timely transition to a net-zero economy.

Analysis

Study 1. Member Disclosure Analysis

Key Findings

- 90% of NZAOA members disclose details of their net-zero targets; However, only 26% disclosed information on Scope 3 emissions, which the Alliance considers to be a key requirement.
- 7% of members had high disclosure completeness levels on their alignment with TSP2 and 1.5°C pathway goals, 70% of members had medium disclosure completeness levels, and 23% of members had low disclosure completeness.
- Members have much higher disclosure rates around indicators detailing engagement with asset managers (86% reporting) and the engagement process (77% reporting).
- Only 40% report on setting measurable targets for engagement.
- Only 37% of members disclose their climate voting records. Moreover, only 6% of members report on their security lending policy in alignment with net zero.
- Only 26% of members disclose bond engagement, divestment, or denial strategies across fossil fuels.

Introduction

The TSP2 focuses on the actions members must undertake to enable a real-economy transition toward a 1.5°C pathway in line with the “no or limited” overshoot scenarios of the IPCC. The TSP2 proposes tangible metrics that members commit to across engagement, sectoral carbon emissions intensities, differentiated actions across different asset classes (including infrastructure), and providing capital for climate solutions investment. So far, the academic literature has documented several ways in which investors could use their power to enable the low-carbon transition by preventing new fossil fuel infrastructure or increasing the sustainability profile of a company through: i) engagement directly in equitiesⁱⁱⁱ or engagement with debt-funders of companies (and votes at bank AGMs), ii) portfolio tilting in equities^{iv}, iii) divestment from secondary equity and bond markets^v and iv) bond and loan denial for new fossil fuel infrastructure^{vi, vii}.

Further evidence into European pension funds’ decision to divest or not suggests that divestment from fossil fuels is more likely among larger and publicly owned pension funds^{viii}. Egli, Schärer, & Steffen (2022)^{ix} further find that among privately owned pension funds, open funds competing for clients are more likely to divest compared with company funds restricted to employees. The literature further documents that pension funds tend to join initiatives such as the PRI, particularly if they come from backgrounds such as: (i) public service employee and labour union pension funds, (ii) from social backgrounds more culturally aligned with values represented by the RI movement (iii) and from countries which historically have more voluntary legislation on environmental, social, and governance (ESG).^x

What is less known is whether pension funds that join peer initiatives such as the NZAOA also change their reporting practices and perform better on aligning with initiative-level pledges. Thus, in this study, we analyze how NZAOA members perform using evidence from public disclosures and commitments on members’ websites.





Methodology

In order to understand whether NZAOA members are aligned with the criteria outlined in the annex of the TSP2, we code and aggregate the TSP2 into 38 different indicators (Appendix 1 - Table 1), which refer to NZAOA member disclosure and reporting progress on net zero. These indicators include mandatory and strongly recommended TSP2 guidelines to members, with additional indicators to account for bondholding and climate voting. In translating the TSP2 into a scoring framework, we condensed multiple requirements and guidelines into key themes as indicators. Therefore, each indicator focuses on a separate aspect of decarbonising portfolios and decreasing emissions in investee companies. The scoring framework indicators include evidence of disclosure on: Scope 1, 2, and 3 targets and progress, fossil fuel financing phase-out policies, emissions target setting, engagement targets and process transparency, climate voting, and climate solution investing, among others. Indicators around the newly added infrastructure and real estate asset classes covered in the TSP2 were also included, as these are part of the mandatory reporting requirements for Alliance members moving forward. We developed these indicators to provide further insight in conjunction with the other two studies on proxy voting and bondholding in this report.

We gathered data^{3,4} from members' publicly available sources online, including their websites and published reports (e.g. annual reports, TCFD reports, ESG disclosures). Scoring members as either disclosing or not disclosing information for each indicator based on available data, we were able to evaluate 70 of the 73 cohort members. The remaining three (African Risk Capacity, the Sovereign Wealth Fund of the Gabonese Republic, and Stichting Pensioenfonds Medisch Specialisten) did not have any publicly available information. We then created disclosure profiles for the cohort, at aggregate and for each individual member, to evaluate whether members' disclosure levels were aligned to the TSP2 and the NZAOA's goals. To better evaluate and understand the results obtained in the data collection process, we have divided them into the following three levels:

- Low disclosure completeness (0-30% of indicators covered)
- Average disclosure completeness (30-70% of indicators covered)
- High disclosure completeness (70-100% of indicators covered)

³ Please note a minor limitation to the study: seven members publicly reported exclusively in Danish or Dutch and therefore, we used translation software to assess their disclosures.

⁴ In this study, we analysed members at an organisational level. This means that we used information from either the parent asset owner company or from their subsidiary/sibling organisation, depending on the available sustainable disclosure information. Please refer to Appendix 5 for more details.

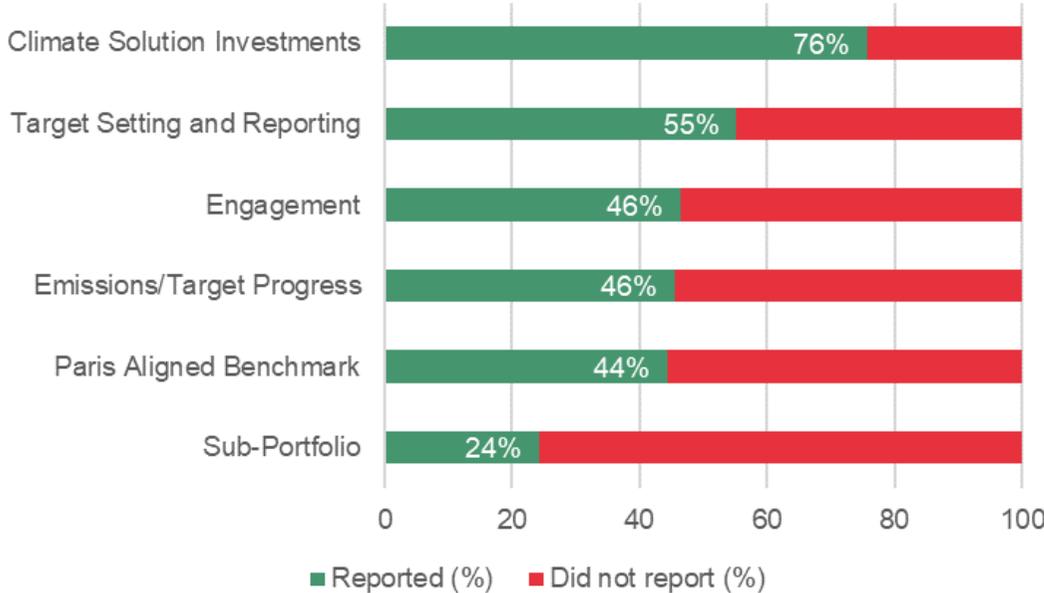
Findings

Cohort disclosure levels on themed indicators

We find that overall, NZAOA members are reluctant to report on indicators that detail concrete decarbonisation activity across their investments. They are much more likely to report on target or policy setting rather than progress towards achieving those targets or other results-oriented indicators.



Figure 1. Percentage of companies reporting on grouped⁵ indicators⁶ (summarised view).



5 'Climate Solution Investments' and 'Paris Aligned Benchmark' were two indicators that did not belong in any grouping and are left as individual indicators.

6 For a cohort-level visual on disclosure levels across all 38 indicators, see Appendix 6 - Figure 1.

Areas in which members showed the highest disclosure levels are focused primarily around target setting, largely around engagement, and details around science-based targets. Members showed particularly high levels of disclosure around:

- Net-zero targets (90% reporting)
- Asset manager engagement targets (86% reporting), and
- Fossil fuel policies (84% reporting).

This falls within expectations, given the Alliance's mandatory TSP2 requirements for all members to submit and publish targets within 12 months of joining the Alliance, include stewardship engagement within their strategy, and support the phase-out of fossil fuels required by 1.5°C scenarios. The [NZAOA's second progress report](#) published earlier in September 2022 confirmed that 44 members submitted internal reporting target templates as outlined in TSP2 – a number that has now grown to 46 .

In contrast to the high disclosure rates around target and policy setting, we find concerningly low disclosure from members around baseline Scope 3 emissions measurement and progress toward reducing such financed emissions. The NZAOA recognizes that Scope 3 emissions represent 95–97%^{xi} of an asset owner's emissions, and require members to set targets on these emissions.

We also find that members have much higher disclosure rates around indicators that detail engagement with asset managers (86% reporting) and the engagement process (77% reporting). These indicators cover engagement themes that are non-binding and do not carry any requirement attached to the scope of engagement. When it comes to setting measurable targets for engagement (40% reporting) or escalation strategies before and during the bond issuance process (26% reporting), Alliance members are much more reluctant to disclose public information.

Members have similarly low disclosure levels around climate voting. We find that only 6% of members report on how their security lending policy aligns with net zero. Moreover, only 37% of members disclose their climate voting records.

Additionally, we find very low disclosure rates around sub-portfolio-related indicators of real estate and infrastructure, which aligns with the Alliance's September 2022 findings that only 55% of members have thus far set sub-portfolio targets. Although real estate and infrastructure targets were new additions in the TSP2, these targets are critical to drive necessary short-term emissions reductions to align with NZE2050, and are acknowledged as the most significant quantitative component of the Alliance's target-setting scheme and reporting rubric in the TSP2.



Table 1. Top and bottom 10 indicators in terms of NZAOA cohort disclosure levels.

Top 10 Disclosed Indicators		Bottom 10 Disclosed Indicators	
Indicator	Members Reported (%)	Indicator	Members Reported (%)
Details of net-zero target(s)	90	Infrastructure (reporting emissions)	3
Fossil fuel policies	87	Infrastructure (assessment)	5
Engagement	86	Climate votes (outsourced)	6
Engagement process	78	Real estate (reporting- intensity targets metric)	8
Climate solution investments	76	Infrastructure (creating target)	8
Details on targets based on IPCC	75	Infrastructure (phase out upstream greenfield projects)	14
Process of creating targets	75	Real estate (emissions calculation method)	17
Details of absolute emissions target(s)	73	Infrastructure (target)	17
Details on progress made against emissions targets ahead of COP30 in 2025	71	Details on target and progress on Scope 3 emissions (portfolio emissions)	21
Details on target and progress of Scope 1 emissions	65	Real estate (creating target model)	22

Member deep dives

NZAOA members in the top 11⁷ group of best overall disclosure have mixed results when it comes to more ambitious indicators.

Amongst the top 11 members with the highest overall disclosure, CDC, Aviva, AXA, Allianz, and Swiss Re Ltd were all considered to have high disclosure completeness (above 70% indicators covered). The remaining five members – CNP, L&G, Munich Re, CBUS, Generali, and Zurich International – were all considered to have average disclosure levels (between 30-70% indicators covered), although they were on the higher end of that range.

Table 2. Top 11 NZAOA cohort members by overall disclosure levels.

NZAOA Member	Indicators Reported (%)
CDC - Caisse des dépôts et consignations (France)	76
Aviva Plc (United Kingdom)	74
AXA Group (France)	74
Allianz SE (Germany)	71
Swiss Re Ltd (Switzerland)	71
CNP Assurances (France)	66
Legal & General (United Kingdom)	63
Munich Re (Germany)	63
CBUS Superannuation Fund (Australia)	61
Generali Group (Italy)	61
Zurich Insurance Group (Switzerland)	61

⁷ As CBUS, Generali, and Zurich International all disclosed the same percentage of indicators, the top 10 group was expanded to include 11 total members.

In an encouraging show of consistent reporting efforts, all 11 members reported on either absolute or intensity targets in addition to progress made against those targets. Members in the top 10 also reported more often on sub-portfolio targets.

For example, although only three members disclosed information on the Infrastructure Assessment indicator (focusing on whether or not members planned to report or already reported emissions for their energy infrastructure assets by 2025), all three members who did disclose information were in the top 10 group. These three members were Aviva, Allianz, and Munich RE. Additionally, we found that all top group members, except Munich Re and CBUS, disclosed financing transition targets, which is an indicator aimed at enhancing the supply side of climate solution investments in both the economy and through the Alliance members' investment portfolios.

Members in the top 10 hesitated, however, when disclosing information on progress made towards these targets. Disappointingly, none of the top 10 group members disclosed Scope 3 emissions information, and only six members disclosed information on assessing their carbon footprint across all emissions in line with the GHG Protocol. We also found that despite high levels of overall disclosure, Swiss RE had no disclosure around implementing the Paris-aligned benchmark or climate voting indicators.

Case Study: Best practice on ambitious decarbonisation indicators

Although Folksam was not a leader in overall disclosure levels, the Swedish insurance investor had the best disclosure levels when analysing more ambitious indicators that commit the firm to decarbonisation progress. Folksam disclosed information on both targets and progress made against those targets, including Scope 3 targets, unlike those in the top 10 group. We also found that the group reported they were working to comply with and implement Paris-aligned investing strategies, and in doing so, disclosed on all engagement indicators except bondholding. Moreover, Folksam also disclosed information on climate solution investments similarly to members in the top 10 group.

Members in the bottom 10 group of overall disclosure dragged down the overall disclosure indicators by not reporting any information in several areas where other members provided higher levels of disclosure.

Lowest overall disclosure came from Uninvest, David Rockefeller, Dai-ichi, HanseMerkur, HUK-COBURG, IBM, KENFO, Novartis, Detailhandel, and Bayerishce.

Table 3. Bottom 10 NZAOA cohort members by overall disclosure levels.

Indicator	Indicators Reported (%)
Univest Company (Netherlands)	3
David Rockefeller Fund (USA)	5
The Dai-ichi Life Insurance Company, Limited (Japan)	13
HanseMerkur (Germany)	13
HUK-COBURG Versicherungsgruppe (Germany)	13
Stichting pensioenfonds IBM Nederland (Netherlands)	13
KENFO (Germany)	16
Novartis Pension Fund (Switzerland)	18
Pensioenfonds Detailhandel (Netherlands)	18
Bayerische Versorgungskammer (Germany)	21

No members in the bottom 10 group reported on details or progress made toward Scope 1-3 emissions, nor did they provide any information on climate voting records or outsourced climate voting. Additionally, although 66% of members disclosed information on progress made against emissions targets ahead of COP30 in 2025 – the year by which the TSP2 has specified members must set interim targets for and achieve results – no members in the bottom 10 have reported any information on this indicator.

We also found very low reporting from this bottom 10 around other target-setting indicators, including how emissions reductions targets are created and how engagement targets are created and measured. Low disclosure levels around engagement targets are in line with the overall cohort’s reluctance to disclose such information, and of the bottom 10 group, only HanseMerkur disclosed this indicator. However, the bottom 10 group also has extremely low disclosure levels on the engagement process, which drives down the otherwise-high overall disclosure levels for this indicator.

Univest (3% indicators covered) and the David Rockefeller Fund (5% indicators covered) fell behind as the only two investors to disclose a single-digit percentage of indicators. Univest, Unilver’s pension fund, only disclosed information on one indicator, which detailed the portfolio’s absolute emissions targets. The David Rockefeller Fund only disclosed information on two indicators on net-zero targets and fossil fuel policies; both were very broad and revealed little detail aside from stating their existence.



Key Recommendations

- Disclose and set measurable targets for engagement or escalation strategies across both equities and debt holdings.
- Report fully on outsourced climate votes, as well as their own climate voting record.
- Disclose whether the member is involved in fossil fuel bond engagement, divestment, or new fossil bond denial.

- Disclose and establish an escalation pathway for asset managers that fail to represent the asset owner's net-zero goals, as well as any incentive structures, such as tying asset manager fees to climate performance.
- We also recommend the Alliance to include the above recommendations as mandatory in the next Target Setting Protocol update.

Our findings in the disclosure analysis are complemented by the following studies on proxy voting and bondholding. The additional studies are particularly relevant given the disparity between high levels of public disclosure around asset manager engagement and low levels of disclosure around engagement targets and bondholder engagement.

Study 2. Member Voting Analysis

Key Findings

- NZAOA members are more likely to vote “for” climate-related proposals than peers in the non-NZAOA group across the entire sample of climate votes.
- However, on ambitious proposals that require companies to align their strategies with the Paris Agreement, we find that peers in the non-NZAOA group are statistically more likely to vote in favour than NZAOA members.
- Similar to our 2021 study, we find that joining the NZAOA does not result in asset owners improving their voting in favour of climate-related proposals more than peers in the non-NZAOA group. Moreover, when we only look at the founding members of the NZAOA, we find that after they established the NZAOA, they were 29% less likely to vote “for” on climate-related resolutions compared with their peers in the non-NZAOA group.

- We also find that NZAOA members rarely sponsor climate-related proposals – only three proposals out of 736 climate-related proposals in our Insightia dataset were sponsored by NZAOA members.
- During the 2022 proxy season, NZAOA members did not show consistent leadership in supporting proposals that call for an end to financing new fossil fuel supply. We found a notable lack of support from Storebrand and Aegon, which command large voting shares. Conversely, we found BNP uses its higher voting share largely in support of the same resolutions.
- On a positive note, in 2022, we found that Alliance members frequently overrode proxy adviser voting recommendations on climate resolutions, voting “for” on climate resolutions twice as often as recommended (benchmarked to Glass Lewis).

29%

When we only look at the founding members of the NZAOA, we find that after they established the NZAOA, they were 29% less likely to vote “for” on climate-related votes compared with their peers in the non-NZAOA group.



Introduction

In the following section we investigate NZAOA members' voting behaviour as a measure of member climate stewardship in equity holdings. Using proxy voting data from Insightia, this study aims to verify whether the members' pro-climate voting patterns are statistically different after joining the Alliance than those of their equivalent peers. We then investigate data for the 2022 voting season to examine the Alliance's more recent voting behaviour on climate resolutions.

Previous literature has explored the alignment of ESG-committed asset managers and their votes, incentives for asset managers to vote for ES proposals, as well as characteristics of asset managers that would affect ESG voting patterns.^{xii, xiii, xiv, xv} For example, Curtis et al^{xvi} find that ESG funds are more likely to oppose management by supporting shareholder proposals, especially when the proposals involve environmental issues, and that 'E' funds are far more likely than other funds to oppose management. These studies focus on asset managers, and there is a research gap in how asset owners pledging to the net-zero goal vote on climate-related proposals. Therefore, this study's purpose is to show potential (mis)alignment between NZAOA members' stated climate goals and their proxy voting patterns on climate-related proposals.

Methodology

We conducted two different analyses: one investigating the comparative difference-in-difference statistics for voting behaviour before and after joining the Alliance, and one investigating the 2022 voting behaviour in aggregate. Both analyses were conducted using data pulled from Insightia, a database service that contains investor proxy voting records. After identifying all available climate-related votes from NZAOA members, we then identified proposals we termed as "ambitious" which called for either Paris Agreement-aligned investing or science-backed decarbonisation strategies.

When conducting the analyses, we aimed to evaluate whether Alliance membership has a significant impact on proxy voting, based on changes in voting behaviour after joining the Alliance. We collected data for all NZAOA members⁸ with visible votes on climate resolutions for the time period i) before joining the Alliance and after, for which there was data on 30 out of 73 members, and ii) the entirety of the 2022 voting season until August, for which there was data on 16 out of 73 members.

For the statistical analysis, we used data from 2009 through 2022 to conduct a statistical regression on the Alliance members' voting behaviour. Our goal was to understand both the likelihood of members voting in favour of climate proposals and their voting behaviour in relation to identified non-NZAOA peers, who are Principles for Responsible Investment

⁸ For certain members, we included observable votes from their subsidiaries or parent, or sibling organizations. In cases of votes by asset managers, they might vote on behalf of both asset owners and other clients. Please refer to the Appendix 5 for more details.

(PRI) members. When investigating the 2022 voting behaviour, we examined specific proposals and themes for the NZAOA members. We also compared voting on these proposals to proxy adviser recommendations⁹ from Glass Lewis,¹⁰ for which we had available recommendations for 80% of the unique 2022 climate-focused proposals.

Findings

Statistics

As a whole, NZAOA members are more likely to vote “for” climate-related proposals than PRI peers. However, similar to last year’s result, we found that after joining the NZAOA initiative, NZAOA members’ increase in pro-climate voting is not statistically different from that of non-NZAOA peers over the same period.

NZAOA members are early supporters of climate-related proposals companies where they are shareholders (Appendix 2 - Table 4 and 5). However, after joining the Alliance, some of the members seem to underperform in terms of the number of “for” votes on climate-related proposals at AGMs (Appendix 2 - Table 2). Upon closer look at ambitious proposals that might require companies to align their strategies with the Paris Agreement, Alliance members show positive performance, apart from CalPERS (Appendix 2 - Table 3). Despite that, when compared with PRI peers, PRI members are statistically more likely to

vote “for” on ambitious proposals than their NZAOA peers (please refer to the analysis below and Appendix 2 - Table 10 and 11).

Regarding statistical model results, Model 1 to Model 14 (Appendix 2 - Table 4 and 5) show results for two logistic regressions for the whole sample. Table 4 gradually introduces each independent variable (from Model 1 to Model 3) and includes fixed effects for countries and years (Model 4 and 5). We will interpret Model 5’s result as it contains all variables and fixed effects. Overall, for the whole sample of votes from April 2009 to August 2022, the coefficient for being an NZAOA member equals 0.547, which corresponds to the log odds ratio between the NZAOA group and the PRI group. Consequently, the odds ratio is 1.728, which means the odds of NZAOA members voting in favour of climate action are about 73% higher than the odds for PRI members. Moreover, if the issuer’s industry is fossil fuel, it increases the probability of the “for” votes by 7% (log odds = 0.074; odds = $\exp(0.074) = 1.077$).

⁹ Please note that these recommendations are reflective of Glass Lewis’s default policy.

¹⁰ We used Glass Lewis standard policy recommendations as the basis for comparison, as we found that the other leading proxy advisory firm, Institutional Shareholder Services (ISS), only provided recommendations on 60% of unique proposals.

We then deep dive into the voting data on a resolution-detail basis to investigate on which particular resolution details the NZAOA members are more likely to vote in favour. Of the nine resolution details, there are seven resolutions where being an NZAOA member variable has a statistically significant positive result. We find that, on average, NZAOA members tend to cast “for” votes on climate-related resolutions that are on:

- i. Adopt say on climate vote (98% more likely, $\beta = 0.683$, $p < 0.1$, odds ratio = 1.980);
- ii. Adopt/amend energy policy (338% more likely, $\beta = 1.477$, $p < 0.01$, odds ratio = 4.380);
- iii. Adopt/amend environmental policy (99% more likely, $\beta = 0.691$, $p < 0.01$, odds ratio = 1.996);
- iv. Assess impact of a two-degree scenario (130% more likely, $\beta = 0.834$, $p < 0.01$, odds ratio = 2.303);
- v. Create climate change report (94% more likely, $\beta = 0.667$, $p < 0.01$, odds ratio = 1.948);
- vi. Create energy report (237% more likely, $\beta = 1.217$, $p < 0.01$, odds ratio = 3.377);
- vii. Create environmental report (69% more likely, $\beta = 0.525$, $p < 0.1$, odds ratio = 1.690)

However, joining the NZAOA does not result in members voting more often in favour of climate resolutions than peers in the non-NZAOA group. Moreover, the treatment effect coefficients are all negative across three different datasets (whole sample, matched subsample, subsample of ambitious proposals, and subsample containing votes from the seven NZAOA founding members and their peers), which further corroborates the finding that after joining the NZAOA initiative, the NZAOA members’ increase in pro-climate voting is not statistically different from that of non-NZAOA group.

From Table 6 to Table 12 in Appendix 2, we show results for difference-in-difference regression for the whole sample (Model 15 to Model 24), for matched subset of NZAOA members and their counterparts (Model 25 to Model 33), for votes concerning changing business models of issuers (Model 34), for the subsample with votes concerning changing business models of issuers (Model 35), and for the subsample of the seven founding members and their peers (Model 36). The coefficient on NZAOA member is the expected mean difference in “for” votes between treatment group and control group (NZAOA and PRI members), which can be viewed as the baseline difference. The coefficient on “After NZAOA member” is the expected mean difference in “for” votes before and after NZAOA members join the Alliance, and this is the time effect. The coefficient of focus is the one associated with the interaction term (NZAOA member after joining NZAOA) – estimate of the treatment effect.



Across Table 6 and 8 in Appendix 2, we can see that the difference-in-difference coefficients are negative. The results indicate that after joining the Alliance, the NZAOA members are less likely to vote in favour of climate actions than their non-NZAOA PRI peers. This result holds even for proposals concerning a change in a company's business model (Appendix 2 - Table 10 and 11), which shows that NZAOA signatories fail to statistically outdo their PRI peers in voting "for" the climate – both for total and highly ambitious climate-related resolutions.

More importantly, Table 12 in Appendix 2, displaying results for a subsample of seven founding members and their PRI peers, shows a statistically significant negative difference-in-difference coefficient ($\beta = -0.327$, $p < 0.05$, odds ratio = 0.721). This means that NZAOA's founding members are 29% less likely to vote "for" on climate-related resolutions, as compared with the seven PRI members after they establish the Alliance. The statistical result is not surprising given the descriptive statistics from NZAOA members before and after votes (Appendix 2), especially votes by

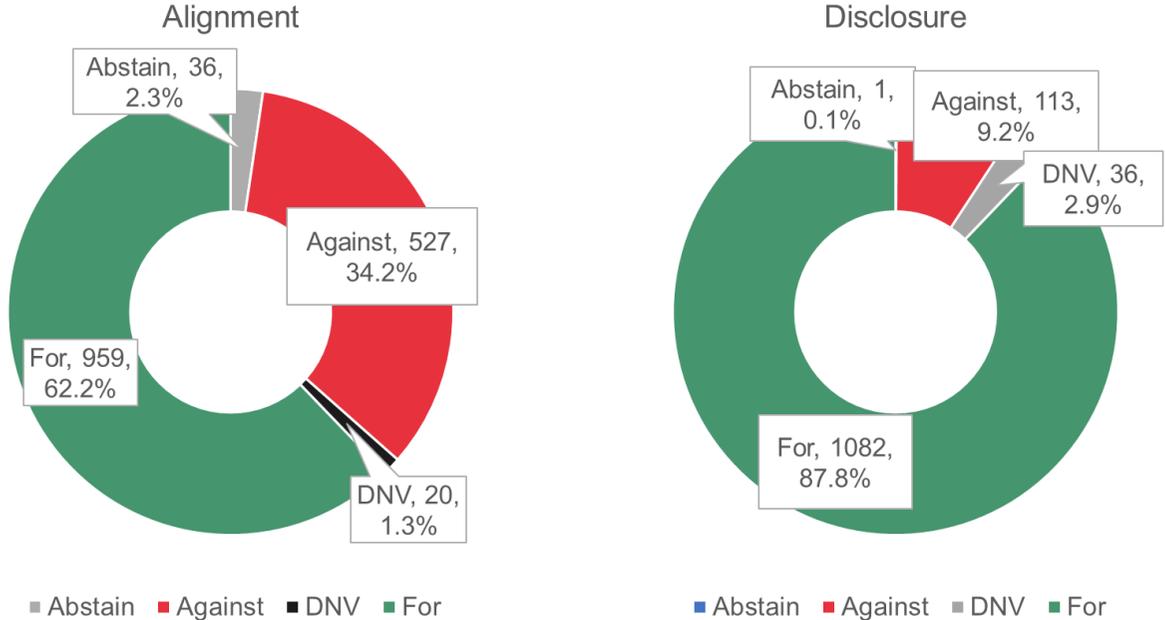
the seven founding members (AMF, Alecta, Allianz, CalPERS, CDPQ, Nordea, and Storebrand). The treatment effect coefficients are all negative across three different datasets (whole sample, matched subsample, and subsample of founding members), which further corroborates the finding that after joining the NZAOA initiative, the NZAOA members' increase in pro-climate voting is not statistically different from that of non-NZAOA members.

Complete statistical results of climate-related voting data can be found in Appendix 2.

2022 proxy season deep dives

Analyzing 2,774 climate votes in the 2022 time period, we found that NZAOA investors voted “for” three out of four times. However, when closely examining the data, we found a significant gap in support between disclosure-oriented and alignment-oriented (i.e. implementation) proposals when coding using CA100+ benchmarks.

Figure 2. Breakout of climate voting into “Alignment” vs “Disclosure” proposals using CA100+ standards.



While members voted in favour of disclosure-oriented proposals 88% of the time, NZAOA members only voted in support of alignment-oriented proposals 62% of the time.

Yet, the Alliance urges members to go beyond disclosure. The TSP2 also calls for members to leverage stewardship mechanisms and strategies to engage with investee companies to “hold companies accountable when they are making unsatisfactory progress to address climate change or support climate change mitigation.” Therefore, we expect a higher degree of support for alignment-oriented proposals that require investee companies to take proactive measures that align with net zero by 2050 goals.

We also found that NZAOA investors only voted in line with proxy adviser recommendations 51% of the time for votes when recommendations were given. We found that Alliance members were significantly more pro-climate in their voting behaviour, voting “for” climate resolutions twice as often as proxy advisor voting recommendations. In fact, NZAOA members only voted “against” proposals that proxy advisers recommended to vote “for” on three times out of the 1,079 proposals where member voting did not align with recommendations (Appendix 2 - Table 13). Glass Lewis recently announced^{xvii} that it will be introducing stricter disclosure recommendation standards for climate-related proposals, which we hope to see reflected in future recommendations.

NZAOA members did not show consistent leadership in supporting climate resolutions that call for an end to financing new fossil fuel supply. We found a notable lack of support from Storebrand and Aegon, which command large voting shares. Conversely, we found BNP uses its higher voting share largely in support of the same resolutions.

In January 2022, NZAOA took a firm stance on fossil fuel financing in the TSP2, which required members to “support the phase-out of fossil fuels required by 1.5°C scenario” and “not provide new finance to infrastructure assets whose purpose or emissions cannot be aligned with the Alliance net-zero ambitions” referencing the [International Energy Agency’s \(IEA\) Net Zero by 2050 \(NZE2050\)](#) scenario and the [One Earth Climate Model \(OECM\)](#) as the latest climate science to follow.

However, when investigating specific 2022 resolutions at major financial services companies on ending fossil fuel financing in line with the NZE2050, we observe split results when looking at NZAOA members’ votes. While 10 out of the 16 NZAOA members that voted on fossil fuel financing proposals showed full or partial support for passing these resolutions, several players with larger voting shares across multiple funds voted against proposals in a disappointing lack of support. NZAOA members Storebrand and Aegon both command large, double-digit voting shares that were used to vote “against” proposals meant to align with TSP2 fossil fuel financing goals. However, both members, along with CalPERS, Allianz, Laegernes Pension, and Old Mutual, showed no support for these resolutions. Leveraging its large voting share, BNP voted “for” most proposals, with additional support from fellow NZAOA members AMF, Aviva, AXA, LGIM, Danica, Nordea, and PKA. This stark difference shows that some NZAOA members have yet to follow through on the Alliance’s ambitions and calls for stronger member requirements to prioritize engagement with the facilitators of fossil fuel expansion – including banks and insurers.

Table 4: Voting results on shareholder proposals on fossil fuel financing during 2022.

Shareholder proposals regarding fossil fuel financing¹¹	Abstain	Against	DNV	For	Total
AEGON Investment Management B.V		16			16
AkademikerPension			5	5	10
Allianz Global Investors	1	3			4
AMF Fonder				1	1
Aviva Investors	1	1		3	5
AXA Investment Managers		1		4	5
BNP Paribas Asset Management	3			31	34
California Public Employees' Retirement System (CalPERS)		5			5
Danica Pension		5		8	13
Laegernes Pension & Bank		4	1		5
Legal & General Investment Management		1		5	6
Nordea Bank Oyj		2		3	5
Old Mutual PLC		2			2
PensionDanmark	3	1	2	2	8
Pensionskassernes Administration (PKA)		4		6	10
Storebrand Asset Management		81			81
Total	8	126	8	68	210

¹¹ These votes addressed five specific proposals: Adopt Fossil Fuel Financing Policy Consistent with IEA's Net Zero 2050 Scenario, Adopt Fossil Fuel Lending and Underwriting Policy Consistent with IEA's Net Zero 2050 Scenario, Adopt Fossil Fuel Lending Policy Consistent with IEA's Net Zero 2050 Scenario, Adopt Policies to Ensure Underwriting Practices Do Not Support New Fossil Fuel Supplies, and Shareholder Proposal Regarding Move From Fossil Fuels to Renewable Energy.

We find that members voted more favourably on climate lobbying during the 2022 voting period than on fossil fuel financing.

While most members voted in support of climate lobby alignment and reporting activity, several members voted against these proposals or did not vote. The NZAOA acknowledges that “sovereign wealth funds are legally advised to avoid political positions or lobbying activities and therefore, would

not be able to engage on policy the same way that other asset owners could,” which may explain why one member did not vote. However, questions are raised around members who consistently voted against climate-lobbying proposals, as lobbying remains a critical lever for the private sector to engage with policymakers. This directly opposes the NZAOA’s stated goals to pursue net zero in tandem with governments, and in support of policy change.

Table 5. Voting results on shareholder proposals on climate lobbying.

Shareholder proposals regarding climate lobbying ¹²	Against	DNV	For
AEGON Investment Management B.V			9
AkademikerPension		7	5
Allianz Global Investors			4
AMF Fonder			2
Aviva Investors			3
AXA Investment Managers	2		2
BNP Paribas Asset Management			38
California Public Employees' Retirement System (CalPERS)	2		2
Cbus Super	2		1
Danica Pension			9
Laegernes Pension & Bank			4

¹² These votes addressed four specific proposals: Approve Contingent Resolution – Climate-Related Lobbying, Report on Climate Lobbying, Report on Corporate Climate Lobbying in line with Paris Agreement, and Shareholder Proposal Regarding Lobbying Activity Alignment with 1.5 Degree Scenarios.

Shareholder proposals regarding climate lobbying ¹²	Against	DNV	For
Legal & General Investment Management			4
Nordea Bank Oyj			3
PensionDanmark			4
Pensionskassernes Administration (PKA)			6
Storebrand Asset Management			26
Total	6	7	122

We identify CalPERS, Allianz, and AXA as investors that are slow to exercise their climate voting in line with the NZAOA stewardship goals.

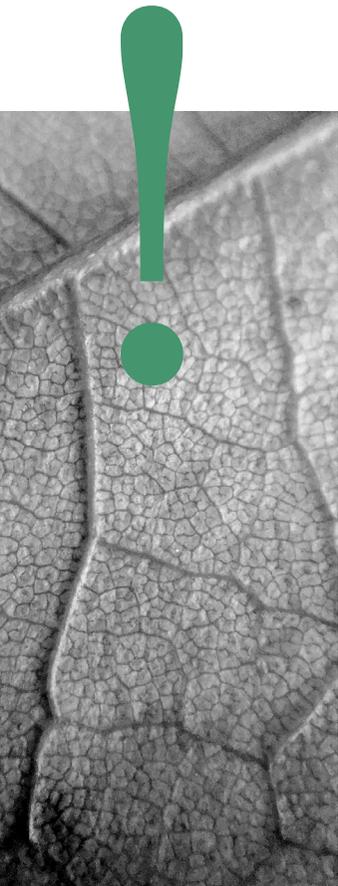
This is primarily due to lack of support on most (if not all) resolutions they could have supported in 2022 that would have tangible impact, either by phasing out fossil fuels, aligning investee company business strategy with the Paris Agreement, or aligning financing with NZE2050 models (Appendix 4 - Tables 1-3). CalPERS and Allianz are both founding members of the Alliance, and AXA is one of the flagship early members.

In contrast, AMF has shown stronger leadership and voting, despite its smaller voting share.

Also a founding NZAOA member, AMF exerted its voting influence across proposals including strengthening commitments, climate lobbying, and fossil fuel lending policies (Appendix 4 - Table 4). We deemed 34% of these proposals ambitious. Despite the smaller voting influence it wields, the

Swedish pension fund voted in favour of 100% of all environmental proposals visible in Insightia, far outweighing actions from some of the larger cohort members.

Using the “Proponent” datapoint in the dataset, we could identify climate resolution sponsors. Out of 736 climate-related proposals in our Insightia dataset, only three proposals were sponsored by NZAOA members. These members include AkademikerPension, CalPERS, and Wespath. On one of the proposals sponsored by AkademikerPension regarding TCFD reporting, three other members of the Alliance (Allianz, AXA, and PensionDanmark) voted against the proposal.



Key Recommendations

Review and update asset owner's proxy voting policy to reflect their net-zero commitment and emissions-reduction targets before 2023 proxy season.

- Vote in favour of climate resolutions that promote the asset owner's net-zero commitment. This includes supporting climate resolutions at fossil fuel facilitators, including banks and insurers, to prevent the expansion of new fossil fuel supply and increasing support for alignment-oriented climate proposals that require companies to align their business strategy with 1.5°C.
- Be a proactive asset owner by publicly stating the asset owner's voting intentions in advance and/or initiate ambitious climate shareholder resolutions.

- Communicate clearly that asset managers must vote consistently with the 1.5°C pathway and in ways that consider the systemic risks of climate change, representing both the best interests of the asset manager's total client base and the global economy.

Our findings in the proxy voting analysis both reaffirm several findings in the disclosure analysis and complement the study on bondholder exposure to fossil fuel companies. As we have explored the net-zero ambitions of NZAOA members through proxy voting as an indicator of equity engagement, in the next study we investigate members through bond holdings as an indicator of debt engagement.

Study 3. Member Bond Investing Analysis

Key Findings

- Seven members hold more bonds issued by fossil fuel companies in the BICS Industry Classification list than Vanguard – an average market holdings benchmark with no focus on sustainability and climate change.
- Of note, St. James's Place and Dai-ichi Life's proportion of holdings in fossil fuel companies' bonds were nearly twice as much as that of the cohort's average (2.96 times and 2.69 times, respectively).

- A similar distribution is observed for NZAOA members holding bonds in the Toxic Bonds Dirty 30 list. St. James's Place still topped the table in terms of proportional fossil fuel bond holdings, with 6.26 times more than that of Vanguard. Second place is another Japanese insurance company, Nippon Life Insurance Group. Nippon's proportion of fossil fuel bond holdings is 8.7%, or 5.23 times as much as that of Vanguard Group (1.7%). In comparison with the cohort's average proportion of 1.3%, St. James's Place and Nippon Life Insurance's proportion of fossil fuel bond holdings were, respectively, 8.12 and 6.77 times higher.

“

St. James's Place and Dai-ichi Life's proportion of holdings in fossil fuel companies' bonds were nearly twice as much as that of the cohort's average.

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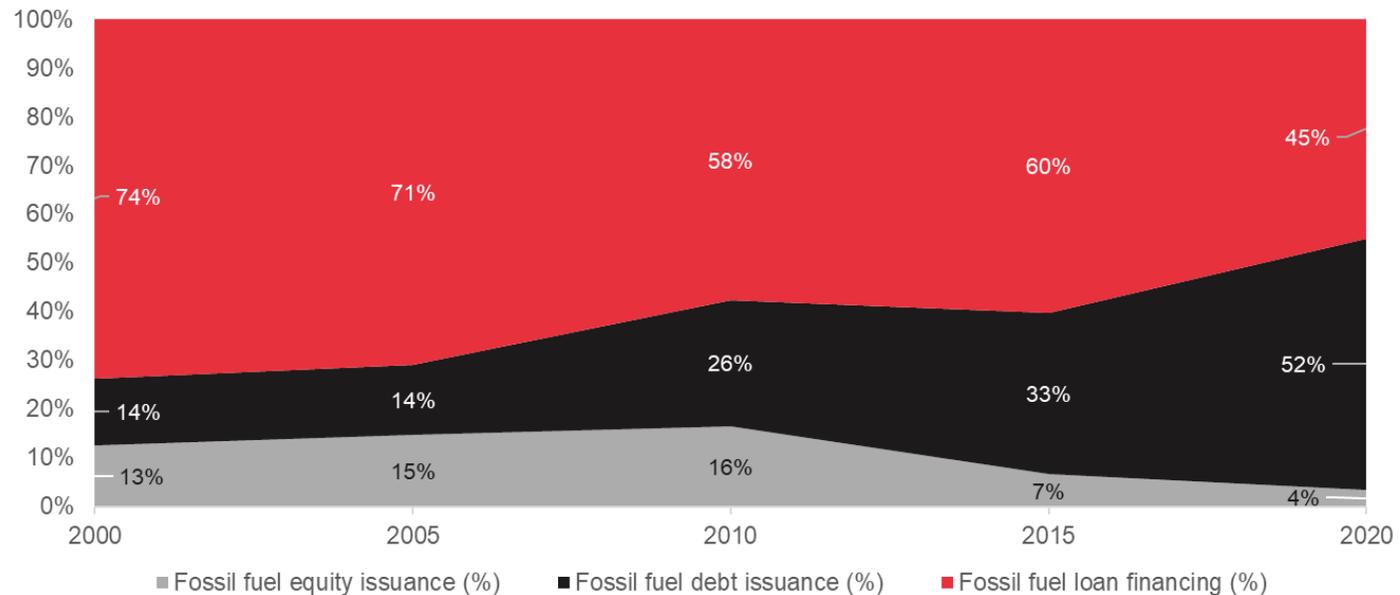
Introduction

In this section we calculate the percentage of NZAOA members' bond holdings in fossil fuel companies relative to their entire corporate bond holdings. The study complements the preceding two studies on proxy voting and disclosure, which directly investigated NZAOA signatories' holdings in corporate bonds of companies operating in the fossil fuel industry.

Asset owners have a unique position in responsible investing, due to their considerable assets under management and their role as long-term fiduciaries to a large body of beneficiaries. According to the

universal owner theory, asset owners would benefit from a sustainable economy by integrating ESG factors into their investment decisions^{xviii}. Moreover, if asset owners, who occupy the top of the institutional investing food chain, take leadership in responsible investing, it may prompt asset managers, financial intermediaries, and the broader economy to follow suit^{xix}. Approximately half (or more) of fossil fuel financing comes from bond issuances on the primary market^{xx}. As a result, by shedding light on NZAOA members' bond investments in the fossil fuel industry, we could complement findings from Study 1 and 2 to make a stronger case for climate actions from the Alliance.

Figure 2. Fossil fuel fundraising across asset classes. Source: Cojoianu et al. (2022)



Methodology

We collected data on the bond holdings of all NZAOA members¹³ from the Bloomberg Terminal. To identify fossil fuel companies, we relied on lists from: [Bloomberg Industry Classification Standard \(BICS\) Beta](#), [Toxic Bonds](#), [Transition Pathway Initiative](#), and [Urgewald](#). For the BICS Beta, we searched for fossil fuel companies that are included in at least one of (i) “Integrated Oils,” (ii) “Exploration & Production,” (iii) “Midstream - Oil & Gas,” (iv) “Refining & Marketing,” (v) “Drilling & Drilling Support,” (vi) “Oilfield Services & Equipment,” (vii) “Coal Mining,” and (viii) “Gas Utilities.” The Toxic Bonds Dirty 30 list includes 30 of the world’s worst fossil fuel expansionists, which are chosen primarily from Urgewald’s Global Coal Exit List and Global Oil and Gas Exit List. The TPI list of fossil fuel companies covers 120 companies classified in at least one of “coal mining,” “oil and gas,” or “oil and gas distribution.” Finally, for the Urgewald fossil fuel companies list, we put together all companies included in either Urgewald’s 2021 Global Coal Exit List or 2021 Global Oil and Gas Exit List.

We then calculated the proportion of each NZAOA member’s bond holdings that were issued by companies in the given “Fossil Fuel” classification over their total bond holdings (% of bond holdings in fossil fuel companies). We benchmarked against

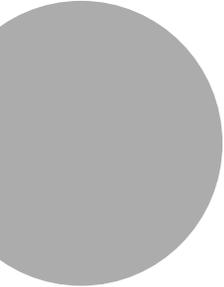
- The average proportion of all NZAOA members (excluding those asset owners with no available bond holding data on Bloomberg Terminal); and
- Vanguard Group’s proportion of bond holdings in fossil fuel companies.

Since Vanguard’s holdings are generally regarded as a representation of average market holdings and their focus is not sustainability and climate change, we would expect that NZAOA members’ bond holdings in fossil fuel companies would be far lower than that of Vanguard.

This section discusses findings based on the BICS Beta fossil fuel companies list and the Toxic Bonds Dirty 30 list.¹⁴

¹³ We also included bond holdings of all members’ related organizations (parents, subsidiaries, and sibling organizations), since it is difficult to find public information on asset owners’ investments. Please refer to the Appendix 5 for more details.

¹⁴ Full results from the other lists (TPI and Urgewald) can be found in Appendix 3.



The columns '*% Investment in BICS Beta FF*' and '*% Investment in Toxic Bonds Dirty 30 FF*' show the percentage of each investor's total holdings that were issued by companies in the given "Fossil Fuel" classification. This can be read as '*X% of the bond holdings of Investor A were issued by companies in fossil fuel sectors.*' Then, the two columns '*Proportion compared to Vanguard*' means how over- or under-proportionate each investor's "Fossil Fuel" ownership percentage is when benchmarked against Vanguard, and is calculated as '*% Investment in BICS Beta FF*' or '*% Investment in Toxic Bonds Dirty 30 FF*' divided by Vanguard's "Fossil Fuel" ownership percentage. This can be read as '*Investor A is X% less/as/more exposed to fossil fuel sectors compared to Vanguard.*' The colour coding is a spectrum of colours from green to yellow to red, showing how much less, as, or more an investor is exposed to fossil fuel sectors as compared to Vanguard.

Similarly, the two columns '*Proportion compared to the cohort's average*' means how over- or under-proportionate each investor's "Fossil Fuel" ownership percentage is when benchmarked against the cohort's average, and is calculated as '*% Investment in BICS Beta FF*' or '*% Investment in Toxic Bonds Dirty 30 FF*' divided by the cohort's average "Fossil Fuel" ownership percentage. The cohort's average percentage includes those members with observable values (i.e. dropping members with no bond holdings data on the Bloomberg Terminal).



Findings

Cohort exposure to fossil fuels

Table 6. NZAOA members' bond holdings in BICS Beta fossil fuel companies benchmarked against that of Vanguard and the cohort's average, excluding companies with no bond holdings data on Bloomberg Terminal.

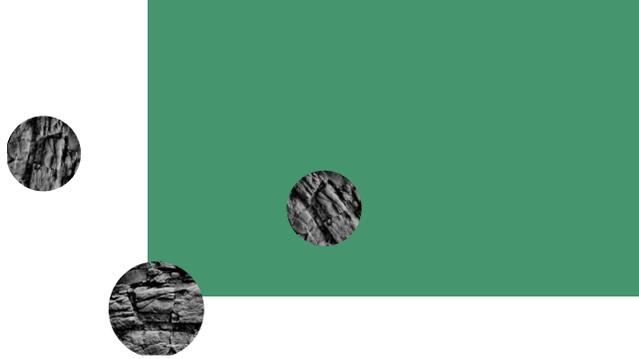
NZAOA Member	% investment in BICS Beta "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	6.9%	1.00	Cohort average = 4.17%
St James's Place	12.3%	1.80	2.96
Dai-ichi Life	11.2%	1.64	2.69
Prudential plc	9.9%	1.44	2.36
Nippon Life Insurance Group	9.1%	1.33	2.19
Aegon	8.9%	1.30	2.13
the co-operators	8.8%	1.28	2.11
Zurich	6.9%	1.00	1.65
Swiss Re	6.8%	1.00	1.64
Allianz	6.8%	0.99	1.63
Aviva	6.8%	0.99	1.63
Generali Group	6.1%	0.89	1.47
AXA	5.7%	0.84	1.38
Legal & General	5.7%	0.84	1.38
Crédit Agricole Assurances	5.6%	0.82	1.35
Intesa Sanpaolo Vita Insurance Group	5.0%	0.72	1.19

NZAOA Member	% investment in BICS Beta "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
Phoenix Group	4.5%	0.65	1.07
M&G plc	3.4%	0.50	0.82
Meiji Yasuda Life Insurance Company	3.1%	0.46	0.75
VidaCaixa S.A.U. de Seguros y Reaseguros	3.0%	0.44	0.72
BNP Paribas Cardif	1.4%	0.21	0.34
Société Générale Assurances	1.0%	0.14	0.24
Nordea Life & Pension	0.9%	0.14	0.23
Storebrand	0.2%	0.03	0.05
PFA	0.1%	0.01	0.02
Old Mutual Limited	0.0%	0.00	0.00
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Munich RE	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
QBE	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00

Table 7. NZAOA members' bond holdings in Toxic Bonds Dirty 30 fossil fuel companies benchmarked against that of Vanguard and the cohort's average, excluding companies with no bond holdings data on Bloomberg Terminal.

NZAOA Member	% Investment in Toxic Bonds Dirty30 "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	1.7%	1.00	Cohort average = 1.29%
St James's Place	10.5%	6.26	8.12
Nippon Life Insurance Group	8.7%	5.23	6.77
Legal & General	2.1%	1.26	1.63
Phoenix Group	2.0%	1.18	1.53
Allianz	1.8%	1.07	1.39
Prudential plc	1.8%	1.07	1.38
Aegon	1.7%	1.02	1.32
Intesa Sanpaolo Vita Insurance Group	1.5%	0.92	1.19
Generali Group	1.5%	0.87	1.13
Crédit Agricole Assurances	1.5%	0.87	1.13
Dai-ichi Life	1.4%	0.87	1.12
Old Mutual Limited	1.4%	0.83	1.08
M&G plc	1.3%	0.79	1.02
Aviva	1.3%	0.76	0.99
AXA	0.9%	0.53	0.69
Zurich	0.7%	0.39	0.51
Swiss Re	0.5%	0.31	0.41

NZAOA Member	% Investment in Toxic Bonds Dirty30 "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
BNP Paribas Cardif	0.2%	0.15	0.19
VidaCaixa S.A.U de Seguros y Reaseguros	0.2%	0.12	0.16
QBE	0.1%	0.07	0.09
Nordea Life & Pension	0.1%	0.06	0.08
PFA	0.1%	0.04	0.05
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Meiji Yasuda Life Insurance Company	0.0%	0.00	0.00
Munich RE	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
Société Générale Assurances	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
Storebrand	0.0%	0.00	0.00
the co-operators	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00



Benchmarking and member deep dives

Several NZAOA members had no exposure to fossil fuel companies (25% of members based on the BICS Beta fossil fuel list and 31% based on the Toxic Bonds Dirty 30 list, respectively). The no-exposure members are Old Mutual Limited, AMF, CDPQ, Pension Insurance Corporation, QBE, SOMPO Holdings, and UNIQA.



On the other hand, according to the BICS Beta fossil fuel companies list, seven members were overexposed to fossil fuel debts. They are St. James's Place, Dai-ichi Life, Prudential plc, Nippon Life Insurance Group, Aegon, the co-operators, and Zurich. Of note, St. James's Place and Dai-ichi Life's proportion of holdings in fossil fuel companies' bonds were nearly twice that of Vanguard Group (1.80 times and 1.64 times). Compared with the cohort's average exposure of 4.17%, these two members performed even worse, with more than twice the proportional bond holdings in fossil fuel companies as the full cohort (2.96 times and 2.69 times, respectively). Apart

from these two members, 14 members (Prudential plc, Nippon Life Insurance Group, Aegon, the co-operators, AXA, Zurich, Swiss Re, Allianz, Aviva, Generali, Legal & General, Crédit Agricole Assurances, Intesa Sanpaolo Vita Insurance Group, and the Phoenix Group) had more exposure to fossil fuel bonds than the cohort's average.

The same findings can be said for the Toxic Bonds Dirty 30 list. Seven members had a higher proportion of fossil fuel bond holdings than Vanguard (St James's Place, Nippon Life Insurance Group, Legal & General, Phoenix Group, Allianz, Prudential plc, and Aegon). St. James's Place still topped the table in terms of proportional fossil fuel bond holdings, with 6.26 times more than that of Vanguard. Second place was Nippon Life Insurance Group. Nippon's proportion of fossil fuel bond holdings is 8.7%, which is 5.23 times as much as that of Vanguard Group (1.7%). In comparison with the cohort's average proportion of 1.3%, St. James's Place and Nippon Life's proportion of fossil fuel bond holdings were, respectively, 8.12 and 6.77 times higher.

Key Recommendations

- When reporting on portfolio and sub-portfolio emissions targets, fully disclose aggregate corporate bond holdings and Scope 1, 2, and 3 emissions associated with these holdings by industry sector code.
- Deny the bonds of any fossil fuel companies expanding output or infrastructure.
- Reduce current exposure to fossil fuel bond holdings, unless the company stops expansion and implements a complete phase-out strategy aligned with principles of equity and a 1.5°C timeline that is certified by globally recognized, science-based professionals.
- Apply innovative net-zero benchmarks, such as the EU's Paris-aligned investment benchmarks, which reduce portfolio's year-over-year exposure to fossil fuels.

Our findings in this final bondholder analysis complement the first two studies on public disclosures and proxy voting to create an aggregate view of how NZAOA members stack up to the Alliance's net-zero ambitions. These findings are discussed in summary below, along with key recommendations.

Discussion:

What does the latest climate science tell us?

To put our findings into perspective, we begin our discussion with the latest climate science implications. Despite pledges from the financial sector – as well as countries and companies around the world – to reduce their greenhouse gas (GHG) emissions and avoid the most dangerous impacts of climate change, the world is far from the Paris Agreement goal of limiting global warming to well below 2°C, and preferably 1.5°C. Current policies point to a 2.8°C temperature rise by the end of the century.^{xxi} Implementing the current pledges will only reduce this number to a 2.4–2.6°C temperature rise by the end of the century.

Despite a record amount of new investment in renewable energy^{xxii}, we have also reached historical highs in fossil fuel funding^{xxiii}. From a scientific perspective, stabilizing global warming under any target requires a net-zero emissions economy^{xxiv}. For this to be plausible, scientific evidence shows that new fossil fuel infrastructure financing must end, and that 20% of existing fossil power infrastructure will likely be stranded to achieve net zero by 2050^{xxv}.

Implications for members who claim net-zero alignment

Given the conditions above, net zero asset owners cannot finance new fossil fuel infrastructure and align with Paris targets. This means that net-zero asset owners have to consider whether their current bond holdings, as well as future bond purchases, will enable new fossil fuel infrastructure expansion, because bonds are the primary asset class through which companies fundraise for fossil fuel projects. On this particular indicator, our analysis shows that only 18 out of 70 NZAOA members analysed (26%) consider bond engagement or denial for fossil fuel-intensive sectors, based on publicly available data. NZAOA members seem to focus more on investing in green economic activities, yet fail to act on fossil fuel expansion and decommissioning with the same level of ambition. The lack of leadership on this particular point is also apparent on the proxy voting side, where NZAOA members did not call for an end to financing new fossil fuel supply. Moreover, many of them have a disproportionately high number of fossil fuel bond holdings, providing low-cost debt for companies that are deepening the climate crisis.



Asset owners can hold equities in fossil fuel-intensive companies for stewardship purposes – as well as banks and non-life insurers who facilitate fossil fuel extraction and use – but it is surprising to see that joining the NZAOA does not lead members to vote more in favour of climate resolutions than their PRI peers. We further see relatively lower support for alignment-oriented proposals, with NZAOA members only voting in support 62% of the time, and NZAOA members voting inconsistently on climate proposals that aim to restrict fossil fuel expansion with the latest climate science. We also observe that only three NZAOA members have sponsored climate-related proposals from 2009–2022. This again falls short of the expectations implied by climate science, and we urge NZAOA members to strengthen their stewardship activities. NZAOA members need to review and update their existing engagement and proxy voting policies to match their net-zero targets, vote in favour of ambitious climate proposals, and call on asset managers to consider the systemic risks of climate change and the best interest of the global economy when exercising their proxy voting on behalf of their asset owner clients.

Key Recommendations:

Overall, we find that individual Alliance members need to better disclose their climate performance against all of the TSP2 criteria. In particular, we recommend that individual members:

- Disclose and set measurable targets for engagement or escalation strategies across both equities and debt holdings.
- Report fully on outsourced climate votes, as well as their own climate voting record.
- Disclose whether the member is involved in fossil fuel bond engagement, divestment, or new fossil bond denial. If involved in engagement via fossil fuel bonds, the member should ensure it is not over-exposed compared to average market holdings.
- Disclose and establish an escalation pathway for asset managers that fail to represent the asset owner's net-zero goals, as well as any incentive structures, such as tying asset manager fees to climate performance.
- We also recommend the Alliance includes the above recommendations as mandatory in the next Target Setting Protocol update.

Secondly, we show that Alliance membership did not accelerate NZAOA members' proxy voting performance compared to their PRI peers. Here, we conclude that the most impactful ways for the NZAOA initiative to improve proxy voting would entail:

- Review and update asset owner's proxy voting policy to reflect their net-zero commitment and emissions-reduction targets before 2023 proxy season.
- Increase support for alignment-oriented climate proposals that require companies to change their business strategy.
- Vote in favour of climate resolutions that promote the asset owner's net-zero commitment. This includes supporting climate resolutions at fossil fuel facilitators, including banks and insurers, to prevent new fossil fuel supply expansion, and alignment-oriented climate proposals that require companies to align their business strategy and plans with 1.5°C.
- Publicly state asset owner's voting intentions in advance and/or initiate ambitious climate shareholder resolutions across their target companies.

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- Communicate clearly that asset managers must vote consistently with the 1.5°C pathway and in ways that consider the systemic risks of climate change, representing both the best interests of the asset manager’s total client base and the global economy.

Finally, we recommend that NZAOA members reflect on how to curb new fossil fuel infrastructure financing, which is scientifically not Paris aligned. Given that fossil fuel companies worldwide are financing new fossil capex through bonds, we urge NZAOA members to:

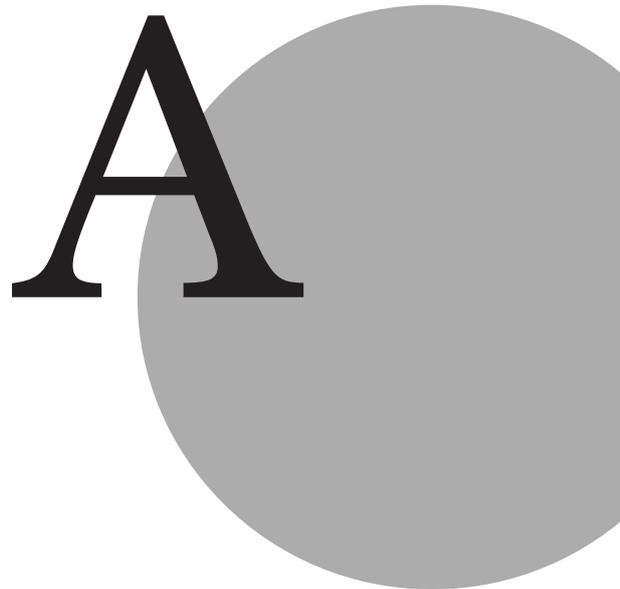
- Fully and publicly disclose aggregate corporate bond holdings and Scope 1, 2, and 3 emissions associated with these holdings by industry sector code.
- Deny the bonds of any fossil fuel companies expanding output or infrastructure.
- Reduce current exposure to fossil fuel bond holdings, unless the company stops expansion and implements a complete phase-out strategy aligned with principles of equity and a 1.5°C timeline that is certified by globally recognized, science-based professionals.
- Apply innovative net-zero benchmarks, such as the EU’s Paris-aligned investment benchmarks, which reduce the portfolio’s year-over-year exposure to fossil fuels.

Endnotes

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Appendices



Appendix 1: Full Methodology (Disclosure)

The data collection model consisted of 38 indicators aligned with the goals, requirements, and methodologies proposed in the NZAOA Target Setting Protocol Second Edition. Below are the indicators, with corresponding definitions that state what was assessed in each.

Table 1. Full list of indicators used in the disclosure analysis scoring framework.

Indicator	Indicator Name	Indicator Definition
1	Target details based on IPCC	Do the investor targets align with IPCC no- and low-overshoot to 1.5°C? Are those targets based on the scenarios -22% to -32% by 2025 absolute emissions-reduction range, or -49% to -65% and beyond for 2020 to 2030 absolute emissions-reduction range?
2	Details of absolute emissions target(s)	Has the investor submitted and published targets within 12 months of joining? What are their absolute, intensity, and net-zero targets?
3	Progress made against absolute emissions target(s)	Does the investor report annually to the Alliance on its progress toward achieving its investment portfolio emission profiles and emissions-reduction targets? How does it explain target deviations? Does the report show the investor's five-year progress achievement in line with Article 4.9? Is the progress explained quantitatively? Does the investor disclose efforts and progress on decarbonisation in line with the four core TCFD recommendations? (Governance, strategy, risk management, and metrics and targets)
4	Details of emissions intensity target(s)	Has the investor submitted and published targets within 12 months of joining? What are their absolute, intensity, and net-zero targets?
5	Progress made against emissions	Does the investor report annually to the Alliance on its progress toward achieving its investment portfolio emission profiles and emissions-reduction targets? How does it explain target deviations?

	intensity target(s)	<p>Does the report show the investor's five-year progress achievement in line with Article 4.9? Is the progress explained quantitatively?</p> <p>Does the investor disclose efforts and progress on decarbonisation in line with the four core TCFD recommendations? (Governance, strategy, risk management, and metrics and targets)</p>
6	Details of net-zero target(s).	Has the investor submitted and published targets within 12 months of joining? What are their absolute, intensity, and net-zero targets?
7	Details of absolute, intensity, and net-zero targets 2030	Does the investor provide any details on absolute, intensity, and net-zero targets in the corresponding year through 2030? Do their targets cover at least 70% of the total owned emissions?
8	Details on target and progress of Scope 1 emissions	Gross global Scope 1 emissions in metric tons CO ₂ e
9	Details on target and progress of Scope 2 (market-based) emissions	Gross global Scope 2 market-based emissions in metric tons CO ₂ e
10	Details on target and progress of Scope 2 (location-based) emissions	Gross global Scope 2 location-based emissions in metric tons CO ₂ e
11	Details on target and progress Scope 3 emissions	Scope 3 portfolio emissions

	(portfolio emissions)	
12	Evidence on assessing carbon footprint in line with the GHG Protocol	Does the investor provide evidence on assessing carbon footprint in line with the GHG Protocol?
13	Fossil fuel policies	<p>Does the investor report about fossil fuel policies? What do these fossil fuel policies entail?</p> <p>Does the investor have exclusion policies for fossil fuel and its sub-categories?</p> <p>How does the investor support fossil fuel phase-out required in 1.5°C scenarios?</p> <p>Does the investor engage with equities regarding fossil fuels (at least 20 engagement targets or 65% of owned emissions in portfolio)?</p> <p>How does the investor engage/deny debt financing for new fossil fuel infrastructure projects?</p>
14	Financing transition targets	Does the investor set financing transition targets?
15	Progress on financing transition targets	<p>Does the investor report on its progress towards financing transition targets, including:</p> <ul style="list-style-type: none"> - Climate-positive trend for all NZAOA members - Individual public quantitative progress
16	Paris-aligned benchmark	How does the investor implement the Paris-aligned benchmark in its investments?
17	Climate voting transparency	Does the investor transparently disclose its climate votes?
18	Climate voting records	What does the investor report about its climate voting records and proxy voting?

19	Climate votes (outsourced)	Is the member's security lending policy aligned with net zero?
20	Details on progress against emissions targets ahead of COP30 in 2025	Does the investor provide details of progress made against targets ahead of COP30 in 2025?
21	Target creation process	<p>How does the investor create targets?</p> <p>Does the investor provide a science-based, pragmatic explanation for why certain targets are better suited to investable universe and circumstances?</p> <p>Is the investor transparent in choosing its targets?</p> <p>Does the investor disclose the sectoral decarbonisation pathways used to set targets?</p> <p>What scenarios does the investor use to inform targets?</p>
22	Engagement	<p>How does the company engage with asset managers to mitigate climate change?</p> <ul style="list-style-type: none"> - Active ownership in portfolio following Engagement KPI framework - Engagement to represent the owner's long-term climate interests - Engagement to align asset manager's actions with the member's interest - Asset manager's activities align with Alliance ambitions, with a focus on non-aligned emitters - Engagement with at least 20 companies responsible for most 'owned emissions' or those responsible for a combined 65% of owned emissions in portfolio - Participation in at least one NZAOA-led engagement - Position paper contribution - Asset manager engagement to evaluate the manager's climate change mitigation efforts, their management of climate

		<p>risks/opportunities, and to ensure their stewardship activities and public messaging align with the Alliance’s long-term climate interests</p> <ul style="list-style-type: none"> - Bilateral corporate engagement between member and portfolio company, collaboratively through CA+100 initiative or any other collaborative engagement initiative in line with Alliance ambitions - Engagement on carbon emissions data disclosure with investees and covers unlisted assets in short-term targets - Evidence of direct, time-bound engagement dialogue with Alliance members and/or other investor initiatives to discuss decarbonising business by 2050 - Does the net-zero ambition statement explicitly include at least 95% of total Scope 1 and 2 emissions, and include relevant Scope 3 emissions? (in line with CA100+ benchmark indicators) - Evidence of collaboration to develop viable opportunities to finance the net-zero transition, including collaboration on blended finance vehicles - Evidence of systemic engagement approaches to streamline efforts - i.e. public calls for company/sector action and systemically reinforce expectations through voting - Clear statement/description regarding how engagement approach differs across asset classes, what levers of influence are applied to each, and how approach supports portfolio decarbonisation objectives
23	Engagement Targets	<p>Does the investor set targets to measure its:</p> <ul style="list-style-type: none"> - Engagement with at least 20 companies responsible for most 'owned emissions' or those responsible for a combined 65% of owned emissions in portfolio - Participation in at least one NZAOA-led engagement - Position paper contribution - Asset manager engagement to evaluate the manager's climate change mitigation efforts, their management of climate risks/opportunities, and to ensure their alignment of stewardship activities and public messaging align with the Alliance’s long-term climate interests - Bilateral corporate engagement between member and portfolio investor, collaboratively through CA100+ initiative or any other collaborative engagement initiative in line with the Alliance ambitions

		- Sector and value chain engagement, whereby investors engage simultaneously with numerous companies and stakeholders from the same sector or value chain
24	Engagement Process	Does the investor set up a climate-related engagement approach to select, appoint, and monitor asset managers? Does the investor require 1.5°C-aligned strategies in companies where the asset manager has significant control?
25	Climate solution investments	Does the investor provide evidence on climate solution investments including all asset classes?
26	Real estate (target)	Does the investor have absolute or intensity-based reduction targets? Are these targets on "fully and jointly owned" real estate portfolios? Do they include landlord- and tenant-controlled areas? Does the investor have targets which combine asset classes? Is the target expressed as an emission target at the portfolio level?
27	Real estate (creating target)	If the investor cannot define a target based on the total floor area under management: 1. Does it transparently declare the percentage of its real estate portfolio (in terms of % of total gross floor area) covered by target? 2. Does it declare the percentage of estimated emissions considered in the target? 3. Does it define and communicate a timeline, and how the member intends to reach full coverage over time?
28	Real estate (creating target-model)	Does the investor use CRREM 1.5°C, or an equally recommended but within reduction range (-22% to -32% by 2025) model, to set a specific target?
29	Real estate (reporting-	Does the investor use kgCO2e/m2/annum as metric for its intensity targets?

	intensity targets metric)	
30	Real estate (emissions calculation method)	Does the investor clearly state in internal Alliance reporting which method has been used to calculate emissions to reach the target and ensure comparability over time?
31	Infrastructure (target)	<p>Does the investor set and report its emission-reduction targets on infrastructure assets? Will these targets be phased in to achieve full coverage by 2025? Do these targets reflect infrastructure assets in carbon-intensive sectors, and where there is >20% ownership or a board seat?</p> <p>Does the investor disclose information on emission-reduction targets for:</p> <ul style="list-style-type: none"> - Individual infrastructure investments based on annual emissions - Infrastructure investment as an asset class (either equity or debt jointly or standalone) - Corporate bonds and listed equities
32	Infrastructure (creating target)	<p>In determining benchmarks, does the investor use:</p> <ul style="list-style-type: none"> - Sector-specific pathways - Global average of IPCC P1-P3 scenarios where sector-specific pathways are not available
33	Infrastructure (reporting emissions)	Does the investor report on its lifetime emissions for brownfield energy infrastructure projects? Are the Scope 1 and Scope 2 emissions reported in line with the GHG protocol? Does a member who enters an investment at a later stage (construction or turn-key), report estimated lifetime Scope 1 and 2 emissions for the asset in the year of contracting?
34	Infrastructure (assessment)	Does the investor aim to report Scope 1 and Scope 2 emissions for all of its energy infrastructure assets by 2025? Is the investor on track to ensure that all its assets can be covered by an emissions-reduction target by 2025?

35	Infrastructure (phase out policies)	Are there any policies that phase out coal in line with the Alliance coal position paper — no new coal, cancel all coal in pre-construction phase, phase coal out by 2030 (industrialized countries) and 2040 (globally)? Is there any evidence of policies that exclude investment in gas assets that are not aligned with 1.5°C pathways? Has the investor refused finance to infrastructure assets if their purpose does not align with net-zero ambition?
36	Infrastructure (phase out upstream greenfield projects)	Does the investor have any policies or any evidence of debt denial to finance upstream greenfield projects beyond anything committed by the end of 2021?
37	Infrastructure (aligned with 1.5°C)	Does the investor disclose information on financing assets that are aligned with science-based or government-issued 1.5°C pathways?
38	Engagement (bondholder)	<p>Does the investor start engagement in advance of the bond issuance process?</p> <p>Does the investor use covenants and KPI-linked bonds as mechanisms to ensure expectations are met during the lifetime of the bond?</p> <p>Does the investor escalate strategies if companies do not make the necessary changes within a short period of time (one year)?</p>

Appendix 2: Full Methodology (Proxy Voting)

Dependent Variable

Proxy votes in favour of climate resolutions

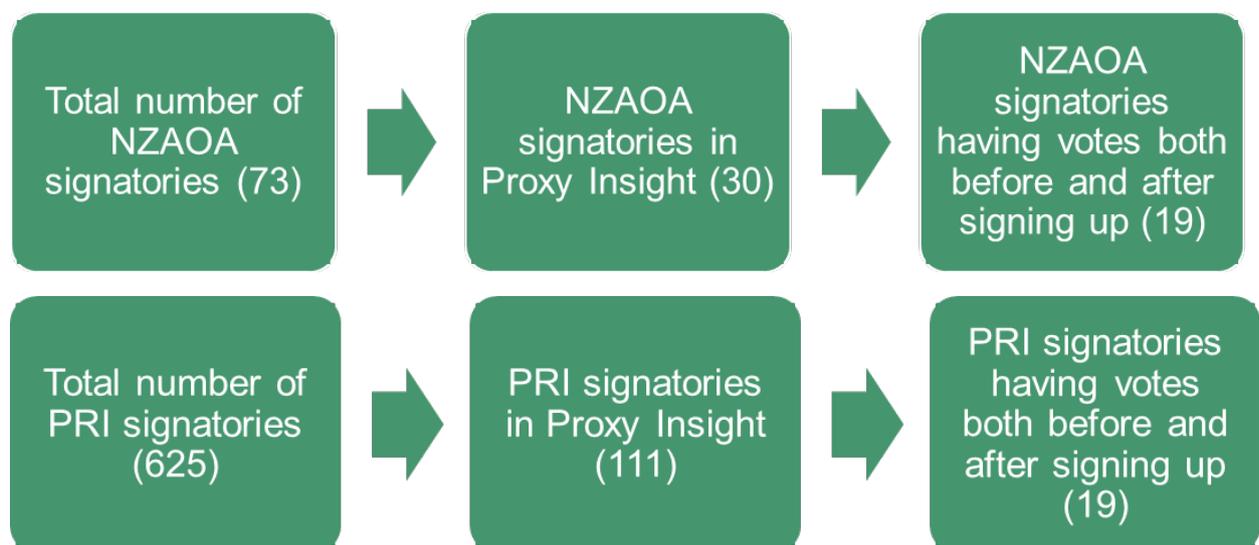
- a. Identify members that directly cast their votes

We use data on climate-related votes for the period from April 2009 to August 2022 provided by Insightia – a source of information on global shareholder voting. From the list of 73 NZAOA members and 698 PRI members that are non-NZAOA (the number of members as of the start of the study – August 2022), we find possible, corresponding member name matches in the Insightia data, resulting in 23,516 votes that include either NZAOA or PRI members. Specifically, there are 6,622 votes by NZAOA members and 16,893 votes by PRI members. The resulting dataset contains 30 out of 73 NZAOA members and 111 out of 698 PRI members.

- b. Identify votes that are truly in favour of climate

The Insightia data we use to build the dependent variable is “vote cast.” In most cases, the vote cast “for” would be the vote in favour of the climate; however, that is not the case with resolution text that reads “Approve Lobbying Inconsistent with the Goals of the Paris Agreement.” As a result, we re-classify “for” votes in relation to this resolution as “against” since it contradicts the goals of the Paris Agreement. Afterward, we build three dummy variables: (i) “for” vote, (ii) “against” vote, (iii) and “others” vote. The “for” vote is 1 if “vote cast” is “for” and 0 otherwise. The “against” vote equals 1 if the vote cast is against and 0 otherwise. Finally, the “others” vote is 1 if the vote cast by investors is either DNV (do not vote) or abstain and 0 otherwise. The dependent variable is the dummy variable “for” vote.

Figure 1. Filtering process of members from Insightia



Exploratory Variables

We built several exploratory variables to observe and analyse the climate voting patterns of NZAOA members and their non-member peer group.

NZAOA membership

We add another dummy variable indicating whether a member is an NZAOA member. One indicates a member joins the NZAOA and 0 indicates otherwise.

Votes after NZAOA member joins the Alliance

We assign meeting IDs to each unique AGM; in total, there are 568 AGMs in the dataset. We then pick up meetings that have at least one vote from NZAOA members. Then, based on member date information from the 30 NZAOA members in the final dataset, we build a dummy variable for meetings after and before the member dates. If the meeting date is after the member dates, the dummy variable takes the value of 1; otherwise, it is 0.

Company's fossil fuel industry classification

For this independent variable, we categorize an issuer's (company) industry based on available data in Insightia. Specifically, the variable equals 1 if the company's industry is either coal or oil & gas, and equals 0 otherwise.

Control Variable

Assets under management (AUM)

The variable is in million USD, which is provided in the Insightia dataset. Where the Insightia dataset does not have this data point, we rely on the list of top 1,000 funds¹⁵ and on public reports from the PRI members.

Model Specification

The study aims to understand if and to what extent the NZAOA members vote in favour of the climate compared to their PRI peer group. Therefore, we conduct (i) a logistic regression for the whole dataset, (ii) a difference-in-difference (DiD) regression for the whole dataset, and (iii) a DiD regression for a sub-sample of NZAOA members and their comparative PRI counterparts.

Logistic Regression

We adopt a logistic regression model with robust standard errors. The model specification is as follows, with ε_i being stochastic error.

$$(For\ votes)_T = \beta_0 + \beta_1 * (NZAOA\ membership)_T + \beta_2 * (Votes\ after\ NZAOA\ member\ signs\ up\ to\ the\ Alliance)_T + \beta_3 * (Company's\ fossil\ fuel\ industry\ classification)_T + \beta_4 * Country\ effects + \varepsilon_i$$

We run this regression for the whole sample and for each of the resolution details (Appendix 2 - Table 4 and 5).

¹⁵ List found here: <https://www.top1000funds.com/asset-owner/>

Difference-in-difference regression

DiD is implemented as an interaction term between time and treatment group dummy variables, which in our study are (i) votes after NZAOA members join the Alliance and (ii) the NZAOA membership. The model can be expressed as:

$$(For\ votes)_T = \beta_0 + \beta_1*(NZAOA\ membership)_T + \beta_2*(Votes\ after\ NZAOA\ member\ joins\ the\ Alliance)_T + \beta_3*(NZAOA\ membership * Votes\ after\ NZAOA\ member\ joins\ the\ Alliance)_T + \beta_4*(Company's\ fossil\ fuel\ industry\ classification)_T + \beta_5*Country\ effects + \varepsilon_i$$

In line with the logistic regression above, we run the DiD regression for both the whole sample and each of the resolution details (Appendix 2 - Table 6 and 7).

Matched Subsample

As a robustness test, we narrow down the control group to PRI members that are comparative to each of the NZAOA members in the dataset. There are 19 out of 30 NZAOA members with votes before and after they join the Alliance; as a result, we chose 19 corresponding PRI members based on country and AUM. For this sub-sample, we implemented the same DiD regression and DiD regression for each resolution (Appendix 2 - Table 8 and 9).

Table 1. Subsample of NZAOA and non-NZAOA group.

NZAOA member	PRI member
AEGON Investment Management B.V Country: Netherlands AUM: USD460,800mil Type: Asset Manager	bpfBOUW (De Stichting Bedrijfstakpensioenfonds voor de Bouwnijverheid) Country: Netherlands AUM: USD53,216mil Type: Pension Fund and Asset Manager
AkademikerPension Country: Denmark AUM: USD22,759mil Type: Pension Fund	AP Pension Country: Denmark AUM: USD19,911mil Type: Pension Fund
Alecta Country: Sweden AUM: USD79,657mil Type: Pension Fund	AP7 Country: Sweden AUM: USD80,400mil Type: Pension Fund
Allianz Global Investors Country: Germany AUM: USD637,000mil Type: Insurance Company & Asset Manager	Ilmarinen Mutual Pension Insurance Company Country: Finland AUM: USD53,275mil Type: Insurance Company
AMF Fonder Country: Sweden AUM: US12,848mil Type: Pension Fund	Fjarde Ap-Fonden Country: Sweden AUM: USD36,919mil Type: Pension Fund
Aviva Investors	Brunel Pension Partnership

Country: United Kingdom AUM: USD404,591mil Type: Insurance Company & Asset Manager	Country: United Kingdom AUM: USD 40,000mil Type: Pension Fund
AXA Investment Managers Country: France AUM: USD112,225mil Type: Insurance Company & Asset Manager	Achmea Country: Netherlands AUM: USD104,014mil Type: Insurance Company
BNP Paribas Cardiff Country: France AUM: USD53,025mil Type: Insurance Company	Rabobank Pensioenfonds Country: Netherlands AUM: USD32,859mil Type: Pension Fund and Asset Manager
Caisse de dépôt et placement du Québec (CDPQ) Country: Canada AUM: USD306,945mil Type: Pension Fund	Canada Pension Plan Investment Board (CPPIB) Country: Canada AUM: USD409,500mil Type: Pension Fund
California Public Employees' Retirement System (CalPERS) Country: USA AUM: USD498,960mil Type: Pension Fund	California State Teachers' Retirement System (CalSTRS) Country: USA AUM: USD319,900mil; Type: Pension Fund
CBUS Super Country: Australia AUM: USD33,872mil Type: Pension Fund	ESSSuper Country: Australia AUM: USD31,000mil Type: Pension Fund
Dai-ichi Life Holdings Inc. Country: Japan AUM: USD3,312mil Type: Insurance Company	Fukoku Mutual Life Insurance Country: Japan AUM: USD5,567mil Type: Insurance Company
Legal & General Investment Management Country: United Kingdom AUM: USD1,326,800mil Type: Pension Fund	Securian Asset Management, Inc. Country: United States AUM: USD54,512mil Type: Asset Manager
M&G plc Country: United Kingdom AUM: USD360,304mil Type: Insurance Company	Royal London Asset Management Country: United Kingdom AUM: USD129,442mil Type: Pension Fund and Asset Manager
Nordea Life & Pension Country: Finland AUM: USD666,841 Type: Pension Fund	ATP Country: Denmark AUM: USD119,256mil Type: Pension Fund

Old Mutual PLC Country: South Africa AUM: USD48,000mil Type: Insurance Company	Aware Super Country: Australia AUM: USD52,601mil Type: Pension Fund
Pensionskassernes Administration (PKA) Country: Denmark AUM: USD23,000mil Type: Pension Fund	PenSam Country: Denmark AUM: USD17,000mil Type: Pension Fund
Storebrand Asset Management Country: Norway AUM: USD85,300mil Type: Insurance Company	KLP Kapitalforvaltning Country: Norway AUM: USD59,807mil Type: Pension Fund
Wespath Investment Management Country: USA AUM: USD21,000mil Type: Faith-based pension fund	Mercy Investments Country: USA AUM: USD35,000mil Type: Faith-related investment company

For another robustness test, we classify ambitious proposals that might require a company to change its business model, and then we run the difference-in-difference regression on votes regarding these proposals for (i) the whole sample (30 NZAOA members and 111 PRI members) and (ii) the matched subsample as per Table 1 above (19 NZAOA members and 19 PRI peers) (Appendix 2 - Table 10 and 11). In the final robustness test, we choose seven founding members of the NZAOA (e.g. AMF, Alecta, Allianz, CalPERS, CDPQ, Nordea Life & Pension, and Storebrand) and their corresponding PRI peers; then we re-run the difference-in-difference regression for those 14 members (Appendix 2 - Table 12).

Descriptive statistics: Climate voting data from Insightia

Figure 2. How 30 NZAOA and 111 PRI members vote on climate-related issues over time.

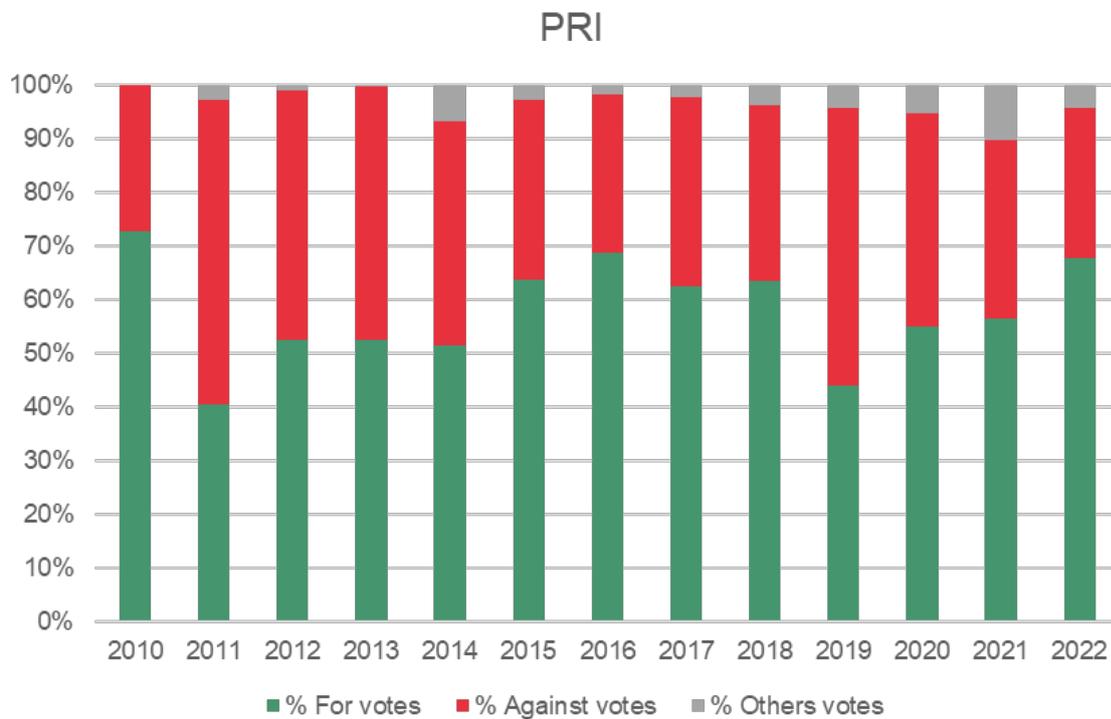
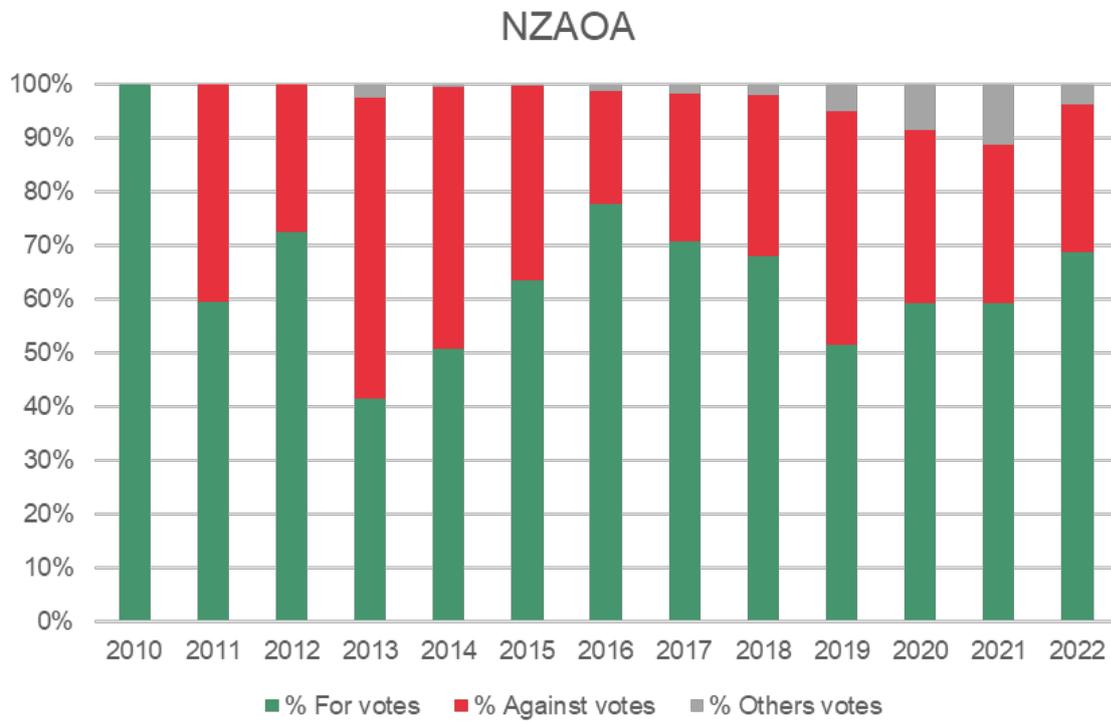


Table 2¹⁶. After vs. Before votes of matched NZAOA members on climate-related resolutions (comparison of the counts of for, against, and other votes by NZAOA members before and after the member date of each NZAOA member).

Member	Percentage point difference before vs. after becoming NZAOA signatories "For"	Percentage point difference before vs. after becoming NZAOA signatories "Against"	Percentage point difference before vs. after becoming NZAOA signatories "Others"
AEGON Investment Management B.V	9%	-6%	-3%
AkademikerPension	-18%	-25%	43%
Alecta	-50%	50%	0%
Allianz Global Investors	0%	-6%	7%
AMF Fonder	7%	-7%	0%
Aviva Investors	-1%	3%	-2%
AXA Investment Managers	-2%	-1%	3%
BNP Paribas Asset Management	12%	-7%	-6%
Caisse de depot et placement du Quebec	-28%	21%	7%
California Public Employees' Retirement System (CalPERS)	-24%	24%	0%
Cbus Super	7%	-7%	-1%
Dai-ichi Life Holdings Inc	0%	0%	0%

¹⁶ Table colour-coding highlights any increase in "for" votes and any decrease in "against" votes as green due to increased support for climate proposals. Anything coded in red signifies less support after joining the NZAOA.

Legal & General Investment Management	11%	-8%	-3%
M&G Investments	-3%	7%	-4%
Nordea Bank Oyj	15%	-17%	2%
Old Mutual PLC	13%	-3%	-10%
Pensionskassernes Administration (PKA)	-7%	2%	5%
Storebrand Asset Management	11%	-11%	0%
Wespath Investment Management	-7%	7%	0%

Table 3¹⁷. After vs. Before votes of matched NZAOA members on ambitious climate-related resolutions that might call for Paris-aligned strategies.

Member	Percentage point difference before vs. after becoming NZAOA signatories "For"	Percentage point difference before vs. after becoming NZAOA signatories "Against"	Percentage point difference before vs. after becoming NZAOA signatories "Others"
AEGON Investment Management B.V	5%	-3%	-2%
AkademikerPension	1%	-62%	60%
Allianz Global Investors	10%	-13%	3%
AMF Fonder	11%	-11%	0%
Aviva Investors	17%	-10%	-7%

¹⁷ Table colour-coding highlights any increase in "for" votes and any decrease in "against" votes as green due to increased support for climate proposals. Anything coded in red signifies less support after joining the NZAOA.

AXA Investment Managers	23%	-27%	4%
BNP Paribas Asset Management	40%	-7%	-33%
California Public Employees' Retirement System (CalPERS)	-5%	5%	0%
Cbus Super	8%	-7%	-1%
Dai-ichi Life Holdings Inc	0%	0%	0%
Legal & General Investment Management	31%	-32%	1%
M&G Investments	47%	-37%	-10%
Nordea Life & Pension	43%	-45%	2%
Old Mutual PLC	34%	-34%	0%
Pensionskassernes Administration (PKA)	-1%	-10%	10%
Storebrand Asset Management	62%	-62%	0%
Wespath Investment Management	6%	-4%	-2%

Statistical results

Table 4. Logistic regression for the whole sample.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Model 1	Model 2	Model 3	Model 4	Model 5
Log_AUM	-0.061***	-0.092***	-0.092***	-0.170***	-0.178***
	(0.008)	(0.009)	(0.009)	(0.011)	(0.011)
Being an NZAOA signatory		0.326***	0.326***	0.566***	0.547***
		(0.034)	(0.034)	(0.043)	(0.044)
Issuer's industry in fossil fuel sectors			0.124***	0.076**	0.074**
			(0.031)	(0.032)	(0.032)
Constant	1.975***	2.657***	2.618***	3.609***	4.916***
	(0.202)	(0.217)	(0.217)	(0.257)	(0.632)

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 5. Logistic regression for the whole sample for each meeting resolution detail.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Adopt Say on climate vote	Adopt /Amend climate change policy	Adopt /Amend energy policy	Adopt /Amend Environmental Policy	Approve strategic resilience for 2035 and beyond	Assesses Impact of a 2 Degree Scenario	Create climate change report	Create Energy Report	Create environmental report
	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Log_AUM	-0.479***	-0.399***	-0.327***	-0.246***	0.504*	0.113*	-0.182***	-0.252***	-0.206***
	(0.090)	(0.109)	(0.065)	(0.026)	(0.263)	(0.068)	(0.019)	(0.054)	(0.027)
Being an NZAOA signatory	0.683*	0.347	1.477***	0.691***	-1.533	0.834**	0.667***	1.217***	0.525***
	(0.361)	(0.324)	(0.261)	(0.103)	(1.531)	(0.349)	(0.077)	(0.222)	(0.106)
Issuer's industry in fossil fuel sectors	-4.140**	-0.471**	0.754*	-0.901***	1.994	0.186	0.008	0.645***	-0.299***
	(1.786)	(0.206)	(0.415)	(0.087)	(1.324)	(0.250)	(0.054)	(0.199)	(0.100)
Constant	12.111***	8.740***	6.737***	5.068***	-9.867	-0.204	4.788***	4.527**	4.996***
	(2.238)	(2.528)	(1.868)	(0.784)	(6.566)	(1.744)	(0.829)	(1.808)	(0.662)
Observations	447	605	1,364	4,042	96	1,326	8,835	1,232	3,869
Pseudo squared R-	0.203	0.155	0.224	0.113	0.125	0.173	0.0807	0.277	0.151
Log-likelihood	-210.4	-336.1	-411.7	-2482	-17.20	-385.2	-4869	-603.2	-2238

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 6. Difference-in-difference regression for the whole sample

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Model 15
	Difference-in-difference
Log AUM	-0.170***
	(0.011)
NZAOA signatory	0.577***
	(0.050)
After joining NZAOA	0.040
	(0.035)
NZAOA signatory after joining NZAOA	-0.013
	(0.071)
Issuer's industry in fossil fuel sectors	0.077**
	(0.032)
Constant	3.601***
	(0.257)
Observations	22,380
Pseudo R-squared	0.0625
Log-likelihood	-14020

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Difference-in-difference regression for the whole sample for each meeting resolution detail.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Adopt Say on climate vote	Adopt/Amend climate change policy	Adopt/Amend energy policy	Adopt/Amend environmental policy	Approve strategic resilience for 2035 and beyond	Assess impact of a 2°C scenario	Create climate change report	Create energy report	Create environmental report
	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
Log AUM	-0.463*** (0.089)	-0.399*** (0.109)	-0.334*** (0.060)	-0.219*** (0.025)	0.504* (0.263)	0.092 (0.061)	-0.173*** (0.019)	-0.244*** (0.051)	-0.188*** (0.024)
NZAOA signatory	0.643* (0.356)	0.344 (0.318)	1.048*** (0.238)	0.635*** (0.112)	-1.533 (1.531)	0.945*** (0.358)	0.760*** (0.088)	0.878*** (0.239)	0.400*** (0.116)
After joining NZAOA	-0.076 (0.713)	-0.021 (0.827)	-0.992*** (0.366)	-0.685*** (0.083)		-0.075 (0.308)	0.442*** (0.059)	-2.013*** (0.226)	-0.224*** (0.084)
NZAOA signatory after joining NZAOA			1.036** (0.498)	-0.105 (0.165)		0.064 (0.660)	-0.093 (0.125)	-0.341 (0.412)	0.084 (0.171)
Issuer's industry in fossil fuel sectors	-4.254** (1.788)	-0.468** (0.193)	0.230 (0.342)	0.821*** (0.079)	1.994 (1.324)	-0.524** (0.206)	0.034 (0.053)	1.145*** (0.180)	0.696*** (0.085)
Constant	11.853**	8.756***	6.338***	4.678***	-9.867	-0.716	3.739***	4.878***	4.023***

	(2.346)	(2.824)	(1.432)	(0.604)	(6.566)	(1.481)	(0.444)	(1.247)	(0.587)
Observations	489	605	1,427	4,042	96	1,326	8,835	1,236	3,874
Pseudo R-squared	0.190	0.155	0.0824	0.0821	0.125	0.0732	0.0668	0.184	0.0649
Log-likelihood	-224.3	-336.1	-494.5	-2567	-17.20	-431.9	-4943	-683.8	-2467

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8. Difference-in-difference regression for the sub-sample (19 NZAOA members and their 19 PRI peers).

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Model 25
	Difference-in-difference
Log AUM	-0.243***
	(0.027)
NZAOA signatory	0.941***
	(0.064)
After joining NZAOA	0.254***
	(0.064)
NZAOA signatory after joining NZAOA	-0.318***
	(0.090)
Issuer's industry in fossil fuel sectors	0.064
	(0.048)

Constant	5.271***
	(0.647)
Observations	10,180
Pseudo R-squared	0.0534
Log-likelihood	-6405

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9. Difference-in-difference regression for the sub-sample for each meeting resolution detail.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Adopt Say on climate vote	Adopt/A mend climate change Policy	Adopt/A mend energy policy	Adopt/A mend environ mental policy	Assess impact of a 2°C scenario	Create climate change report	Create energy report	Create environ mental report
	Model 26	Model 27	Model 28	Model 29	Model 30	Model 31	Model 32	Model 33
Log AUM	-0.247	-0.283	-1.037***	-0.362***	0.488**	-0.190***	-0.356***	-0.057
	(0.225)	(0.196)	(0.160)	(0.060)	(0.192)	(0.047)	(0.138)	(0.062)
NZAOA signatory	0.674	0.366	2.136***	1.027***	0.660	0.996***	1.477***	0.909***
	(0.480)	(0.368)	(0.365)	(0.145)	(0.415)	(0.113)	(0.293)	(0.154)
After joining NZAOA	-0.701	-0.681	-0.465	-0.418***	-0.416	0.467***	-2.116***	0.290*
	(0.908)	(0.789)	(0.785)	(0.147)	(0.617)	(0.111)	(0.446)	(0.157)
NZAOA signatory after joining NZAOA			0.105	-0.411**	0.024	-0.232	-0.246	-0.586***
			(0.925)	(0.209)	(0.872)	(0.156)	(0.575)	(0.223)
Issuer's industry in fossil fuel sectors	-3.063*	-0.274	0.205	-0.875***	-1.288***	-0.063	0.860***	-0.690***
	(1.788)	(0.249)	(0.574)	(0.116)	(0.388)	(0.080)	(0.263)	(0.132)
Constant	8.366	7.241	22.817** *	8.054***	-9.670**	4.201***	7.669**	0.513
	(5.541)	(4.866)	(3.794)	(1.461)	(4.723)	(1.143)	(3.352)	(1.514)
Observations	201	348	681	1,906	534	4,008	564	1,721
Pseudo R-squared	0.206	0.159	0.188	0.0776	0.0881	0.0592	0.205	0.0693
Log-likelihood	-86.84	-192.5	-201.7	-1218	-147.2	-2181	-303.8	-1093

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 10. Difference-in-difference regression for ambitious resolutions may require a change in companies' business model (whole sample).

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Difference-in-difference
	Model 34
Log AUM	-0.150***
	(0.021)
NZAOA signatory	0.617***
	(0.098)
After joining NZAOA	0.601***
	(0.068)
NZAOA signatory after joining NZAOA	-0.027
	(0.134)
Issuer's industry in fossil fuel sectors	-0.523***
	(0.063)
Constant	2.868***
	(0.508)
Observations	5,671
Pseudo R-squared	0.0833
Log-likelihood	-3601

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11. Difference-in-difference regression for the matched sub-sample (17 NZAOA members having votes on ambitious resolutions before and after joining the Alliance and 17 PRI peers) and for ambitious resolutions that may require a change in companies' business model.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Difference-in-difference
	Model 35
Log AUM	-0.311***
	(0.053)
NZAOA signatory	1.147***
	(0.132)
After joining NZAOA	0.909***
	(0.129)
NZAOA signatory after joining NZAOA	-0.405**
	(0.175)
Issuer's industry in fossil fuel sectors	-0.536***
	(0.096)
Constant	6.799***
	(1.286)
Observations	2,562
Pseudo R-squared	0.0817
Log-likelihood	-1631

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 12. Difference-in-difference regression for the subsample of seven founding members and their PRI peers.

Dependent variable: "For" vote dummy (1=for; 0=otherwise)	Difference-in-difference
	Model 36
Log AUM	-0.031
	(0.159)
NZAOA signatory	0.922***
	(0.106)
After joining NZAOA	-0.077
	(0.097)
NZAOA signatory after joining NZAOA	-0.327**
	(0.142)
Issuer's industry in fossil fuel sectors	0.138*
	(0.079)
Constant	0.699
	(4.234)
Observations	3,942
Pseudo R-squared	0.0625
Log-likelihood	-2456

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.

Deep Dives

Table 13. NZAOA votes “for” or “against” climate, where Glass Lewis advised otherwise¹⁸.

Investor	Against	For	Total
AEGON Investment Management B.V		100	100
AkademikerPension		7	7
Allianz Global Investors		33	33
AMF Fonder		15	15
Aviva Investors	1	38	39
BNP Paribas Asset Management		313	313
California Public Employees' Retirement System (CalPERS)		14	14
Cbus Super		9	9
Danica Pension	1	59	60
Laegernes Pension & Bank		32	32
Legal & General Investment Management		38	38
M&G Investments		1	1
Nordea Bank Oyj		41	41

¹⁸ This table can be understood to represent cases where the investor voted opposite to Glass Lewis recommendations. For example, Aegon voted “for” on 100 resolutions that Glass Lewis recommended ‘against.’ Similarly, Aviva voted “against” on one resolution where Glass Lewis recommended “for.”

PensionDanmark		28	28
Pensionskassernes Administration (PKA)	1	50	51
Storebrand Asset Management		298	298
Total	3	1076	1079

Appendix 3: Full Methodology (Bondholder) & Results from TPI and Urgewald lists

We collected data on the bond holdings of all NZAOA members from Bloomberg Terminal. Bond holdings are available on Bloomberg Terminal for approximately 44% of NZAOA members, even though we have expanded the matched names for broader coverage. Specifically, in cases where only a direct subsidiary or parent of an NZAOA member was included in the Bloomberg data, a match was still made. Then, in terms of fossil fuel companies, we relied on Bloomberg Industry Classification Standard (BICS) Beta, Dirty 30, Transition Pathway Initiative, and Urgewald. We searched for fossil fuel companies that are included in at least one of (i) "Integrated Oils", (ii) "Exploration & Production," (iii) "Midstream - Oil & Gas," (iv) "Refining & Marketing," (v) "Drilling & Drilling Support," (vi) "Oilfield Services & Equipment," (vii) "Coal Mining," and (viii) "Gas Utilities" under the Bloomberg Industry Classification Standard (BICS) Beta. The Dirty 30 list includes 30 of the worst fossil fuel expansionists in the world, which are chosen primarily from Urgewald's Global Coal Exit List and Global Oil and Gas Exit List. The TPI list of fossil fuel companies covers 120 companies classified in at least one of "coal mining," "oil and gas," and "oil and gas distribution." Finally, for the Urgewald fossil fuel companies list, we combined all companies included in Urgewald's 2021 Global Coal Exit List and 2021 Global Oil and Gas Exit List.

We then calculated the proportion of each NZAOA member's bond holdings that were issued by companies in the given "Fossil Fuel" classification over their total bond holdings (% of bond holdings in fossil fuel companies). For benchmarking purposes, we benchmarked against:

- The average proportion of all NZAOA members (excluding zero holdings); and
- Vanguard Group's proportion of bond holdings in fossil fuel companies.

Since Vanguard's holdings are generally regarded as a representation of average market holdings and their focus is not sustainability and climate change, we would expect that NZAOA members' bond holdings in fossil fuel companies should be far less than that of Vanguard.

The columns '*% Investment in [insert list name] FF*' show the percentage of each investor's total holdings that were issued by companies in the given "Fossil Fuel" classification. This can be read as '*X% of the bond holdings of Investor A were issued by companies in fossil fuel sectors.*' Then, the two columns '*Proportion compared to Vanguard*' means how over- or under-proportionate each investor's "Fossil Fuel" ownership percentage is when benchmarked against Vanguard, and is calculated as '*% Investment in [insert list name]*' divided by Vanguard's "Fossil Fuel" ownership percentage. This can be read as '*Investor A is X% less/as/more exposed to fossil fuel sectors compared to Vanguard.*' The colour-coding is a spectrum of colours from green to yellow to red, showing how much less, as, or more an investor is exposed to fossil fuel sectors as compared to Vanguard.

Similarly, the two columns '*Proportion compared to the cohort's average*' means how over- or under-proportionate each investor's "Fossil Fuel" ownership percentage is when benchmarked against the cohort's average, and is calculated as '*% Investment in [insert list name]*' divided by the cohort's average "Fossil Fuel" ownership percentage. The cohort's average percentage includes those members with observable values (i.e. dropping members with no bond holdings data on the Bloomberg Terminal).

Table 1. NZAOA members' bond holdings in TPI fossil fuel companies benchmarked against that of Vanguard and the cohort's average.

NZAOA Member	% investment in TPI "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	5.4%	1.00	Cohort average = 2.77%
St James's Place	14.4%	2.69	5.21
Dai-ichi Life	6.8%	1.26	2.44
Aegon	6.4%	1.19	2.30
Nippon Life Insurance Group	5.8%	1.08	2.10
Prudential plc	5.8%	1.08	2.09
Swiss Re	5.7%	1.06	2.05
Legal & General	3.8%	0.71	1.38
Intesa Sanpaolo Vita Insurance Group	3.7%	0.70	1.35
Crédit Agricole Assurances	3.7%	0.69	1.33
Allianz	3.7%	0.68	1.32
Zurich	3.6%	0.67	1.30
Aviva	3.4%	0.63	1.23
Meiji Yasuda Life Insurance Company	3.1%	0.58	1.13
the co-operators	3.0%	0.56	1.09
M&G plc	3.0%	0.56	1.09
Generali Group	3.0%	0.56	1.08
VidaCaixa S.A.U de Seguros y Reaseguros	2.8%	0.52	1.02
AXA	2.7%	0.50	0.97
Phoenix Group	1.9%	0.35	0.67
BNP Paribas Cardif	1.0%	0.19	0.37
Société Générale Assurances	0.7%	0.14	0.27
Nordea Life & Pension	0.4%	0.07	0.13
PFA	0.3%	0.05	0.10
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Munich RE	0.0%	0.00	0.00
Old Mutual Limited	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
QBE	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
Storebrand	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00

Akademiker Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Alecta	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
African Risk Capacity Limited	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Bayerische Versicherungskammer	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
BTPS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Caisse des Dépôts	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CalPERS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CBUS Super fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
The Church of England	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CNP Assurances	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Danica Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
David Rockefeller Fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
RAFP	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Folksam	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
FRR	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Gothaer Insurance Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HanseMerkur	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HUK-COBURG Versicherungsgruppe	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
KENFO	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Laegernes Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
LVM	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
MAIF	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Novartis Pension Funds	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
P+	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Pensioenfonds Detailhandel	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
PensionDanmark	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

PKA	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Rothsay	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Scor	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sovereign Wealth Fund of the Gabonese Republic	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung Sachsen	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting pensioenfonds IBM Nederland	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting Pensioenfonds Medisch Specialisten (SPMS)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sumitomo Life Insurance	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Unipol Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
United Nations Joint Staff Pension Fund (UNJSPF)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
University of Toronto Asset Management Corporation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Univest Company	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Vita Collective Foundation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Wespath	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

Table 2. NZAOA members' bond holdings in Urgewald companies benchmarked against that of Vanguard and the cohort's average.

NZAOA Member	% Investment in Urgewald "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	10.2%	1.00	Cohort average = 9.48%
Munich RE	45.9%	4.50	4.84
Old Mutual Limited	38.1%	3.73	4.02
Nippon Life Insurance Group	22.2%	2.17	2.34
St James's Place	16.2%	1.58	1.70
Dai-ichi Life	14.2%	1.39	1.50
Prudential plc	14.1%	1.39	1.49
Meiji Yasuda Life Insurance Company	13.2%	1.30	1.40
Aegon	13.1%	1.28	1.38
VidaCaixa S.A.U de Seguros y Reaseguros	12.4%	1.21	1.30
Intesa Sanpaolo Vita Insurance Group	10.8%	1.05	1.13
Zurich	9.8%	0.96	1.04
Allianz	9.1%	0.89	0.96
Legal & General	9.0%	0.88	0.95
Aviva	9.0%	0.88	0.95
AXA	8.8%	0.86	0.93
Generali Group	8.2%	0.80	0.86
Swiss Re	8.1%	0.79	0.85
Crédit Agricole Assurances	8.0%	0.78	0.84
the co-operators	6.4%	0.63	0.68
M&G plc	6.4%	0.63	0.68
BNP Paribas Cardif	5.6%	0.55	0.59
Société Générale Assurances	4.8%	0.47	0.51
Phoenix Group	4.1%	0.41	0.44
Nordea Life & Pension	2.3%	0.23	0.25
PFA	2.0%	0.20	0.22
Storebrand	0.9%	0.09	0.10
QBE	0.6%	0.06	0.06
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00

Akademiker Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Alecta	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
African Risk Capacity Limited	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Bayerische Versicherungskammer	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
BTPS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Caisse des Dépôts	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CalPERS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CBUS Super fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
The Church of England	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CNP Assurances	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Danica Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
David Rockefeller Fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
RAFP	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Folksam	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
FRR	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Gothaer Insurance Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HanseMerkur	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HUK-COBURG Versicherungsgruppe	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
KENFO	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Laegernes Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
LVM	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
MAIF	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Novartis Pension Funds	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
P+	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Pensioenfonds Detailhandel	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
PensionDanmark	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

PKA	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Rothesay	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Scor	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sovereign Wealth Fund of the Gabonese Republic	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung Sachsen	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting pensioenfonds IBM Nederland	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting Pensioenfonds Medisch Specialisten (SPMS)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sumitomo Life Insurance	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Unipol Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
United Nations Joint Staff Pension Fund (UNJSPF)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
University of Toronto Asset Management Corporation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Univest Company	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Vita Collective Foundation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Wespath	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

Table 3. NZAOA members' bond holdings in BICS Beta fossil fuel companies benchmarked against that of Vanguard and the cohort's average, including companies with no bond holdings data on Bloomberg Terminal.

NZAOA Member	% Investment in BICS Beta "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	6.9%	1.00	Cohort average = 4.17%
St James's Place	12.3%	1.80	2.96
Dai-ichi Life	11.2%	1.64	2.69
Prudential plc	9.9%	1.44	2.36
Nippon Life Insurance Group	9.1%	1.33	2.19
Aegon	8.9%	1.30	2.13
the co-operators	8.8%	1.28	2.11
Zurich	6.9%	1.00	1.65
Swiss Re	6.8%	1.00	1.64
Allianz	6.8%	0.99	1.63
Aviva	6.8%	0.99	1.63
Generali Group	6.1%	0.89	1.47
AXA	5.7%	0.84	1.38
Legal & General	5.7%	0.84	1.38
Crédit Agricole Assurances	5.6%	0.82	1.35
Intesa Sanpaolo Vita Insurance Group	5.0%	0.72	1.19
Phoenix Group	4.5%	0.65	1.07
M&G plc	3.4%	0.50	0.82
Meiji Yasuda Life Insurance Company	3.1%	0.46	0.75
VidaCaixa S.A.U de Seguros y Reaseguros	3.0%	0.44	0.72
BNP Paribas Cardif	1.4%	0.21	0.34
Société Générale Assurances	1.0%	0.14	0.24
Nordea Life & Pension	0.9%	0.14	0.23
Storebrand	0.2%	0.03	0.05
PFA	0.1%	0.01	0.02
Old Mutual Limited	0.0%	0.00	0.00
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Munich RE	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
QBE	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00

Akademiker Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Alecta	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
African Risk Capacity Limited	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Bayerische Versicherungskammer	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
BTPS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Caisse des Dépôts	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CalPERS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CBUS Super fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
The Church of England	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CNP Assurances	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Danica Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
David Rockefeller Fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
RAFP	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Folksam	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
FRR	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Gothaer Insurance Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HanseMerkur	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HUK-COBURG Versicherungsgruppe	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
KENFO	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Laegernes Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
LVM	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
MAIF	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Novartis Pension Funds	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
P+	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Pensioenfonds Detailhandel	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
PensionDanmark	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

PKA	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Rothesay	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Scor	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sovereign Wealth Fund of the Gabonese Republic	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung Sachsen	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting pensioenfonds IBM Nederland	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting Pensioenfonds Medisch Specialisten (SPMS)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sumitomo Life Insurance	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Unipol Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
United Nations Joint Staff Pension Fund (UNJSPF)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
University of Toronto Asset Management Corporation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Univest Company	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Vita Collective Foundation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Wespath	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

Table 4. NZAOA members' bond holdings in Toxic Bonds Dirty 30 fossil fuel companies benchmarked against that of Vanguard and the cohort's average, including companies with no bond holdings data on Bloomberg Terminal.

NZAOA Member	% Investment in Toxic Bonds Dirty30 "Fossil Fuel"	Proportion compared to Vanguard	Proportion compared to the cohort's average
VANGUARD GROUP	1.7%	1.00	Cohort average = 1.29%
St James's Place	10.5%	6.26	8.12
Nippon Life Insurance Group	8.7%	5.23	6.77
Legal & General	2.1%	1.26	1.63
Phoenix Group	2.0%	1.18	1.53
Allianz	1.8%	1.07	1.39
Prudential plc	1.8%	1.07	1.38
Aegon	1.7%	1.02	1.32
Intesa Sanpaolo Vita Insurance Group	1.5%	0.92	1.19
Generali Group	1.5%	0.87	1.13
Crédit Agricole Assurances	1.5%	0.87	1.13
Dai-ichi Life	1.4%	0.87	1.12
Old Mutual Limited	1.4%	0.83	1.08
M&G plc	1.3%	0.79	1.02
Aviva	1.3%	0.76	0.99
AXA	0.9%	0.53	0.69
Zurich	0.7%	0.39	0.51
Swiss Re	0.5%	0.31	0.41
BNP Paribas Cardif	0.2%	0.15	0.19
VidaCaixa S.A.U de Seguros y Reaseguros	0.2%	0.12	0.16
QBE	0.1%	0.07	0.09
Nordea Life & Pension	0.1%	0.06	0.08
PFA	0.1%	0.04	0.05
AMF	0.0%	0.00	0.00
CDPQ	0.0%	0.00	0.00
Meiji Yasuda Life Insurance Company	0.0%	0.00	0.00
Munich RE	0.0%	0.00	0.00
Pension Insurance Corporation	0.0%	0.00	0.00
Société Générale Assurances	0.0%	0.00	0.00
SOMPO Holdings	0.0%	0.00	0.00
Storebrand	0.0%	0.00	0.00
the co-operators	0.0%	0.00	0.00
UNIQA	0.0%	0.00	0.00

Akademiker Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Alecta	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
African Risk Capacity Limited	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Bayerische Versicherungskammer	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
BTPS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Caisse des Dépôts	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CalPERS	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CBUS Super fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
The Church of England	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
CNP Assurances	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Danica Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
David Rockefeller Fund	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
RAFP	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Folksam	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
FRR	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Gothaer Insurance Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
HanseMerkur	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

HUK-COBURG Versicherungsgruppe	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
KENFO	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Laegernes Pension	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
LVM	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
MAIF	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Novartis Pension Funds	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
P+	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Pensioenfonds Detailhandel	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
PensionDanmark	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
PKA	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Rothsay	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Scor	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sovereign Wealth Fund of the Gabonese Republic	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung Sachsen	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sparkassen-Versicherung	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting pensioenfonds IBM Nederland	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Stichting Pensioenfonds Medisch Specialisten (SPMS)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Sumitomo Life Insurance	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

Unipol Group	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
United Nations Joint Staff Pension Fund (UNJSPF)	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
University of Toronto Asset Management Corporation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Univest Company	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Vita Collective Foundation	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal
Wespath	0.0%	No bond holdings data on Bloomberg Terminal	No bond holdings data on Bloomberg Terminal

Appendix 4: Proxy Voting Deep Dives

CalPERS

The California Public Employees' Retirement System (CalPERS) is a US California pension fund manager with AUM worth \$429.3 billion. CalPERS joined the NZAOA in 2019 as both a founding member and a member of the steering committee, in addition to convening and counting the CA 100+ initiative. Despite leadership in developing these important collaborations, CalPERS was a laggard in the NZAOA 2022 voting profile and had a 55% “against” voting record on what we have defined as ambitious proposals, as seen below.

Table 1. CalPERS 2022 voting record on ambitious proposals.

Ambitious Proposals	Against	For	Total
Adopt a Financing Policy Consistent with IEA's Net Zero Emissions by 2050 Scenario	1		1
Adopt a Policy to Cease Oil and Gas Exploration and Developments	1		1
Adopt Fossil Fuel Financing Policy Consistent with IEA's Net Zero 2050 Scenario	1		1
Adopt Fossil Fuel Lending and Underwriting Policy Consistent with IEA's Net Zero 2050 Scenario	1		1
Adopt Fossil Fuel Lending Policy Consistent with IEA's Net Zero 2050 Scenario	1		1
Adopt GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal		1	1
Adopt Policies to Ensure Underwriting Practices Do Not Support New Fossil Fuel Supplies	1		1
Adopt Underwriting Policies in Alignment with IEA's Net Zero 2050 Scenario	1		1
Prepare Business Strategy in Line with Paris Agreement	1		1
Report on Absolute Targets for Financed GHG Emissions in Line with Net-Zero Commitments	1		1
Report on Climate Lobbying		2	2

Report on GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal		3	3
Report on Long-Term Greenhouse Gas Targets Aligned with Paris Agreement		1	1
Report on Medium and Long-Term Greenhouse Gas Targets Aligned with Paris Agreement		1	1
Report on Scenario Analysis Consistent with International Energy Agency's Net Zero by 2050		1	1
Revise Net Zero by 2050 Goal to Include Full Scope 3 Value Chain Emissions		1	1
Shareholder Proposal Regarding Adoption of Targets to Achieve Net-Zero Emissions by 2050		1	1
Shareholder Proposal Regarding Aligning Business Strategy to the Paris Agreement	1	2	3
Shareholder Proposal Regarding Alignment of Capex with Net Zero by 2050 Scenario	1		1
Shareholder Proposal Regarding Cessation of All Exploration Activity	1		1
Shareholder Proposal Regarding Decarbonisation Through Prohibiting New Coal-Fired Power Generation	1		1
Shareholder Proposal Regarding Disclosure of Capital Allocation Alignment with a Net Zero by 2050 Scenario	1		1
Shareholder Proposal Regarding Lobbying Activity Alignment with 1.5°C Scenarios	1		1
Shareholder Proposal Regarding Net-Zero Asset Owner Alliance	1		1
Shareholder Proposal Regarding Report on GHG Targets and Alignment with Paris Agreement		1	1
Total	16	14	30

AXA

AXA is a French multinational insurance company with €887 billion AUM. AXA joined the NZAOA in 2019, two months after it was convened, and is one of the Alliance's earliest supporters. AXA has a muddled voting track record for 2022, voting against ambition proposals 35% of the time, with a particularly bad record regarding fossil fuels.

Table 2. AXA 2022 voting record on ambitious proposals.

Ambitious Proposals	Against	For	Total
Adopt a Financing Policy Consistent with IEA's Net Zero Emissions by 2050 Scenario	1		1
Adopt a Policy to Cease Oil and Gas Exploration and Developments	1		1
Adopt Fossil Fuel Financing Policy Consistent with IEA's Net Zero 2050 Scenario		1	1
Adopt Fossil Fuel Lending and Underwriting Policy Consistent with IEA's Net Zero 2050 Scenario		1	1
Adopt Fossil Fuel Lending Policy Consistent with IEA's Net Zero 2050 Scenario		1	1
Adopt GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal		1	1
Adopt Policies to Ensure Underwriting Practices Do Not Support New Fossil Fuel Supplies		1	1
Adopt Underwriting Policies in Alignment with IEA's Net Zero 2050 Scenario	1		1
Report on Absolute Targets for Financed GHG Emissions in Line with Net-Zero Commitments	1		1
Report on Climate Lobbying		2	2
Report on GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal		2	2
Report on Long-Term Greenhouse Gas Targets Aligned with Paris Agreement		1	1
Report on Scenario Analysis Consistent with International Energy Agency's Net Zero by 2050		1	1

Shareholder Proposal Regarding Adoption of Targets to Achieve Net-Zero Emissions by 2050		1	1
Shareholder Proposal Regarding Aligning Business Strategy to the Paris Agreement	1	1	2
Shareholder Proposal Regarding Alignment of Capex with Net Zero by 2050 Scenario		1	1
Shareholder Proposal Regarding Cessation of All Exploration Activity	1		1
Shareholder Proposal Regarding Disclosure of Capital Allocation Alignment with a Net Zero by 2050 Scenario	1		1
Shareholder Proposal Regarding Lobbying Activity Alignment with 1.5°C Scenarios	1		1
Shareholder Proposal Regarding Report on GHG Targets and Alignment with Paris Agreement		1	1
Total	8	15	23

Allianz

Allianz Global Investors is a German investment management firm with €673 billion AUM. A founding member of the NZAOA, Allianz holds the largest voting share of all members. Unfortunately, Allianz has used that share to vote against ambitious climate proposals 33% of the time, particularly on fossil fuel policies.

Table 3. Allianz 2022 voting record on ambitious proposals.

Ambitious Proposals	Abstain	Against	For	Total
Adopt a Financing Policy Consistent with IEA's Net Zero Emissions by 2050 Scenario			1	1
Adopt a Policy to Cease Oil and Gas Exploration and Developments		1		1
Adopt Fossil Fuel Financing Policy Consistent with IEA's Net Zero 2050 Scenario		1		1
Adopt Fossil Fuel Lending and Underwriting Policy Consistent with IEA's Net Zero 2050 Scenario		1		1
Adopt Fossil Fuel Lending Policy Consistent with IEA's Net Zero 2050 Scenario	1			1
Adopt GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal			1	1
Adopt Policies to Ensure Underwriting Practices Do Not Support New Fossil Fuel Supplies		1		1
Adopt Underwriting Policies in Alignment with IEA's Net Zero 2050 Scenario		1		1
Prepare Business Strategy in Line with Paris Agreement			1	1
Report on Absolute Targets for Financed GHG Emissions in Line with Net-Zero Commitments		1		1
Report on Climate Lobbying			2	2
Report on GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal			3	3
Report on Long-Term Greenhouse Gas Targets Aligned with Paris Agreement			1	1

Report on Scenario Analysis Consistent with International Energy Agency's Net Zero by 2050			1	1
Revise Net Zero by 2050 Goal to Include Full Scope 3 Value Chain Emissions			1	1
Shareholder Proposal Regarding Adoption of Targets to Achieve Net-Zero Emissions by 2050			1	1
Shareholder Proposal Regarding Aligning Business Strategy to the Paris Agreement			3	3
Shareholder Proposal Regarding Alignment of Capex with Net Zero by 2050 Scenario			1	1
Shareholder Proposal Regarding Disclosure of Capital Allocation Alignment with a Net Zero by 2050 Scenario			1	1
Shareholder Proposal Regarding Lobbying Activity Alignment with 1.5°C Scenarios			1	1
Shareholder Proposal Regarding Net-Zero Asset Owner Alliance		1		1
Shareholder Proposal Regarding Report on GHG Targets and Alignment with Paris Agreement			1	1
Total	1	7	19	27

AMF

AMF Fonder is a Sweden-based pension fund with AUM worth \$65 billion. The Swedish fund is also a founding member of the Alliance and has shown decisive leadership and voting that far outweighed actions from some of the larger NZAOA members. AMF exerted its voting influence across different proposals, including strengthening commitments, climate lobbying, and fossil fuel lending policies. We deemed 34% of these proposals ambitious. Despite the smaller voting influence it wields, the Swedish pension fund voted in favour of 100% of all environmental proposals visible in Insightia.

Table 4. AMF 2022 voting record on all proposals.

Proposals	For
Adopt Fossil Fuel Lending and Underwriting Policy Consistent with IEA's Net Zero 2050 Scenario	1
Adopt GHG Emissions-Reduction Targets Aligned with the Paris Agreement Goal	1
Adopt Independently Verified, Science-Based GHG Reduction Targets	1
Adopt Policies to Curtail Corporate Activities that Externalize Social and Environmental Costs	1
Adopt Underwriting Policies in Alignment with IEA's Net Zero 2050 Scenario	1
Approve Climate Risk Management	1
Approve Contingent Resolution - Climate-Related Lobbying	1
Approve Contingent Resolution - Decommissioning	1
Report on Balancing Climate Measures and Financial Returns	1
Report on Climate Change Performance Metrics into Executive Compensation Program	1
Report on Climate Lobbying	1
Report on Climate Strategy Consistent with ILO's "Just Transition Guidelines"	1
Report on Climate-Related Risks and Opportunities	1

Report on Efforts to Eliminate Deforestation in Supply Chain	1
Report on Efforts to Eliminate HFCs in Refrigeration and Reduce GHG Emissions	1
Report on Efforts to Measure, Disclose, and Reduce GHG Emissions Associated with Underwriting	1
Report on Environmental Costs and Impact on Diversified Shareholders	1
Report on GHG Emissions-Reduction Targets	1
Report on Long-Term Greenhouse Gas Targets Aligned with Paris Agreement	1
Report on Metrics and Efforts to Reduce Water-Related Risk	1
Report on Physical Risks of Climate Change	1
Shareholder Proposal Regarding Disclosure of GHG Emissions	1
Shareholder Proposal Regarding GHG Reduction Targets	1
Shareholder Proposal Regarding Report on Climate Progress	1
Shareholder Proposal Regarding Report on GHG Targets and Alignment with Paris Agreement	1
SP 2: Adopt a Policy of Holding an Advisory Vote on the Bank's Environmental and Climate Action Plan and Objectives	1
SP 2: Adopt an Annual Advisory Vote Policy on the Bank's Environmental and Climate Change Action Plan	1
SP 2: Adopt an Annual Advisory Vote Policy on the Bank's Environmental and Climate Change Action Plan and Objectives	1
Strengthen the Company's Net-Zero Commitment with a Science-Based Net-Zero Target	1
Total	29

Appendix 5: Lists of NZAOA members and their subsidiaries/sibling organizations used in each study

Study 1: Disclosure

NZAOA Member	Website	Asset Owner (AO) or name on subsidiary / sibling used
Aegon	https://www.aegon.com/home/	AO
Akademiker Pension	https://akademikerpension.dk/	AO
Alecta	https://www.alecta.se/	AO
Allianz	https://www.allianz.com/en.html	AO
AMF	https://www.amf.se/in-english/	AO
Aviva	https://www.aviva.com/	AO
AXA	https://www.axa.com/en	AO
Bayerische Versicherungskammer	https://www.versicherungskammer.de/	AO
BNP Paribas Cardif	https://www.bnpparibascardif.com/en/	AO
BTPS	https://www.btps.co.uk/Index	AO
Caisse des Dépôts	https://www.caissedesdepots.fr/en/home.html	AO
CalPERS	https://www.calpers.ca.gov/	AO
CBUS Super fund	https://www.cbussuper.com.au/	AO
CDPQ	https://www.cdpq.com/fr	AO
CNP Assurances	https://www.cnp.fr/particuliers	AO
Crédit Agricole Assurances	https://www.ca-assurances.com/en	AO
Dai-ichi Life	https://www.dai-ichi-life.co.jp/english/	AO
Danica Pension	https://danicapension.dk/en/personal/frontpage	AO

David Rockefeller Fund	http://www.drfund.org/	AO
Folksam	https://www.folksam.se/	AO
FRR	https://www.fondsdereserve.fr/fr	AO
Generali Group	https://www.generali.com/	AO
Gothaer Insurance Group	https://www.gothaer.de/	AO
HanseMerkur	https://www.hansemerkur.de/	AO
HUK-COBURG Versicherungsgruppe	https://www.huk.de/	AO
Intesa Sanpaolo Vita Insurance Group	https://group.intesasanpaolo.com/en/	Intesa Sanpaolo Group
KENFO	https://www.kenfo.de/en/start	AO
Laegernes Pension	https://www.lpb.dk/	AO
Legal & General	https://group.legalandgeneral.com/en	AO
LVM	https://www.lvm.de/privatkunden/	AO
M&G plc	https://www.mandgplc.com/	AO
MAIF	https://www.maif.fr/	AO
Meiji Yasuda Life Insurance Company	https://www.meijiyasuda.co.jp/english/	AO
Munich RE	https://www.munichre.com/en.html	AO
Nippon Life Insurance Group	https://www.nissay.co.jp/english/	AO
Nordea Life & Pension	https://www.nordea.com/en	AO
Novartis Pension Funds	https://www.pensionskassen-novartis.ch/en/	AO
Old Mutual Limited	https://www.oldmutual.com/	AO
P+	https://www.pplus.dk/	AO
Pensioenfonds Detailhandel	https://pensioenfondsdetailhandel.nl/	AO
Pension Insurance Corporation	https://www.pensioncorporation.com/	AO

PensionDanmark	https://www.pensiondanmark.com/en/	AO
PFA	https://english.pfa.dk/individual/	AO
Phoenix Group	https://www.thephoenixgroup.com/	AO
PKA	https://pka.dk/	AO
Prudential plc	https://www.prudentialplc.com/en	AO
QBE	https://www.qbe.com/	AO
RAFP	https://www.rafp.fr/en/about-us/about-us	AO
Rothesay	https://www.rothesay.com/	AO
Scor	https://www.scor.com/en	AO
Société Générale Assurances	https://www.assurances.societegenerale.com/fr/particulier/	AO
SOMPO Holdings	http://www.sompo-hd.com/en/	AO
Sparkassen-Versicherung	https://www.sparkassenversicherung.de/content/privatkunden/	AO
Sparkassen-Versicherung Sachsen	https://www.sv-sachsen.de/content/	AO
St James's Place	https://www.sjp.co.uk/	AO
Stichting pensioenfonds IBM Nederland	https://www.spin.nl/	AO
Storebrand	https://www.storebrand.no/en/	AO
Sumitomo Life Insurance	https://www.sumitomolife.co.jp/english/	AO
Swiss Re	https://www.swissre.com/	AO
The Church of England	https://www.churchofengland.org/	Church of England Pensions Board
the co-operators	https://www.cooperators.ca/	AO
Unipol Group	https://www.unipol.it/en	AO
UNIQA	https://www.uniqagroup.com/grp/home.en.html	AO

United Nations Joint Staff Pension Fund (UNJSPF)	https://www.unjspf.org/	AO
University of Toronto Asset Management Corporation	https://www.utam.utoronto.ca/	AO
Univest Company	https://www.unileverpensioenfonds.nl/forward/	AO
VidaCaixa S.A.U de Seguros y Reaseguros	https://www.vidacaixa.es/	AO
Vita Collective Foundation	https://www.vita.ch/en/all-about-vita/about-vita	AO
Wespath	https://www.wespath.org/	AO
Zurich	https://www.zurich.com/	AO

Study 2: Proxy Voting

NZAOA member	Matched name in Insightia	Note on subsidiary/ sibling organization
Aegon	AEGON Investment Management B.V	AEGON Investment Management B.V is a subsidiary of Aegon.
Alecta	Alecta	N/A
Allianz	Allianz Global Investors	Allianz Global Investors is a subsidiary of Allianz SE.
AMF	AMF Fonder	N/A
Aviva	Aviva Investors	Aviva Investors is a subsidiary of Aviva.
AXA	AXA Investment Managers	AXA Investment Managers is a subsidiary of AXA.
BNP Paribas Cardif	BNP Paribas Asset Management	BNP Paribas Asset Management is a sibling organisation of BNP Paribas Cardif.
CalPERS	California Public Employees' Retirement System (CalPERS)	N/A
Dai-ichi Life	Dai-ichi Life Holdings Inc	Dai-ichi Life Holdings Inc is the parent organization of Dai-ichi Life.
Legal & General	Legal & General Investment Management	Legal & General Investment Management is a subsidiary of Legal & General.
M&G plc	M&G Investments	M&G Investments is a

		subsidiary of M&G plc.
Meiji Yasuda Life Insurance Company	Meiji Yasuda Asset Management	Meiji Yasuda Asset Management is a subsidiary of Meiji Yasuda Life Insurance Company.
Nippon Life Insurance Group	Nippon Life Insurance Co	N/A
Old Mutual Limited	Old Mutual PLC	Following the finalisation of the managed separation, Old Mutual plc became a wholly owned subsidiary of Old Mutual Limited.
P+	P+ (DIP/JOEP)	N/A
PKA	Pensionskassernes Administration (PKA)	N/A
SOMPO Holdings	Sompo Japan Nipponkoa Asset Management	Sompo Japan Nipponkoa Asset Management is a subsidiary of SOMPO Holdings.
Stichting Pensioenfonds Medisch Specialisten (SPMS)	Stichting Pensioenfonds Medisch Specialisten (SPMS)	N/A
Storebrand	Storebrand Asset Management	Storebrand Asset Management is a subsidiary of Storebrand.
Sumitomo Life Insurance	Sumitomo Life Insurance	N/A
Swiss Re	Swiss Re Pensionskasse	Swiss Re Pensionskasse is the pension fund of Swiss Re's employees.
Wespath	Wespath Investment Management	Wespath Investment Management is a subsidiary of Wespath.
Akademiker Pension	AkademikerPension	N/A
CDPQ	Caisse de depot et placement du Quebec	N/A
CBUS Super fund	Cbus Super	N/A
The Church of England	Church of England Pensions Board	Church of England Pensions Board provides retirement housing and pensions, set by the Church of England, for those who serve or work for the Church.
Danica Pension	Danica Pension	N/A
Lægernes Pension	Laegernes Pension & Bank	Laegernes Pensionskasse (Doctors Pension Fund) is active in Denmark and aims to ensure members' pensions when they reach retirement age or become disabled, and to ensure their survivors' pensions. Laegernes Pensionskasse consists of the Pension Fund

		and Doctors' Pension Bank, a wholly owned subsidiary.
Nordea Life & Pension	Nordea Bank Oyj	Nordea Bank Oyj is a sibling organisation of Nordea Life & Pension.
PensionDanmark	PensionDanmark	N/A

Study 3: Bond Holding

Bloomberg Managing Firm Name	AO name in NZAOA
AEGON NV	Aegon
AEGON INDUSTRIAL FUND MGMT CO	Aegon
AEGON ASSET MANAGEMENT	Aegon
MONGERAL AEGON SEGUROS E PREVI	Aegon
AEGON RELIGARE LIFE INSURANCE CO	Aegon
LF AEGON INVESTMENTS ICVC I	Aegon
ALLIANZ SE	Allianz
ALLIANZ REAL ESTATE OF AMERICA	Allianz
GTJA ALLIANZ FUND MANAGEMENT CO	Allianz
ALLIANZ CAPITAL PARTNERS OF AMER	Allianz
ALLIANZ GLOBAL INVESTORS DISTRIB	Allianz
ALLIANZ HELLENIC MUTUAL FUND MGM	Allianz
BAJAJ ALLIANZ LIFE INSURANCE CO	Allianz
AMF PENSIONSFORESKRING AB	AMF
AVIVA GROUP	Aviva
AVIVA INVESTORS GLOBAL SERVICES	Aviva
AVIVA HOLDINGS LTD	Aviva
AXA	AXA
AXA INVESTMENT MANAGERS INC	AXA
BOI AXA INVESTMENT MANAGERS PVT	AXA
BHARTI AXA LIFE INSURANCE CO LTD	AXA
BNP PARIBAS	BNP Paribas Cardif
BNP ASSET MANAGEMENT BRASIL LTDA	BNP Paribas Cardif
TFI BNP PARIBAS POLSKA SA	BNP Paribas Cardif
BNP PARIBAS ASSET MANAGEMENT IND	BNP Paribas Cardif
BNPP AM EURO CLO	BNP Paribas Cardif
BNP PARIBAS ASSET MGMT BELGIUM	BNP Paribas Cardif
BNPP IP EURO CLO	BNP Paribas Cardif
BNP PARIBAS ASSET MANAGEMENT	BNP Paribas Cardif
BNP PARIBAS INVESTMENT PARTNERS	BNP Paribas Cardif
TKB BNP PARIBAS	BNP Paribas Cardif

CAISSE DE DEPOT ET PLACEMENT	CDPQ
CREDIT AGRICOLE GROUPE	Crédit Agricole Assurances
CREDIT AGRICOLE BRASIL SA DTVM	Crédit Agricole Assurances
CREDIT AGRICOLE ASSET MGMT SA	Crédit Agricole Assurances
DAI-ICHI LIFE HOLDINGS INC	Dai-ichi Life
ASSICURAZIONI GENERALI SPA	Generali Group
3 BANKEN-GENERALI INVESTMENT GMB	Generali Group
FUTURE GENERALI INDIA LIFE INSUR	Generali Group
GENERALI ASSET MANAGERS LUX	Generali Group
GENERALI INVESTMENTS CEE INVESTI	Generali Group
GENERALI GROUP	Generali Group
INTESA SANPAOLO SPA	Intesa Sanpaolo Vita Insurance Group
FIDEURAM - INTESA SANPAOLO PRIV	Intesa Sanpaolo Vita Insurance Group
LEGAL & GENERAL GROUP PLC	Legal & General
LEGAL & GENERAL INV MGMT AMERICA	Legal & General
LEGAL & GENERAL INVESTMENT MGMT	Legal & General
LEGAL & GENERAL UNIT TRUST MGMT	Legal & General
M&G PLC	M&G plc
M&G LUXEMBOURG SA	M&G plc
M&G SIF MANAGEMENT CO IRELAND LT	M&G plc
MEIJI YASUDA LIFE INSURANC	Meiji Yasuda Life Insurance Company
MUNICH REINS LIFE SAFE CUS	Munich RE
MUNICH REINSURANCE CO OF AFRICA	Munich RE
NIPPON LIFE INDIA ASSET MGMT	Nippon Life Insurance Group
NIPPON LIFE INSURANCE COMPANY	Nippon Life Insurance Group
NORDEA BANK APB	Nordea Life & Pension
HEDGEFORENINGEN NORDEA INVEST PO	Nordea Life & Pension
NORDEA FUNDS LTD/FINLAND	Nordea Life & Pension
NORDEA ASSET MANAGEMENT AB	Nordea Life & Pension
OLD MUTUAL PLC	Old Mutual Limited
KOTAK MAHINDRA OLD MUTUAL LIFE	Old Mutual Limited
OLD MUTUAL MM INC FUND	Old Mutual Limited
OLD MUTUAL INSURE GROUP	Old Mutual Limited
OLD MUTUAL ALT RISK TRF	Old Mutual Limited
OLD MUTUAL SUPERFND PEN	Old Mutual Limited
OLD MUTUAL NAM INC FUND	Old Mutual Limited
OLD MUTUAL NAMIBIA REAL IN	Old Mutual Limited
OLD MUTUAL INSURE RISK FIN	Old Mutual Limited
STD NAMIBIA OLD MUTUAL NAM	Old Mutual Limited
OLD MUTUAL CORE CONSERVATI	Old Mutual Limited
OLD MUTUAL SUPERFUND PENSION FUN	Old Mutual Limited
OLD MUTUAL MODERATE BALANC	Old Mutual Limited

OLD MUTUAL MM PORTFOLIO	Old Mutual Limited
OLD MUTUAL ARISTEIA OPP	Old Mutual Limited
OLD MUTUAL MM INF FD	Old Mutual Limited
OLD MUTUAL ST MEDIC AID OM	Old Mutual Limited
PIC OTHER	Pension Insurance Corporation
PFA KAPITALFORENING	PFA
PHOENIX FUND SERVICES UK LTD	Phoenix Group
PHOENIX COMPANIES INC	Phoenix Group
PRUDENTIAL FINANCIAL INC	Prudential plc
PRUDENTIAL PRIVATE PLACEMENT INV	Prudential plc
PRUDENTIAL PLC	Prudential plc
ICICI PRUDENTIAL ASSET MGMT CO	Prudential plc
PRUDENTIAL MORTGAGE CAPITAL CO L	Prudential plc
ICICI PRUDENTIAL LIFE INSURANCE	Prudential plc
CITIC PRUDENTIAL FUND MANAGEMENT	Prudential plc
ICICI PRUDENTIAL PENSION FUNDS	Prudential plc
PRUDENTIAL FINANCIAL OPERADORA	Prudential plc
PRUDENTIAL ASSET RESOURCES	Prudential plc
PRUDENTIAL UNIT TRUSTS	Prudential plc
PRUDENTIAL PAN AFRICAN BON	Prudential plc
PRUDENTIAL INCOME FUND	Prudential plc
PIM PRUDENTIAL LIFE CORP	Prudential plc
PPM PRUDENTIAL LIFE CORP	Prudential plc
PRUDENTIAL INVESTMENT MGRS	Prudential plc
PRUDENTIAL LIFE MEDICAL	Prudential plc
GEMS PRUDENTIAL	Prudential plc
PRUDENTIAL 7% TARGET T INC	Prudential plc
BANKMED PRUDENTIAL	Prudential plc
PRUDENTIAL P M	Prudential plc
PRUDENTIAL 5% TARGET T INC	Prudential plc
PIM PRUDENTIAL LIFE TRANS	Prudential plc
PRUDENTIAL 2.5 % TARGET	Prudential plc
PRUDENTIAL CI CAUTIOUS FD	Prudential plc
FNB NAMIBIA PRUDENTIAL ENH	Prudential plc
PRUDENTIAL NAMIBIAN BAL	Prudential plc
QBE GROUP SVCS PTY LTD	QBE
QBE INSURANCE GROUP	QBE
SOCIETE GENERALE SA	Société Générale Assurances
SOMPO HOLDINGS INC	SOMPO Holdings
ST JAMES'S PLACE PLC	St James's Place
STOREBRAND ASA	Storebrand

SWISS RE AG	Swiss Re
COOPERATORS INVEST COUNSELLING	the co-operators
UNIQA TFI	UNIQA
CAIXABANK ASSET MANAGEMENT SGIIC	VidaCaixa S.A.U de Seguros y Reaseguros
ZURICH GLOBAL INVESTMENT MGMT IN	Zurich
ZURICH ALTERNATIVE ASSET MANAGME	Zurich
ZURICH TREASURY SERVICES LTD	Zurich
ZURICH INSURANCE CO SA LTD	Zurich
ZURICH INSURANCE GROUP LTD	Zurich
ZURICH AGF SA/CHILE	Zurich
ZURICH SANTANDER BRASIL VIDA	Zurich

Appendix 6: Disclosure Indicator Breakout

Figure 1. Overall disclosure level breakout across all 38 indicators for the 70 members with publicly available data.

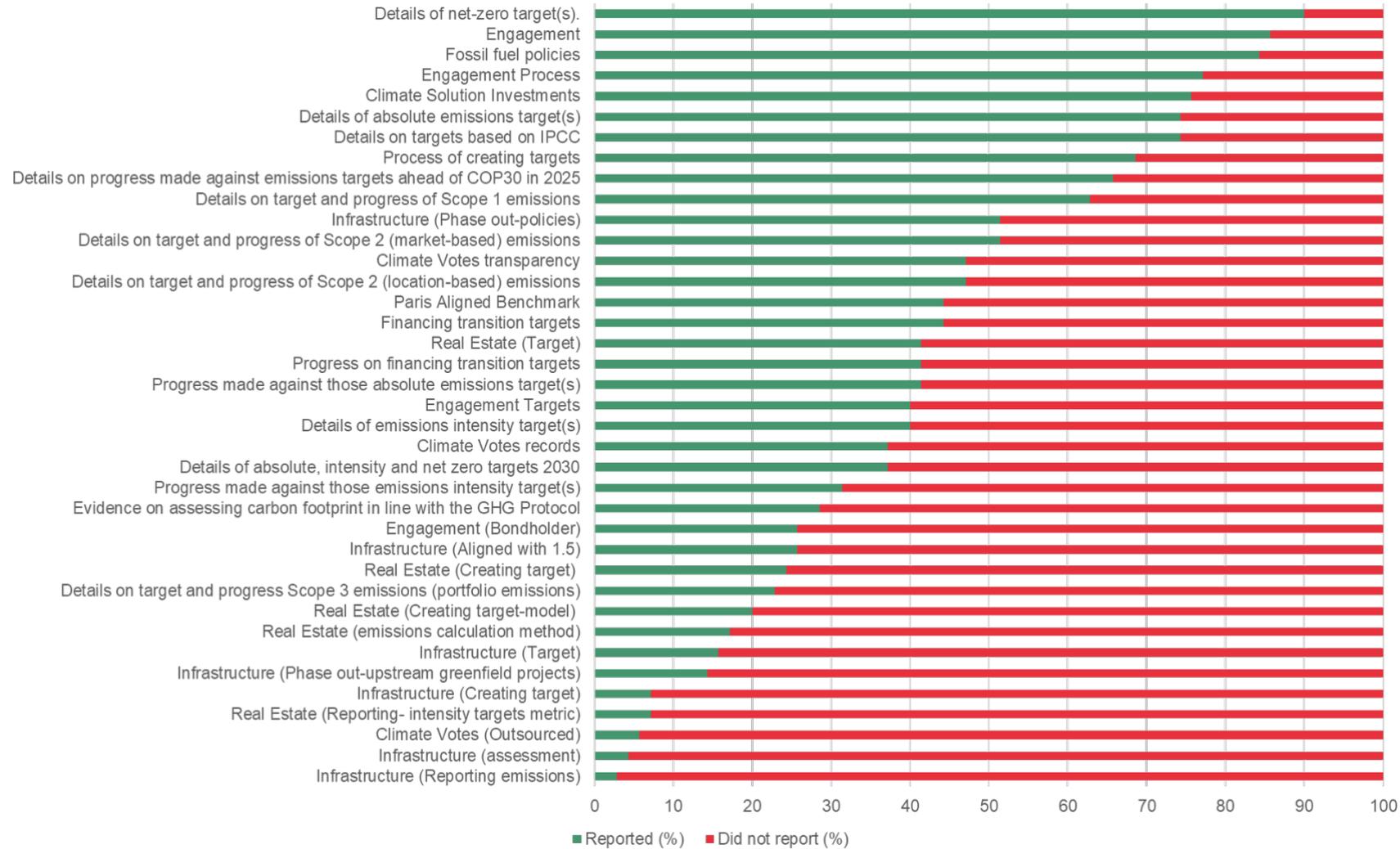


Figure 2. Percentage of insurance companies reporting on each indicator.

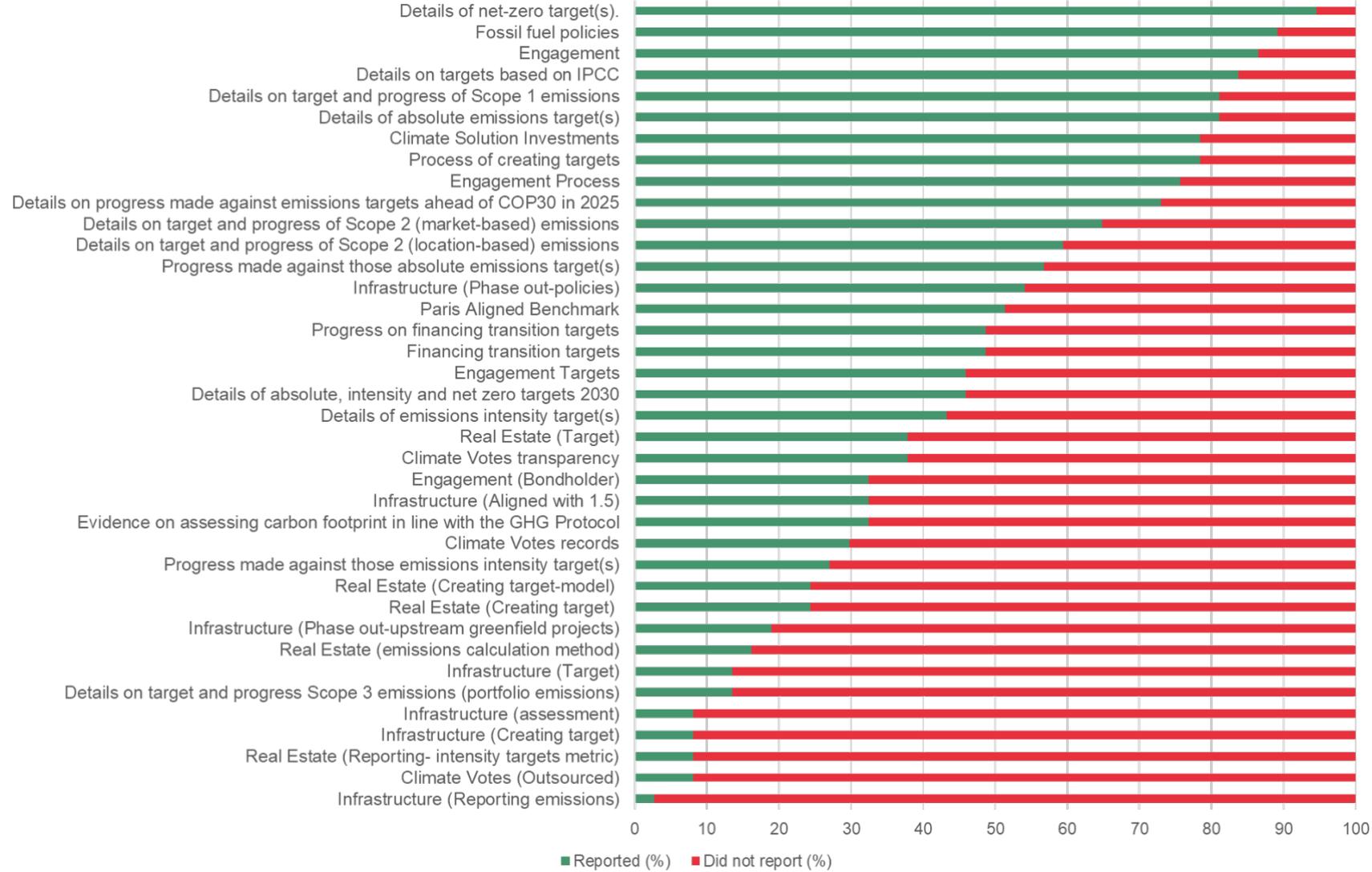


Figure 3. Percentage of pension funds reporting on each indicator.

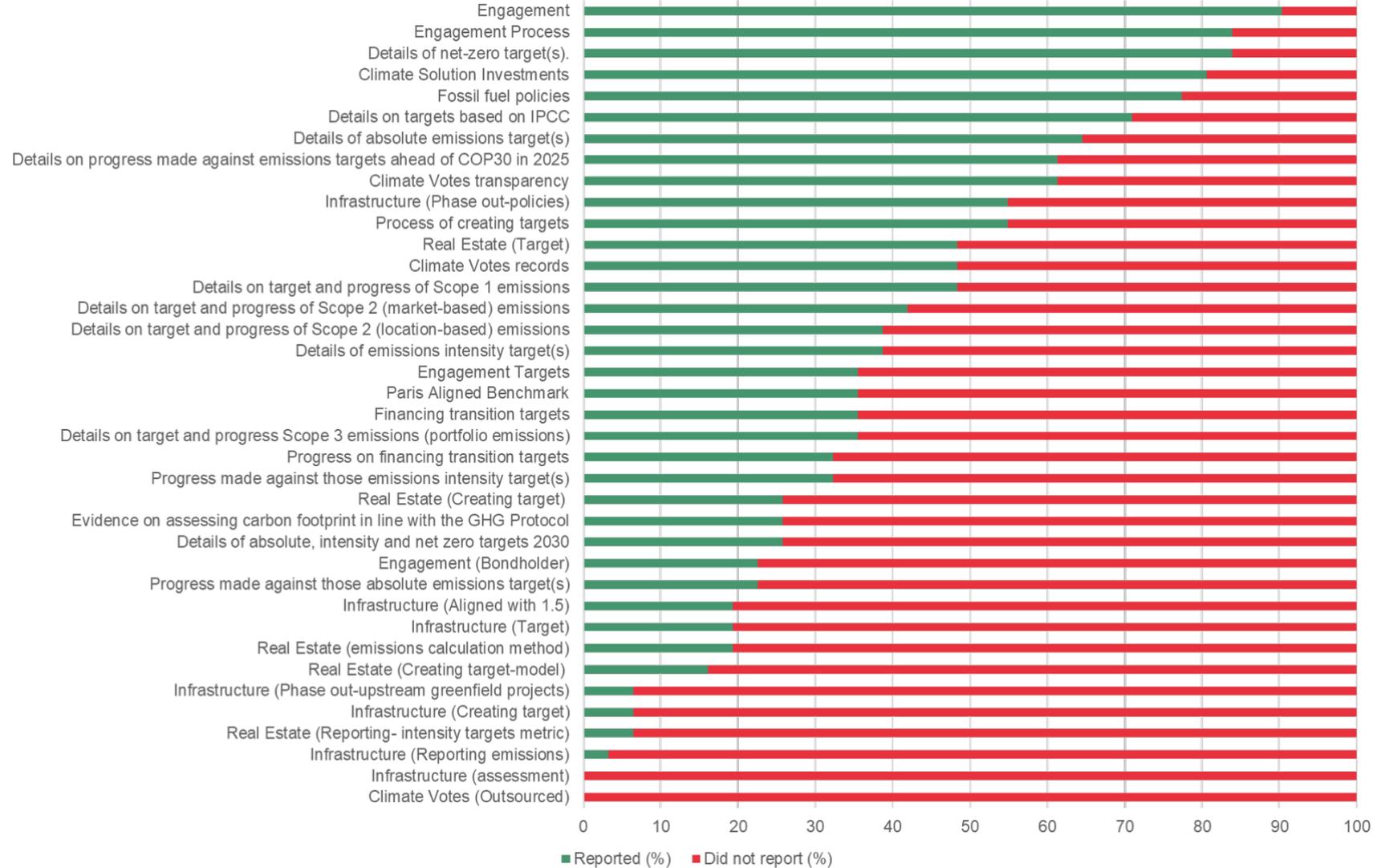


Figure 4. Percentage of sovereign wealth funds reporting on each indicator.

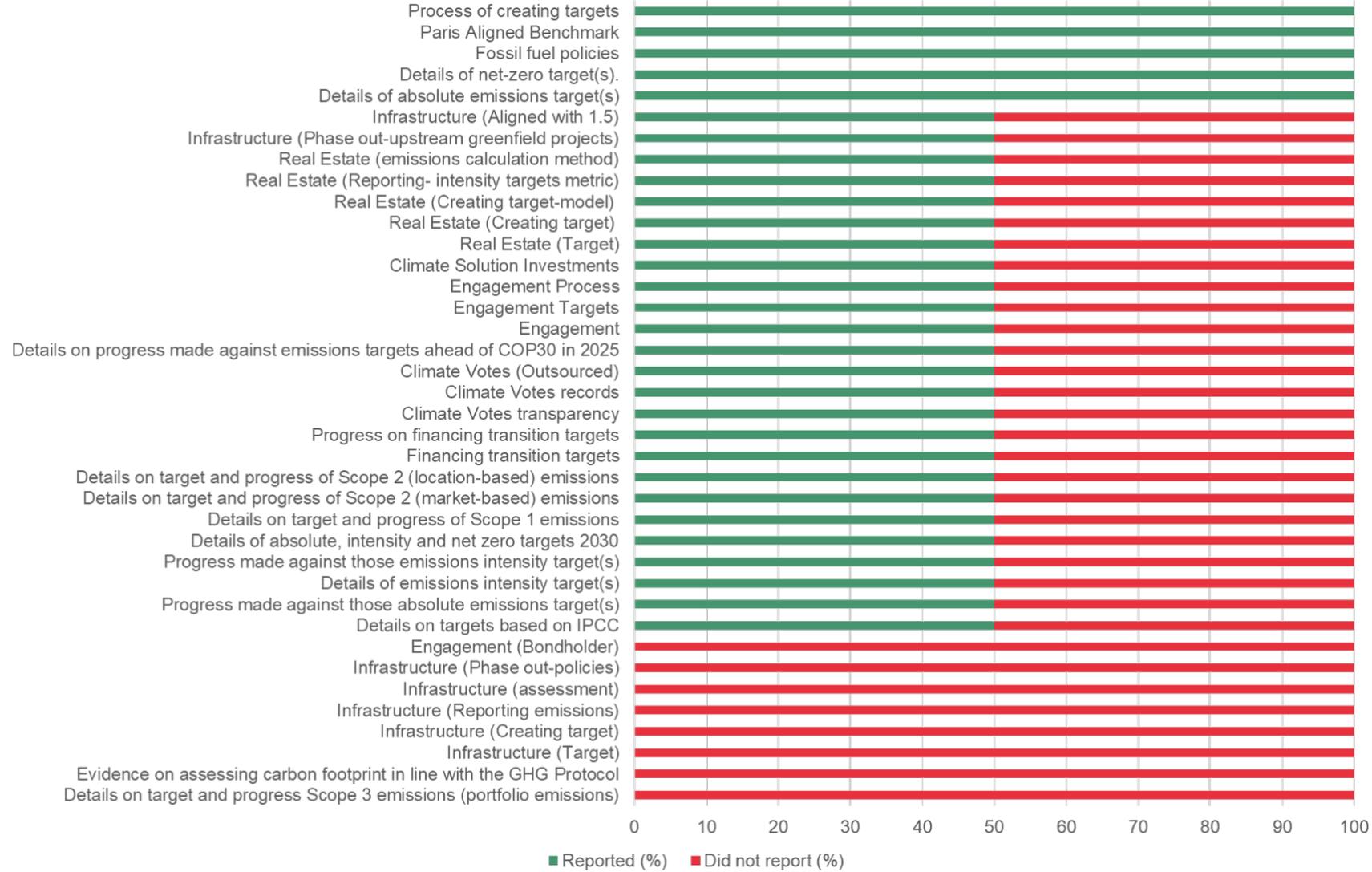
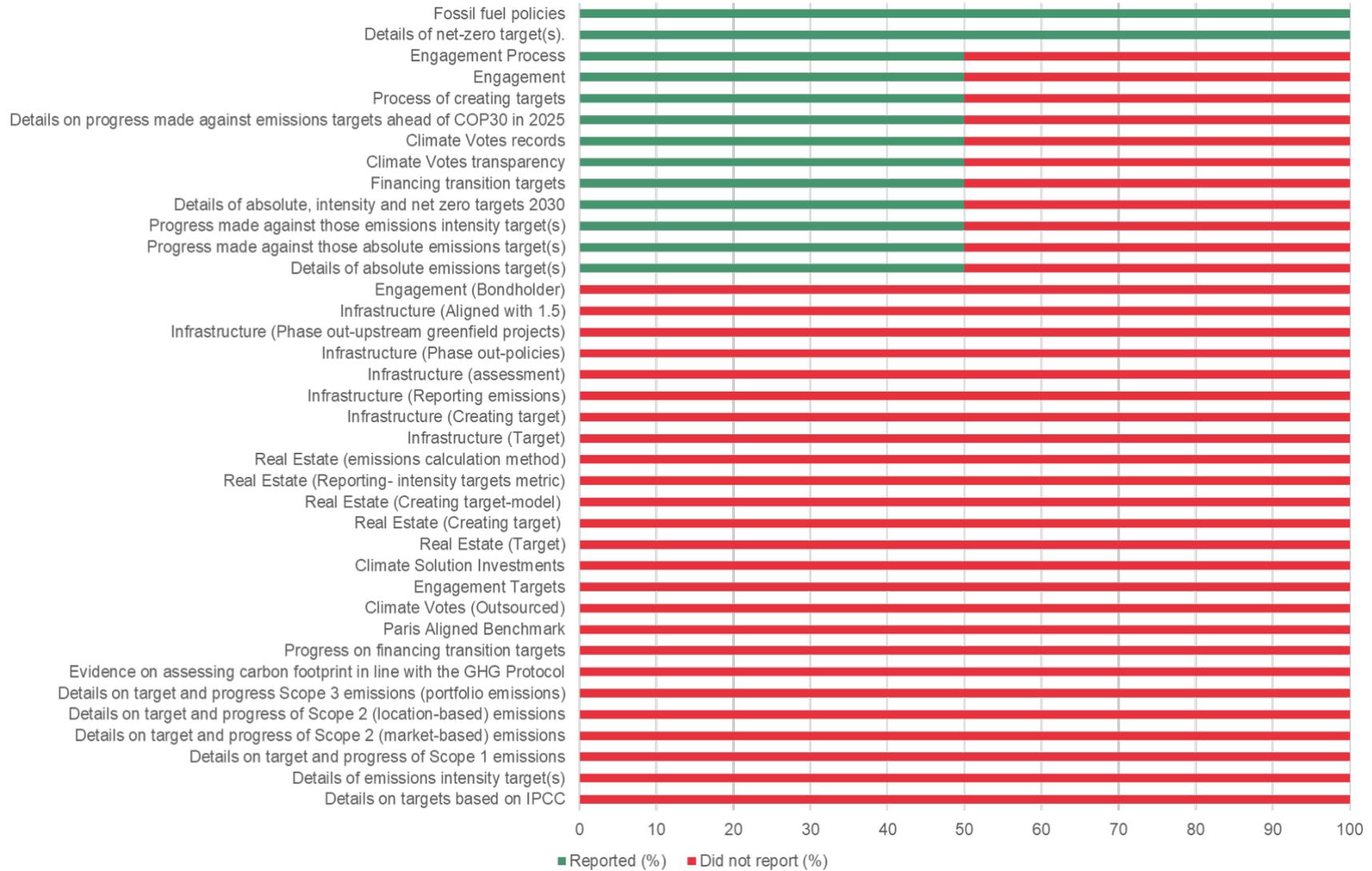


Figure 5. Percentage of endowments reporting on each indicator.



Climate
votes