Norges Bank
Investment
Management

Responsible investment
Government Pension Fund Global 2022

Our mission is to safeguard and build financial wealth for future generations

2022 at a glance

11,616
shareholder meetings voted at

2,911
company meetings

74
risk-based divestments

13
new ethical exclusions

12
consultation responses

6
academic projects

51
percent of financed greenhouse gas emissions covered by company engagements

17
percent of portfolio companies have net zero 2050 targets, 56 percent if we weight by emissions

6
percent of equity portfolio invested in climate solutions (MSCI Low-Carbon Transition Score)

Contents

Norges Bank (the central bank of Norway) Is responsible for managing the fund. The Executive Board has delegated the operational management of the fund to Norges Bank Investment Management. Responsible investment is also included in Norges Bank's annual report, and this information is verified by an external auditor.

We need strong boards

2022 was a challenging year for the companies we invest in. The war in Ukraine, high inflation, the energy crisis and the pandemic made it an extraordinary year. Given such upheaval, companies need to take action and ensure that their business model is sustainable.

As a shareholder, we depend on boards doing their job. Strong boards that can exercise effective oversight of management are fundamental for value creation. This means that the CEO and chair should not be the same person. We need boards that are independent, have diverse competences and have enough time to do their job. These are pillars of good governance.

Director elections allow us to hold the board to account. In 2022, we voted on 46,452 board candidates. We voted against 6 percent of them. Take climate change. The energy transition is a defining economic opportunity. Forward-looking boards are planning for this, but many are still failing to. As an investor, we have a financial interest in speaking up.

We reviewed our voting policy on excessive CEO remuneration in 2022. Median CEO pay for the S&P 500 rose by 15 percent from 2020 to 2021. In many instances, this was not driven by long-term value creation. We want to see the interests of management aligned with those of shareholders, and we communicated this clearly in our dialogue with companies.

ESG was increasingly portrayed as political during the year. We find this worrying. Responsible companies know the environmental and social consequences of their operations, pursue opportunities and address risks. This is simply good business management. For me, ESG is not politics – it is common sense. We integrate ESG considerations into our analyses in order to make better investment decisions. This is how we build wealth for future generations.

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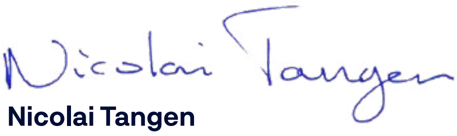
As shareholders we depend on boards doing their job.

Oslo, 9 February 2023



Nicolai Tangen
Chief Executive Officer

Exciting new initiatives

2022 was a year marked by both high activity and ambitious new initiatives for our responsible investment work. We became even more transparent, we published the full list of our company meetings, and we reported more on the outcomes of our work.

Climate change was high on our agenda also in 2022. This goes straight to the fund's long-term value creation. We launched our 2025 Climate action plan, where we set out actions targeted at improving market standards, strengthening portfolio climate risk resilience, and effectively engaging with portfolio companies. At the heart of our efforts is driving portfolio companies towards net zero emissions by 2050.

During the year, we held 2,911 company meetings, voted on 117,392 resolutions and continued to integrate ESG data in our investment processes. In our dialogue with companies, we emphasise strong corporate governance, including the board's management of material sustainability risks and opportunities. In addition to climate, key themes included biodiversity, human rights and tax transparency. We published a new set of expectations on human capital management. How companies invest in people is becoming increasingly important for value creation.

I strongly believe active ownership works, and we see many positive results of our efforts. A good example is that our engagement with companies on sustainability reporting is bearing fruits, with better climate reporting. We were also delighted to see the creation of the International Sustainability Standards Board (ISSB), which will lead to improved corporate disclosures on sustainability. Improved ESG data will benefit both our investment decisions and ownership work.

We put a lot of emphasis on communicating to our owners – the Norwegian people – on our responsible investment activities. This report provides further insight into how we work to ensure continued leadership in this fast-evolving field. I hope you find it interesting.

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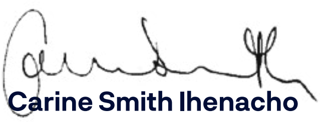
Climate change was high on our agenda also in 2022.

Oslo, 9 February 2023



Carine Smith Ihenacho
Chief Governance and Compliance Officer

How we work

The objective for the management of the fund is the highest possible return with acceptable risk. The fund's long-term return is dependent on a sustainable economy, well-functioning markets and good corporate governance. Through responsible investment, we seek to improve the long-term economic performance of our investments and to reduce the financial risks associated with the environmental and social practices of companies in our portfolio. In line with international standards, we also carry out environmental and social due diligence and use our leverage to promote responsible business conduct. The Ministry of Finance has established an independent Council on Ethics to make assessments on ethical exlusions or observation of companies from the fund.

Market

Our goal is to contribute to well-functioning markets, good corporate governance, sustainable business models. To promote our economic interests in a predictable way, we express clear investor views aimed at markets and companies. We also support academic research.

Portfolio

Our goal is to integrate environmental, social and governance (ESG) considerations into investment decisions, and assess companies' ability to create long-term value. This helps us manage risks and identify investment opportunities, notably by investing in the transition to a low-carbon economy.

Companies

Our goal is to reduce risks and promote long-term value creation at the companies we invest in through active ownership. We do this through dialogue with companies and voting at their shareholder meetings. There are also companies we choose not to invest in for ethical reasons.

2025 Climate action plan

In September 2022, we launched our 2025 Climate action plan, which supports our financial objective. It outlines our approach to managing climate-related financial risks and opportunities and sets out the actions we aim to take over the period 2022-2025. These are targeted at improving market standards, increasing portfolio resilience and engaging with our portfolio companies. Our ambition is for our portfolio companies to achieve net zero emissions by 2050.

Summary of the actions we aim to take over the period 2022-2025.

Net zero ambition

- Expect 2050 target from investee companies.
- Expect large emitters to set targets with urgency.
- Expect all companies to set targets by 2040.
- Set 2050 target for our unlisted real estate and reduction of emissions intensity by 40% by 2030.

Market level

- Ask for mandatory climate reporting and share technical expertise with regulators.
- Support academic research.
- Update climate change expectations.
- Increase collaboration with other investors.

Portfolio level

- Increase investments in renewable energy.
- Develop principles for climate risk management.
- Analyse emissions relative to industry pathways.
- Divest companies with unmitigated climate risk.

Company level – Investment

- Use advanced analytics to assess climate risk.
- Integrate indirect climate risk exposures.
- Set specific agendas for large positions.
- Assess against climate exclusion criterion.

Company level – Engagement

- Ask companies to set science-based, short- and medium-term targets, and develop transition plans.
- Expect companies to take immediate action, including on methane reduction and deforestation.
- Ask for TCFD reporting.
- Use voting as escalation mechanism if needed.

Reporting

- Report on the portfolio's implied temperature alignment and climate stress-testing results.
- Report on engagement progress and outcomes.
- Report investments classified as climate-related.
- Report share of real estate portfolio aligned with 1.5°C.

> Working towards a net zero 2050 target for our portfolio companies is in the fund's financial interest.

The plan responds to changes in our mandate and to the main recommendations made by an expert group appointed by the Ministry of Finance. The mandate now has requirements for climate risk measurement, management and reporting. There is also a long-term target for responsible investment that the companies in the portfolio have operations that are aligned with global net zero emissions and the Paris-agreement. The mandate changes establish a basis to further develop our ownership activities and expand our reporting.

Following the launch of the plan, we set up a Climate Advisory Board. Professor Jody Freeman, Jennifer Morris, Huw van Steenis and Bjørn Otto Sverdrup joined the board as external members. They have extensive knowledge about climate risk, market standards and finance, and will support us in implementing our climate action plan.

Working towards a net zero 2050 emissions target for our portfolio companies and an orderly climate transition is in the fund's financial interest and gives a strategic direction to our climate activities. The ambition covers companies' direct emissions and indirect emissions from their suppliers and customers, supporting an economy wide transition. Global net zero emissions in 2050 imply that some companies and some sectors have residual emissions that are compensated by carbon capture and storage elsewhere. Achieving this will require developments of new technologies and solutions.

An engage-to-change approach yields the best financial results for the fund. We want to support and challenge our portfolio companies, including in high-emitting sectors, as they adapt their business models to a low-carbon future. To invest in these sectors is in line with the fund's investment strategy of being a widely diversified investor. In 2023, we will initiate net zero dialogues with all sectors on our climate focus list. We believe this approach will contribute to lower company emissions.

Over the next three years, we will report increasingly detailed information on our results and the progress of our plan. By 2025, we will have more information on what we have achieved. Ultimately, the fund's exposure to climate risk is dependent on the progress of the world economy towards net zero emissions in 2050. An orderly transition requires the continued support of effective climate policies at both the global and the market level to price and reduce greenhouse gas emissions.

Our climate reporting against the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) can be found in Appendix 2. The appendix provides detailed information about our climate work and risk exposures, including information on company targets, carbon footprint, stress testing and scenario analysis as well as portfolio temperature alignment.

2. Market

Standards

As a market participant in 70 countries, we benefit from well-functioning and legitimate markets, global solutions to common challenges and generally agreed international standards.

Engagement with standard setters

We recognise a set of international standards and contribute to their further development. We engage with regulators, international organisations and standard setters to contribute to the development of standards that help raise the bar for all companies in areas such as corporate governance, responsible business conduct and sustainability reporting. We also participate in the development of best practices for responsible investment. We share our investor perspective with standard setters by responding to public consultations, meeting their experts, speaking at conferences and taking part in selected initiatives. We do not engage with members of parliament or foreign governments, nor do we engage lobbyists or make political contributions.

12
responses to public consultations.

Responses to consultations
In 2022, we responded to 12 public consultations on issues related to corporate reporting, governance and responsible conduct. These letters are published on our website.

We have focused in particular on the proposals for climate and sustainability disclosure from the International Sustainability Standards Board (ISSB), the European Financial Reporting Advisory Group (EFRAG) and the US Securities and Exchange Commission (SEC). We view these initiatives as important for better corporate sustainability reporting in the future.

Responses to public consultations and comment letters in 2022.

Recipient	Topic	Submission date
Climate Disclosures Standards Board	Sustainability reporting	18.01.2022
European Commission	Corporate reporting and audit	21.02.2022
Organisation for Economic Co-operation and Development	Responsible business conduct – tool for investors on climate risk	15.03.2022
International Sustainability Standards Board	Sustainability reporting	22.04.2022
U.S Securities and Exchange Commission	Climate disclosures	17.06.2022
UK Transition Plan Taskforce	Climate transition plans	13.07.2022
International Sustainability Standards Board	Climate disclosures	26.07.2022
European Financial Reporting Advisory Group	Sustainability reporting	08.08.2022
Japanese Ministry of Economy, Trade and Industry	Human rights in supply chains	29.08.2022
Australian Treasury	Tax integrity and transparency	01.09.2022
Organisation for Economic Co-operation and Development	Corporate governance	21.10.2022
Japan Financial Services Agency and Japan Exchange	Gender diversity on company boards	20.12.2022

Bilateral meetings
We had several meetings with the Organisation for Economic Co-operation and Development (OECD) to discuss responsible business conduct and corporate governance. We met the International Organization of Securities Commissions (IOSCO) Secretariat to discuss sustainability reporting, highlighting the importance of a global standard and expressing our support for the ISSB. We also engaged with standard setters such as the Science Based Targets initiative (SBTi) that provide companies with a framework for net zero plans.

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We participated in many conferences in 2022, which allowed us to share our expertise as a market participant and to learn from others.

As part of our dialogue with regulators and organisations responsible for national corporate governance codes, we presented our ESG expectations of companies to the French Association of Private Enterprises (AFEP). We met the UK Financial Reporting Council (FRC) to hear about its strategic priorities, and the Australian Prudential Regulation Authority (APRA) to discuss its new standard for executive remuneration following our response to its public consultation in 2021.

Speaking at conferences and workshops
We participated in many conferences, which allowed us to share our expertise as a market participant and to learn from others. For instance, we spoke at Oslo Anti-Corruption Conference 2022, the Oxford University Sustainable Finance Summit and Reuters' ESG conference.

We were invited to share an investor perspective on sustainability reporting, fraud and auditing at a workshop organised by the Public Interest Oversight Board (PIOB). We participated in a workshop on real estate organised by EFRAG, which is in charge of developing corporate sustainability reporting standards for the European Union, to inform EFRAG's work on sector-specific standards. We also presented our expectations of companies on sustainability at the UN Global Compact Network Korea Summit.

Our Global Head of Corporate Governance, who is a Board Member at PRI, at the PRI in Person event.

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We contribute to the development of principles for responsible investment.

Participation in organisations and initiatives

International organisations and standard setters
We contribute to the development of principles for responsible investment. In 2021, we were elected by asset owner signatories to the board of directors of Principles for Responsible Investment (PRI), of which we are a founding signatory. We are also part of the PRI Listed Equity Advisory Committee to provide advice on PRI’s activities related to listed equities. The fund submits a yearly transparency report to PRI, which is available on PRI’s website.

An area that has seen significant developments in 2022 is sustainability reporting. As we have expressed in public consultations, we welcome the creation of the International Sustainability Standards Board (ISSB) and its mission to deliver a global baseline of sustainability-related disclosure standards that provide investors with information about companies’ sustainability-related risks and opportunities to help them make informed decisions. We engage with the ISSB as Vice-Chair of its Investor Advisory Group.

We continued to take part in the Taskforce on Nature-related Financial Disclosures (TNFD) as a Taskforce Member. The TNFD aims at developing a framework for organisations to report and act on nature-related risks. In March 2022, the TNFD released a first beta version of the framework for market consultation, followed by two subsequent iterations in June and November. The final framework is planned for publication in autumn 2023.

In 2022, we provided a grant to the non-profit organisation CDP to help it develop and integrate ocean-related issues into its questionnaires. Ocean sustainability is an area with little standardised reporting, and we hope that CDP’s work will lead to improved metrics and disclosures in the years ahead. We are a long-standing supporter of CDP’s broader disclosure efforts. We have been a Lead Sponsor of CDP’s water programme since its inception.

When it comes to climate change, we have supported Carbon Risk Real Estate Monitor (CRREM) as a member of its steering committee since 2019. The initiative aims to contribute to the standardisation of climate transition risk analysis and reporting in real estate markets. We also participate in the advisory council for the Transition Pathway Initiative, an independent

Colleagues from Corporate Governance and Sector Strategies gave the keynote speech at the PIOB conference

body based in the London School of Economics that assesses companies' preparedness for the transition to a low-carbon economy.

Furthermore, we provided funding, and participated in the advisory group, for Transparency International UK's report 'Values Added'. The report was published in May 2022 and offers companies useful guidance for a values-based approach to their anti-corruption work.

Working with other investors

We join investor coalitions or initiatives to promote our interests. We may join initiatives that are consistent with the fund's mandate and support our management objective. Notably, we do not collaborate with other investors on investment decisions or voting at shareholder meetings, nor do we participate in coalitions that are primarily aimed at policy makers.

In 2022, we joined the UK Investor Forum, an organisation set up by investors in UK equities to facilitate collective engagement with UK companies and promote long-term value creation. We also joined the advisory committee of Advance, a new PRI stewardship initiative on human rights and social issues, where investors engage collectively with companies to drive positive outcomes for workers, communities and society.

When it comes to issues such as tax transparency, which many investors and companies have yet to incorporate into their responsible business frameworks, we view participation in knowledge-sharing forums as an important catalyst for the development and uptake of international standards. We are a member of the PRI Tax Reference Group and also participated in a workshop on tax convened by Focusing Capital on the Long Term (FCLT).

Corporate initiatives

We regularly bring investors and companies together to discuss sustainability or governance challenges, consider solutions or share best practices. These capacity-building initiatives often focus on sector-specific or value chain challenges.

In November 2022, we convened a group of banks and consumer goods producers in Singapore for a roundtable looking at practical solutions to address nature risks in commodity supply chains. Commodity-driven land use change remains a key driver of nature loss globally. Managing and mitigating these risks requires knowledge sharing and alignment of practices across a number of players in the commodity supply chain, including finance providers. We also continued our partnership with UNICEF on children's rights and nutrition in the food retail sector. In this context, we organised two workshops with food retailers and experts. Having endorsed the B Team's Responsible Tax Principles in 2021, we continued our participation in its responsible tax working group in 2022.

Participation in various organisations and initiatives in 2022.

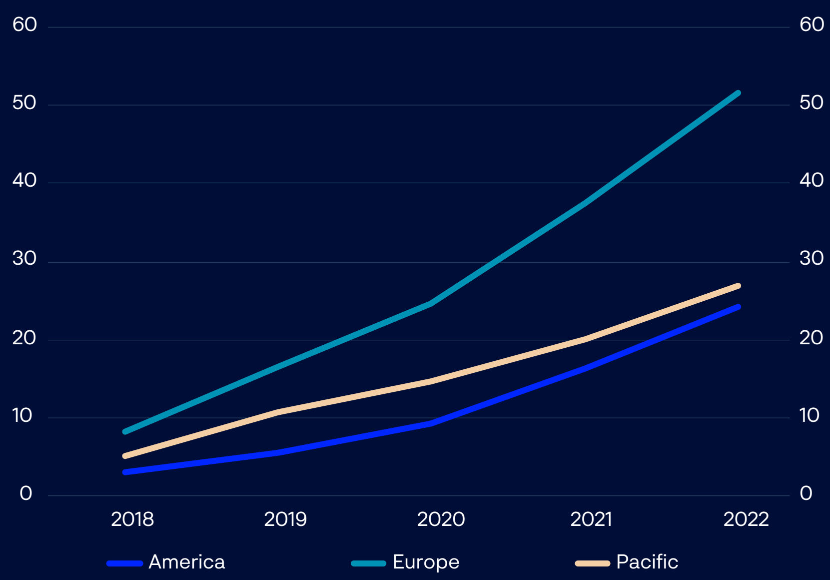
Organisation	Description	Activity in 2022
Asian Corporate Governance Association (ACGA)	Membership organisation promoting effective corporate governance practices throughout Asia	Member
Better Buildings Partnership (BBP)	Collaborative network of UK commercial landlords	Member
B-Team Working Group on responsible tax practice	Initiative focused on responsible corporate tax behaviour and tax transparency	Participant
Carbon Risk Real Estate Monitor (CRREM)	Project to develop transition pathways for real estate	Member of the global scientific and investor committee. Participant in the North American CRREM pathways initiative
CDP Climate; CDP Forest; CDP Water	Environmental reporting initiatives	Signatory and supporter
Council of Institutional Investors (CII)	Investor association (United States)	Member
European Corporate Governance Institute (ECGI)	Academia-practitioner research network	Member
European Association for Investors in Non-Listed Real Estate (INREV)	Association of investors (Europe)	Member
Extractive Industries Transparency Initiative (EITI)	International organisation for transparency in extractive industries	Supporter
Focusing Capital on the Long Term (FCLT)	Network for longer-term focus in business and investment decision-making	Member
Harvard Law School Program on Corporate Governance	Academia-practitioner research network	Participant
IFRS Sustainability Alliance	Global membership programme for sustainability standards	Member
Institutional Investor Group on Climate Change (IIGCC)	Investor initiative (Europe)	Supporting partner
International Corporate Governance Network (ICGN)	International association of investors	Member Member of the Natural Capital Committee
International Sustainability Standards Board (ISSB) Investor Advisory Group	Advisory group to the ISSB	Vice-Chair of the Investor Advisory Group
Investor Forum	Association of investors (UK)	Member
Norsif	Norwegian sustainable investment forum	Member
Principles for Responsible Investment (PRI)	UN-supported network of financial institutions working together to implement its six principles	Founding signatory Member of the board of directors
PRI stewardship initiative 'Advance'	Collaborative investor engagement on social issues and human rights	Advisory committee member and participant
PRI Global Policy Reference Group	Working group	Participant

Organisation	Description	Activity in 2022
PRI Listed Equity Advisory Committee	Advisory committee	Participant
PRI Responsible Tax Reference Group	Working group	Participant
Social & Labour Convergence Program	Multi-stakeholder initiative for collecting and verifying data on social and labour conditions in apparel industry supply chains	Signatory
Task Force on Climate-related Financial Disclosure (TCFD)	International framework for climate reporting	Signatory
Task Force on Nature-related Financial Disclosure (TNFD)	International principles for reporting on nature risk	Member of Taskforce
Transition Pathway Initiative	Investor initiative on climate risk	Member of Advisory Council
UN Global Compact	International principles	Signatory
UNICEF-NBIM Network on children's rights and nutrition in the food retail sector	Initiative on children's rights to nutrition and health	Grantor and co-organiser
United Nations Environment Programme Finance Initiative (UNEP FI)	Multi-stakeholder initiative for sustainable finance	Signatory

Companies are increasingly reporting climate information in line with TCFD recommendations

Over the years, we have encouraged regulators and standard setters globally to endorse the TCFD recommendations for companies' reporting on climate change. The TCFD provides a logical framework for reporting with the following key pillars: governance, strategy, risk management, and metrics and targets. We are pleased to see that companies are increasingly reporting climate information in line with these recommendations.

Companies disclosing climate information in line with the TCFD recommendations over time, based on CDP data for 1,409 companies. In percent.



Expectations

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Our expectations form the basis of our dialogue with companies.

We are transparent about our expectations of companies on governance and sustainability matters.

Starting from internationally agreed standards and informed by our dialogue with companies, academics and civil society, we set our own priorities as an investor. We formulate expectations of companies on sustainability matters, positions on governance issues, and guidelines for our voting. These public documents communicate our priorities to the wider market and ensure predictability for the companies we invest in.

Expectation documents

Our expectations, which cover nine key sustainability topics, are primarily directed at company boards. The board should take overall responsibility for company strategy and address challenges presented by environmental and social issues. The board should integrate material sustainability risks and opportunities into the company’s strategy, risk management and reporting. It must also understand how the company’s operations impact on the environment and society, and address negative impacts.

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We expect companies to have a strategy overseen by the board for how they will invest in their employees to secure growth.

Our expectations form a basis for our dialogue with companies. Our expectations, as well as our responsible investment management policy, are based on standards such as the UN Global Compact, the OECD Guidelines for Multinational Enterprises, International Labour Organization (ILO) conventions and the UN Guiding Principles on Business and Human Rights. They also largely coincide with the UN Sustainable Development Goals.

In August 2022, we published a new set of expectations on human capital management. This is a material topic for the companies we invest in, and it is becoming increasingly important for value creation and profitability. We expect companies to have a strategy overseen by the board for how they will invest in their employees to secure growth. The strategy should also include workers in the supply chain. We encourage companies to identify and incorporate material human capital management risks in a robust and integrated risk management framework. This includes appropriate processes for prioritising, mitigating, monitoring and reporting on these risks and, where relevant, clearly defined targets and timelines. We would like companies to have reporting that enables investors to assess the companies' investments, opportunities and risks related to human capital management.

We updated our expectations on children's rights during the year, stressing that companies can help reduce child labour by providing decent work for families, and we underlined the importance of dialogue with children and carers, including through appropriate and accessible grievance mechanisms. We also updated our expectations on human rights, emphasising the particular risks faced by human rights defenders and expanding our expectations related to business in conflict areas. We highlighted the importance of meaningful consultation with rightsholders and stakeholders, and that companies should work towards traceability down to raw material level, where appropriate. Finally, we made some updates to our expectations on climate change to reflect our new 2025 Climate action plan.

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We expect companies to have effective governance, and our shareholder rights to be protected.

Position papers and voting guidelines

To support our ownership activities, we publish position papers that clarify our stance on corporate governance issues. These are based on the G20/OECD Principles of Corporate Governance and best practices. The position papers are reflected in our global voting guidelines and therefore affect how we vote at shareholder meetings. We expect companies to have effective governance, and our shareholder rights to be protected.

In 2022, we made changes to our voting practices in three areas: gender diversity, board accountability and CEO remuneration. Our practice of voting against the re-election of the chair of the nomination committee when boards do not have at least two members of each gender has been expanded to include small-cap companies, and we will now vote against board members if a company has experienced material failures in the oversight, management or disclosure of climate risk. When it comes to CEO pay, we have increased our focus on cases where outcomes could be unusually costly and the incentive structure does not clearly align with shareholder interests.

Dialogue with civil society

Civil society represents an important source of information. In 2022, civil society organisations reached out to us to share information on topics such as the mining industry’s impact on indigenous people’s rights, fire safety, environmental and biodiversity issues, and human and labour rights abuses. We encourage stakeholders to share information with us that they believe could be relevant for our investments.

We also communicate regularly with civil society to learn from its expertise. Each year, we host a seminar where we invite NGOs and civil society stakeholders to provide input and discuss our work on responsible investment. In 2022, 25 Norwegian organisations participated. We also hold an annual meeting with Norwegian NGOs following the publication of our Responsible Investment report.

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Specialised knowledge of civil society has been instrumental in developing our responsible investment strategies and policies.

The specialised knowledge of civil society has been instrumental in developing our responsible investment strategies and expectations. Numerous NGOs provided their perspectives on our 2025 Climate action plan in various fora, including a meeting in August 2022. Our new expectations on human capital management also benefited from broad input from civil society.

In 2022, we participated in a mediation in the context of a case submitted by four international trade unions before the Norwegian National Contact Point for Responsible Business Conduct. The case concerned allegations of gender-based violence and harassment at McDonald’s and related investor due diligence. This resulted in an agreement between the parties which noted that we use our best efforts to comply with the due diligence expectations of the OECD Guidelines for Multinational Enterprises.

The past years we have put an increasing emphasis on communicating how we work on being a responsible investor to our owners, the Norwegian people. We arrange regular press conferences and seminars, as well as media interviews, where we explain the work we do. In 2022, our outreach included the presentation of our Climate action plan in a press seminar and our new expectation document on human capital management at the Arendal Week, a large outdoor ‘democracy festival’ in Norway. Our Chief Governance and Compliance Officer wrote a number of articles in Norwegian news media, posting regular op-eds on ownership topics. Our CEO also launched a podcast in 2022 with interviews of CEOs of companies we invest in.

We presented our new expectation document on human capital management at the Arendal Week in 2022.

Research

We aim to strengthen the scientific foundation of our responsible investment management by supporting innovative academic research. Academic research can help improve market standards, provide access to important data and new insights about responsible investment.

We provide research funding in areas where we believe that more academic research is needed to shed light on how governance and sustainability may affect financial risks and returns. We also initiate collaborative research projects with academics to answer specific questions of relevance to our responsible investment management. We strive to make the findings publicly available, contributing to common knowledge building.

Research funding

In 2022, we continued to support one research project on climate risk and three on corporate governance and ownership structure. We initiated one new call for proposals for projects to study CEO incentives and its long-term implications for investment portfolios.

Projects we have funded

Researcher/institution		Project	Dollar
Prof Robert Engle	NYU/Stern	A financial approach to climate risk	32 000
Prof Ruediger Fahlenbrach	EPFL	Evolution of institutional investors' ESG preferences	60 500
Prof Martin Schmalz	University of Oxford	Diversified institutional ownership and firms' strategic behavior	No payment in 2022
European Corporate Governance Institute	ECGI	Corporations and Covid-19	78 500
Dr. Saphira Rekker	University of Queensland	The road to net zero	6 900

Pricing of climate risk

The research project 'A Financial Approach to Environmental Risk' led by Nobel laureate Robert Engle and Johannes Stroebel at the Volatility and Risk Institute of New York University (NYU) was completed in 2022. Over time, the research team has expanded the publicly available analysis of over 200 funds with a climate mandate, including amongst a variety of financial indicators the correlation between funds' performance and climate news. This year, Johannes Stroebel published the co-authored a paper 'A quantity-based approach to constructing climate risk hedge

portfolios', proposing a new hedging methodology exploiting changes in beliefs about climate change. The Volatility and Risk Institute's annual conference in June gave a forum to researchers and practitioners to look ahead and discuss the macroeconomic consequences and implications of decarbonisation.

Ownership structure

As a shareholder in more than 9,000 companies, we want to understand better how the rise in institutional shareholding and changing ownership structures can affect these companies. We have been supporting three research projects looking at this trend in financial markets.

The project 'Corporations and Covid-19' by the European Corporate Governance Institute (ECGI) concluded in 2022, providing a comprehensive assessment of how stewardship activities and Covid-19 jointly and separately affected companies' governance, decision making and performance. Calls for research proposals under the project attracted 162 submissions and, as a culmination of this project, the Review of Financial Studies published a survey paper which provides a picture of the various short-term impacts of Covid-19. To foster the dialogue between academia and practitioners, the ECGI co-organised a panel discussion on 'Investor Stewardship in an Uncertain World' at King's College, London.

Researchers at the École Polytechnique Fédérale de Lausanne (EPFL) have collected the voting policies of the largest mutual funds over the period 2006 to 2018. A first working paper finds that portfolio companies adopt their mutual fund shareholder's preferred governance provisions as a result of active voting, and the data is currently being explored with a focus on the effect of voting on company boards.

A project led by Professor Martin Schmalz at the University of Oxford focuses on using laboratory experiments to examine the roles of company dialogue and executive compensation structures in driving firm behaviour and portfolio performance. The research team has completed the first in-person laboratory experiments after the pandemic. Initial results will be presented for feedback in 2023 at a number of conferences and so far indicate that changes in ownership can effectuate a change in managers' behaviour.

Research collaborations

In 2022, we participated in one research collaboration on governance and one related to the climate transition.

Effect of voting pre-disclosure
In 2021, we entered into a research agreement with Ruediger Fahlenbrach from EPFL and Nicolas Rudolf at HEC Lausanne. Since January 2021, we have disclosed how we intend to vote five days prior to shareholder meetings. The aim of this research project is to evaluate whether our pre-disclosure is picked up by the market and affects other shareholders' voting decisions. We believe that this research project can help us evaluate and refine our pre-disclosure policy and more generally contribute to a better understanding of how voting can serve as a corporate governance mechanism. Early results from this research indicate that our pre-disclosure influences other shareholders' voting decisions, particularly on shareholder proposals.

The road to net zero
We completed a pilot project led by Saphira Rekker at the University of Queensland Business School that compared methods for measuring long-term transition risks relative to emission pathways consistent with the goals of the Paris Agreement. It identified a number of weaknesses in existing methods for establishing and updating net zero pathways for different sectors. The availability and quality of comparable data across companies can be a significant obstacle to assessing whether business models are aligned with net zero pathways. The project revealed that, in a historical context, the majority of global steel producers have already emitted more than their entire carbon budget allowance under a 1.5°C pathway. The researchers suggest that this implies that deep decarbonisation will be required this decade to meet the goals of the Paris Agreement.

In an internal research project, we analysed the relationship between equity returns and companies' emissions. We found that companies with higher absolute emissions relative to their industry peers have higher equity risk premiums. We also found evidence that the market seems to take forward-looking information into account: corporate emission targets seem to result in lower risk equity premiums, and targets were also associated with declining emissions and carbon intensity.

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We have conducted sustainability assessments since 2008 and have gradually expanded them.

Sustainability assessments

We conduct annual sustainability assessments where we collect and analyse sustainability data publicly reported by companies on their exposure to sustainability risks, how these risks are managed, and their sustainability performance.

We have conducted assessments since 2008 and have gradually expanded them. In 2022, we improved the process by leveraging machine learning methods to source and collect more accurate data in an efficient manner, making for greater standardisation and comparability of assessment data. It also makes our assessments more scalable, and we aim to assess large parts of our portfolio against our assessment criteria, completing the analysis of 2022 results in 2023.

We use the sustainability assessment data, in combination with other sustainability information, in our risk monitoring, to prioritise and assess company engagements, make voting decisions and evaluate the results of our activities. In 2022, we complemented our sustainability assessment model with external benchmarks for human and children’s rights, including data from the Global Child Forum.

Selected questions that we used in the assessment of companies’ sustainability disclosures and performance.

Topic	Example of question
Climate change	Does the company report on Scope 3 emissions?
Biodiversity	Has the company set quantitative biodiversity-related targets?
Ocean sustainability	Has the company set targets related to reusability, recyclability or compostability of plastics or packaging?
Water management	Has the company set quantitative water-related targets?
Human rights	Does the company disclose strategies to prevent and mitigate identified human rights risks?
Human capital management	Does the company publicly disclose a gender diversity strategy or similar commitment?
Children's rights	Does the company conduct supplier assessments that consider the risk of child labour?
Tax and transparency	Does the company identify and assesses tax risks effectively?
Anti-corruption	Does the company leadership communicate a commitment to foster a culture of ethics, integrity and compliance?

3. Portfolio

Investments

ESG considerations are integrated into our investment decision-making processes across all asset classes. We believe it improves return and reduces risk.

Listed investments

ESG integration into investment processes
Material sustainability risks and opportunities faced by a company, as well as the quality of its corporate governance, are likely to have an impact on its ability to create long-term value. We are therefore increasingly integrating ESG data into our investment processes. As part of their mandates, our portfolio managers are required to take ESG considerations into account in their analyses, alongside other factors, and have deep knowledge of our expectations on governance and sustainability matters. Portfolio managers also discuss these issues directly with companies; in 2022, they attended 2 178 meetings with companies. They also take part in important voting decisions.

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Engagement with our investee companies is crucial for ESG integration into our processes. We strongly believe that this yields the best financial results for the fund.

Our Co-Chief Investment Officers Equities

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In 2022, we continued to develop tools to faciliate ESG integration.

We make a broad array of company-specific ESG information available across Norges Bank Investment Management in our data interface Angle. In 2022, we continued to develop tools to facilitate ESG integration. For instance, we made more information on companies’ boards readily available to our portfolio managers using both our internal data – such as our voting decisions – and publicly available information.

We also developed an internal indicator for quantifying the quality of a company’s governance. Leveraging both external and internal data, this indicator reflects our view of what constitutes good corporate governance, and helps inform investment and ownership decisions. In 2022, we launched a new cross-sector mandate whereby the security selection process is underpinned by corporate governance factors.

Furthermore, we combined company tax data from public reporting, subsidiary and revenue exposures, tax management practices and controversy data, in a dashboard. This provides detailed indicators of companies’ tax behaviour relative to peers and over time. The indicators can be used to inform investment theses, company engagement on tax transparency, risk-based divestments and other portfolio risk screens.

We also started to monitor more closely legislative and regulatory developments related to climate change that could have a significant impact on portfolio companies. This will help us understand regulatory risks and opportunities faced by companies and inform our dialogues with companies.

ESG integration into the investment process is also implemented in our ‘Investment Simulator’, a decision-support framework which aims to enhance the quality of our portfolio managers’ investment decisions by highlighting strengths and areas of development. Combining internal and external data sets, the simulator models portfolio managers’ past decisions, motivation and behaviour, and provides investment insights along multiple dimensions. Moreover, significant features of their decisions are surfaced at the point of order entry, providing portfolio manager attributes and market-wide signals. These include access to ESG data and insights based on external and internally developed analytics.

On 13-15 September, we hosted a buy-side sustainability summit at our London office together with three other large investors. The main topics

‘Buy-side sustainability summit’ at our London office in September 2022.

discussed were how companies will reach net zero by 2050 and their role in a sustainable future. This was a unique event bringing together 17 CEOs and four of the world’s largest investors to discuss the pathway to a more sustainable economy. We discussed the decarbonisation of heavy industries, alternative transport and logistics, and the sustainable food transition.

Portfolio managers investing in fixed income are also required, in their mandate, to take ESG considerations into account. ESG is an integral part of corporate credit analysis. Poor corporate governance or high sustainability risks can become a significant credit risk, thereby impacting on the return on a bond. We therefore seek to understand ESG risk factors for the industry and the company, based on our internal knowledge of these issues and various external sources of information. These assessments are integrated into our credit research, both before investing in a bond and on an ongoing basis.

External managers

We use external managers to handle parts of the fund’s investments, often in emerging markets and small-cap companies in developed markets. The fund had 572 billion kroner, or 4.6 percent of its capital, under external management at the end of 2022.

In emerging markets, information on sustainability is often more limited, as reporting requirements may be less stringent. External managers with local knowledge therefore play an important role in enabling us to invest in these markets and manage the associated risks. Our mandates for external managers require them to consider ESG issues in their investment decisions, and this requirement is followed up annually. External managers are familiar with our expectations of companies on sustainability and raise relevant topics in their investor dialogues.

Investing in the transition to a low carbon economy

We believe that companies that understand the drivers of net zero emissions and anticipate regulatory developments will be well-positioned to capture the financial opportunities arising from a low-carbon economy. While some high-emitting companies may decline in value, others will transform their business models and grow among the greening companies supporting an orderly transition.

6%

of our equity portfolio was invested in companies generating revenues from climate solutions.

Starting in 2010, our management mandate required us to establish specific environment-related investment mandates which were subject to separate reporting requirements. At the end of 2021, we had 107.7 billion kroner invested in the shares of 86 companies under these mandates. We invested in three main types of environmental activity: low-carbon energy and alternative fuels, clean energy and energy efficiency, and natural resource management.

In 2022, the Ministry of Finance removed the mandate requirement for such investments in the context of the fund's new and more comprehensive approach to climate risk management. The portfolio managers responsible for managing the environment-related investment mandates, who had built considerable knowledge of environmental activities, have now been integrated into various sectoral teams, thus spreading this knowledge across the organisation.

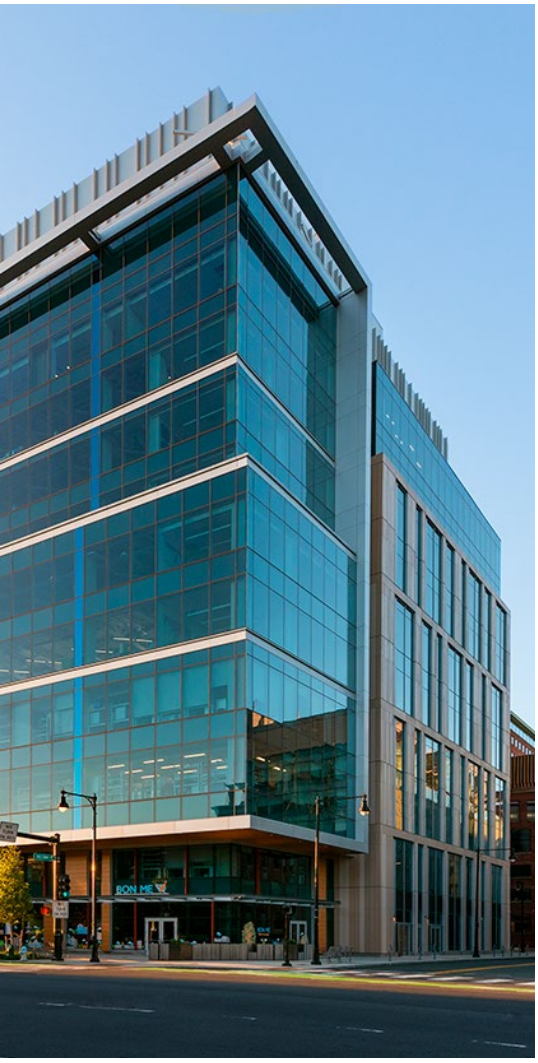
At the end of 2022, 6 percent of our equity portfolio was invested in companies generating revenue from climate solutions, based on MSCI's definition. We also monitor our investments included in the FTSE Environmental Opportunities Index, which tracks companies that generate at least 20 percent of their revenues from environmental products and services. At the end of 2022, 13 percent of the fund's equity and bond investments were in companies included in this index (see Appendix 2).

We also invest in bonds where the proceeds are earmarked for specific environmental or social projects ('green' or 'social' bonds), and in sustainability-linked bonds, where the issuer may raise money for general purposes but commits to meet specific sustainability targets. To ensure the integrity of these bonds, we recommend that they are structured in line with internationally agreed principles and follow market best practice. We expect that the underlying environmental or social objectives are consistent with the company's overall strategy.

At the end of 2022, green bonds in the fixed-income portfolio amounted to 61.7 billion kroner, based on the definition for the MSCI Bloomberg Green Bond Index.

In the early phase of green bonds, we had a segregated capital allocation to these bonds. Since then, the green bond market has matured. We no longer hold them in segregated portfolios but include them in our broader investment universe.

61.7
billion kroner invested in green bonds.



Real estate and infrastructure investments

Responsible real estate management
Unlisted real estate investments amounted to 2.7 percent of the fund at the end of 2022. We invest in office and retail properties in select cities around the world and in logistics properties that are part of global distribution networks. We consider the environmental and social aspects of building design and the governance risks related to investment structuring in due diligence processes before making new investments. We integrate the health, safety and well-being of occupiers, employees and subcontractors into the management of our buildings. We have adopted a guidance document, outlining our approach to responsible management of unlisted real estate. It serves as a starting point for our interaction with investment partners and asset managers that we may co-invest and contract with.

In 2022, we published a net zero 2050 target for our unlisted real estate portfolio as well as an intermediate target to reduce scope 1 and scope 2 greenhouse gas emissions by 40 percent by 2030. We will do this by prioritising energy efficiency opportunities. One of the ways we measure progress towards this target is by comparing emissions to a 1.5°C pathway consistent with the Paris Agreement, using the Carbon Risk Real Estate Monitor (CRREM) framework. 26 percent of the portfolio (by value) was aligned with such a pathway in 2021. Financed greenhouse gas emissions from our unlisted real estate portfolio totalled 302 thousand tonnes in 2021.

To measure improvements in the management of our real estate portfolio, we use the Global Real Estate Sustainability Benchmark (GRESB). In 2022, we scored 81 out of 100, compared with 84 in 2021. We performed 6 percent better than comparable investment portfolios also reporting to GRESB. At the end of the year, 82 percent of our large office and retail properties had green certifications.

Decarbonising real estate – a case study

Problem statement: In New York City, over 26,000 buildings must complete low-carbon retrofits to meet the city's carbon emission limits under Local Law 97.

345 Hudson street, New York City

Built in
1931

Square feet
978,000

17 storeys

83 kBtu/square foot

54% energy waste

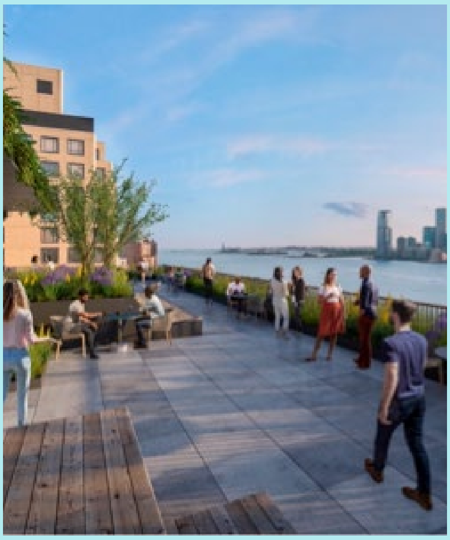
Fossil fuels on-site

Natural gas boiler

Steam heating

Potential penalty under Local Law 97

440,000
dollars per year from 2030



Large energy reductions in commercial office buildings are typically associated with full-scale renovations, requiring large capital investments and a vacant building. The 345 Hudson approach can be applied in phases on a floor-by-floor or tenant-by-tenant basis, working with, rather than against, the natural lease turnover cycle.

The innovation in the 345 Hudson model is to see heat as a resource to be shared among different spaces all year round, and not as something to be ejected in summer and supplied in winter. For large portions of a typical year, many offices will be heating some spaces while simultaneously cooling others, with separate heating and cooling systems working independently to add heat to the former and remove heat from the latter. The 345 Hudson model provides an integrated system that allows these spaces to share that heat, thereby significantly improving overall building efficiency.

Commitment

Eliminate **Scope 1** emissions by electrifying

Minimise **Scope 2** emissions by reducing energy intake from the grid by **50%**

Reduce total building carbon emissions by **85%**, rising towards **100%** New York's power grid becoming fully renewable

Infrastructure for renewable energy

Meeting the goals of the Paris Agreement will require a fundamental transformation of the world's energy use. The transition demands both a decrease in the use of fossil fuels and advances in the technology for renewable energy. By investing in unlisted renewable energy infrastructure, the fund can contribute to the low-carbon transition whilst further diversifying risk. These investments are expected to generate stable inflation-adjusted cash flows and help sustain the fund's long-term performance.

The fund made its first investment in unlisted renewable energy infrastructure in April 2021 with the acquisition of a 50 percent stake in the Borssele 1 & 2 wind farm off the Dutch coast. With an installed production capacity of 752 MW, the wind farm produces enough electricity for around 1 million Dutch households.

In 2022, we considered several possible new investments. Environmental, social and health and safety risks are an integral part of the review of these investment opportunities.

We monitor how our investments impact on people and the environment, including any unwanted incidents. GRESB has developed a framework for assessing the sustainability of individual infrastructure assets. In 2022, Borssele 1 & 2 was ranked first by GRESB among its peers in the European offshore wind power generators, maintenance and operations category.

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The wind farm produces enough electricity for around 1 million Dutch households.

Risk management

We systematically monitor ESG risks in the portfolio. We assess the financial impact of ESG risks on companies, and companies' potential impacts on the environment and society.

We identify ESG risks across our portfolio and benchmark using a variety of risk-monitoring processes. Companies can, for example, have high ESG risks if they operate in countries with weak regulation and poor governance, in sectors highly dependent on natural resources and low-skilled labour, or with systematic failures in managing ESG risks. Our risk management framework includes measures that can help reduce the fund's exposure to such risks.

131
companies that entered the fund's equity benchmark index were identified as having high exposure to ESG risks.

Identifying and assessing companies with high ESG risks

We use a complementary set of tools to monitor ESG risks. In general, ESG data are incomplete, based on assumptions and judgements, and associated with uncertainty. We draw on a variety of methods and data sources to assess the exposure of individual companies to ESG risks at different stages of our investment cycle.

Quarterly pre-screening of companies entering the benchmark
The fund's equity benchmark index is based on a global index provided by FTSE Russell (FTSE). The index is updated every quarter by FTSE to ensure that the companies included in the index, and their relative weights, are broadly representative of the globally listed market. In accordance with the fund's mandate, we invest in most companies added to the equity benchmark to maintain a globally diversified portfolio.

We systematically analyse ESG risks across all companies due to enter the fund's equity benchmark on a quarterly basis. This pre-screening is completed after FTSE announces which companies will enter its index and before they formally enter. In some cases, we have already invested in these companies prior to their entry into the equity benchmark, but in many cases they have yet to enter our portfolio.

In 2022, we screened 642 companies that entered the fund's equity benchmark index. Of these, 131 were identified as having high exposure to ESG risks, and 106 were placed on an internal monitoring list. We decided to divest from, or abstain from investing in, the remaining 25 companies due to unacceptable or unmitigable ESG risks.

Quarterly screening of companies in the portfolio and benchmark
We systematically screen the equity portfolio and benchmark for ESG risks using a standardised and automated quantitative screening method. In October 2022, we began to run this process quarterly, instead of annually. The purpose is to assess the financial impact of ESG risks on companies, as well as the companies' potential and actual adverse impacts on the environment and society. We also assess how companies perform

152

companies with heightened ESG risk were identified through our screening method.

relative to our expectations on sustainability. The screening feeds into our sustainability due diligence processes, see Appendix 1.

The screening uses an internal model to identify which ESG risks are material to which companies. It assigns a risk rating to companies based on an assessment of ESG risks associated with markets and sectors they operate in. It combines country-level indices that rank countries on a wide range of ESG topics using data from the OECD, World Bank, UN and various NGOs, with aggregations of company-level ESG ratings and metrics based largely on corporate disclosures and practices.

In 2022, we identified 152 companies with heightened ESG risk through our screening method. We decided to monitor developments in 117 cases and initiate dialogue in 24 cases, and divest in 11 cases following additional analysis.

Daily ESG risk monitoring

We systematically monitor news flows from public sources and stakeholders on ESG-related incidents and controversies related to companies in our portfolio. This daily monitoring process provides insights into how companies' practices impact society, how stakeholders react to or perceive corporate practices, and the potential financial impacts on the companies themselves. In aggregate, it also provides us with useful information on which ESG topics are trending in different markets and sectors. Our daily monitoring of news flows supplements information and ratings based on corporate disclosures.

In 2022, we identified 163 companies associated with severe ESG incidents or controversies.

Thematic assessments

We may choose to conduct deeper research into particular themes or trends where we see heightened ESG risks. As an example, in 2022 we completed thematic research on the management of climate transition risk in the chemicals sector, occupational health and safety in various industrial sectors, water-related risk in the mining sector, and predatory marketing and financing practices in the gambling and consumer finance sectors.

Monitoring of movements and corporate events
We monitor movements in our portfolio and corporate events that may change our exposure to ESG risks. For example, we assess the ESG risk profile of all companies in which our ownership share exceeds five percent during the year and thereby makes the fund a more significant owner.

Approval of issuers of government bonds and markets
All government bond issuers and markets that we invest in must be approved by the Executive Board of Norges Bank. The approval framework includes sustainability considerations such as water scarcity, biodiversity, child labour and corruption as part of the assessments of country risk.

Actions to address companies with high ESG risks

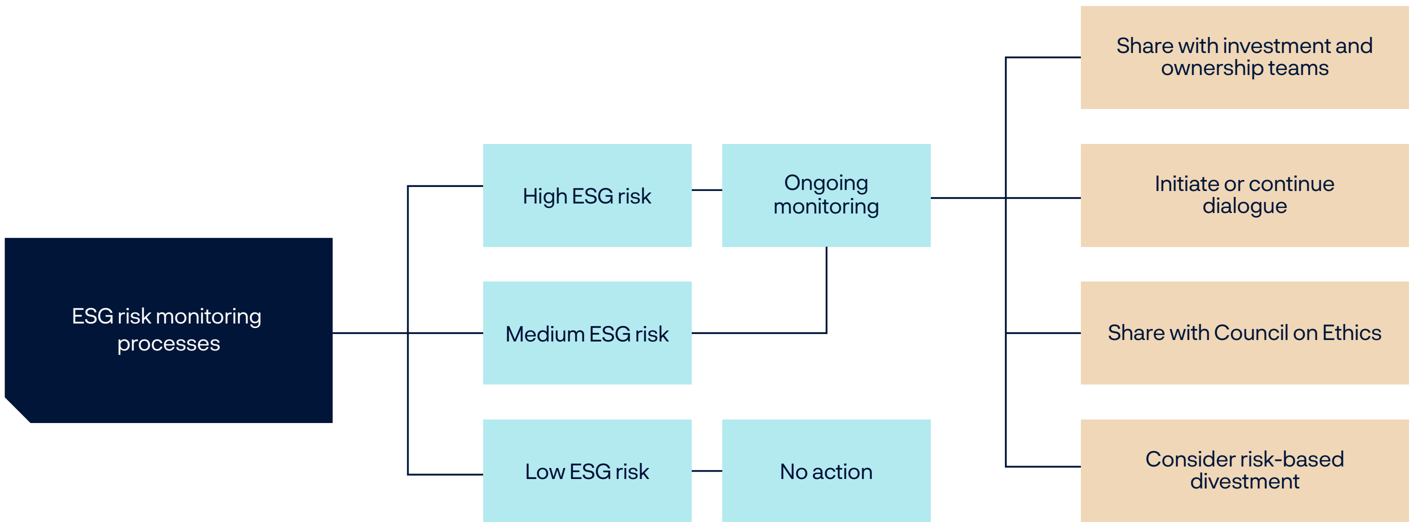
Our risk management framework includes several potential actions that can help reduce the fund's exposure to ESG risks. The chosen action depends both on the level of ESG risks identified for each company, and on other aspects of our investment, including size and relative risk.

- **Ongoing monitoring:** Companies identified through our monitoring processes as associated with either medium or high ESG risks may be placed on an ongoing monitoring list. This means that they are tracked more systematically and brought to the attention of our investment and ownership teams. Monitoring companies may be appropriate when there is an indication of high ESG risks, but the information we have is incomplete or uncertain.

- **Initiate or continue dialogue:** We may also choose to initiate or continue dialogue with the companies identified through our ESG risk-monitoring processes as having high exposure to ESG risks. For example, we may be a significant owner in the company, or we may have an ongoing dialogue with it on ESG-related topics.

- **Risk-based divestment:** In selected cases, companies identified as having high exposure to ESG risks may be considered for divestment. After further assessment and only where appropriate given the fund's risk limits, we might consider divestment based on factors such as severity, whether the company has already taken remedial action, the size of our investment, and portfolio managers' familiarity with the company.
- **Share information with the Council on Ethics:** We may also identify companies where the independent Council on Ethics for the fund has already initiated a dialogue or assessment against exclusion criteria, or which fall within a theme prioritised by the Council. In such cases, we refer the companies to the Council on Ethics.

Overview of our ESG risk-monitoring processes.



Forest fire in California seen from space.

Risk-based divestments

We may divest from companies if we believe their business activities expose the fund to risks that are severe and cannot be mitigated using other tools.

Risk-based divestment are financial decisions and may be an appropriate response following a broad evaluation of the impact on the fund. The decisions are not based on recommendations from the Council on Ethics, or subject to ethical criteria. These divestments are made within the overall limit for deviation from the benchmark index. The use of this tool is therefore limited and typically chosen for selected small investments where we have uncovered systematic mismanagement of ESG risks and where engaging with the company has failed or is unlikely to succeed.

74
company divestments in 2022.

Risk-based divestments in 2022

We divested from 74 companies in 2022 following assessments of ESG risks. We identified companies with significantly heightened risks across a variety of ESG topics, including potential violations of human and labour rights, biodiversity loss and deforestation, and corruption and tax. 25 of the divestment decisions involved companies that entered the fund's benchmark index during 2022. Altogether, we have made 440 divestment decisions since 2012.

In 2022, many divestment decisions were informed by news related to corporate corruption investigations and forced labour practices in corporate supply chains. We also made divestment decisions on the basis of thematic assessments in the areas of climate transition risk in industrial sectors, water management in the extractive industries, and predatory marketing and consumer-financing practices.

Risk-based divestments in 2022.

Topic	Criteria	2022
Coal-based power production	Relevant percentage of business mix allocated to electricity production	
	Coal at relevant percentage of fuel-mix	1
Climate transition risk	Insufficient risk management related to greenhouse gas emissions	4
Water management	Insufficient risk management related to water use	6
Biodiversity and ecosystems	Exposure to markets associated with degradation of biodiversity and ecosystems	4
Ocean sustainability	Insufficient risk management related to degradation of ocean resources	2
Anti-corruption	Exposure to markets with significant risk of corruption	
	Insufficient risk management related to corruption and corporate governance	7
Tax transparency	Elevated risk of aggressive tax planning	5
Human rights	Exposure to markets with significant risk of human rights violations	
	Insufficient risk management related to human rights	29
Human capital	Exposure to markets with significant risks related to human capital management	
	Insufficient risk management related to human capital management	12
Other	Exposure to other significant ESG risks	4

0.26

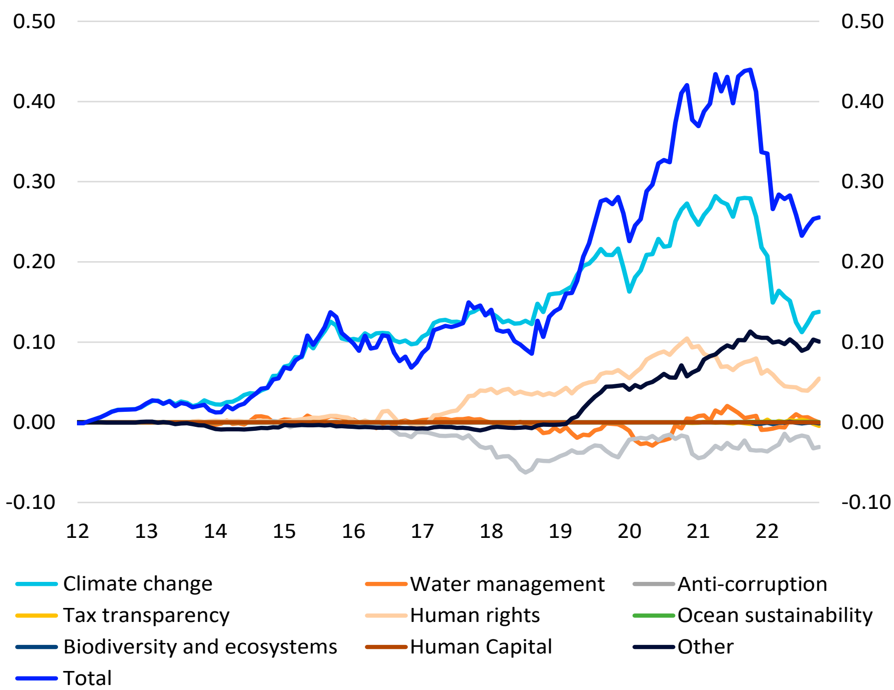
percentage point culmulative return on the equity portfolio from risk-based divestments since 2012.

Impact on the fund's equity returns

We measure the returns on our investment decisions, including risk-based divestments. Since 2012, risk-based divestments have increased the cumulative return on equity management by 0.26 percentage point, or 0.01 percentage point annually. Risk-based divestments linked to climate change and human rights have increased the cumulative return on equity management by 0.14 and 0.05 percentage point respectively, while those linked to corruption have decreased the cumulative return on equity management by 0.03 percentage point, and those relating to water management have had a negligible impact.

The impact on the equity portfolio from the risk-based divestments was -0.04 percentage point in 2022, following repricing of assets in the market. Specifically, the relatively strong performance of energy and basic materials adversely affected the returns on our risk-based divestments because we have made many divestments in these sectors.

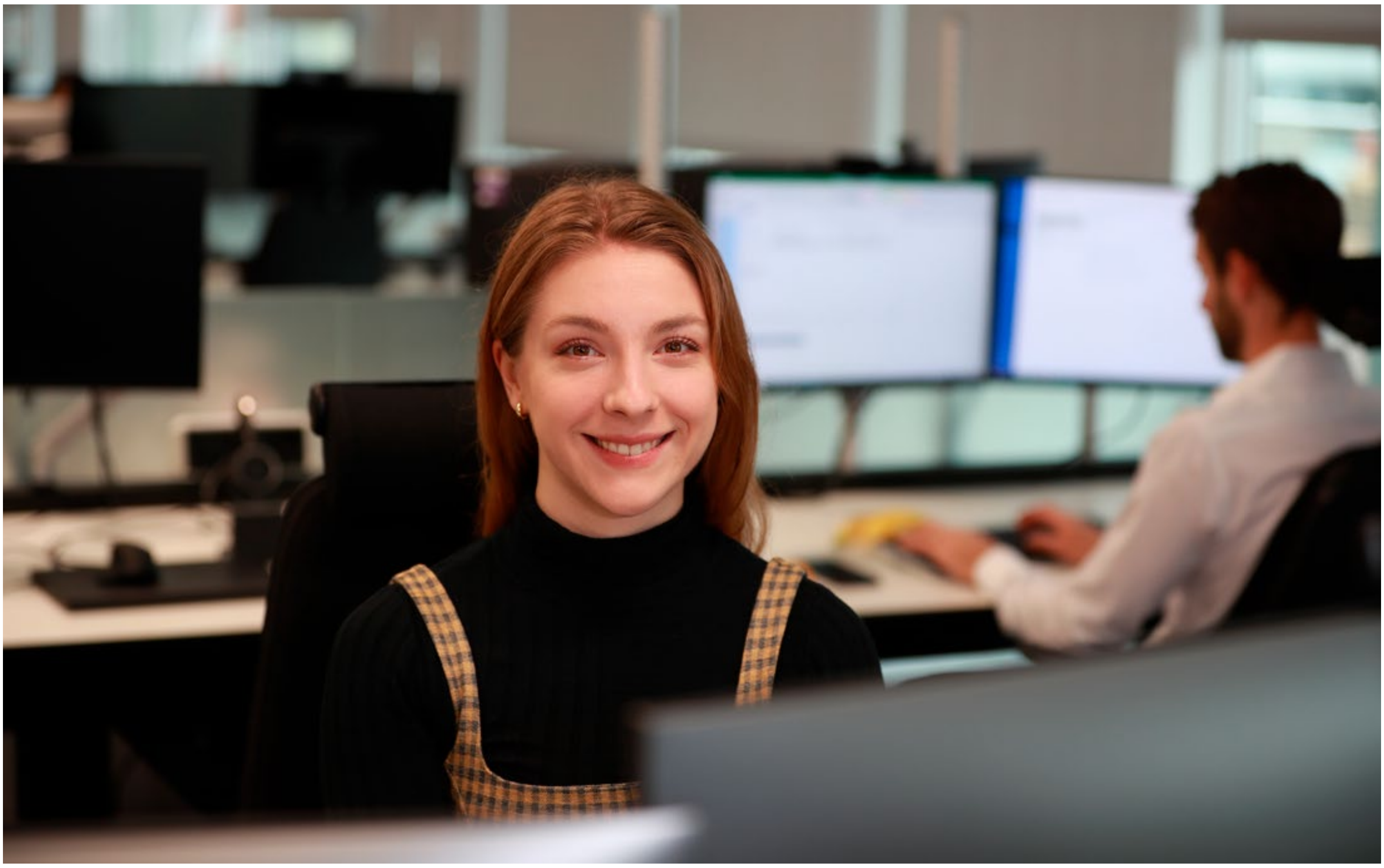
Return impact of risk-based divestments on the reference portfolio for equities, compared to a portfolio not adjusted for risk-based divestments. Measured in dollars. Percentage points.



Contribution to return impact of equity reference portfolio risk-based divestments as at 31 December 2022. Market value in billions of kroner. Contribution measured in dollars. Percentage points.

Expectation	Number of companies divested[1]	Market value in the reference portfolio if not sold	2022	2012–2022 annualised
Climate change	179	20	-0.03	0.01
Water management	53	5	0.00	0.00
Biodiversity and ecosystems	11	2	0.00	0.00
Ocean sustainability	3	0	0.00	0.00
Anti-corruption	34	6	0.00	0.00
Tax and transparency	16	5	0.00	0.00
Human rights	96	10	0.00	0.00
Human capital	12	1	0.00	0.00
Other	36	2	0.00	0.00
Total	**440**	**51**	**-0.04**	**0.01**

[1] Includes companies that are not in the reference portfolio.



4. Companies

Dialogue

2,911

meetings with portfolio companies.

As a long-term investor, we engage in regular dialogue with our portfolio companies to promote good corporate governance, sustainable business models and responsible business practices.

As a shareholder in 9,228 companies, we need to prioritise the companies we have a dialogue with. We are in regular dialogue with our largest investments. In 2022, we held a total of 2,911 meetings with 1,307 companies. These meetings are conducted by employees from our investment and corporate governance teams. We discuss a broad range of topics, such as performance, market developments, corporate governance and sustainability. Our portfolio managers are typically present, and the meetings can be with companies' board and top management, business unit leaders, investor relations and/or sustainability experts.

Companies often reach out to us as part of their annual investor engagement to discuss strategy, corporate governance and sustainability matters, or ahead of their annual shareholder meeting to discuss executive remuneration or other items submitted for shareholder approval.


Company meeting at our London office.

In 2022, we held 1,477 meetings with 794 companies during which governance topics were discussed, and 1,490 meetings with 781 companies during which sustainability topics were discussed. In all, we raised ESG topics in 66 percent of our meetings with companies, covering 57 percent of the value of the equity portfolio.

Number of company meetings during which ESG topics were discussed.

Category	Topic	Number of meetings	Value of equity portfolio (percent)
Environment	Climate change	810	33
	Deforestation	45	3
	Water management	90	8
	Ocean sustainability	22	2
	Biodiversity	69	4
	Circular economy	229	11
	Other environmental topics	277	10
Social Issues	Human rights	139	14
	Children's rights	34	5
	Tax and transparency	79	6
	Anti-corruption	23	4
	Consumer interests	179	9
	Data privacy	44	6
	Human capital	516	29
	Other social topics	282	11
Governance	Effective boards	323	27
	Remuneration	216	19
	Protection of shareholders	106	10
	Enhanced reporting	162	10
	Capital management	1,064	38
	Other governance topics	452	25

When we want to discuss specific issues with the companies, our dialogues take a targeted form where we follow up governance and strategy through:

- **Strategic board dialogues,** where we meet the company boards of our largest holdings with the aim of enhancing our understanding of the company and improving our investment performance.

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We seek to understand the company better, as well as to influence it and increase board accountability.

- **Net zero dialogues,** where we engage with the highest emitters in our portfolio and support them on their pathway to net zero emissions.
- **Thematic dialogues,** where we engage with companies on specific sustainability matters based on KPIs and over a specific period of time.
- **Incident-based dialogues,** where we engage with companies because of specific incidents or our own assessments indicating poor risk management.
- **Dialogues about ethical criteria,** where engagements follow specific decisions by the Executive Board based on recommendations from the independent Council on Ethics.

In addition to meetings, we communicate with companies in writing. We distribute our expectation documents and position papers to companies to inform them of our priorities, and respond to enquiries from companies. We had written communication with 405 companies in 2022.

Strategic board dialogues

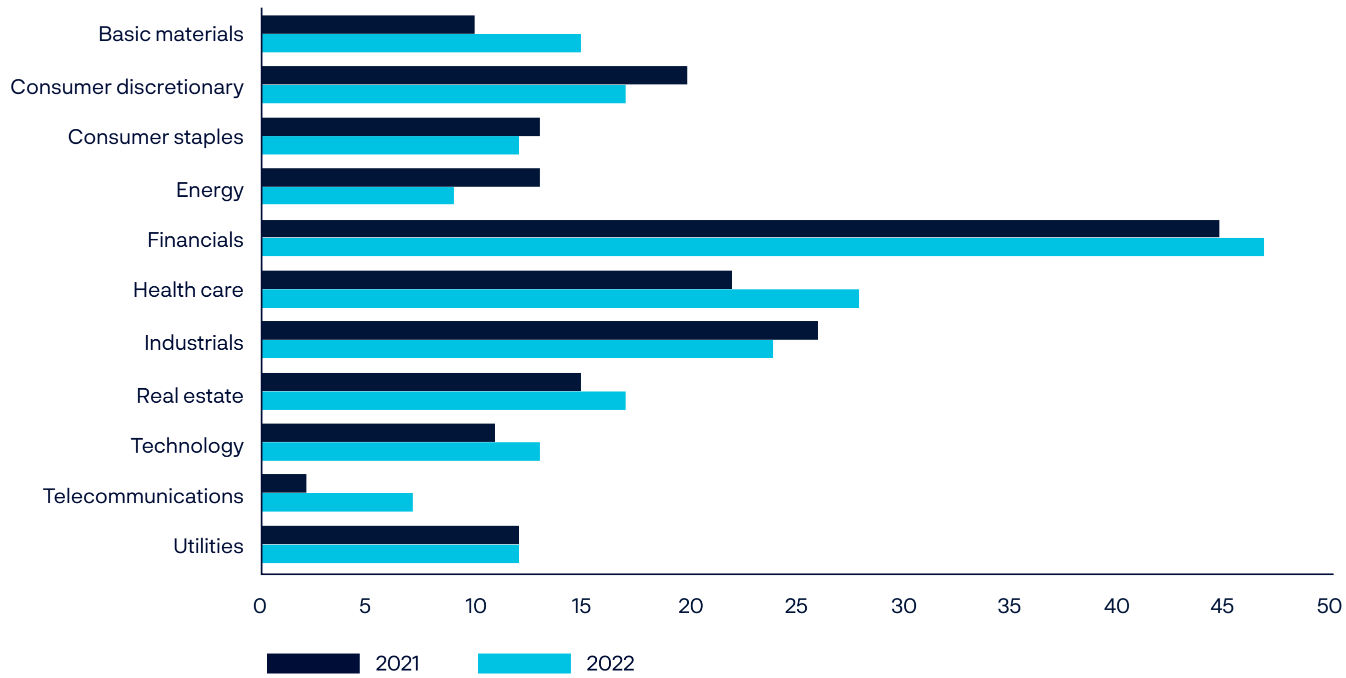
These stewardship dialogues are directed at our largest holdings. In 2022, we had 201 meetings at the board level, with 154 companies. These companies account for 16 percent of the equity portfolio by value. With these types of meetings, we seek to understand the company better as well as to influence it and increase board accountability. The meetings are held with the chair of the board or another leading board member and attended on our side by portfolio managers and stewardship managers. We see great benefits in having our investment decision makers present at these meetings and believe it can increase our investment performance. Hearing the views of the board, together with the information we get from management at other meetings, provides us with a coherent view of the company and improves the quality of our investment decisions.

The meeting agenda is company- and context-specific, but typically includes conversations about strategy, capital allocation, management and risks, as well as a discussion on board composition and dynamics, and material sustainability issues.

Examples of strategic board dialogues in 2022 and some of the topics we discussed.

<table>
<tr><th>Company</th><th>Sector</th><th colspan="4">Agenda</th></tr>
<tr><td>JBG SMITH Properties</td><td>Real estate</td><td rowspan="3">Remuneration</td><td>Energy efficiency</td><td>Human capital</td><td rowspan="9">Strategy</td></tr>
<tr><td>T-Mobile US Inc</td><td>Telecommunications</td><td>Capital allocation</td><td rowspan="2">Board oversight</td></tr>
<tr><td>ABB Ltd</td><td>Industrials</td><td rowspan="5">Succession planning</td></tr>
<tr><td>Nestlé SA</td><td>Consumer staples</td><td>Capital allocation</td><td>Sustainability</td></tr>
<tr><td>Cie Financiere Richemont SA</td><td>Consumer discretionary</td><td>Remuneration</td><td rowspan="7">Board composition</td></tr>
<tr><td>Prudential PLC</td><td>Financials</td><td>Risk management</td></tr>
<tr><td>AstraZeneca PLC</td><td>Health care</td><td>Board leadership</td></tr>
<tr><td>Rio Tinto PLC</td><td>Basic materials</td><td>Board oversight</td><td>Risk management</td></tr>
<tr><td>SAP SE</td><td>Technology</td><td>Anti-corruption</td><td rowspan="2">Board leadership</td></tr>
<tr><td>Sempra Energy</td><td>Utilities</td><td>Board oversight</td><td rowspan="2">Energy transition/ climate change</td></tr>
<tr><td>Shell PLC</td><td>Energy</td><td>Niger delta oil spills</td><td>Capital allocation</td></tr>
</table>

Number of meetings held with company boards by sector in 2021 and 2022.



A core part of our new 2025 Climate Action Plan is to engage with the highest emitters in our portfolio on their pathways to net zero emissions by 2050.

Net zero dialogues

A core part of our new 2025 Climate action plan is to engage with the highest emitters in our portfolio on how they can achieve net zero emissions by 2050. We want to support our portfolio companies in delivering long-term financial value, adapting their business models, and achieving net zero emissions.

We have put these high-emitting companies on a focus list. The list includes 70 percent of the financed scope 1 and scope 2 greenhouse gas emissions from the companies in the equity portfolio, our largest investments in sectors with significant indirect exposure to climate risk, and additional companies with elevated climate risk based on proprietary assessments.

For companies on this focus list, climate considerations are integrated into all our engagements. Additionally, we initiate specific dialogues by sector to discuss companies' climate targets, transition plans and emission reductions. Where relevant, we set specific objectives for changes that we would like to see, communicate these to the company, and track progress over time – in areas such as target setting, quality of transition plans or expected short-term actions.

Overview of our net zero dialogues in 2022.

	Number of companies and their sector	Focus	Progress / examples
Initiated in 2022	19 chemicals companies	• Net zero targets and strategy aligned with the Paris Agreement • Scope 3 reporting and target setting	• Too early to determine
Initiated in 2022	18 metals and mining companies	• Net zero targets and strategy aligned with the Paris Agreement • Methane emission abatement and green capital expenditure	• Too early to determine
Continued	10 companies across sectors	• High-emitters to set emission reduction targets across operations and value chain in line with the goals of the Paris Agreement	• South32 Ltd expanded their commitment to net zero by 2050 to also include value chain emissions. • TUI AG submitted near term targets to Science Based Targets initiative for validation, and has a goal of achieving net-zero emissions across its operations by 2050.
Continued	7 integrated oil and gas companies	• Targets and strategy aligned with the Paris Agreement • Methane emission abatement and low carbon business alternatives	• ExxonMobil Corp announced a new ambition to be net zero by 2050 and a GHG emission reduction plan towards 2030 for its operational emissions.

Thematic dialogues

For our thematic dialogues, we engage with companies on material sustainability issues using our public expectation documents as the point of departure. We prioritise issues that can affect the companies' ability to create long-term value. Typically, we select groups of companies in industries exposed to specific sustainability risks or opportunities. We also contact companies with significant shortcomings in their sustainability disclosures. Our engagement approach is informed by the nature and severity of the issue as well as an assessment of our ability to influence the company, including the size of our investment and previous dialogue with the company. Once we have completed each dialogue, we evaluate the outcomes and progress against key performance indicators, and continue to discuss the topics in our regular dialogues where appropriate.

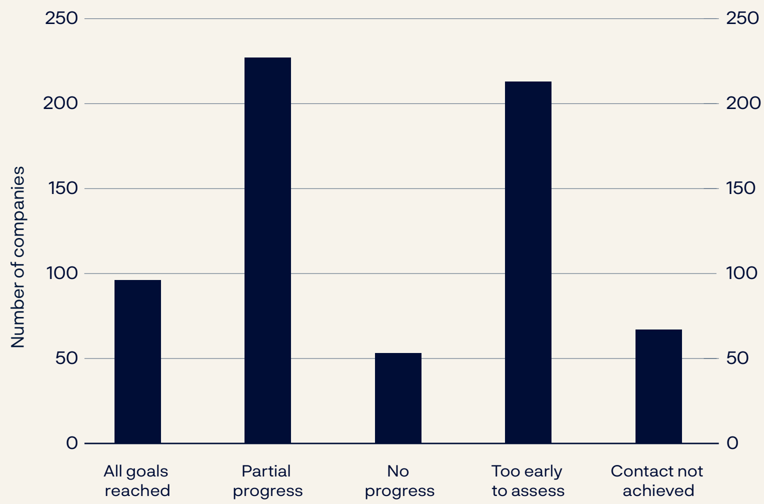
Overview of thematic dialogues in 2022.

	Themes	Number of companies and their sector	Focus	Progress / examples
Initiated in 2022	Biodiversity & human rights	12 mining companies	• Just transition to a low-carbon economy • Operations in sensitive areas with high biodiversity values and indigenous people's territories	• BHP Group Ltd has committed to having at least 30% of the land and water they steward under conservation, restoration or regenerative practices. They also have a dedicated indigenous people's strategy with guidance on key processes for respecting indigenous people's rights.
	Gender-based violence and harassment	10 companies across sectors	• Due diligence systems that prevent and manage the risks of gender based violence and harassment	• Too early to determine
	Tax and trans-parency	7 companies across sectors	• Best practices in the selection, use and payment of tax advisors • Reporting on use of advisory services	• Too early to determine

Continued	Deforestation	12 consumer goods companies	• Use of forest-risk commodities such as palm oil, soya and beef • Management of deforestation risk in operations and supply chains	• General Mills Inc has tightened the requirements of its palm oil sourcing policy
Continued	Biodiversity & climate change	13 food and beverage companies	• Land use change and other environmental impacts • Regenerative agricultural practices • Trends in customer demands and links to strategy	• The Kraft Heinz Co. has pledged to achieve net zero greenhouse gas emissions across its operational footprint and global supply chain
Continued	Children's rights online	10 telecommuni-cations companies	• Management of risks related to child safety online	• BT Group PLC focuses on creating services that are safe for children rather than solely taking down content that is deemed harmful after it is already published. They are also rolling out a bespoke human rights training programme.
Continued	Labour rights	8 food delivery and transport companies	• Organisation of workforce, labour rights • Choice of business model, approach to regulatory developments and lobbying.	• Uber Techologies Inc reached an agreement with the Transport Workers Union in Australia, including on advocating for industry-wide standards regarding transparent and predictable earnings, and the creation of a dispute resolution mechanism.
Continued	Human rights in conflict-affected or high-risk areas	22 companies across sectors	• Human rights due diligence when operating in high risk or conflict-affected areas	• Booking Holdings Inc published its first human rights statement in which the copmany commits to conduct heightened due diligence in high-risk settings. • In 2021, Enel SpA updated their human rights policy. The same year, the company provided more than 7,000 training hours on human rights topics to its employees.
Continued	Forced labour	23 consumer, technology, and energy companies	• Implementation of policies and systems to assess and address risks of forced labour in companies' value chains	• 22 companies have policies that address forced labour and state a zero-tolerance approach • 6 companies have supply chain management systems in place that enables them to effectively trace the origin of the products it sources down to raw material level, including through the use of new technologies
Continued	Anti-corruption	8 industrial companies	• Management considerations and board oversight of corruption risks in the context of public procurement	• Schneider Electric SE and Siemens AG have taken steps to strengthen board oversight and procedures related to the use of intermediaries.
Continued	Ocean sustainability	10 fisheries companies	• Policies, certifications and disclosures of fisheries sourcing	• Oceana Group Ltd has reported on the state of the fish stocks it relies on
Completed	Tax and trans-parency	15 companies across sectors	• Alignment of tax risk policies with our public expectations on tax transparency	• 5 companies published a tax policy, 4 disclosed an approach to tax in a sustainabilty report, and 2 committed to develop a tax policy. All companies showed improvements in their tax transparency assessments.
Completed	Climate change	15 iron and steel producers	• Climate-related risks and opportunities, lobbying and disclosures	• 11 companies have now set a long-term emission reduction target • 5 have committed to setting a science-based target in accordance with the Science Based Targets initiative
Completed	Climate lobbying	9 heavy industry companies	• Climate-related lobbying practices in the EU	• All 9 companies now disclose their climate change policy priorities • 2 started to disclose their lobbying expenditure
Completed	Water management	13 companies in water intensive industries	• Reporting on water withdrawal and consumption • Quantitative targets for reductions of water use	• 3 companies have now set comprehensive targets for reducing their water use, and 5 are working to establish them
Completed	Tax and transparency	32 companies across sectors	• Presence in low-tax environments and closed jurisdictions	• 13 companies showed improvements in their tax transparency assessments and 7 companies indicated an intention to wind down entities in, or shift assets out of, low tax jurisdictions
Completed	Children's rights	13 consumer companies	• Responsible marketing of infant formula	• Health & Happiness H&H International Holdings Ltd has published a responsible marketing of infant formula policy. • Nestle SA, Danone SA and Reckitt Benckiser Group PLC publish reports on responsible marketing of infant formula that describe the implementation of their policies and compliance monitoring. They also describe internal audit findings and actions taken, and publish external audit reports.

We have seen progress towards our engagement objectives at many companies. In 2022, we observed partial progress at 227 companies and achievement of our engagement objectives at 96 companies.

Tracking companies' progress towards our engagement milestones for thematic and net zero dialogues in 2022.



In far northern Canada, pulses of freshwater flow down rivers after inland ice and snow melts. These pulses, known as a freshet, carry huge amounts of sediment.

Discussions with companies on sustainability reporting
We contacted 102 companies with significant shortcomings in their sustainability disclosures. In 2022, we focused on weak disclosure on climate change, human rights, children's rights, taxation, anti-corruption, gender diversity and human capital management. We also followed up on companies that we had contacted in previous years. More detailed analysis on our climate engagement shows a greater improvement in disclosure in engaged companies compared to unengaged companies.

Incident-based dialogues

An incident-based dialogue is a reactive form of engagement where we follow up unwanted incidents that could indicate weak corporate governance or management of environmental and social risks. It also includes engagement with companies that were flagged as 'high risk' in our quarterly portfolio screening for ESG risks. In 2022, we had 20 incident-based dialogues.

Examples of incident-based dialogues in 2022.

Topic	Focus	Examples of companies we engaged with
Health and safety	Following the Grenfell Fire, we engaged with some housing developers and manufacturers of cladding and panels. We asked, among other, about their policies and practices for engaging with stakeholders and providing remediation	Kingspan Group PLC, Arconic Corp, Cie de Saint-Gobain, Bellway PLC, Barratt Developments PLC, Taylor Wimpey PLC
Water management	Following water shortages and discharges from UK water utilities we contacted companies to discuss water loss and sewage overflow	Pennon Group PLC, Severn Trent PLC, United Utilities Group PLC
Climate change	We engaged with an Australian insurance company linked to the Carmichael coal mine to understand how they assess financial intermediary support to thermal coal projects	AUB Group Ltd
Biodiversity	We contacted an Indonesian paper and tissue company that sourced products from plantations linked to allegations of adverse impacts on natural ecosystems and land rights violations. We highlighted our expectations for 'no peat, no deforestation and no exploitation'	Unicharm Corp
Human rights	Over the last years, we have seen reports about exploitative labour practices relating to the World Cup 2022 in Qatar. We have therefore monitored and engaged in with relevant companies to understand how they manage this risk	Vinci SA


Oil pollution in the Niger delta.

Dialogues about ethical criteria

The guidelines issued by the Norwegian Ministry of Finance state that, before making a decision on observation or exclusion, Norges Bank should consider whether other measures, including the exercise of ownership rights, may be appropriate. The Executive Board may decide that we should engage with companies to discuss specific situations that gave the Council on Ethics cause for concern.

Serious violations of human rights
In April 2018, Norges Bank's Executive Board decided that we should raise the risk of child labour with UPL Ltd. The aim of our dialogue with UPL is that the company succeeds in significantly reducing the use of child labour at its subsidiary Advanta Seeds Pty Ltd, which produces various types of seeds in India. We had regular contact in 2022, including a virtual meeting with representatives from both UPL and Advanta as well as an in-person visit.

The companies continued their information campaigns with an emphasis on communicating their child labour policy through local community workers. The child labour policy is included in all contracts with farmers. The companies have also made improvements to their monitoring system at farm level, including new tools and staff training. They have set up pilot vocational training programmes for the children of farmers who have completed elementary schooling. The companies have instituted a three-step escalation process for any breaches of the child labour policy, which includes penalties for repeated breaches. The companies also commissioned a new external audit of a large part of their seed production, which had promising results.

Severe environmental damage
In October 2013, the Ministry of Finance asked Norges Bank to include oil spills and environmental conditions in the Niger Delta in our ownership work with the oil and gas companies Eni SpA and Shell PLC for a period of five to ten years. The aim of our dialogue with Eni SpA and Shell PLC is that the companies achieve a reduction in the number and volume of oil spills and ensure effective remediation of spills. We followed this up at three meetings with the companies in 2022.

> In 2022, we concluded our dialogue with AngloGold Ashanti Ltd.

The number and volume of spills from pipelines operated by Eni SpA increased during the year. The company reported that oil theft is at a very high level due to high oil prices, unemployment and upcoming elections, thus making it harder to both produce oil and prevent spills. Eni SpA shut down production at some wells to reduce spills but maintained gas production to meet local demands. The company has worked on strengthening its dialogue with the local community and various security forces, and improved its monitoring and response times for spills. Spills due to operating errors continued at a low level.

Spills from pipelines operated by Shell PLC decreased significantly in 2022. The company reports that this was to a large extent due to extended halts in production to avoid spills during a period when oil theft was at very high levels. Shell PLC and its partners in Nigeria have further implemented various measures, including maintenance, better protection of wellheads and closer collaboration with local communities. The clean-up of affected areas is progressing, and the backlog has been significantly reduced. The company is working with the Nigerian authorities to clean up legacy pollution in Ogoniland and is continuing to pay its share of the clean-up costs. Shell PLC is working to sell its onshore business in Nigeria, but this process has been halted following a civil law suit.

In 2022, we concluded our dialogue with AngloGold Ashanti Ltd. The Ministry had asked us in 2013 to follow up on the environmental impact of the mining company's operations in Ghana through active ownership over a five-year period. In 2018, Norges Bank decided to continue to engage with the company for a further three years. The aim of the dialogue was to encourage the company to clean up previous pollution and operate the Obuasi mine in accordance with international standards. At the end of the ownership period, the Executive Board of Norges Bank concluded that the company had progressed towards our objectives, and the risk of future norm violations was reduced. We will continue to follow up the risks in our regular dialogue with the company.

> The aim of the dialogue is to explore how the company's board and management prevent corruption with effective systems and measures.

Gross corruption

We continued our dialogue with ThyssenKrupp AG in 2022, meeting representatives of the board, the senior management team and the compliance function of the company, as well as the company's largest shareholder. In these meetings, we explored in more detail the steps the company's board and management have taken to prevent corruption and build a culture of integrity across different business areas. Conversations focused especially on improvements to company policies and processes regarding the use of third-party agents, particularly in high-risk business segments. The company has taken a number of concrete steps to mitigate its exposure to corruption risks and strengthen its compliance culture. We have the impression that the company's systems and processes are relatively robust.

In August 2020, the Executive Board decided that we should initiate an ownership dialogue with PetroChina Co Ltd to explore how the company's board and management prevent corruption with effective systems and measures. We have had two meetings with the company since the Executive Board's decision and several written exchanges. Due to the pandemic and related travel restrictions throughout 2021 and 2022, it has not been possible to have company meetings in China. We continued corresponding with the company in 2022.

Voting

11,616
shareholder meetings voted at.

We voted at 11,616 shareholder meetings in 2022 to promote our views as investor, the long-term value creation by companies and safeguard the fund's assets.

The fund is invested in more than 9,000 companies. However, the fund has only a small percentage holding in each company, and most decisions are delegated to the company's board and management. This requires the board to discharge its duties effectively, and management to have the right incentives.

Shareholders have the right to elect companies' board members. We also have the right to approve fundamental changes to the company, such as amendments to governing documents, issuance of shares, and mergers and acquisitions. When voting at shareholder meetings, we consider whether the board operates effectively and whether our shareholder rights are adequately protected.

Voting principles and transparency

Global voting guidelines

We aim to be consistent and predictable in our voting at shareholder meetings. We have global voting guidelines, available on our website and updated regularly, that set out the principles behind our voting decisions. These principles are based on our position papers on key corporate governance matters. When we apply our principles, we take into account the company's circumstances and best practices in the local market.

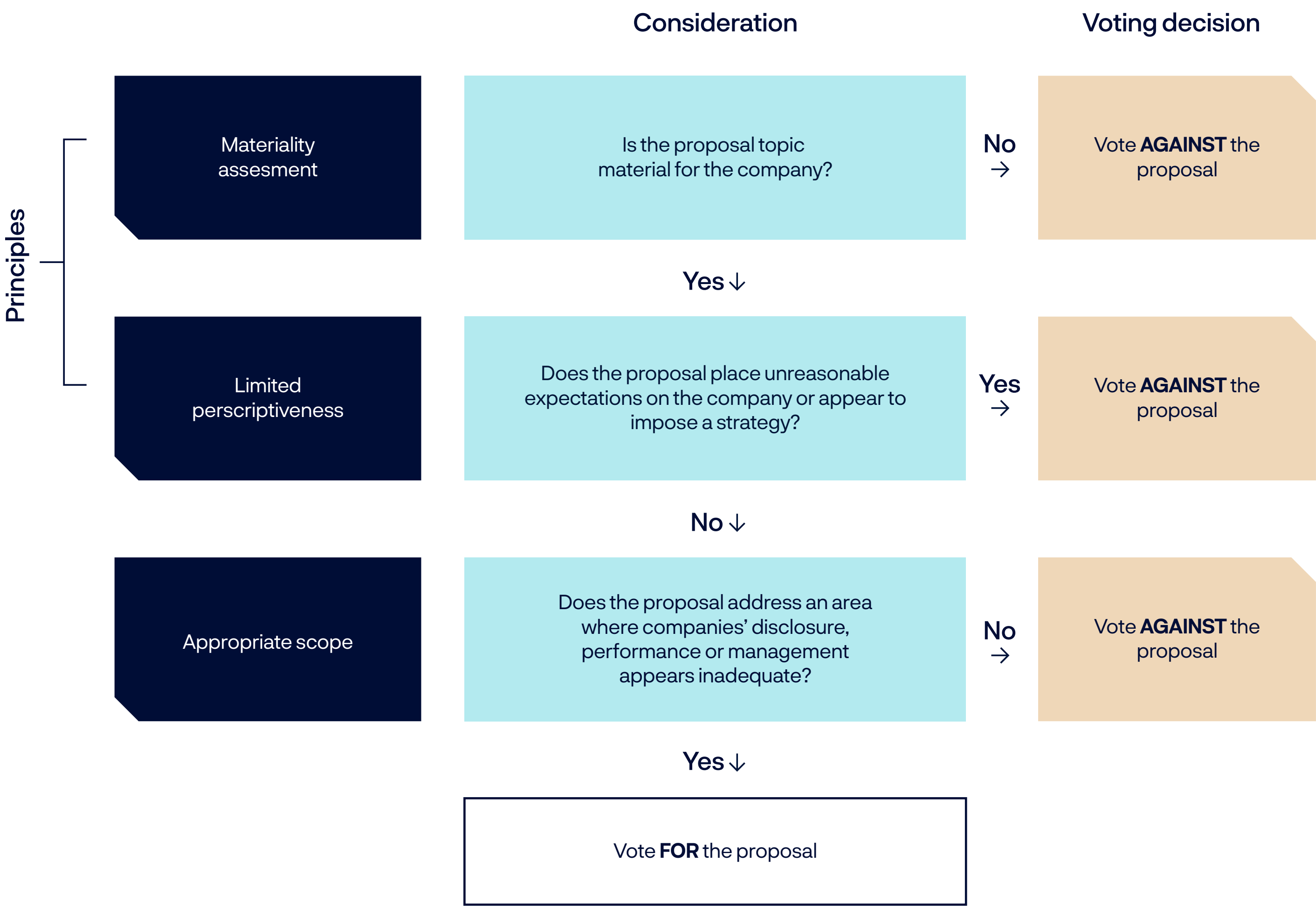
Decision making

Most of the resolutions we vote on fall within the scope of our detailed voting guidelines. This, combined with extensive data on companies, puts us in a position to automate most voting decisions. This allows us to handle a vast number of resolutions in a short period. However, sometimes our voting guidelines on their own are insufficient to make a decision. These cases require further analysis and discretionary assessments. Executive remuneration, mergers and acquisitions, and shareholder resolutions on sustainability are examples of where we exercise judgement in the application of our principles.

Where our portfolio managers have an in-depth knowledge of the company, we use this information to make better voting decisions. Portfolio managers participated in voting decisions at 685 companies in 2022. These companies included our largest investments and together made up 62 percent of the equity portfolio's market value.

Voting on shareholder proposals related to sustainability
We have a framework for voting on shareholder proposals related to sustainability. This ensures that we make considered and consistent voting assessments across all companies in the portfolio. When assessing proposals, we consider three elements: 1) materiality, 2) prescriptiveness, 3) relevant company- or market-specific circumstances.

Illustration of our decision-making process for voting on sustainability shareholder proposals.



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We publish our voting intentions on our website five days before each shareholder meeting.

Voting intentions
We aim to be transparent, which is why we began in 2021 to publish our voting intentions on our website five days before each shareholder meeting. When we vote against the board's recommendation, we provide an explanation based on our global voting guidelines. Visitors to the website can search individual companies or download the complete data set of all our votes since 2013, and request daily updates on our voting instructions.

Voting process

Voting chain
Given the high number of shareholder meetings, we use the services of custodians and proxy advisors to exercise our rights. These intermediaries form a chain through which investors pass their voting instructions and receive information on corporate events.

Institutional Shareholder Services (ISS) is our proxy advisor. It provides us with voting-related research, but the voting decision is always ours. We instruct ISS on how to vote based on our own voting guidelines and internal decision making in specific cases.

We aim to vote at all shareholder meetings at companies in our portfolio. In 2022, we voted at 97.5 percent of shareholder meetings. When we do not vote, it is generally because voting would lead to share blocking, thereby restricting our ability to trade, or because other rules make it difficult to exercise our voting rights.

Securities lending and voting
The global market for borrowing and lending equities contributes to increased liquidity and more efficient pricing of companies, which are important for well-functioning securities markets. The fund participates in this market, and lending equities brings us a stable return. In 2022, such lending increased the return on the equity portfolio by 0.03 percentage point, or around 4 billion kroner.

The fund is unable to vote for shares that are out on loan. Therefore, as per our internal guidelines on securities lending, we generally exclude

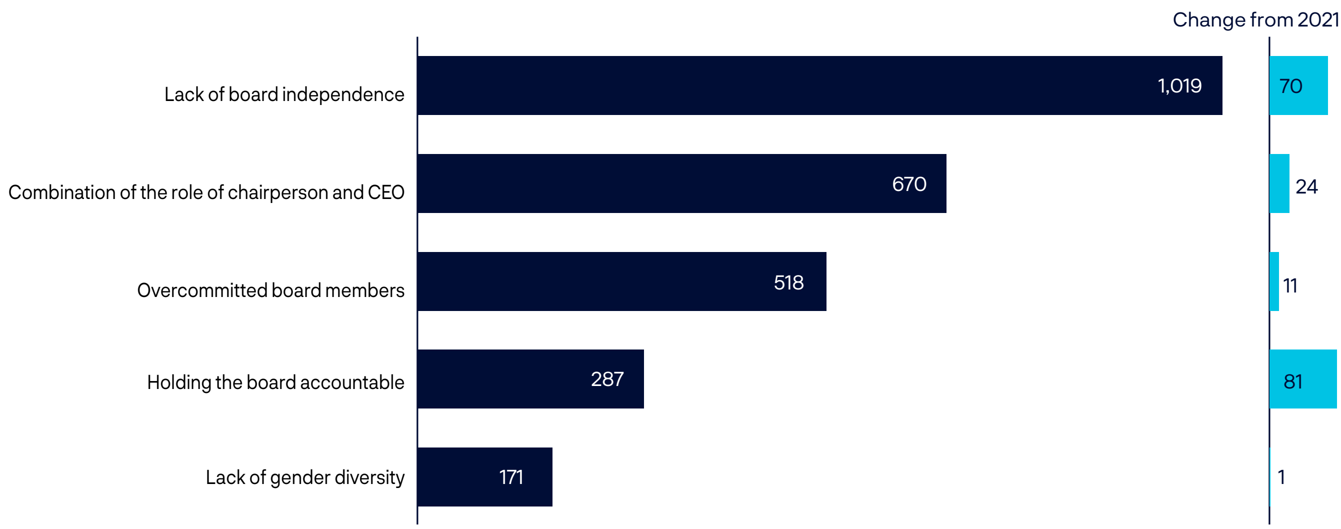
117,392
resolutions voted at.

significant parts of our largest holdings from our lending programme, as well as companies where we are amongst the largest owners of voting rights. We also do not lend our shares in specific cases when we are engaged in an intensive company dialogue, and we never lend our entire holding in a company. The latter ensures that we can vote at every shareholder meeting and retain corporate action notifications. Furthermore, we do not vote for shares that we receive as collateral, and we have procedures in place for limiting the risk of lent securities being used for tax avoidance. We have an absolute lending limit of 20 percent of the investment portfolio.

Voting in 2022

We voted on 117,392 resolutions at 11,616 shareholder meetings in 2022. We voted in line with the board's recommendation in 94 percent of cases and at 70 percent of meetings, which was on a par with our voting in 2021. We voted against the board's recommendation on 6 percent of all proposals in 2022. Our reasons for voting against the board is driven by our position papers and our voting guidelines.

Reasons for voting against board candidates. Number of votes.



Effective boards

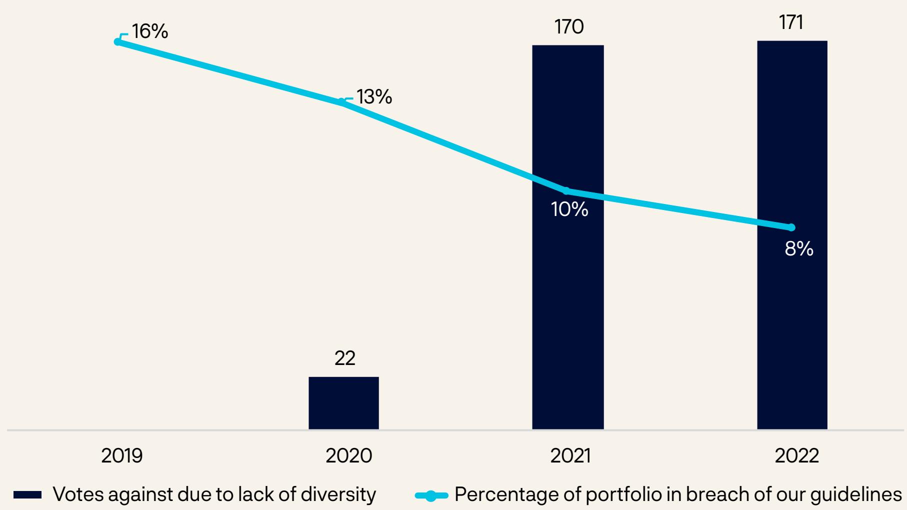
We expect board members to act independently and without conflicts of interest, to have the right balance of experience and skills to carry out their duties and to be accountable for their decisions.

Director elections account for nearly 40 percent of the resolutions we vote on. We voted on 46,452 board candidates in 2022. We voted in line with the board's recommendation in 94 percent of director elections, a similar level as in 2021. Our votes against largely follow from our positions on board independence, effective boards and board diversity.

In Sweden, we participate in the nomination process for the boards of some of our largest investments. In 2022, we continued our work on the nomination committees at Viaplay Group AB, Essity AB and Svenska Cellulosa AB SCA. We took up a new role at the nomination committee at Holmen AB.

We work towards a better gender balance on company boards. In most markets we do not support the re-election of the chair of the nomination committee unless the board has at least two members of each gender. If the chair is not up for election, we vote against other members of the nomination committee.

Votes on gender balance and percentage of portfolio companies in breach of our voting guidelines on diversity, Source: BoardEx



> The CEO should be incentivised to create long-term value for the company.

Board accountability

We may also vote against individual directors to hold them accountable for the company's conduct. We voted against remuneration committee members where there was a history of problematic executive pay, and against audit committee members where the external auditor had found problems with the annual financial statements.

In 2022, we also voted against the re-election of 61 directors at 18 companies due to failures in adequately managing climate risk. The companies were all high emitters that did not report in accordance with the TCFD recommendations and had not otherwise set any emission reduction targets.

Examples of companies where we voted against the board in 2022 due to failure to address climate risks.

Company name	Country
eREX Co Ltd	Japan
China Oriental Group Company Ltd	China
CGN New Energy Holdings Co Ltd	China
Scorpio Tankers Inc	US
China Everbright Environment Group Ltd	China
Nippon Electric Glass Co Ltd	Japan
Sankyu Inc	Japan
MERITZ Financial Group Inc	South Korea
Kingboard Holdings Ltd	China
CITIC Ltd	China
Targa Resources Corp	US

'Say on climate'

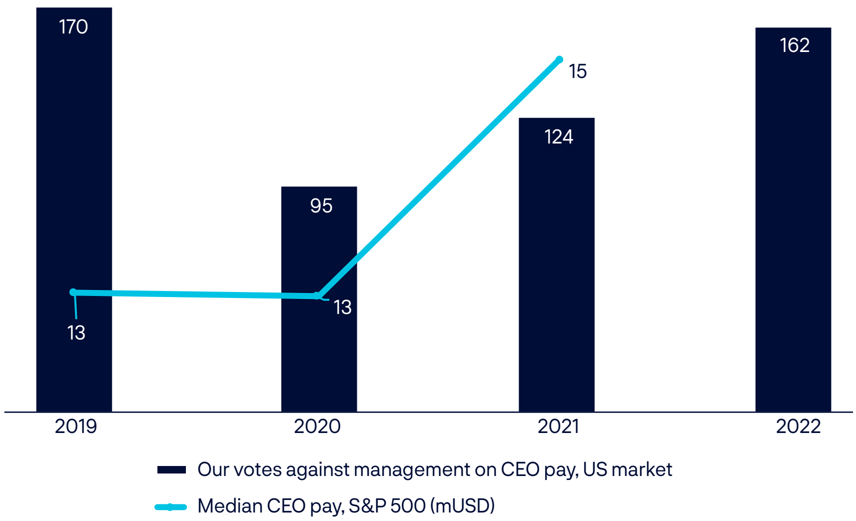
An increasing number of companies are asking their shareholders to approve their climate plans. In most cases, these 'say on climate' votes are non-binding and advisory, and we voted in favour of all plans put to a vote by companies in 2022. When voting on climate plans, we consider elements such as the ambition level of targets set, the robustness of the plans, and the detail of related disclosures. This is still a relatively new field, and good practice for what climate transition plans should contain is still under development.

'Say on pay'
In many countries, shareholders have a right to vote on executive remuneration. As we argue in our position paper, the CEO should be incentivised to create long-term value for the company. Remuneration plans should be long-term and include a substantial component of shares in the company, with a long lock-in period. They should also be easy to understand and clear about how much the CEO is paid each year.

We voted on 5,264 resolutions on CEO remuneration in 2022. We voted against 9 percent of these, compared with 7 percent in 2021. The increase was due partly to our critical stance on companies adjusting targets or measures during the pandemic and partly due to a pick-up in pay as companies did better in 2021 than during the first pandemic year.

The median CEO pay for large-cap companies in the US increased by 15 percent in 2021 compared to 2020. In the US, shareholders can vote on remuneration practices in the past financial year. We increasingly voted against CEO pay packages in the US during the year. This is because we

Change in CEO pay and votes against. Source: ISS, S&P 500 companies.



44,372

votes on resolutions concerning shareholder rights.

Top 10 holdings where we voted against the board's recommendation on CEO Pay.

Company Name	Country
Apple Inc	US
LVMH Moët Hennessy Louis Vuitton SE	France
The Coca-Cola Co	US
Prosus NV	Netherlands
Broadcom Inc	US
Cisco Systems Inc	US
Bayer AG	Germany
Oracle Corp	US
NIKE Inc	US
Kering SA	France

adjusted our voting practices and decided not to support remuneration practices where outcomes could be unusually costly, and the incentive structure did not clearly align with shareholders' interests. Overall, we observed an increasing number of votes against management's recommendation on CEO remuneration plans in the US market.

Protection of shareholders

We voted on 44,372 resolutions concerning shareholder rights in 2022. We voted against the board's recommendation in 5 percent of these cases, compared with 4 percent in 2021.

Votes against the board's recommendation on resolutions concerning shareholder rights.

Topic	Rationale	Number of votes against in 2022	Percentage of votes against in 2022	Percentage of votes against in 2021
Amendments of companies' governing documents	Changes were not in shareholders' interests or not enough information to assess them	565	12	10
Appointment of the external auditor	Often due to insufficient information to assess the auditor's independence	192	3	3
Share issuance	Mainly where the board proposed waiving pre-emption rights in major new share issuance	345	4	4
Mergers and acquisitions	Introduction of anti-takeover measures	72	11	9

> There was a significant increase in the number of shareholder proposals on environmental and social issues in 2022.

Shareholder resolutions on corporate governance

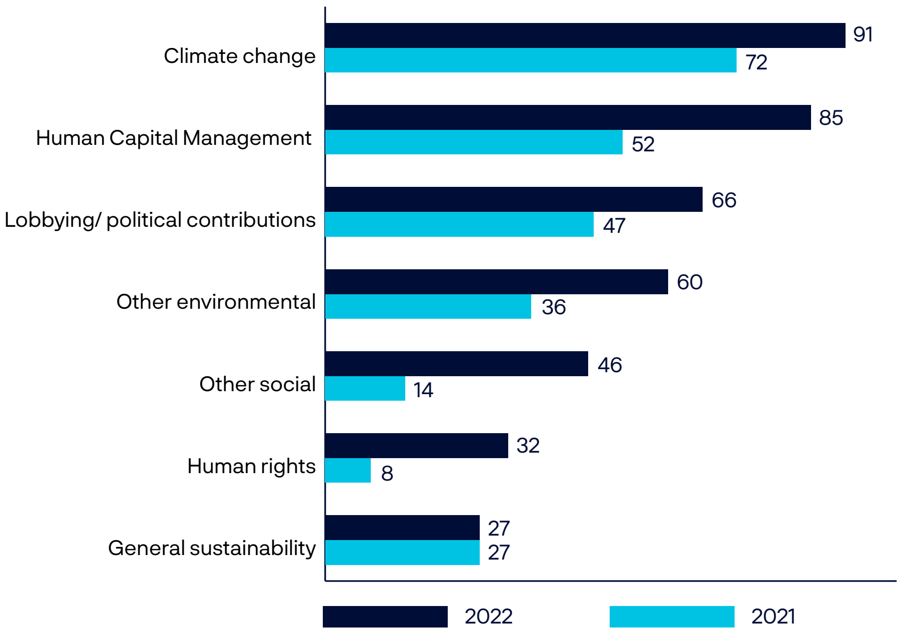
Resolutions submitted by shareholders made up only 2 percent of the resolutions we voted on in 2022. Corporate governance matters accounted for 83 percent of these, and sustainability issues for 17 percent.

We support shareholder resolutions on governance matters where they are well-founded and aligned with our principles, such as asking for an independent chairperson. In 2022, we voted in favour of 55 percent of governance-related shareholder resolutions globally, compared with 63 percent in 2021.

Shareholder resolutions on sustainability matters

There was a significant increase in the number of shareholder proposals on environmental and social issues in 2022. The increase was broad-based across markets and topics, but growth was particularly strong in the US. Some new topics also emerged in 2022. According to the proxy advisor ISS, 42 percent of shareholder resolutions on sustainability in the US were withdrawn ahead of the shareholder meeting in 2022, often after the company committed to amending its practices in line with the proponent's wishes.

Key topics of sustainability-related shareholder proposals and new topics emerging.



Emerging topics in 2022

Racial equity

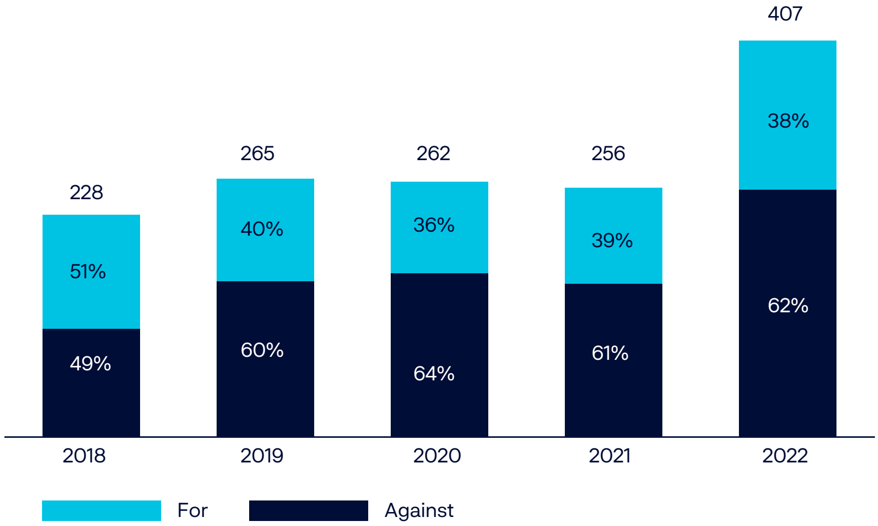
Reproductive rights

Animal welfare

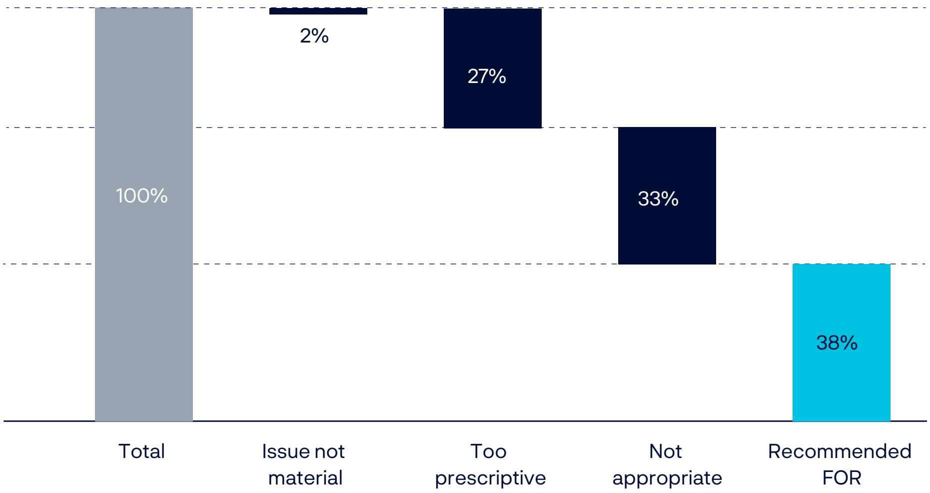
IEA's Net Zero by 2050 Scenario

In 2022, we voted on a total of 407 shareholder resolutions on sustainability. We voted in favour of 38 percent of these. The main reasons why we voted against proposals were because they were too prescriptive or not appropriate given existing commitments or actions taken by the company.

Votes on sustainability-related shareholder proposals. Breakdown year on year.



Rationale for our voting decisions on sustainability-related shareholder proposals.



A total of 41 sustainability resolutions filed at companies in which we have holdings were passed in 2022, compared to 44 in 2021.

Examples of shareholder resolutions we supported, which received majority support. Percent.

Company	Shareholder resolution	Support level
Chevron	Climate change: Oversight and report on reliability of methane emission disclosures	98
Disney	Human capital management: Report on gender and racial pay gaps	59
McDonalds	Human capital management: Third-party civil rights audit	55
Caterpillar	Climate change: Long-term GHG targets aligned with Paris Agreement	96

Voting at Russian companies in 2022

On 28 February 2022, the Norwegian Ministry of Finance decided to immediately freeze all the fund's investments in Russia, and asked Norges Bank to prepare a plan for the complete divestment of the fund from the Russian market. Norges Bank Investment Management voted at 21 meetings in Russia in 2022, compared to 103 in 2021. As a result of international sanctions against Russia, we were not able to exercise our voting rights to the same extent as in previous years. In order to manage the balance between protecting our shareholder rights and mitigating the risk of supporting an item which may have been deemed in breach of sanctions, we only voted at shareholder meetings for companies that were not on the sanctioned list at the time of the meeting. When we did vote, our main focus was on supporting independent board members and protecting our assets. Our global custodian Citibank decided to scale back certain custody services offered in Russia, which meant that proxy voting was no longer supported by Citibank from 1 October 2022. We therefore no longer vote at shareholder meetings at Russian companies.

Votes against board recommendations among the fund's top 50 holdings in 2022.

Company	Portfolio Rank	Country	Resolutions voted against	Rationale
Apple Inc	1	US	5	Sustainability reporting, remuneration
Microsoft Corp	2	US	3	Sustainability reporting, chairperson independence
Alphabet Inc	3	US	11	Sustainability reporting, board time commitment, voting rights, remuneration
Amazon.com Inc	5	US	6	Sustainability reporting
Roche Holding AG	6	Switzerland	1	Shareholder protection
Berkshire Hathaway Inc	11	US	4	Sustainability reporting, chairperson independence
UnitedHealth Group Inc	12	US	1	Sustainability reporting
Exxon Mobil Corp	13	US	3	Sustainability reporting, chairperson independence
Novartis AG	14	Switzerland	1	Shareholder protection
Johnson & Johnson	17	US	1	Sustainability reporting
LVMH Moet Hennessy Louis Vuitton SE	18	France	4	Related party transaction, governing documents, remuneration
Meta Platforms Inc	19	US	7	Chairperson independence, sustainability reporting, voting rights
JPMorgan Chase & Co	22	US	2	Chairperson independence
HSBC Holdings PLC	24	UK	2	Governing documents
The Procter & Gamble Co	25	US	1	Chairperson independence
The Home Depot Inc	26	US	4	Chairperson independence, sustainability reporting
Tesla Inc	28	US	8	Sustainability reporting, board accountability, governing documents
Bank of America Corp	29	US	1	Chairperson independence
Eli Lilly & Co	30	US	3	Chairperson independence, sustainability reporting
Alibaba Group Holding Ltd	32	China	2	Chairperson independence
Pfizer Inc	33	US	1	Chairperson independence
Thermo Fisher Scientific Inc	34	US	1	Chairperson independence
Visa Inc	35	US	2	Chairperson independence, board time committment
Chevron Corp	37	US	3	Sustainability reporting, chairperson independence
AbbVie Inc	38	US	2	Sustainability reporting, chairperson independence
The Coca-Cola Co	39	US	4	Chairperson independence, board time committment, remuneration
Merck & Co Inc	45	US	2	Sustainability reporting, chairperson independence
Walmart Inc	48	US	2	Sustainability reporting
PepsiCo Inc	50	US	2	Chairperson independence

Ethical exclusions

We exclude companies whose products or conduct violate fundamental ethical norms. By not investing in these companies, we reduce the fund's exposure to unacceptable risks.

The Ministry of Finance has issued ethically motivated Guidelines for Observation and Exclusion from the fund. According to these guidelines, the fund must not be invested in companies that produce certain types of weapons, base their operations on coal, produce tobacco or cannabis for recreational use. Also, the fund must not be invested in companies where there is an unacceptable risk that their conduct contributes to violations of fundamental ethical norms, including acts or omissions that, on an aggregate company level, lead to unacceptable greenhouse gas emissions.

The Ministry of Finance has set up an independent Council on Ethics, responsible for making ethical assessments of companies and made up of five members and a secretariat. The Council can recommend that companies should be excluded from the fund or placed under observation according to the Ministry's guidelines. Norges Bank's Executive Board makes the final decision on exclusion, observation or active ownership. Norges Bank and the Council on Ethics exchange information regularly throughout the process and co-ordinate contact with companies as relevant. In 2022, Norges Bank announced the exclusion of 13 companies and placed four under observation, while reversing the exclusion of two companies and removing four from observation. All recommendations made by the Council are available to the public once the Executive Board has made its decision.

Since 2015, Norges Bank has also been able to exclude companies or place them under observation under the coal product criterion on its own initiative. In 2022, the Guidelines were amended so that Norges Bank can make decisions on its own initiative based on the conduct-based greenhouse gas criterion.

> Companies may also be excluded if there is an unacceptable risk of them contributing to or being responsible for particularly serious violations of fundamental ethical norms.

Product-based exclusions

The fund must not invest in companies which themselves, or through entities they control, manufacture weapons that violate fundamental humanitarian principles through their normal use, or sell weapons or military materiel to certain countries. Nor may the fund invest in companies that produce tobacco or cannabis. There is also a product-based coal criterion that applies to companies in two categories: mining companies that derive 30 percent or more of their revenue from the production of thermal coal, and power companies that derive 30 percent or more of their revenue from coal-based power production. The coal criterion also includes mining and power companies that produce more than 20 million tonnes of thermal coal per year or have coal-based power generation capacity of more than 10,000 MW, regardless of total revenue or total power output.

We announced the exclusion of seven companies under the product-based criteria in 2022. A total of 111 companies that produce certain types of weapon, tobacco, cannabis or coal, or use coal for power production, are currently excluded from the fund.

Conduct-based exclusions

Companies may be excluded if there is an unacceptable risk of them contributing to or being responsible for particularly serious violations of fundamental ethical norms. Norges Bank's Executive Board bases its decisions on an assessment of the probability of future norm violations, the severity and extent of the violations, and the connection between the violation and the company in which the fund is invested.

Norges Bank may also consider the breadth of the company's operations and governance, including whether the company is doing what can reasonably be expected to reduce the risk of future norm violations within a reasonable time frame. Before Norges Bank takes a decision to exclude a company, it must consider whether other measures, such as active ownership, might be more suited to reduce the risk of continued norm violations, or whether such alternative measures may be more appropriate for other reasons.

Ethical exclusions and observations in 2022.

Category	Criterion	Number	Companies	Total 2002-2022
Exclusion	Production of specific weapon types	0		16
	Production of tobacco	3	Eastern Co SAE, Hanjaya Mandala Sampoerna Tbk PT, Scandinavian Tobacco Group A/S	19
	Production of cannabis	4	Aurora Cannabis Inc, Canopy Growth Corp, Cronos Group Inc, Tilray Brands Inc	4
	Thermal coal mining or coal-based power production	0		72
	Serious or systematic human rights violations	2	Li Ning Co Ltd, Cognyte Software Ltd	9
	Serious violations of the rights of individuals in situations of war or conflict	2	PTT Oil and Retail Business PCL, PTT PCL	10
	Severe environmental damage	2	NHPC Ltd, Young Poong Corp	23
	Greenhouse gas emissions	0		4
	Gross corruption	0		2
	Other particularly serious violations of fundamental ethical norms	0		1
	Severe environmental damage and human rights violations	0		3
Observation	Thermal coal mining or coal-based power production	0		13
	Serious or systematic human rights violations	1	Supermax Corp Bhd	1
	Serious violations of the rights of individuals in situations of war or conflict	1	Adani Ports & Special Economic Zone Ltd	2
	Severe environmental damage	0		2
	Gross corruption	1	Bombardier Inc	2
	Severe environmental damage and human rights violations	1	Hyundai Glovis Co Ltd	2
Revoked exclusions	Production of specific weapon types	0		5
	Production of tobacco	0		1
	Thermal coal mining or coal-based power production	0		3
	Serious or systematic human rights violations	0		4
	Severe environmental damage	1	IJM Corp Bhd	2
	Other particularly serious violations of fundamental ethical norms	1	San Leon Energy Plc	4
	Severe environmental damage and human rights violations	0		1
Observation ended	Thermal coal mining or coal-based power production	0		4
	Gross corruption	1	Leonardo SpA	4
	Serious or systematic human rights violations	3	Hansae Co Ltd, Hansae Yes24 Holdings Co Ltd, Nien Hsing Textile Co Ltd	3

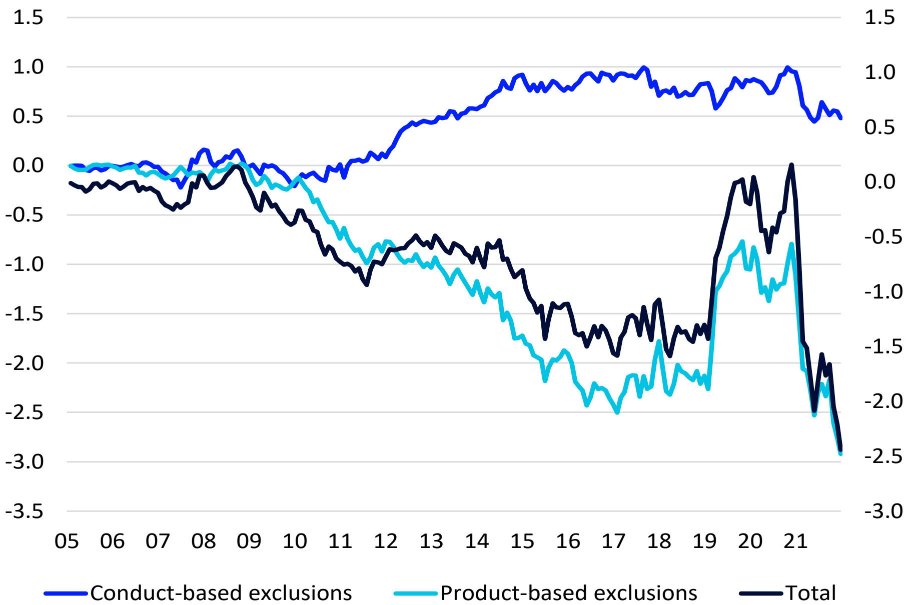
In 2022, we announced the exclusion of six companies on the grounds of conduct considered to constitute a particularly serious violation of ethical norms, while two exclusions under the conduct criteria were reversed. A total of 52 companies are currently excluded because of their conduct.

Impact on the fund's equity returns

Product-based exclusions have reduced the cumulative return on the equity benchmark index by around 2.9 percentage points, or 0.07 percentage point annually. It is first and foremost the exclusion of weapons manufacturers that has reduced returns, but the absence of tobacco companies has also played a role. Conduct-based exclusions have increased the cumulative return on the benchmark index for equities by around 0.5 percentage point, or 0.01 percentage point annually. The exclusion of companies due to severe environmental damage has contributed particularly positively.

Since 2006 the equity benchmark index has returned 2.4 percentage points less than it would have done without any ethical exclusions. On an annualised basis, the return has been 0.06 percentage points lower.

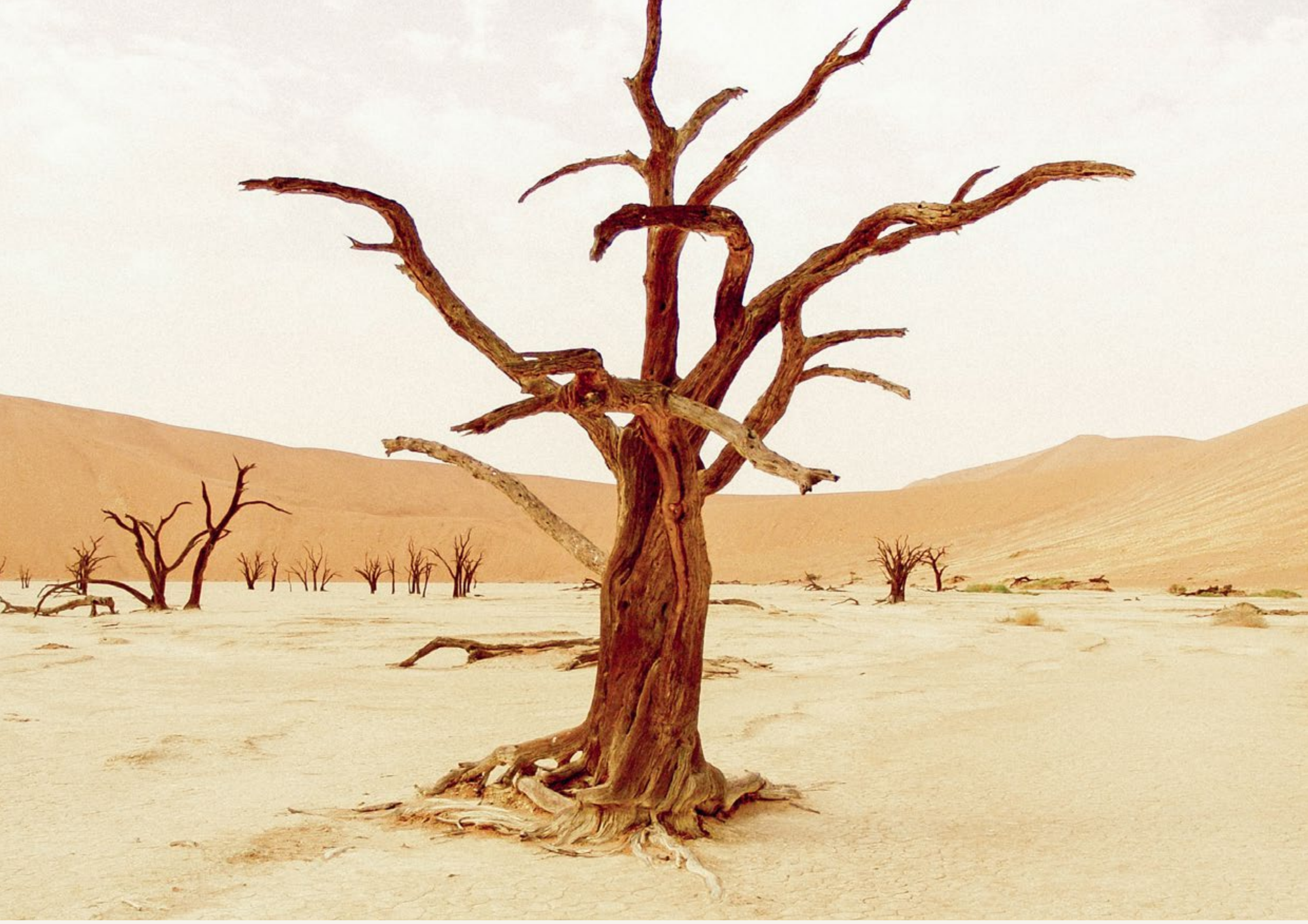
Return impact of equity benchmark index exclusions relative to an unadjusted index. Measured in dollars. Percentage points.



Contribution to return impact of equity benchmark index exclusions, by exclusion criterion, as at 31 December 2022. Market value in billions of kroner. Contributions measured in dollars. Percentage points.

Criterion	Number of excluded companies	Market value in benchmark if not excluded[1]	2022	2006-2022 annualised
Product-based exclusions	**111**	**229**	**-0.62**	**-0.07**
Production of specific weapon types	16	89	-0.22	-0.04
Production of tobacco	19	61	-0.18	-0.02
Thermal coal mining or coal-based power production	72	77	-0.22	-0.01
Production of cannabis	4	0	0.00	0.00
Conduct-based exclusions	**52**	**56**	**-0.09**	**0.01**
Serious or systematic human rights violations	9	7	0.00	-0.01
Serious violations of the rights of individuals in situations of war or conflict	10	4	0.00	0.00
Severe environmental damage	23	34	-0.06	0.02
Acts or omissions that on an aggregate company level lead to unacceptable greenhouse gas emissions	4	8	-0.03	0.00
Gross corruption	2	1	0.00	0.00
Other particularly serious violations of fundamental ethical norms	1	1	0.00	0.00
Severe environmental damage and human rights violations	3	1	0.00	0.00
Total	**163**	**284**	**-0.71**	**-0.06**

[1] Market value and return impact include only companies that were part of the FTSE Global All Cap Index as of 31.12.2022.



Appendix

1. Sustainability due diligence

Conducting ongoing due diligence on environmental and social topics is an integral part of our work as a responsible investor. We seek to identify and assess potential and actual adverse impacts which companies we invest in may cause, contribute or be directly linked to. As a minority investor, we cannot direct companies to take action, but we seek to use our leverage to encourage them to take steps to prevent and mitigate adverse impacts.

Embedding responsible business conduct into policies and management

We respect human rights in our activities. As stated in our principles and policy for responsible investment management, we follow relevant international standards, including the UN Global Compact, the OECD Guidelines for Multinational Enterprises and Guidance for Institutional Investors, the UN Guiding Principles on Business and Human Rights, and the G20/OECD Principles of Corporate Governance.

These principles and standards form the basis for our active ownership and risk monitoring through our expectation documents. We set clear expectations that our portfolio companies should integrate material sustainability issues into their policies, strategies and risk management practices, and that they should identify and manage adverse impacts on the environment or society. We embed due diligence in our work across asset classes, including with external managers.

Identifying and prioritising actual and potential adverse impacts

We have several integrated processes that aim to identify companies that could have significant adverse impacts on the environment or society – before and after we invest. We analyse risks on a best-efforts basis as information can be limited, making it challenging to assess adverse impacts and how companies are linked to them.

We consider companies' exposure to sustainability risks such as environmental and labour conditions as part of our pre-screening process. We also continuously monitor portfolio companies for potential and actual adverse impacts, including in their value chains where such information is available. We screen our portfolio for severe ESG-related incidents on a daily basis and conduct comprehensive quarterly due diligence screens. This monitoring gives us an understanding of the fund's risk exposure and informs our use of leverage, our active ownership and our investment decisions.

Our due diligence efforts focus on companies with the most severe impacts in terms of scale, scope and irremediability. We review our prioritisations regularly – based on engagement outcomes, changes in companies' due diligence, reporting and risk exposure, and input from stakeholders.

Seeking to prevent and mitigate adverse impacts

Our primary tool for seeking to prevent and mitigate potential and actual adverse impacts is active ownership. Our engagement approach is informed by the nature and severity of the risk or issue, and an assessment of our leverage – including the size of our investment and previous dialogue with the company.

We set clear objectives for each company dialogue, such as improved policies and management systems, remediation or increased transparency. We engage with company boards, management, subject-matter experts and operational staff. We also issue letters to company boards, such as outreach to companies that appear to have limited management of material sustainability risks.

To complement dialogue as a tool for addressing adverse impacts, we may use other means of engagement and escalation. We can vote at companies' annual general meetings, including by supporting relevant shareholder proposals or voting against board members. We may refer cases to the Council on Ethics for further investigation, or we can divest.

We may also work collaboratively with other investors and organisations and engage with standard setters. We publish our responses to consultations and disclose our engagement with organisations.

Tracking and communicating results

We have systems to track companies' progress in addressing their sustainability risks. We set clear objectives for our company dialogues based on their salient and material risks, and track outcomes after engagement. This helps us focus our company interactions and ensure internal co-ordination.

We communicate with stakeholders through our Responsible Investment report, website and stakeholder dialogue. We publish our policies and frameworks, and report on our prioritised dialogues, divestments and exclusions. We also publish our voting decisions five days ahead of shareholder meetings.

Stakeholder engagement and grievance mechanism

We recognise that the fund's stakeholders span from our ultimate owners – the Norwegian people – and our own employees to those working for our portfolio companies or in their supply chains, and those affected by our portfolio companies' operations as consumers or community members.

We encourage stakeholders to share information with us that they believe could be relevant for our investments, and we regularly engage with stakeholders through bilateral or multilateral dialogues.

Our public company expectations ask for effective and accessible grievance channels and engage with workers and their representatives. We also expect companies to provide for or cooperate in remediation where it is required, as set out in the OECD's Due Diligence Guidance for Responsible Business Conduct.

Who is involved in this work?

The Executive Board is responsible for establishing principles for responsible investment management, which cover Norges Bank Investment Management's due diligence efforts. Day-to-day exercise of due diligence is carried out by several teams, including our risk monitoring team, corporate governance teams and portfolio managers. Norges Bank Investment Management's Leader Group and Norges Bank's Executive Board are regularly apprised on responsible investment-related matters. The Executive Board makes decisions on ethical exclusions, based on recommendations from the Council on Ethics or on their own initiative for certain criteria.

2. TCFD Report

Governance	
The fund's mandate	• The management mandate for the fund, given to Norges Bank by the Ministry of Finance, includes requirements for responsible investment and climate risk. The mandate makes it clear that Norges Bank's responsible investment efforts are to be based on a long-term goal that portfolio companies align their operations with global net zero emissions in line with the Paris Agreement. It also has requirements for the management of and reporting on financial climate risks, in line with international standards. • According to the Ministry's guidelines for observation and exclusion, the fund must not be invested in companies that base their operations on coal, nor in companies whose conduct contributes to violations of fundamental ethical norms, including acts or omissions that on an aggregate company level lead to unacceptable greenhouse gas emissions. • Changes to the mandate or the guidelines are subject to parliamentary scrutiny. The Ministry publishes an annual white paper on the management of the fund which discusses the further development of the investment strategy and the fund's work on responsible investment and climate risk.
Board oversight	• Climate change as a financial risk has been a focus area for Norges Bank since 2006, and the work on integrating climate risk into investment management is overseen by the Executive Board. • The Executive Board has issued principles for responsible investment management and risk management, which address climate risk. It oversees the implementation of the fund's responsible investment strategy, and reviews the annual responsible investment report. The Executive Board decides which companies are to be placed under observation or excluded from the fund. • The Executive Board has established an Ownership Committee with a preparatory and advisory role on matters pertaining to the fund's responsible investment activities and decisions on observation and exclusion. • In 2022, the Executive Board approved the 2025 Climate action plan, which sets out the actions we aim to take over the period 2022-2025 to address climate risk in the management of the fund.
Role of management	• The Chief Executive Officer (CEO) of Norges Bank Investment Management has overall responsibility for implementing the requirements set by the Executive Board. The CEO sets policies and issues mandates and job descriptions for members of the Leader Group, including policies on responsible investment and climate risk management. • The Chief Governance and Compliance Officer (CGCO) and Chief Risk Officer (CRO) both report directly to the CEO. The CGCO is responsible for the fund's work on responsible investment, including the fund's expectation documents on climate change, deforestation and biodiversity, and is supported by the Corporate Governance department. The CRO is responsible for analysing, measuring and reporting investment risk for the fund, including climate risk, and is supported by the Risk Monitoring department. • The investment mandates issued to all the fund's internal and external investment managers require investment decisions to consider ESG information, including climate risk. • We have a Climate Advisory Board, whose members have extensive knowledge about climate risk, market standards and finance, and will support us in implementing our 2025 Climate action plan.

Strategy	

Risks and opportunities	• The fund has a clear financial interest in the goals of the Paris Agreement being reached in an orderly manner. Climate change is a financial risk for the fund, and one of several risk factors that we track systematically. The fund is invested broadly across sectors and markets, and with a long time horizon, with limited room for benchmark deviations. A warmer world entails higher net costs for the global economy and, by implication, the fund's broadly diversified investment portfolio.
	
	• Our investments are exposed to two types of climate risk.
	
	  ◦ **Physical climate risk** stems from the physical changes resulting from climate change, either the temperature increases themselves or associated changes in weather patterns, sea levels, ecology or human habitation. There is also uncertainty around tipping points in the climate system that, when exceeded, may lead to irreversible changes. The need for climate adaptation may also create new investment opportunities.
	
	  ◦ **Transition risks** are generated by the economic and societal shifts towards a low-carbon economy. They can stem from policy changes, new technologies and changing consumer behaviour. Producing and consuming goods and services in ways that emit smaller amounts of greenhouse gas emissions also create investment opportunities.
	
	• The financial risk of climate change for the fund is driven by the uncertainties surrounding the rate and scale of climate change, the nature of societal responses to it, the price of assets at the point of purchase, and the degree to which climate risk is reflected in pricing.
	
	• We integrate climate considerations into active investment decisions, and **look at opportunities**. We believe that companies that understand the drivers of net zero emissions and anticipate regulatory developments will be well-positioned to capture the financial opportunities arising from the transition to a low-carbon economy.
	
	• Meeting the goals of the Paris Agreement will require a fundamental transformation of how energy is produced and consumed. The transition demands both a decrease in the use of fossil fuels and an increase in the deployment of green technology and renewable energy. By investing in **unlisted renewable energy infrastructure**, the fund can contribute to the low-carbon transition whilst further diversifying risk.
	
	• **Real estate investments** have a long time horizon and may be affected by both physical climate risks and risks associated with the transition to a low-carbon economy. Besides directly damaging the buildings we invest in, physical climate risks such as flooding and extreme weather can lead to higher insurance premiums, building closures and changes in population patterns. Local authorities in most cities we invest in have set concrete targets for emission reductions in buildings. We are also seeing more and more tenants set net zero emission targets for their own business operations which lead them to favour energy-efficient buildings powered by renewable energy sources.
	
	• Our understanding of climate effects on the global economy and financial markets will continue to grow. At the same time, governments are introducing new policies, technology is evolving, consumers are changing their preferences, and companies are adapting their strategies. These developments will influence the fund's climate risk. Ultimately, the climate risk for the fund depends on governments fulfilling their commitments to enable an orderly transition of the global economy, and companies reaching their net zero targets.

Strategy	

Investment strategy	• In general, and as determined in the investment mandate, the fund seeks to manage risks and capture investment opportunities by being **broadly invested in sectors and markets.** The fund is invested in listed equities, tradable bonds, unlisted real estate and unlisted renewable energy infrastructure.
	
	• The fund's **investment universe and benchmark index are nevertheless subject to several climate-relevant adjustments.** Coal miners and coal-based power producers are excluded from the fund's investment universe if they exceed set thresholds under the ethical guidelines. Oil and gas exploration and production companies have been removed from the fund's benchmark index for equities based on an assessment of Norwegian national wealth exposures.
	
	• **Our 2025 Climate action plan** addresses financial climate risk and opportunities, setting out the actions we aim to take over the period 2022-2025. These actions are targeted at improving market standards, increasing portfolio resilience, and effectively engaging with our portfolio companies. We will also expand our reporting on the fund's exposure to climate risk, and the results of our ownership efforts. At the heart of our efforts is driving portfolio companies towards net zero emissions by 2050 through credible targets and transition plans for reducing their scope 1, scope 2 and material scope 3 emissions.
	
	  ◦ At the **market level**, our goal is to support the development of improved global, science-based standards for managing climate risk that create a level playing field for companies. We aim to contribute to more sustainable and efficient financial markets by supporting better corporate climate reporting, the development of methods for credible transition pathways, and promising academic research on financial climate risk.
	
	  ◦ At the **portfolio level,** we use quantitative tools to better understand climate-related risks and opportunities and how these are valued by the market. Our processes and data interfaces ensure that these insights are shared widely across the organisation. Analysis of climate risk is integrated into our investment decisions and informs our divestments.
	
	  ◦ At the **company level**, we will be an owner of companies through the climate transition. We will consider sector- and company-specific climate information when evaluating ownership and investment cases. We aim to use increasingly granular climate-related data to inform our investment decisions, and to carry out net zero dialogues with companies representing 70 percent of financed scope 1 and scope 2 emissions in the equity portfolio.

Scenario analysis	• The scale of **future climate change and the associated climate risk is highly uncertain**. It depends on the rate of future emissions and the impact of growing atmospheric concentrations of greenhouse gas emissions on the Earth's climate and economy. Whereas the carbon footprint of the fund helps us understand our current exposure to emission-intensive companies, sectors and markets, it says less about our exposure to climate risk in the future. To address this, we also stress-test the sensitivity of the fund to plausible emission trajectory scenarios, as well as physical climate risks resulting from a warmer world. • **Climate scenarios are** plausible narratives around future trends in emissions, technological innovation, physical climate change, and adaptation. Scenarios for transition risk exposure should build on plausible assumptions about companies' future development based on their industry and region, regulatory and technological developments, and their facilities and assets. Physical risk scenarios are based on reasonable assumptions about future emission trajectories and their corresponding physical impacts on the climate. • We have estimated the potential loss in value for the fund's equity portfolio in **climate scenarios where temperatures rise by 1.5°C, 2°C or 3°C by 2080. We also looked at a 2°C scenario with a late policy response**, where carbon prices follow the 3°C scenario until 2030 and then rise rapidly in the years after that. To analyse physical climate risk, we considered an extreme scenario with rising emissions and more severe global warming. • The losses in the fund's equity portfolio under different climate scenarios are estimated at between 1 and 13 percent, using MSCI's Climate Value-at-Risk model. The model indicates that the losses will be greatest with a late policy response leading to warming of 2°C, or a scenario with continuously rising emissions and substantial global warming. Based on these estimates, the **fund stands to benefit from an early and gradual transition to a low-carbon economy** rather than a delayed and abrupt transition. The estimate of losses associated with substantial global warming are very uncertain, and the model likely underestimates the effects of heat waves, droughts, water shortages, extreme weather and losses of biodiversity and natural resources, on global markets. • **Scenario analysis presents some challenges.** Results from scenario analyses illustrate the spread and relative significance of potential outcomes. From an investment perspective, they say little about whether the market has already priced in climate risk to some extent. Nor do they take account of individual companies' climate plans or historical changes in their emissions. Given that the estimated losses are expressed in terms of present value, and the greatest losses from physical climate change in particular are expected to materialise well into the future, the discount rate used will have a significant impact on the results. Another challenge is that the models analyse transition risk and physical risk independently, even though the relationship between them will be dynamic. Furthermore, the models do not include potentially significant economic consequences of climate change that are hard to quantify, such as migration, food shortages and political turmoil.

Risk management	
Identification and assessment of risks	We use a number of tools to measure the fund's climate risk exposure. • We estimate the **carbon footprint** and **carbon intensity** of the portfolio and equity benchmark index annually, based on aggregating the greenhouse gas emissions profile of each company in which the fund is invested. • These **companies have different levels of exposure** to climate risks and opportunities based on which markets and sectors they operate in, and the nature of their business models and operations. Based on data from MSCI, we estimate that 6 percent of the market value of the fund's equity portfolio was invested in companies providing climate solutions, 76 percent having neutral exposure to transition risk, 7 percent in the group considered to require operational transition, and 8 percent in the group requiring product transition. Three percent are unclassified. • We **screen our portfolio** for companies with particularly carbon-intensive business models and poor climate risk management practices. We monitor the portfolio continuously for ESG-related incidents, including climate risk. • The **fund's real estate investments** are directly exposed to both physical risks and transition risks. With regards to our investments in unlisted real estate, we compare current building emissions with a 1.5°C pathway developed by Carbon Risk Real Estate Monitor (CRREM). Based on 2021 data 26 percent of our unlisted portfolio by net asset value was aligned with a 1.5°C pathway. Furthermore, we estimate that around 4 percent of the value of the unlisted real estate portfolio is in locations that have a 1 percent probability of material flooding, based on government maps showing the locations of 100-year flood zones.
Management of risks	**Market level** • We engage with standard setters and regulators to strengthen rules and standards on corporate reporting on climate change, and to ensure that companies report the information that we need to manage and report on climate risk for the fund and monitor companies' progress towards net zero. We also participate actively in initiatives such as the Carbon Risk Real Estate Monitor (CRREM) and the Transition Pathway Initiative (TPI), and we support research on climate risk. **Portfolio level** • **Risk-based divestments:** Climate-related considerations may lead us to divest from companies which we believe are particularly exposed to climate risk. Between 2012 and 2022, we divested from 179 companies that had particularly high greenhouse gas emissions or exposure to deforestation risks. We also assess the ESG risks of companies entering the fund's equity benchmark, including climate risk. • **Real estate:** We look at each asset and implement a decarbonisation plan based on opportunities for retrofits and energy efficiency investments. To address the risk of material flooding, we have taken steps to protect buildings in flood zones with temporary flood barriers, by moving equipment to higher floors, and through insurance arrangements. To address the regulatory risk, we measure emissions from our unlisted real estate investments and work on reducing them according to our targets of net zero emissions in 2050 and 40 percent intensity improvements by 2030. Many of our tenants are international companies that have targets for reducing their carbon footprint. This may lead them to look for offices in energy-efficient buildings with low emissions. **Company level** • **Ownership: This is a central tool** in our climate risk management approach. We believe that our engage-to-change approach will yield the best financial results for the fund. It may also contribute to reduced company emissions. We meet companies regularly to discuss their approach to climate-related risks and opportunities, and to encourage TCFD disclosure and setting emission reduction targets in line with the objectives of the Paris Agreement. We expect them to set science-based short-, medium- and long-term emission reduction targets for their scope 1, scope 2 and material scope 3 emissions, accounting for demand- and supply-side risks in a net zero scenario. We also ask them to undertake appropriate short-term actions to help mitigate global warming and reduce exposure to climate risk. For selected industries, this might include significantly reducing methane emissions or eliminating deforestation impacts from their business activities and/or value chains. • **Ethical exclusions**: Some companies may be excluded from the fund's investment universe based on the ethically motivated guidelines for observation and exclusion. These include mining companies and power producers that base their operations on coal, and companies that contribute to severe environmental damage or unacceptable greenhouse gas emissions. Companies whose transition plans fall significantly short of those of their peers, and which do not respond to engagement, are candidates for assessment under the climate-related conduct exclusion criterion. The final decision is taken by Norges Bank's Executive Board and published.

Metrics and targets	

Portfolio carbon footprint and emission pathways

- A portfolio carbon footprint is derived from the aggregate emissions associated with underlying assets and securities in a given reporting period, and can be expressed in absolute terms or normalised using financial metrics. We have measured and publicly disclosed the carbon footprint of the equity portfolio and benchmark index since 2014, based on reported and estimated data for scope 1 and 2 emissions.

Methodological considerations

- We have begun aligning our reporting of the fund's carbon footprint with guidance from the Partnership for Carbon Accounting Financials (PCAF). Compared to our previous disclosures, PCAF alignment means, amongst other things, that we will begin disclosing an expanded weighted data quality score, phase in segregated scope 3 reporting, and begin reporting so-called financed emissions, which is the companies' emissions weighted by our share of their enterprise value. As previously, the carbon footprint figures we publicly disclose consist of reported and estimated emission data from a single source – S&P Global Trucost – to ensure internal consistency in the data set, as recommended by PCAF.

- There are challenges with carbon footprinting, related to data availability and quality. Calculated carbon footprints are associated with significant uncertainty and in large part driven by the assumptions used by individual data providers in their emission estimation models. Individual emission data may be drawn directly from corporate disclosures or modelled based on emissions in a company's given sector. We approximate that 44 percent of the data used to estimate the fund's carbon intensity can be attributed to emissions data disclosed by companies, or derived from other corporate disclosures in 2022, whereas 46 percent was attributable to such data from from 2021. The remaining 10 percent of carbon intensity has been modelled.

- For our unlisted real estate portfolio, we collect energy data from the buildings we own. Within our joint venture logistics and central London portfolios, the data quality was low. This means we had to use PCAF aligned estimates for all assets in these specific portfolios. Assets with estimated consumption are classified as not in compliance with the CRREM decarbonisation pathways.

The fund's carbon footprint

- We have measured the fund's financed emissions for 2022 for the equity and corporate bond portfolio and benchmark. For a given year, this entails dividing the net asset value of our investment in a company with its enterprise value including cash (EVIC). This gives the attribution factor, which is subsequently multiplied by the sum of the company's scope 1 and 2 emissions. **The financed emissions for the equity and corporate bond portfolio in 2022 were 51.7 million tonnes CO_2-equivalents**, 15 percent lower than for the benchmark index.

- We also measured the weighted average carbon intensity of the fund's equity and corporate bond portfolio. This entails dividing each company's scope 1 and 2 emissions by its total revenue for the year and aggregating to portfolio level using each company's relative weight of the portfolio's net asset value. The **companies in our equity portfolio emitted around 135 tonnes of CO_2-equivalents for every million US dollars of revenue in 2022**, down 4 percent on the previous year. The decrease can be attributed to many factors. In isolation, the higher relative allocation to industry sectors with lower direct and indirect emissions, notably health care and financials, implied a decrease in the weighted average carbon intensity of the fund's equity portfolio. Changes in market capitalisation of specific industries, such as technology, utilities and energy, in combination also contributed.

- **The equity portfolio's carbon intensity in 2022 was 12 percent below that of the benchmark index for equities**. The difference can largely be put down to our investments in industrial companies and utilities having a lower carbon intensity than the companies in the benchmark index. By way of comparison, the equity portfolio's carbon intensity was 28 percent lower than for the FTSE Global All Cap index.

- We also measure the implied warming of the portfolio based on its current and projected carbon intensity, as estimated by MSCI. In general terms, the model sets future emissions pathways of companies on the basis of their current emissions and targets set for emissions reductions. In 2022, **the estimated implied warming of the equity portfolio was 2.4°C**, 0.1°C above the benchmark index. Investments in Energy and Basic Materials sectors have an implied warming based on their projected emission pathways above 3.5°C, whereas Communication Services is the only sector with projected future emissions and reduction targets aligned with a 1.5°C pathway. The work on emissions pathways and sector allocations is at an early stage.

- **The corporate bond portfolio's carbon intensity in 2022 was 13 percent below** that of the benchmark index, compared to 23 percent in 2021. This is mainly because our investments in industrial companies have a lower carbon intensity than the benchmark index.

- **Emissions from the unlisted real estate portfolio totalled 302 thousand tonnes in 2021**. As there are significant delays in our receipt of energy consumption data across the individual assets in the portfolio, we report greenhouse gas emissions in the total unlisted real estate portfolio with a one-year lag to ensure as complete a data set as possible.

Metrics and targets	
Other metrics	• **Market level** We responded to six public consultations from regulators and standard setters during the year, explaining the need for high quality and comparable corporate reporting on climate change. **Portfolio level** • **Risk-based divestments:** Of the 74 divestments made in 2022, five were motivated by climate risk. We track and publish the impact of risk-based divestments on the return on the benchmark index. Since 2012, risk-based divestments linked to climate change have increased the cumulative return by 0.14 percentage point. • **Unlisted real estate:** In 2022, we scored 81 out of 100 in GRESB's real estate benchmark, compared with 84 in 2021. The main reason is that many buildings were empty in 2020. Furthermore, 82 percent of our large office and retail properties had green certifications at the end of the year, the same level as in 2021. • **Unlisted renewable energy infrastructure:** In 2021, the fund made its first investment in unlisted renewable energy infrastructure, acquiring 50 percent the Borssele 1 & 2 wind farm off the Dutch coast for around 13.9 billion kroner. In 2022, the asset scored 94 out of 100 in GRESB's infrastructure asset benchmark. **Company level** • **Net zero targets:** 17 percent of portfolio companies had set net zero targets for 2050 or sooner at the end of 2022. Weighted by scope 1 and 2 emissions, the figure was 56 percent. Weighted by net asset value, it was 57 percent. We consider only science-based targets for this analysis. These are approximate figures given that methodologies on what constitutes a science-based target are in its nascency, and the quality of corporate target data variable. Our analysis relies on target data from the Science-based Target Initiative (SBTi). We accept all companies that committed to net zero 2050 or have approved long-term net zero targets for 2050 or sooner. We complement SBTi data with corporate net zero target data from MSCI, particularly for sectors for which SBTi has not yet developed a target approval methodology. MSCI research on net zero targets covers approximately 80 percent of our equity portfolio by company name and 98 percent by net asset value. • **Company reporting:** 96 percent of companies where we have data now report emissions information. 80 percent include scope 3 or value chain emissions, up from 74 percent in 2021. 38 percent of the companies assessed report according to the TCFD guidelines. We have data for companies representing 71 percent of equity portfolio value. • **Engagement:** In 2022, we engaged with 506 companies on climate-related topics, accounting for 35 percent of the portfolio by market value of the equity portfolio. These companies represented 51 percent of the equity portfolio's carbon footprint. • **Voting:** We voted against the re-election of 61 directors at 18 companies in 2022 where companies did not report or manage climate risk adequately. • **Ethical exclusions:** Norges Bank did not exclude any further companies under the conduct-based climate criterion in 2022, and no new companies were excluded or placed under observation under the product-based coal criterion.
Targets	• As stated in our 2025 Climate action plan, our ambition is for our **portfolio companies to achieve net zero emissions by 2050.** This gives a strategic direction for our climate activities. We expect high emitters to set net zero 2050 targets as a matter of urgency, and all companies in our portfolio to have done so by 2040 at the very latest. • We have set a **net zero 2050 target for our unlisted real estate portfolio** and an interim target for 2030 of reducing scope 1 and 2 greenhouse gas emission intensity by 40 percent (compared to 2019).

Additional information on the measurement and monitoring of climate risk

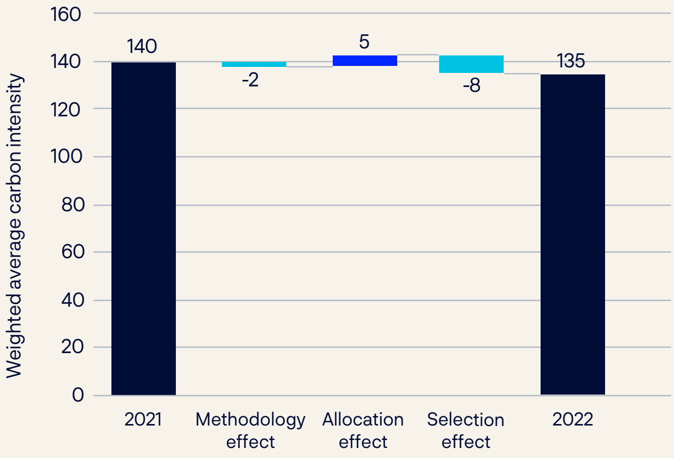
Financed emissions, weighted by share of enterprise value, companies' scope 1 and 2 emissions. 31 December 2022.

Sector	Equity and Corporate Bonds Portfolio, financed emissions, tonnes CO_2 – equivalent	Equity and Corporate Bond benchmark index, financed emissions, tonnes CO_2 – equivalent
Basic materials	13,081,392	15,878,019
Consumer discretionary	2,780,477	2,731,715
Consumer staples	2,304,713	2,519,700
Energy	12,975,220	13,293,413
Financials	776,038	871,834
Health care	606,699	626,318
Industrials	9,484,674	13,090,177
Real estate	342,745	258,248
Technology	1,500,104	1,498,774
Telecommunications	397,406	368,325
Utilities	7,488,004	9,707,041
Total	**51,737,471**	**60,843,563**

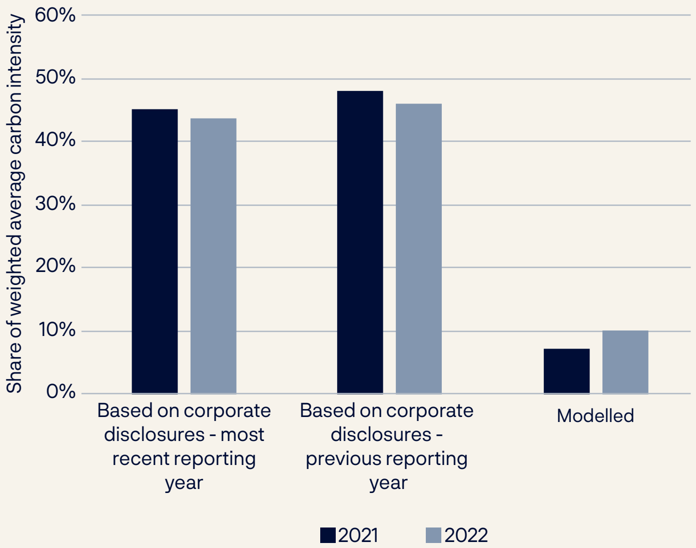
Carbon intensity, weighted by market value of fund holdings, companies' scope 1 and 2 emissions. 31 December 2022.

Sector	Equity Portfolio Tonnes CO_2 – equivalent per million dollars in sales revenue	Benchmark index Tonnes CO_2 – equivalent per million dollars in sales revenue	FTSE Global All Cap Tonnes CO_2 – equivalent per million dollars in sales revenue
Basic materials	33	34	36
Consumer discretionary	8	8	8
Consumer staples	5	5	5
Energy	20	21	32
Financials	3	3	3
Health care	3	3	3
Industrials	23	31	31
Real estate	4	3	3
Technology	8	7	7
Telecommunications	1	1	1
Utilities	27	35	60
Total	**135**	**153**	**189**

Changes to weighted carbon intensity (WACI) of the equity portfolio – 2021 to 2022.



Emissions data quality.



Emissions weighted by ownership share, companies' scope 1 and 2 emissions. 31 December 2022.

Sector	Equity Portfolio Tonnes CO_2 – equivalent	Benchmark index Tonnes CO_2 – equivalent
Basic Materials	22,679,440	26,330,102
Consumer Discretionary	5,568,665	5,036,896
Consumer Staples	3,214,048	3,346,744
Energy	18,601,752	16,235,145
Financials	963,367	1,093,565
Health Care	920,932	937,683
Industrials	17,410,257	23,977,915
Real Estate	773,220	570,452
Technology	2,789,343	2,716,340
Telecommunications	790,373	760,447
Utilities	13,690,219	18,046,667
Total	**87,401,615**	**99,051,957**

Carbon footprint, corporate bonds portfolio and reference index, scope 1 and 2. 31 December 2022.

	Tonnes CO_2 – equivalent per million dollars in sales revenue
Fixed income corporate portfolio	133
Benchmark Index	152
Difference	-19

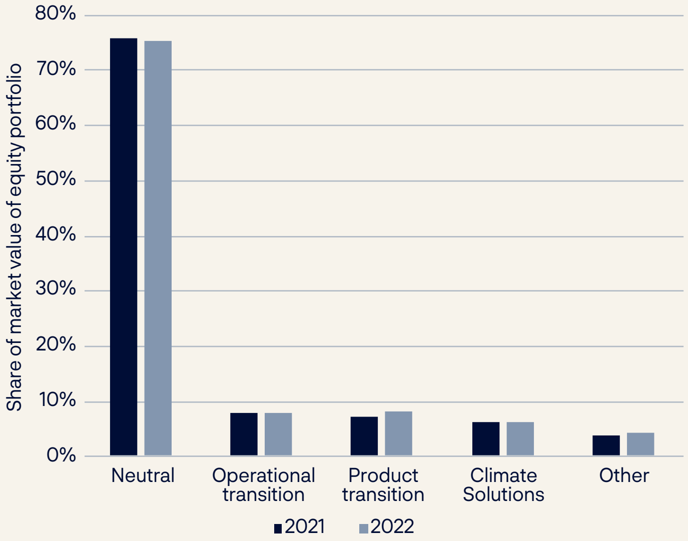
Climate scenario analysis, equity portfolio.

Scenario	Estimated Reduction in value, percent by 2080	Estimated reduction in value, billions of kroner by 2080
Transition risk: 1.5°C Net Zero, orderly (NGFS)	4	350
Transition risk: 2°C, orderly (NGFS)	1	100
Transition risk: 2°C, disorderly (NGFS)	13	1,100
Transition risk: Nationally Determined Contributions (NGFS)	1	100
Physical risk: RCP 8.5	13	1,100

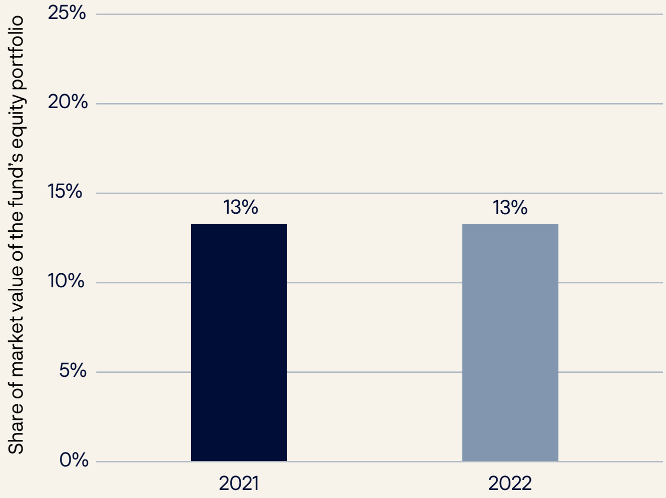
Implied temperature rise, equity portfolio. Contribution per sector. 31 December 2022.

	Equity Portfolio Implied Temperature Rise (degree Celsius)	Benchmark Index Implied Temperature Rise (degree Celsius)
Basic materials	0.2	0.2
Consumer discretionary	0.3	0.3
Consumer staples	0.1	0.2
Energy	0.2	0.2
Financials	0.3	0.3
Health care	0.3	0.3
Industrials	0.3	0.3
Real estate	0.1	0.1
Technology	0.4	0.3
Telecommunications	0.1	0.1
Utilities	0.1	0.1
Total	**2.4**	**2.3**

Exposure of equity portfolio to climate transition risks and opportunities. Source: MSCI Low Carbon Transition Score[1]



Equity investments in companies with climate- and environment-related revenues. FTSE Environmental Opportunities Index.



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