


2024 Climate Change Engagement & Voting Report

April 2025

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J.P.Morgan
ASSET MANAGEMENT



This report is as of December 31, 2024 and includes information that was obtained at an earlier date during the course of engagements with companies or in the course of voting proxies. Such information has not been updated, verified or audited. The case studies and examples are provided for illustrative purposes only and may not be updated in the future. While we view engagement as an important part of understanding the risks and opportunities facing companies held in our client portfolios, such engagement may not be effective in identifying such risks and opportunities and we do not guarantee any particular results or company performance as a result of such engagement. The engagement statistics are approximations only and were derived from our internal research notes to help identify engagements related to specific engagement priorities and sub-themes. Such information has not been audited and no assurance can be made with respect to the accuracy or completeness of such information

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Introduction

In 2024, almost half of the world's population participated in elections in over 60 countries, reshaping the global political landscape and altering the trajectories of climate change policy. Concurrently, inflationary pressures have persisted in 2024, challenging both consumers and businesses as they navigate rising costs, posing a challenge to national and company-level decarbonization plans. As we approach 2030, many companies are moving beyond target setting to tackle the implementation of transition plans, but we are increasingly seeing companies adjust climate goals in the face of challenges to decarbonization. The dependence on a supportive policy environment continues to dominate our discussions with companies on climate change, but while countries covering 88% of global GHG emissions have pledged net zero targets,¹ policies have not been uniformly effective in enabling emission reductions.²

Even as we continue to encourage companies to address transition risks, the materiality of the physical impacts of climate change is increasing and poses a fundamental challenge to business resilience. 2024 was the hottest year on record and the first to breach 1.5 degrees warming.³ This global warming favors increased incidence of extreme weather events, exemplified this year by intense flooding in Europe and hurricanes in the U.S.⁴ In addition to the tragic loss of life and livelihoods, these events damage assets, disrupt supply chains, which can hinder the ability of companies to function. The increasing incidence of such events may have far-reaching and financially material consequences for investments and society.

In 2024, we engaged with 343 issuers on climate change. Engagement plays an important role in managing risks and opportunities in our client portfolios by understanding if companies are

considering the latest climate science and likely policy shifts, building agility into their planning, and recognizing uncertainties which could impact the speed of the transition. We also express our views through our voting activity, holding boards accountable through routine votes as well as supporting resolutions that we feel will support companies toward addressing financially material risks and opportunities.

This report includes excerpts from our 2024 Investment Stewardship Report. We hope you find our report useful in understanding the important role our investment stewardship plays as part of managing risk and generating long-term returns for our clients. For a full report into our investment stewardship practices please see our 2024 Investment Stewardship Report. Thank you for your continued feedback, trust and confidence.

¹ https://www.oecd.org/en/publications/2024/11/the-climate-action-monitor-2024_f0f16874.html

² <https://www.ox.ac.uk/news/2024-08-23-effectiveness-1500-global-climate-policies-ranked-first-time>

³ Financial Times, 'World breaches 1.5C global warming target for first time in 2024' Attracta Mooney, Jana Tauschinski and Steven Bernard, January 2025, <https://on.ft.com/3C6y9KD>

⁴ <https://www.swissre.com/press-release/Hurricanes-severe-thunderstorms-and-floods-drive-insured-losses-above-USD-100-billion-for-5th-consecutive-year-says-Swiss-Re-Institute/f8424512-e46b-4db7-a1b1-ad6034306352>

Engaging with companies on climate change



343

Number of companies engaged on climate change



40

Number of markets engaged on climate change

Top markets engaged on climate change

Country	%
United States	21.3%
Japan	14.7%
United Kingdom	9.8%
France	4.9%
Germany	4.7%
India	4.0%
Cayman Islands	3.3%
China	3.3%
Australia	2.8%
Spain	2.3%

Top sectors engaged on climate change

Sector	%
Industrials	20.3%
Materials	17.3%
Energy	13.1%
Utilities	12.9%
Consumer Discretionary	10.7%
Financials	9.8%
Information Technology	4.9%
Consumer Staples	2.8%
Other (incl. Sovereign)	2.8%
Health Care	2.1%
Communication Services	1.9%
Real Estate	1.4%

Our Climate Change Engagement Strategy

Prioritizing companies for engagement

As a global asset manager, JPMAM believes climate change and the transition to a low-carbon economy present significant risks and opportunities to clients' investment portfolios and to the assets that JPMAM manages on their behalf.

In prioritizing companies for climate engagement, we consider indicators such as the company's GHG emissions footprint and the size of our holding of the company's securities, to understand where our investments could be most exposed to transition risks. However, we also use sector-specific knowledge and research to inform our assessment of the materiality of these risks, considering how these might manifest for particular sectors and companies and where our engagement can most effectively be used to drive investment outcomes.

We believe that global emissions reductions will ultimately be driven by users of energy and the introduction of policies to limit fossil fuel demand and incentivize the use of lower-carbon alternative sources of energy in certain regions such as Europe. We have therefore prioritized demand-side companies (users of fossil fuels) for engagement, as we deem engagement more likely to be effective at mitigating climate-related transition risks and ensuring investment returns in these cases.

However, our engagements in 2024 have demonstrated that for a number of sectors, significant hurdles exist for companies seeking to decarbonize today, ranging from a lack of proven technologies to help reduce emissions, an uncertain policy environment and high costs. Companies should clearly disclose these challenges and the actions being taken to address them, such as partnerships with academic institutions and government entities as well as how they are managing risks around investments. Our approach of prioritizing engagement with the demand side is designed to help manage investment risk for those companies. As these companies decarbonize, global emissions may fall.

It is important to also engage energy sector companies around the material risks the sector faces in regard to the low-carbon transition. However, we believe engagement strategies that focus on limiting the supply of fossil fuels will only push supply to producers in other geographies with potentially lower environmental standards, or cause demand-supply imbalances that will increase price volatility and the need for expensive or unreliable energy imports.⁵ Such an approach would not only delay global energy transition by increasing uncertainty, it would lead to worse environmental outcomes for all.

Engaging with fossil fuel suppliers

The focus of our engagements with the energy sector is to enable us to assess the companies most likely to deliver returns in a low-carbon future when fossil fuel demand is potentially significantly lower than it is today. Engagement focuses on demonstrating low-cost operational excellence and emission reductions, the use of the latest methane emissions measurement and management practices and demonstrating how future changes in demand are being incorporated into scenario risk analysis and disclosures around Asset Retirement Obligations (see ExxonMobil and Chevron Corp case studies below).

Energy companies face significant future liabilities for asset decommissioning and cleanup, which are known as asset retirement obligations (AROs). AROs are legal responsibilities that require owners and operators of fossil fuel assets, such as wells, pipelines, and refineries, to safely decommission these assets at the end of their useful life. These obligations may include activities like plugging wells, closing pipelines and disposing of hazardous materials. These obligations are mandated in many jurisdictions by regulations aimed at environmental remediation. Given the risks and uncertainties facing energy companies around the pace of the energy transition, it is important for investors to understand the potential costs associated with these obligations and the financial impacts if these assets need to be retired early. Promoting transparency around the accounting of these liabilities and the assumptions underlying them is key to ensuring reliability of financial statements and to assessing companies' resilience to different future demand scenarios.

⁵ <https://www.brookings.edu/articles/reducing-us-oil-demand-not-production-is-the-way-forward-for-the-climate/>

Our Climate Change Engagement Strategy

continued

Case study



ExxonMobil and Chevron Corp⁶



U.S.



Equity

Issue

In 2023, we voted in favor of a shareholder proposal at multiple energy companies including ExxonMobil, asking for a report on asset retirement obligations under the International Energy Agency's Net Zero Emissions (NZE) Scenario. We assessed that these disclosures would be useful to investors, as the current disclosures into the balance sheet liability around useful life and a discount rate made it very difficult for investors to understand what the potential liabilities may be. Although the proposal only received 16% support, we believed the issue was important and sought to engage with energy companies on the issue.

Action

We engaged with both ExxonMobil and Chevron, asking for improved disclosures about asset retirement obligations. In both cases, we cited Shell plc. as an example of a company that had improved transparency by disclosing a time series of expected AROs by year.

In an engagement with a Chevron Board member, we explained our view on understanding the risk if assets need to be shut down ahead of schedule. We cited U.S. exploration and production company APA Corporation's announcement of ending operations in 2029 due to the UK's new tax regime as an example of unexpected regulation changing the life of an asset. Similarly, while APA had taken measures to protect itself from decommissioning costs associated with the offshore assets it sold in 2013, the buyer's 2020 bankruptcy created additional AROs for APA under the Gulf of Mexico chain of title liability obligations. We also shared the example of a Phillips SixtySix refinery in California that will now be shut down, and the considerable uncertainty around the residual value of that asset after remediation.

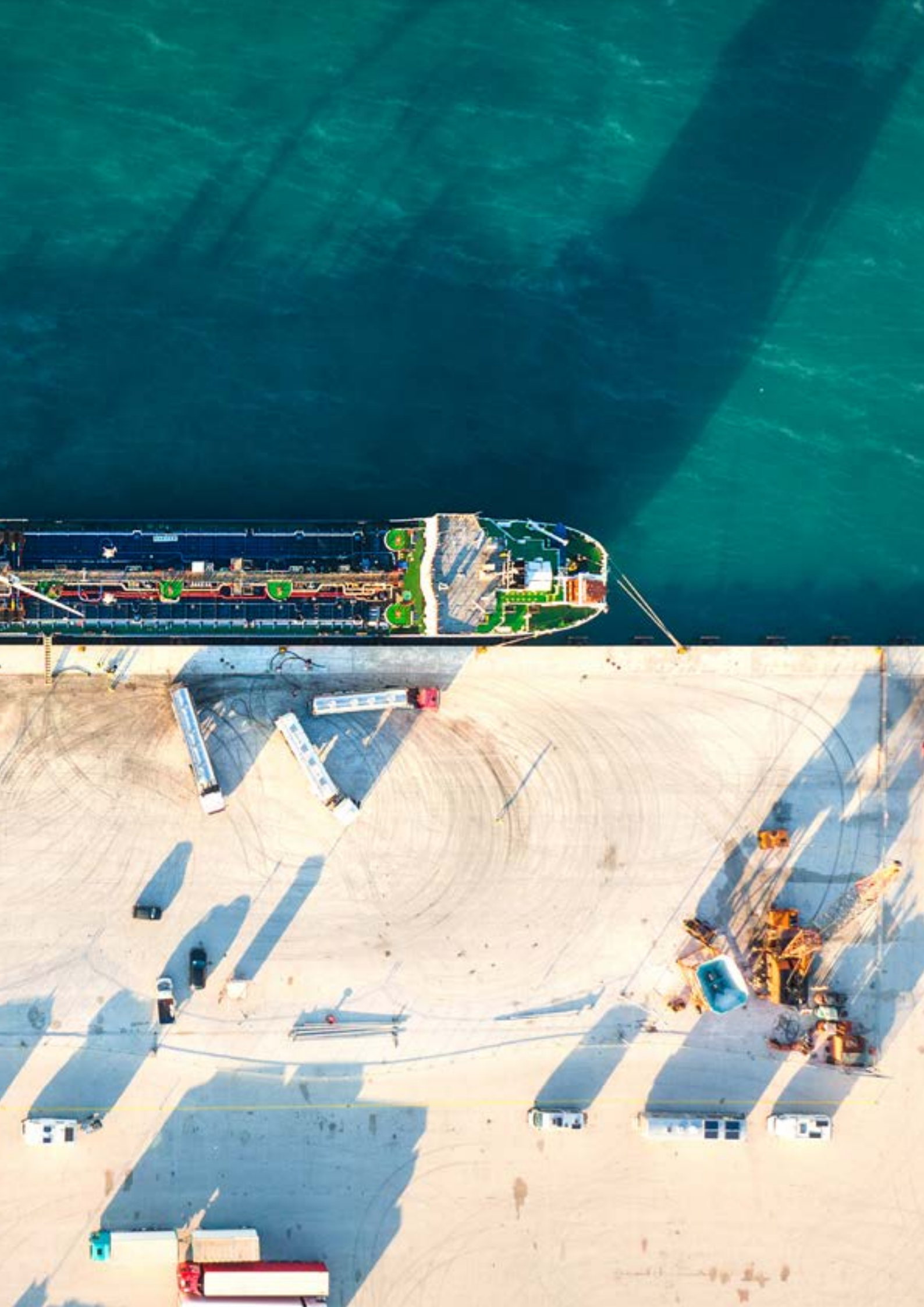
The Board member acknowledged the basis for the engagement ask, noting that these liabilities can surprise the companies themselves even if they thought they had sold the asset. They see this issue as more of an "unknown unknown." That said, they agree asset site remediation is important.

In our engagement with ExxonMobil, we communicated our interest in learning more about the Company's approach to managing AROs and requested this as a future topic for engagement. We tried to emphasize that the issue is important because the dollar amounts for asset retirement can be significant, but when added to the balance sheet on a discounted basis it can appear less significant. We further emphasized that providing disclosures about the liabilities, if the useful life of assets were to end due to assets being non-competitive, would be beneficial for investors. While Exxon may have a stated strategy to repurpose these assets, the future may play out differently and it would be valuable for investors to be able to evaluate AROs for downside risks.

Outcome

Our engagements with Chevron and ExxonMobil emphasized that both companies acknowledge both the difficulty of gleaning decision-useful insight from the ARO disclosures from their 10-Ks as well as the unpredictability of asset competitiveness over time. We will continue to engage, encouraging them to provide more transparency on what the potential liabilities from AROs might be if assets do not remain competitive as long as companies expect.

⁶ While this case study discusses two companies that were engaged on similar topics, they are considered separately for engagement and investment purposes.



Our Climate Change Engagement Strategy

continued

Engaging with users of fossil fuels

In 2024, we continued to prioritize engagement with demand-side companies (users of fossil fuels) and encouraged such companies to set their own scientifically credible emissions-reduction targets and transition plans, where necessary, to mitigate financially material risks. Our engagements in 2024 have highlighted that significant challenges remain for companies when implementing these decarbonization plans. Companies have discussed barriers such as a lack of proven technologies at an economically viable cost, high energy costs and inadequate policy incentives. This is exemplified by automakers rolling back electric vehicle adoption targets⁷ while key enabling technologies such as carbon capture, utilization and storage (CCUS) still face questions on scalability and cost. The steel sector highlights many of these issues (see ArcelorMittal case study below), but in the face of these challenges we are encouraging companies to clearly disclose these barriers, given the financially material risks and opportunities in this area and the actions being taken to address them, which may include transparency on public partnerships and policy advocacy.

Case study



ArcelorMittal



Luxembourg



Equities, Bonds

Issue

The steel industry accounts for 5% of CO₂ emissions in the EU and 7% globally.⁸ In the EU, the industry is regulated by the Emissions Trading System (ETS) and the Carbon Border Adjustment Mechanism (CBAM), along with broader initiatives like Fit for 55 and the EU Green Deal, which aim for climate neutrality by 2050. The ETS is a cap-and-trade system to reduce emissions, while CBAM prevents 'carbon leakage' by imposing costs on imports from countries outside the EU. As regulations evolve, EU steel producers may face less competition from foreign products due to CBAM, but could incur higher costs as free allowances⁹ under the ETS are phased out.¹⁰

ArcelorMittal is a steel and mining company which operates iron ore mining, ironmaking, scrap recovery and steel-making operations and employs over 126,000 employees in over 15 countries. Approximately 49% of ArcelorMittal's steel production is in Europe,¹¹ exposing the Company to climate transition risks due to the EU regulatory landscape and emission-intensive nature of operations, in line with the wider steel industry. In 2023, there was a tragically high number of fatalities at the Company following an explosion at the Kostenko coal mine in Kazakhstan, where 46 people died.

continued →

⁷ <https://www.cnn.com/2024/03/13/ev-euphoria-is-dead-automakers-trumpet-consumer-choice-in-us.html>

⁸ <https://www.iea.org/reports/iron-and-steel-technology-roadmap>

⁹ Under the EU Emissions Trading System (ETS), 'free allowances' refers to a certain number of emission permits that are allocated to companies at no cost. These allowances give companies the right to emit a specific amount of greenhouse gases without having to purchase additional permits.

¹⁰ Wood Mackenzie, Implications of CBAM for the iron and steel sector, 2023.

¹¹ <https://corporate.arcelormittal.com/media/shgb4sw5/arcelor-mittal-fact-book-2023.pdf>

Our Climate Change Engagement Strategy continued

Case study continued



ArcelorMittal



Luxembourg



Equities, Bonds

Action

We engaged with ArcelorMittal on employee safety and climate transition risks in 2024. On decarbonization, we discussed the Company's plans with respect to target setting and the reasons for ArcelorMittal's withdrawal of a commitment to set an SBTi-validated target, as well as its initiatives to lower emissions across operations. Decarbonizing steel production requires switching steelmaking from the BF-BOF (blast furnace and basic oxygen furnace) route to the lower-emission methods such as the DRI-EAF (direct reduced iron to electric arc furnace) route. We discussed the challenges to decarbonization, which the Company identified as insufficient policy support, high costs and low customer demand for lower-carbon steel. We encouraged transparency and target setting where feasible and material, including targets which cover joint ventures, as well as continued transparency on policy advocacy, given the importance of further policy support needed to facilitate the EU legislative goals on climate.

We visited ArcelorMittal's Sestao plant in Spain to gain insight into how electric arc furnace (EAF) technology is being used for lower-emission steel production. The site visit focused on the XCarb product, which can offer an approximate 75% emission reduction (product dependent) and is produced using 100% renewable energy and at least 75% recycled scrap input. While noting progress, ArcelorMittal emphasized the necessity for policy support to drive demand for lower-emission steel such as XCarb, and that steps to further lower emissions – such as use of direct reduced iron with hydrogen – are not being implemented due to lack of economic viability, low customer demand and insufficient infrastructure. We noted that the Company has publicly disclosed their own requests to policy-makers regarding strengthening the EU's Carbon Border Adjustment Mechanism (CBAM), reducing energy costs and establishing lead markets to drive demand for lower-carbon steel. The Company also signed a letter from Eurofer, the European steel industry association, which highlights these asks.¹²

On health and safety, our engagement focused on driving improved safety standards at entities controlled by ArcelorMittal, noting that the Company had divested coal mining assets in Kazakhstan as of December 2023. We discussed the Company's focus on leading indicators, such as Potential Serious Injury and Fatality event, and a possible shift in focus to prevention, rather than solely reactive indicators. The Company asked dss+ (a consulting company specializing in workplace safety), to undertake an independent audit on safety practices in 2024, which highlighted that implementation of safety standards varied across the group and recommended a focus on contractor safety management standards and integration of safety into supporting business processes.

¹² https://www.eurofer.eu/assets/publications/position-papers/call-for-urgent-action-to-save-the-european-steel-industry-and-the-livelihood-of-our-workers/20241014-Letter-to-the-Heads-of-State-and-Government_European-Council-17-18-October-2024-002.pdf

Our Climate Change Engagement Strategy continued

Case study continued



ArcelorMittal



Luxembourg



Equities, Bonds

Outcome

We will continue to monitor developments in health and safety as the Company implements the recommendations of the third-party safety audit. Our engagement also underscored the challenges of decarbonizing the steel sector. The transition to low-emission steel production faces technical, economic and policy-related barriers, including the development of new production methods, securing renewable energy sources, and low demand for low-emission steel. ArcelorMittal has subsequently delayed decarbonization plans for EU operations due to lack of policy visibility and insufficient demand for low-carbon steel, as it awaits clarity on policy developments in 2025.¹³ We will continue to engage with ArcelorMittal to understand how the Company's stated long-term decarbonization targets will be met in this challenging context.

¹³ <https://corporate.arcelormittal.com/media/press-releases/arcelormittal-provides-update-on-its-european-decarbonization-plans>

In focus: Engaging AI data center operators on increasing power and water demands

Today, data centers consume 1-1.5% of global power demand, but this is projected to rise by the end of the decade due to the growing use of AI driving power demand.¹⁴ High growth scenarios in the U.S. expect 10% annual growth, with data centers accounting for almost 7% of power consumption in the country by 2030.¹⁵ Power demand is already geographically concentrated; for example, North Virginia is the hub for data center growth in the U.S. and 15 states account for 80% of the national data center load.¹⁶

The rise of AI and data centers needs to be accompanied by an increase in renewable energy such that rising energy demand does not lead to significant increases in GHG emissions that undercut the credibility of such companies' stated energy targets. In 2024, a number of the 'Hyperscaler' tech companies reported increasing GHG emissions over 2023 due to data center construction and energy consumption.^{17, 18} Almost all of the Hyperscalers have ambitious decarbonization, renewable energy and water usage targets which could be at risk given this growth. At the same time, cognizant of the demands that AI will put on local infrastructure and resources, a number of jurisdictions are also mandating specific targets for data centers around energy usage.

Meeting the demands of end-user Hyperscalers and the growing concerns of regional authorities exposes data center operators to potential risks where they are not able to provide affordable, reliable, low carbon facilities which do not come at the expense of resource provision for local communities. Data center operators need to address the interrelated climate and natural capital risks that they face presented by this growth in demand.

The ability of data center companies to manage these risks will depend on the availability and deployment of low-carbon electricity and water in the regions in which they operate, and advancements in the efficiency of facilities. The companies that are best positioned to manage these variables are likely to be best placed to meet customer demands and to capitalize on the AI opportunity. In 2024, we conducted engagements with data center operators and AI beneficiaries to understand how they are managing the risks associated with resource availability in the regions in which they operate. We sought to understand how competing priorities associated with energy and water availability, along with low carbon credentials were being managed to make strategies that are resilient for future growth and consistent with these companies' stated decarbonization and water usage targets.

¹⁴ <https://www.iea.org/energy-system/buildings/data-centres-and-data-transmission-networks>

¹⁵ <https://www.epri.com/research/products/000000003002028905?secureweb=POWERPNT>

¹⁶ <https://www.epri.com/research/products/000000003002028905?secureweb=POWERPNT>

¹⁷ <https://www.microsoft.com/en-us/corporate-responsibility/sustainability/report>

¹⁸ <https://sustainability.google/reports/google-2024-environmental-report/>



In focus: Engaging AI data center operators on increasing power and water demands continued

Our engagements

We engaged with 12 companies operating different business models and at slightly different points within the AI value chain.

Companies engaged in 2024 around energy and water risks

Company	Country	Company type
Microsoft	United States	Technology multinational and Hyperscaler.
Equinix	United States	Global data center and colocation provider for enterprise network and cloud computing.
Digital Realty	United States	Real estate investment trust that owns, operates and invests in data centers across the world.
Nvidia	United States	Leading designer of chips used in artificial intelligence
Merlin Properties	Spain	Real estate company expanding its data center business in the Iberian Peninsula.
SEGRO	United Kingdom	Real Estate Investment Trust (REIT) expanding its data center business in the UK.
Relx	United Kingdom	Information and analytics company operating a small number of data centers and using third party cloud services.
Naver	South Korea	Internet conglomerate that operates the search engine Naver.
Keppel DC	Singapore	Data center real estate investment trust in Asia.
Next DC	Australia	Data center developer and operator in Australia.
Infosys	India	Technology multinational that offers business consulting, information technology and outsourcing services.
Nippon Telegraph & Telephone	Japan	Telecommunications company operating data centers around the world.

In focus: Engaging AI data center operators on increasing power and water demands continued

Engagements overwhelmingly reflected companies' acknowledgement that managing these risks is critical due to resource scarcity challenges, as well as meeting expectations from customers, and, in some regions, policy-makers. Key findings include:

- 1. Efficiency of data center sites is a competitive differentiator, but leading efficiency metrics have plateaued in recent years and metrics require standardization.** Lowering power usage efficiency (PUE¹⁹) through site design and equipment use lowers operational costs (energy typically accounts for between 20% and 65% of data center running costs). It is also a key factor in lease negotiation, with some companies including it in executive compensation metrics for this reason. Progress on PUE has plateaued in recent years at around 1.5;²⁰ however, given the competitive edge it provides, it is likely innovation will drive further progress.²¹ There are currently differences in how companies are calculating PUE. Global standardization would help to enable operators to anticipate local regulatory changes.²²
- 2. Hyperscaler customers are demanding low carbon facilities as a non-negotiable, often building this into requests for proposals (RFPs) and lease extensions.** Power costs are passed on to data center customers, who understand that there can be cost implications of renewable energy demands, but are generally accepting if these are small or in more renewable power constrained locations.
- 3. Data center companies are prioritizing renewable energy provision through the use of Power Purchase Agreements (PPAs).** Data center companies are securing renewable energy provision for Hyperscaler clients by securing PPA agreements, however PPA market readiness varies regionally (see point 4). They increasingly favor these over Energy Attribute Certificates (EACs),²³ given their ability to enhance the traceability of electricity purchases while providing a natural hedge against electricity price spikes. However, the insufficient electricity grid capacity is emerging as one of the biggest looming bottlenecks.
- 4. Hyperscalers are making substantial investments in nuclear generation and Small Modular Reactors (SMRs), but these are likely to be a medium-term option.** Some smaller data center companies are moving into developing their own on-site power provisions (typically using solar in the short term), but this remains limited given capital intensity. In the long term, it is access to cheap energy that links to financial materiality.
- 5. Risks are regionally specific and local knowledge is essential to managing them effectively when planning data center growth strategies.** Specific regional circumstances are leading policymakers to tailor strategies to local needs. For example, Hyperscaler companies are attracted by data center opportunities in Spain, given affordable renewable energy provision, but increasing droughts mean water-based cooling options are less acceptable to local authorities. Similarly, Singapore and Japan have extremely constrained power supplies that are closely controlled by their respective governments. Data center companies must understand and plan in accordance with these local constraints.
- 6. Social risks around power consumption are top-of-mind for companies.** Both real and perceived rising power prices for retail customers are already causing concerns in key data center hubs like Northern Virginia in the United States and in Ireland, where data centers are responsible for 25% and 20% of electricity use respectively. Unfavorable views of data centers are being managed by companies via public policy teams and communications efforts explaining the societal value of services and transparency around tariffs being secured. Companies note that failing to manage these risks could lead to the development of local regulation that could adversely impact them.

¹⁹ PUE is the ratio of the total power used by the data center to the power used by the IT equipment

²⁰ https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/investing-in-the-rising-data-center-economy#/download/%2F-%2Fmedia%2Fmckinsey%2Findustries%2Ftechnology%20media%20and%20telecommunications%2Fhigh%20tech%2Four%20insights%2Finvesting%20in%20the%20rising%20data%20center%20economy%2Finvesting-in-the-rising-data-center-economy_final.pdf%3FshouldIndex%3Dfalse

²¹ Efficiency is also a function of servers (not included under PUE), for which data center operators are reliant on chip manufacturers. Optical fibre networks are also key for reducing power needs over time, which some operators are hopeful of in the medium term.

²² The European Efficiency Directive's regulation targets data centers and may influence regulatory practices globally.

²³ An energy attribute certificate (EAC) is a contractual instrument that conveys information (attributes) about a unit of energy, including the resource used to create the energy and the emissions associated with its production and use. <https://www.epa.gov/green-power-markets/energy-attribute-certificates-eacs>

7. Companies are less clear on pathways for tackling embodied emissions from data center construction.

Embodied carbon in construction makes up 70% of the data center's carbon footprint in the first year on average. While a number of companies have commitments to reduce emissions from embodied carbon as part of their wider targets, many are less clear on plans for mitigating these emissions and are reliant on innovations in the building materials sector, particularly regarding the decarbonization of cement.

8. Data centers can be large users of water, and disclosure remains mixed; however, innovation may reduce water risks in the long-term.

Companies are cognizant of water usage in locations with water stress, but efficiency trade-offs between power and water may mean companies are making location-based choices regarding water and power availability. Increasing widespread disclosure on water consumption is also paramount, as current disclosure of Water Usage Efficiency (WUE) metrics is patchy, as well as the volumes discharged and consumed. Innovation in cooling methods like direct-to-chip (DTC) solutions or alternative liquids may resolve some of these trade-offs and innovation is likely to be rapid, potentially lowering water risks for data centers in the medium term.

Next steps

In the nearer term, as AI technologies become more widespread, prioritizing renewable energy provision, efficiency and responsible water use is going to become increasingly important for companies to meet customer demands and regulatory requirements while maintaining a social license to operate. We will continue to engage data center companies and companies in the wider AI value chain around their management of these risks in 2025.

Engaging companies on their climate change policy engagement

Climate Policy Engagement

Nearly 60% of the world's 2000 largest companies²⁴ have set some form of net zero emissions reduction targets. Strategies and efforts to meet these targets often come with an increasing marginal cost of abatement. Many companies assess these costs as important investments in ensuring their longer-term strategic positioning for the low-carbon transition, i.e., reducing the impact of future policies and regulations aimed at internalizing carbon costs. However, in order for companies to improve the shorter- to medium-term profitability of their low-carbon investments, it is important that companies engage with governments in the regions where they operate, so that the regulatory environment is supportive of their strategy and the investments they will be required to make to meet their goals and, often, national climate targets.

However, in certain industries, we have identified potential material risks where certain companies undertake lobbying activities, either directly or through trade associations, that significantly depart from the company's stated goals. Where companies lobby adversely to their stated positions, they expose themselves to increased risks, such as brand and reputation, and external scrutiny and fines by regulators. In light of this, we engage with companies to promote the transparent disclosure of climate-related lobbying activities and companies' policy positions.

²⁴ <https://www.barrons.com/news/net-zero-pledges-growing-but-integrity-lacking-study-142af63f>

Our engagement with policymakers in Japan

Japan's 7th Strategic Energy Plan, released at the end of fiscal year 2024 is important for investors in the region as it will outline how the Japanese government plans to balance the energy transition with a stable and affordable energy supply. This year, as policy-makers in Japan worked on formulating the plan, we participated in a roundtable with policymakers organized by the Asia Investors Group on Climate Change (AIGCC).

The roundtable brought together AIGCC member investors and Japanese policymakers to discuss investor perspectives on the forthcoming Strategic Energy Plan. The discussion emphasized the need for a transparent and reliable transition plan and energy mix targets by 2040. Participants also highlighted the importance of ensuring the economic viability of transition-related projects to boost investments in this area.

Following the roundtable, AIGCC published a policy paper summarizing members' views on the upcoming Strategic Energy Plan. The paper advocates for inviting a wider range of stakeholders, including investors, into the policy formulation process. It also calls for establishing a clear path to decarbonize Japan's energy supply, strengthening the grid and improving transparency regarding the economic viability of transition plans.

Engaging companies on their climate change policy engagement continued

Case study – Engagement with companies on climate lobbying



Rio Tinto



UK



Equities

Issue

In July, it came to light that Rio Tinto, a dual-listed UK and Australian mining company, had signed a letter to the Australian Prime Minister requesting changes to the government's Nature Positive plan and proposed reforms to the 1999 Environment Protection and Biodiversity Conservation Act (EPBC Act). The letter²⁵ was released following a freedom of information request from Greenpeace and notably requested the removal of climate change requirements of the reform. The letter also included criticisms of the reform consultation process and other requests related to critical protection areas, offsets and approvals. This lobbying activity was seemingly at odds with Rio Tinto's public position on climate-related policy advocacy,²⁶ exposing the Company to potential reputational risk, and so we engaged with the Company to better understand Rio Tinto's position on this topic.

Action

We joined a group investor call with the Rio Tinto Chief Executive, Australia and General Manager of State Agreements and Approvals, Iron Ore. We subsequently organized a one-to-one meeting with the Chief Advisor on Climate Change at Rio Tinto. We asked Rio Tinto to publish a statement clarifying the Company position on the Australian government's Nature Positive plan and explain how this position is consistent with the Company's publicly stated climate commitments. We noted the Company's letter was at odds with the high level of transparency from Rio Tinto on policy advocacy to date, as the Company usually publishes Rio Tinto's policy positions and engagements on its website. The letter itself had expressed that the inclusion of climate considerations within this reform would be duplicative with existing policy, but the Company did not provide more detail on how these reforms were duplicative or problematic.

Outcome

Rio Tinto's Chief Adviser on Climate Change confirmed the Company was drafting a public statement addressing our concerns and those of other investors. In October, Rio Tinto released a public statement on the EPBC Act²⁷ clarifying the Company's position, outlining support for EPBC reforms and acknowledging the interdependencies between nature and climate, as well as climate policy aligned with the Paris goals and net zero, while noting that policy must balance the need for permitting efficiency.²⁸ We appreciate this transparency, which is more consistent with previous public statements on climate advocacy. We will continue to engage with Rio Tinto on governance of climate-related policy advocacy.

²⁵ <https://www.pmc.gov.au/sites/default/files/foi-logs/foi-2024-109.pdf?secureweb=WINWORD>

²⁶ <https://www.riotinto.com/en/news/releases/2023/rio-tinto-engages-with-investor-and-civil-society-organisations-on-enhanced-advocacy-approach?secureweb=WINWORD>

²⁷ <https://www.riotinto.com/en/news/trending-topics/epbc-act-statement>

²⁸ <https://www.riotinto.com/en/news/trending-topics/epbc-act-statement#:~:text=Rio%20Tinto%20supports%20the%20Australian,the%20impact%20of%20climate%20change.>

Engaging with sovereign issuers on climate risk

Sovereigns

As investors in sovereign debt, we believe that integrating climate change risk indicators (as well as other financially material ESG factors) helps promote better investment outcomes. Sovereigns with better ESG performance generally trade at lower spreads in both developed and emerging markets.²⁹

We meet regularly with central bankers, Treasury officials, state-owned companies, ratings agencies and other relevant market agents. We use these engagements to obtain insights which feed into our

fundamental analysis of sovereign creditworthiness and debt dynamics and to encourage better disclosure. These analyses incorporate many indicators, including ESG factors, where they are material and relevant.

The disclosure of climate change risk data by sovereigns and state-owned entities has improved in recent years, and we continue to engage with issuers to advocate for better disclosure.

²⁹ <https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/fixed%20income-sovereigns-and-esg-full-whitepaper.pdf>

Engaging with sovereign issuers on climate risk continued

Case study



Comisión Federal de Electricidad



Mexico



Sovereign bonds

Issue

The Government of Mexico has committed to reducing GHG emissions by 35% by 2030. The General Climate Change Law and the Energy Transition Law also states that Mexico must generate 35% of its electricity from renewable sources by 2024. As the country's largest integrated utility, 100% state owned Comisión Federal de Electricidad (CFE) will have an important role to play in enabling Mexico to meet this commitment. As the Company did not disclose a comprehensive transition plan, we sought to engage with the Company to understand how they are managing potential transition risks arising from national level emissions reduction targets and related policies.

Action

We met with the Company in March 2024 and asked about the Company's transition plan, which is not yet clearly included in disclosures. They explained that of CFE's power generation capacity in 2024, 32% is from clean technologies, 40% from combined cycle gas generation and 8% from coal. The Company explained plans to increase total generation capacity to 100 GW by 2035, and to increase renewable energy capacity to 35% of the total by 2028. They also explained that they plan to close their coal power generation facilities by 2035. The Company shared information on the investments they are making in transmission and distribution over the next five years.

We asked if the Company has considered setting an emissions reduction target in line with that of the national government. The Company said they have a target to reduce emissions by similar levels but this was not disclosed in its public reporting to date. We welcomed the Company's plan to release its first non-financial report later in 2024 and encouraged reporting of KPIs and targets to help investors understand how the Company was managing risks. We also provided feedback that TCFD aligned reporting is helpful to investors assessing climate risks, as well as data on health and safety.

We met the Company again in September 2024 following national elections in Mexico. The Company explained that the new administration is supportive of the energy transition with large investments planned, and with specific national target revisions likely to follow later in the coming months. CFE indicated that it will present its 2025 business plan to the new federal government in December 2024.

Outcome

Prior to our meeting in September, CFE published its green bond allocation report which provided enhanced disclosure concerning the Company's new target to reduce CO₂ emissions intensity in electricity generation by 30% by 2028, compared to 2023 levels. The Company said it would consider our recommendation to disclose these and their other renewable capacity targets in the next annual iteration of its business plan to help investors understand how they are addressing the government's emissions expectations.

Climate Opportunities

The transition to a low-carbon economy offers significant opportunities for companies that are actively developing innovative solutions to enable industrial decarbonization. As many companies move from target setting to implementation of decarbonization strategies, key decarbonization technology providers may be well-positioned to benefit.

As industries worldwide seek to reduce their operational emissions, the demand for technologies such as carbon capture, utilization, and storage (CCUS) is increasing, but questions remain over scalability and affordability. Companies that lead in providing cost-effective solutions may be best positioned for growth.

In this context, it is important to assess whether a company's products and services can effectively achieve their intended climate outcomes. In view of varying disclosure standards across emerging technologies and regions, understanding how these solutions deliver on their promises is essential for evaluating their potential impact, success and economic viability.



Climate Opportunities continued

Case study



Air Liquide



France



Equities, Bonds

Issue

Carbon Capture, Utilization, and Storage (CCUS) involves capturing CO₂ and, if not being used on-site, the CO₂ is compressed and transported for use in a range of applications or stored underground. CCUS is seen as vital for reducing CO₂ emissions in hard-to-abate sectors, but it faces high costs and questions about scalability and economic viability.³⁰

Air Liquide, a leader in industrial and medical gases, leverages carbon capture technology for both customer solutions and its own decarbonization strategy. The Company reports on avoided greenhouse gas (GHG) emissions, which seek to measure the emission reductions for customers that use Air Liquide products.

Action

We engaged with Air Liquide to better understand the economic viability and materiality of CCUS to Air Liquide (the “Company”). The Company indicated that it believes itself to be strategically positioned to aid industrial decarbonization and it utilizes its Cryocap™ technology for CO₂ capture (first introduced in 2015). However, the Company indicated that storage challenges persist, necessitating economies of scale and policy support, such as subsidies and favorable carbon pricing. Air Liquide indicated that it had been successful in securing grants for CCUS projects, benefiting from initiatives like the EU Innovation Fund. Rising carbon prices are likely to encourage Air Liquide customers to seek to reduce their emissions, potentially increasing demand for Air Liquide products. The Company indicated that it targets cost-effective decarbonization in high-emitting sectors like cement, with new CCUS projects planned for Northern France and Rotterdam in the Netherlands by 2027/28, contingent on policy support. The Company also discussed its approach to measuring avoided GHG emissions with the aim of ensuring transparency and avoiding greenwashing. We encouraged further disclosure of methodology and adherence to emerging industry standards.

In terms of Air Liquide’s decarbonization roadmap, the Company reports that approximately 25% of Air Liquide’s own emission reductions by 2035 are expected to come from CCUS. While CCUS is subject to some of the factors and uncertainties described above, Air Liquide reports that its decarbonization progress is ahead of schedule in other areas of the decarbonization plan, such as management of their own assets and renewable electricity sourcing.

Outcome

Air Liquide’s commitment to supporting customer decarbonization goals strengthens its competitive edge in the evolving regulatory landscape that may incentivize customers to invest in decarbonization technologies. We will continue to monitor the scalability of Air Liquide’s CCUS portfolio, and implications for the Company’s decarbonization strategy, considering the potential financial risks and opportunities.

³⁰ <https://www.iea.org/reports/ccus-in-clean-energy-transitions/a-new-era-for-ccus>

Climate Change Voting

Considering climate change in routine votes

Our voting policies are designed to promote the best long-term interests of our client accounts. As such, we may consider climate risk when voting in director elections, executive compensation or other management resolutions, where we are not satisfied with the steps taken by the company to address the financially material risks it faces because of climate change, the quality of the engagement discussion or its progress in oversight or management of financially material risks.

Effective April 1, 2024, we implemented a new section in our Global Proxy-Voting Guidelines, addressing our voting policies related to the management of financially material climate risks. This reflects our conviction that climate change could pose a material risk to our clients' accounts, as well as our experience evaluating climate risk as part of voting proxies in recent years.

The guidelines make clear that we encourage disclosures of minimum climate-related indicators by companies in sectors particularly exposed to financially material climate risks. JPMAM may vote against the directors of relevant committees of companies where these are not available or meaningful.

These criteria include:

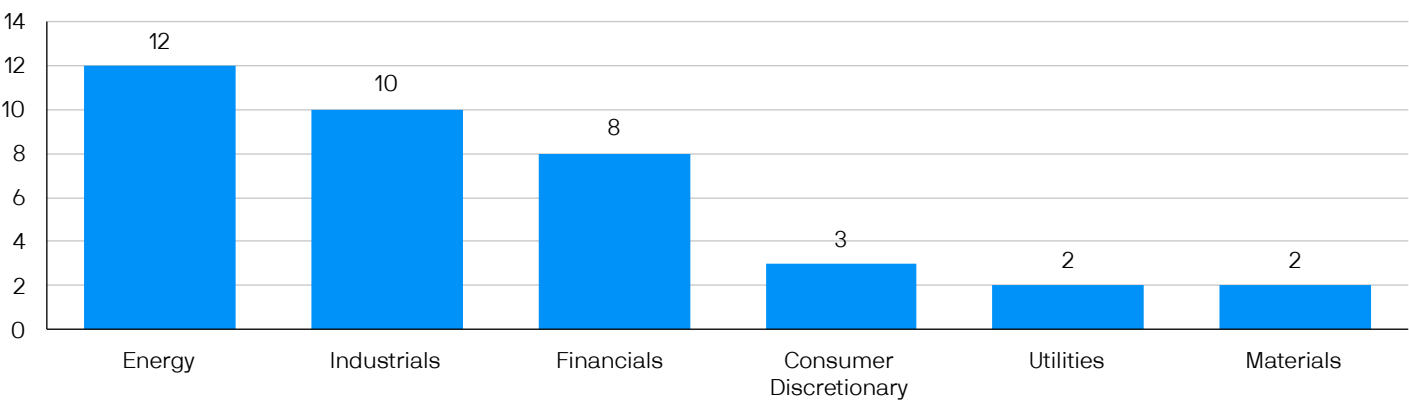
- We encourage disclosures aligned with the reporting framework developed by the Task Force on Climate related Financial Disclosures (TCFD) addressing all the four pillars of the TCFD – (i) governance, (ii) strategy, (iii) risk management and (iv) metrics and targets related to any performance indicators used to manage such risks.
- For industries where we believe climate change risks pose material financial risks, we encourage comprehensive TCFD reporting (or equivalent) including scenario analysis, to help us understand the resilience of a company's strategy.
- We encourage disclosures of Scope 1 and 2 GHG emission targets, where the decarbonization of a company's operations and purchased energy has been identified by the company as a key part of the company's strategy to manage climate change risks.

- We note many companies have chosen to set long term net zero targets. In order for us to evaluate the long-term credibility of transition plans, where such long-term targets are set, we encourage the company to disclose the scope of emissions included in such targets. We recognize the many challenges associated with reporting Scope 3 emissions. While we understand the limitations associated with reporting Scope 3 emissions, we would expect companies that have included such emissions in their net zero targets to disclose their Scope 3 emissions. We also encourage disclosures of interim emission reduction targets where the company has set long-term net zero targets.
- We encourage disclosure on past performance against emission reduction goals, and forward-looking strategy to achieve emission reduction goals, including the use of offsets and corporate transactions. We believe that providing meaningful disclosure is important to help investors evaluate whether companies are managing material climate risks that could impact returns over time. For more information, see our Global Proxy Voting Guidelines [here](#).

Climate Change Voting continued

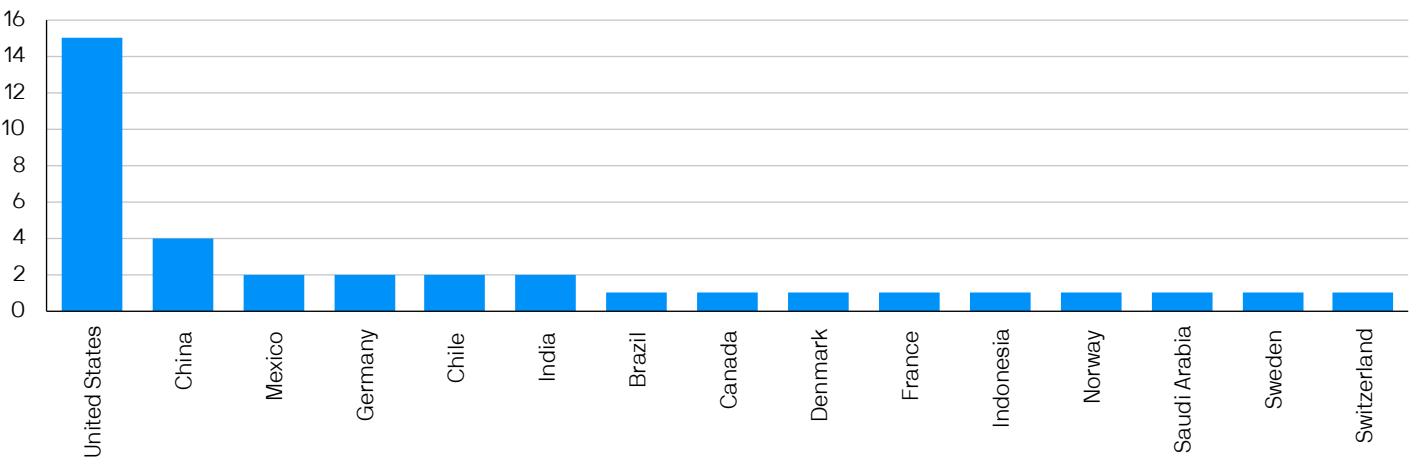
In 2024 we voted against directors³¹ at 37 companies globally for financially material climate change related concerns.

Routine climate votes against directors in 2024, by sector



Source: J.P. Morgan Asset Management, as of December 31, 2024.

Routine climate votes against directors in 2024, by country



Source: J.P. Morgan Asset Management, as of December 31, 2024.

Climate-related shareholder resolutions

Voting on climate change shareholder proposals is another important way of expressing our views, where we think management could better manage climate-related financial risk. In 2024, we saw a continued increase in the overall number of resolutions being filed, as well as an increase in overly-prescriptive shareholder proposals dictating specific actions by the company and creating the potential for unintended consequences for long-term shareholders. We have also seen many companies making improvements in disclosures, which has meant that the escalation of concerns via support of shareholder resolutions has not been necessary (see Toyota example).

³¹ Votes were cast against board directors or in some cases against financial reports where directors were not standing for reelection.

Climate Change Voting continued

We noted that many shareholder proposals in previous years focused on enhanced reporting. We tended to support these proposals as we believed such reporting provided meaningful information to shareholders to enable them to evaluate risks and opportunities at a particular company. As a result, in 2024, we voted in favor of 28 climate-related shareholder resolutions, reflecting a decrease in overall percentage support for these resolutions. Our starting consideration is whether the resolution is focused on an issue that is material to the long-term financial interests of our clients. In many cases, successfully managing climate change risk is important for the future success of the company and resolutions around it merit our in-depth attention. We consider the most helpful resolutions to be those which are worded in a way that gives the company the ability to select the strategy it considers will most effectively achieve the resolution’s intended outcome and are tailored to the company’s specific risks. Increasingly, we see climate-related resolutions which are overly prescriptive, and/or not tailored to the company’s specific risks.

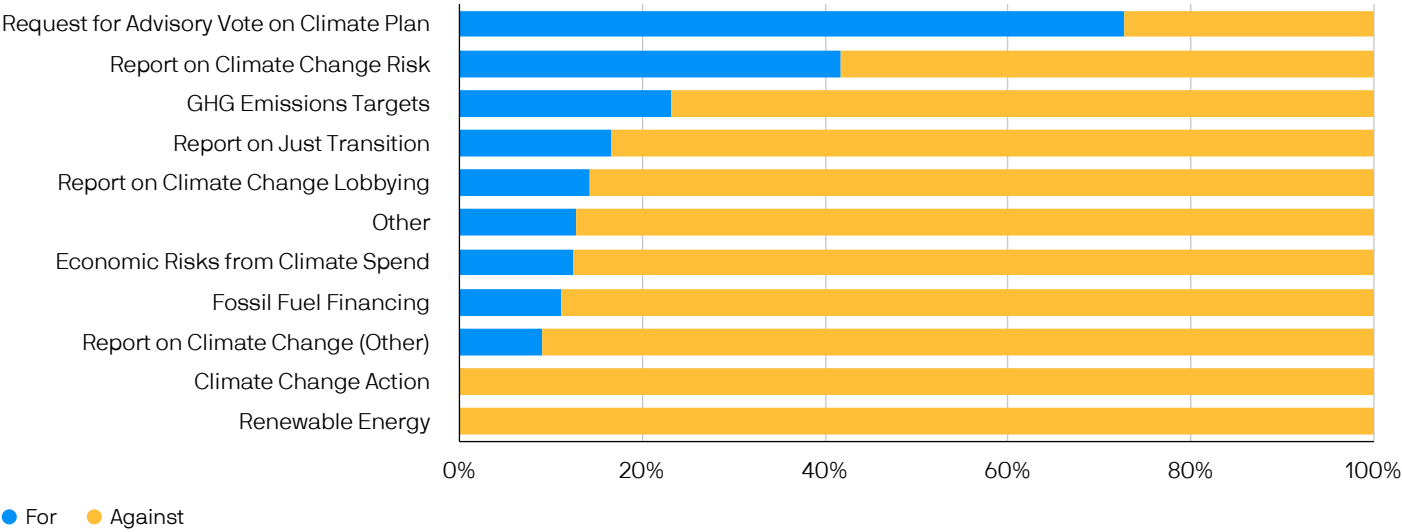
For example, we continue to see similar resolutions asking energy companies to set absolute Scope 3 emissions targets or to voluntarily cease oil and gas production, which would lead to unintended negative

consequences. As outlined in our engagement prioritization strategy earlier in this chapter, we believe that these resolutions do not reflect a complete understanding of the energy system.

We tend to support shareholder resolutions on climate risk disclosure (see Berkshire Hathaway example), requests for reporting on climate lobbying if we believe reporting is important for investors to evaluate reputational and other financially material risks to the company. Where we believe that climate change poses financially material implications to the business, we support shareholder resolutions which call for greater details or interim goals from companies that have set their own long term aspirational goals. We may also vote for shareholder proposals or against directors at companies that have set long term net zero goals but have not provided shareholders with any details or interim milestones to which current management can be held accountable and so that shareholders can be aware of progress.

Where through our engagement we understand how companies make progress on these issues which gives us comfort that risks are being managed, we will not continue to support such shareholder resolutions (see Toyota example).

JPMAM voting on climate-related proposals in 2024³²



Source: J.P. Morgan Asset Management, as of December 31, 2024.

³² In the context of this table climate change action relates to company specific resolutions calling for the company to strengthen their energy transition plans or become a leader of renewable energy

Climate Change Voting continued

Case study – Climate voting – Shareholder proposals & Routine votes



Valero



U.S.



Equities

Issue

While evaluating a 2022 shareholder proposal which asked U.S. refiner and renewable fuel producer Valero Energy to set net zero targets across Scopes 1, 2, and 3 by 2050, we noted a concern with the Company's presentation of its climate strategy. At the time, Valero had presented a waterfall chart showing how 65% of the Company's 2011 Scope 1 and 2 emissions would be reduced/offset by 2025, and 100% by 2035. The labeling of ethanol/renewable diesel/biofuels productions as "offsets" was unclear, and we believed that exposed the Company to reputational risks and risks of greenwashing.

Action

During an engagement with the Company ahead of the 2022 annual meeting, the Company explained its strategy of 1) maximizing the resiliency of existing refining assets and 2) investing in low-carbon fuels primarily through ethanol and renewable diesel. The Company acknowledged that while the use of "offsets" could be misunderstood, their intent had been to communicate that the emissions would be avoided through the displacement of higher carbon-intensity fossil fuels with lower carbon intensity fuels.

While we voted against that shareholder proposal due to our comfort with overall company strategy, we continued to engage with Valero on the presentation of emissions reduction plans. In the 2023 ESG report, Valero no longer referred to emissions "offset" by renewable diesel and ethanol, instead using the word "displaced." The presentation still suggested, however, that fuel displacement would result in reducing their reported Scope 1 and 2 emissions and, the Company's own operational emissions, instead of emissions avoided as a result of drivers using fuels less emissions-intensive than traditional gasoline and diesel. Due to our concerns, we voted against the re-election of the Chair of the Public Policy Committee, who is responsible for oversight of ESG risks and disclosures, at the 2023 annual meeting. We continued to engage in 2023 and 2024, explaining our vote and encouraging the Company to change the presentation of this information. In 2024, the Company updated the waterfall chart on the website with clear separation between categories of actions (i.e. emissions reductions, fuel displacements, and carbon capture/storage), and the Company asked a third party to evaluate the presentation prior to publication.

Outcome

Valero's change represents a significant improvement in disclosure. We voted in favor of all directors at the 2024 annual meeting.

Climate Change Voting continued

Case study – Climate Related Shareholder Resolution



Toyota Motor



Japan



Equities

Issue

Toyota Motor is the world's top carmaker and the largest company in Japan in terms of market capitalization. In 2023, Toyota received a shareholder resolution to amend the Articles to add a clause requiring a report on corporate climate lobbying aligned with the Paris Agreement for the first time by a group of investors. This resolution was proposed once again in 2024 by a Danish investor.

Action

In 2023, we voted in favor of the shareholder proposal after discussions with the Company, as we believed its public policy report did not provide a clear methodology for assessing and escalating climate change-related issues. In the 2024 company policy report we saw progress made in terms of breadth and quality of the information provided in the report. We also met the company and Toyota provided additional context.

Outcome

In response to the progress made, we voted AGAINST the shareholder proposal in 2024: the proposal received 9% support in 2024, a decline from 15% in 2023. Our decision was based on the assessment that the Company has improved its response to this issue through ongoing dialogue.

Climate Change Voting continued

Case study – Climate voting–Shareholder proposals & Routine votes



Berkshire Hathaway



U.S.



Equities

Issue

The American large cap holding company, Berkshire Hathaway, received a shareholder proposal requesting that the Company “Report on Efforts to Measure, Disclose and Reduce GHG Emissions Associated with Underwriting, Insuring, and Investing in alignment with the Paris Agreement’s 1.5 °C” goal. The proponent, in their supporting statement, focused on the Company’s insurance underwriting and investment in fossil fuel companies. Meanwhile, a separate proposal asked the Company to disclose utility subsidiary Berkshire Hathaway Energy’s (BHE) emissions and progress towards its stated Net Zero goals.

Action

We voted against the first proposal as we believed it would effectively require the Company to set underwritten emissions reductions targets. We are cautious regarding the methodology for insurance-associated emissions, which is driven by various factors and may not offer a holistic view of climate risk for an insurance business, nor reflect the ways an insurance company may address climate risk with clients.

However, we supported the proposal asking for disclosures related to BHE specifically, in light of BHE’s high exposure to climate change risk. As the Company had already set emission targets including a 2050 Net Zero goal, we believe disclosures more closely aligned with TCFD or similar would provide investors with meaningful information to help assess climate change risk at the Company and the credibility of targets the Company has set. More generally, the lack of disclosures on how the Company managed material climate risks led us to continue voting against the Lead Independent Director, in line with our climate related voting guidelines.

Outcome

The proposal asking for a report on efforts to measure, disclose and reduce underwritten emissions received ~21% support, while the proposal focused on Berkshire Hathaway Energy received ~18% support.

For more information on our approach to Investment Stewardship, contact your J.P. Morgan Asset Management representative.

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