PineBridge® INVESTMENTS

ESG Asset Class Report (Abridged)

31 March 2024

By:
Global Multi-Asset Team (GMAT)
PineBridge Investments

Executive Summary

The COP28 United Nations Climate Change Conference in December 2023 capped off a second half marked by significant progress across many regions and in many areas of ESG and setbacks in some others.

Our ESG Outlook and ESG Engagement levels for the sub-asset classes we assess remain largely unchanged from the first half of 2023. Some updates from our last review include:

Sovereigns

We downgraded the ESG Outlook for the UK to Stable from Improving amid a watering down of some of its more important climate policies, including a slower phaseout of internal combustion engine cars and oil heating systems. This may improve after the election next year, when a more pro-green party comes into power, but has triggered increasing politicization of climate policies. We maintain our Stable ESG Outlook for France; although the country has been outspoken about climate change, it continues to lag on renewables. The cost of living continues to be a big issue for France, but the government has been aggressive in trying to mitigate the impact on the overall population.

Equities

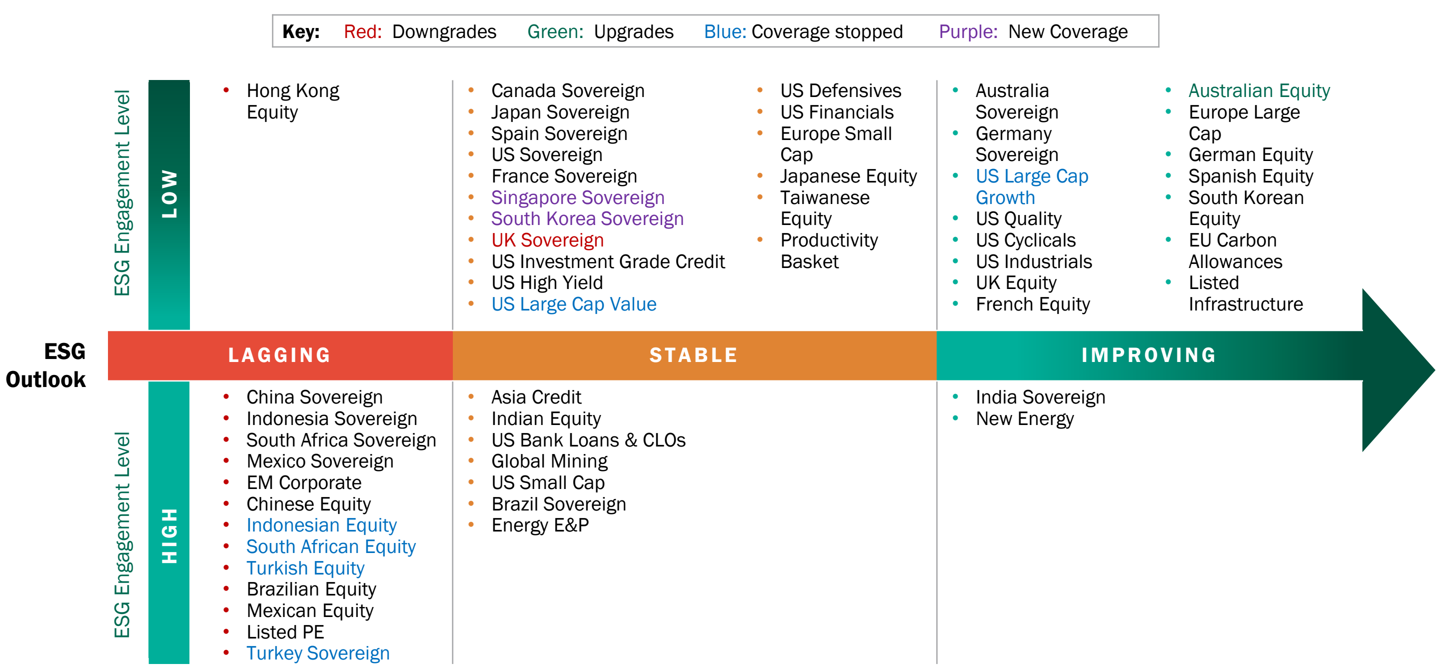
We upgraded our ESG Outlook for Australia Equity to Improving from Stable, as the country's new policy reforms seem to support ESG initiatives. The 2022 Climate Change Act and the new emissions reduction bill of 2023 should bring the country more in line with some of its peers with regard to net-zero targets. A new report from Monash University shows improvement in modern slavery reporting standards among ASX 100 companies.

Fixed Income

Our Fixed Income Outlooks and Engagement Levels were unchanged versus the first half of 2023 across regions and sectors. In emerging markets, while we acknowledge decarbonization targets and efforts, EM credits remain challenged by reliance on fossil fuels, as well as human rights concerns. On a positive note, companies are being rewarded for improved disclosures. In the US, while we see differences primarily driven by sector composition, we do not see any catalysts significant enough to change our current views.

The chart below summarizes our most recent asset class review for the 50+ sub-asset classes we cover in this report.

Mapping of Current Views
ESG Outlook and ESG Engagement Level are considered in the team's allocation and implementation decisions.



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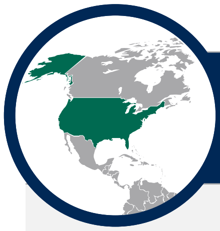
Global Developments and Trends

A snapshot of notable developments around the world



The US: Momentum Continues

While the US lags behind other developed markets on ESG scores, efforts are underway to address environmental, social, and governance concerns. The US has been key in pushing climate cooperation and pledges around the world and has developed a concrete plan to reduce methane and carbon emissions and promote climate investment. However, it did not sign the COP28 coal pledge (China, Japan, and India also declined to sign).

Environment

The US has improved its environmental score, but its CO_2 emissions per capita remain high, and domestic oil production is at record levels. The Biden Administration is seeking to improve US environmental policy by rejoining the Paris Agreement, announcing carbon neutrality by the year 2050, and creating the office of "Special Presidential Envoy for Climate." The joint statement with China to curb emissions and global warming is a positive development. The current plan implies 2°C of warming by 2030, not yet consistent with the Paris Accord's 1.5°C limit.

President Biden's Inflation Reduction Act set emissions toward meeting the country's climate commitment to cut greenhouse gas (GHG) emissions in half by 2030, below 2005 levels.

Social

Our Social score for the US has deteriorated over the past three years. That said, the American Families Plan includes more support for women and would expand access to education and childcare by investing billions in childcare and early-education programs. Executive Order 13985, officially titled Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, is the first executive order signed by President Biden, on 20 January 2021. It directs the federal government to revise agency policies to account for racial inequities in their implementation.

Governance

Our proprietary Sovereign scoring model indicates that the US Governance improvement score ranks among the lowest compared to its peers, showing room for improvement on the Corruption Perceptions Index and the World Justice Project Rule of Law Index.

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Europe: The Climate Leader Sets the Pace

Europe has long been a leader in sustainable energy, with ambitious net zero goals aimed at "greening" national economies. In the UK, governance continues to be world-leading, currently focusing on anti-greenwashing enforcement; yet due to the slow pace of ongoing improvements in the environmental sector, we have changed our UK ESG outlook to Stable from Improving.

Environment

COP28 commitments include accelerating the transition away from fossil fuels, reducing emissions by 43% by 2030, and targeting net-zero emissions by 2050. The EU-Catalyst partnership will support the first two European clean-tech projects, which aim to help the EU reach its 2030 climate targets, among other goals.

Renewable Energy Directive: Renewables' share of EU energy consumption must reach 42.5% by 2030, with a target of reducing energy consumption 11.7% by 2030. The EU adopted rules on 17 August 2023 for the implementation of the carbon border adjustment mechanism, which imposes a levy on carbon imports.

While the decline in GHGs is better in the UK than for the EU, the UK has watered down some of its more important climate policies, including slower phaseout of internal combustion engine cars and oil heating systems. This may improve after the election next year when a more pro-green party comes into power, but it has triggered increasing politicization of climate policies.

Social

By July 2026, all large publicly listed companies in the EU will have to take measures to increase women's presence in leadership roles. Meanwhile, the UK's gender pay gap is also on a long-term improving trend.

Governance

Corporations and investors are required to report alignment with EU taxonomy activities and green investments. Sixty-three percent of STOXX European 600 companies have already disclosed their eligibility and alignment with the taxonomy's first two objectives. We believe growth in nonfinancial ESG reporting, along with reporting through the SFDR, could make companies better prepared to manage potential risks and help investors analyze companies from a long-term perspective. The Corporate Sustainability Reporting Directive (CSRD) proposal revises and expands corporate sustainability reporting requirements and increases the number of companies disclosing environmental and social issues.

Notable changes: We downgraded the ESG Outlook for the UK to Stable from Improving amid a watering down of some of its more important climate policies, including a slower phaseout of internal combustion engine cars and oil heating systems.

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APAC: Persistent Progress on Climate Action

Countries across Asia-Pacific made further commitments to carbon neutrality and other climate efforts, with China's Environmental score improving despite some disruptions related to national security concerns. That said, China, India, and Japan (along with the US) are missing from the COP28 coal pledge.

Environment

China's environmental score improved, and decarbonization is expected to beat the country's NDC target. Yet the coal-fired power buildup due to national energy security concerns is a detraction, and China's efforts on ESG were partly disrupted by national security concerns. The promotion of renewable energy was partly offset by the expansion of coal-fired power.

With a focus on infrastructure in capital expenditures, India's existing steel and cement plants will require US$627 billion in additional capex to achieve net-zero carbon emissions. During the COP28 summit, India urged developed countries to take the lead in an ambitious climate action plan, thus not placing any additional pressure on the industrial sector.

Taiwan passed a climate law with a carbon fee system and a 2050 net-zero goal. The renewable energy weighting has risen slowly, accounting for about 8.3% in 2022.

Korean equities have exhibited ongoing enhancements in overall ESG risk scores, with the environmental pillar standing out as the best-performing, with companies actively reducing carbon emissions. At the COP28 summit, South Korea made significant commitments to combat climate change, including pledging to triple its global renewable energy capacity by 2030.

Japan, along with the US, China, and India, is missing from the COP26 coal pledge. Prime Minister Kishida reconfirmed plans to get Japan carbon-neutral by 2050 and cut emissions 46% by 2030 (versus 2013) while pushing for mandatory ESG disclosure.

The new Australian government has set priorities on emissions targets, and while it falls behind other developed nations, the moves mark a step in the right direction. Australia recently signed the Glasgow Statement, which pledges to end international public finance for fossil fuel projects, excluding domestic projects.

In 2022, 22 major companies in their sectors joined the membership of the RE100 and committed to going 100% renewable.

Social

In China, human rights issues in Hong Kong and Xinjiang, as well as Covid-related lockdowns, remain controversial.

The Australian government is working on several initiatives in support of equity for women. However, money in politics remains a dark cloud over governance. The Human Rights Law Centre called on the government to protect democracy and end corporate influence through campaign finance and lobbying reforms. A new report from Monash University shows a jump in modern slavery reporting standards among ASX100 companies, underscoring a growing dedication and commitment of resources to confronting this issue.

Governance

Representation of women on boards in China has risen, though the governance score would benefit from better transparency on financial reports. State-owned banks have improved their risk management in recent years, but their roles in supporting government policy and providing credit to parts of the market are still risk management factors to watch.

Indian equity maintains stable scores across the three ESG pillars, with an improvement in governance. A mandatory Business Responsibility and Sustainability Report for the top 1000 companies is viewed as an aggressive push on ESG disclosures by the Securities and Exchange Board of India (SEBI), which reduces the scope for greenwashing and improves the quality of ESG disclosures. However, corporations face challenges in coping with the quick pace of change SEBI is demanding. A push on public and private capex is also expected to put India on a higher-emission cycle.

The Taiwan Stock Exchange (TWSE) introduced a new ESG reporting mandate for listed companies that is expected to strengthen investor confidence and attract additional domestic and foreign investment.

While Korea's governance pillar ranks the lowest, it has consistently improved. Gender equality remains an area for enhancement, yet there is progress, reflected in the increasing percentage of women on corporate boards.

Singapore has made significant progress in developing its ESG landscape over the past three years. The government has implemented several key policies and regulations, and businesses are increasingly incorporating ESG considerations into their strategies. However, we still see some areas for improvement, such as accelerating the transition to a low-carbon economy and addressing social inequalities.

Australia must submit a Nationally Determined Contribution (NDC) to the Loss and Damage Fund, including a 2035 target, by 2025, with the emission reduction bill of 2023 ensuring transparency and accountability.

Notable changes: We upgraded our ESG Outlook for Australia Equity to Improving from Stable, as the country's new policy reforms seem to support ESG initiatives.

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Other Emerging Markets: Stepping Forward, Stepping Back

While many emerging markets in Latin America and EMEA have committed to progress on environmental goals, some are moving in the wrong direction. Corruption remains a persistent issue, and human rights concerns are an ongoing problem in many areas.

Environment

Mexico is the world's 10th most populous country and the 11th biggest carbon emitter, yet is the only G20 nation without a net-zero target. Mexico's climate policies and commitments are inconsistent and have led to rising, instead of falling, emissions, as current energy policies promote the use of fossil fuels, undermine the electricity market, and hinder the deployment of renewable energies.

Brazil's government has pledged to end deforestation by 2028, but it lacks an operational plan. The Brazilian Development Bank (BNDES) announced the Arc of Restoration program to restore the Amazon rainforest. Brazil has also launched the Tropical Forests Forever fund, which is expected to be operational by COP30. Brazil joined the Climate and Clean Air Coalition (CCAC) in June 2023 and launched the Transformative Agricultural Methane Project in September 2023.

Social

Mexico's social safety nets have weakened. Coupled with a recent rise in crime, this has dampened our outlook for overall social stability in Mexico. Human rights violations continue, and corruption remains widespread across Mexico.

In South Africa, inequality and corruption remain top concerns. Poverty, inequality, and housing are key priorities for the government, but very little improvement has been seen to date.

Governance

In Brazil, inequality increased during the pandemic, and corruption remains rampant. That said, Brazil sent its largest delegation to COP to date and has reduced Amazon deforestation by 50% compared to the previous year.

South Africa is pioneering the Just Transition model of funding for energy transition, which aims to raise $8.5 billion from a range of countries to reduce coal use while protecting vulnerable workers and communities. The pace and speed at which this can be funded and implemented remain highly uncertain. Meanwhile, mining sector investments are expected to increase over the next few years.

Our ESG Review Process

Our ESG semiannual review of 50+ sub-asset classes aims to produce two important indicators for each asset class: (1) the ESG Outlook focused on forward-looking improvements, and (2) the ESG Engagement Level, which informs the level of ESG risk present and the expected engagement needed to drive improvement. We use the insights from this process to evaluate their likely impact on cash flows and capitalization rates as part of our Capital Market Line (CML) modeling and global asset allocation. Our ultimate goal is to seek and foster sustainable business practices through our investments, thus providing better outcomes for our clients.

1 ESG Outlook

We believe forward-looking improvements in ESG will support cash flows and result in a more generous discount rate, driving investor value. We develop our ESG Outlook by:

- **Spotlighting the E, S, and G trends for both the current state and the areas of ESG improvement for each asset class.**

  We built a series of individual E, S, and G factors and combined ESG historical trend lines to assist our research. We use proprietary tools and third-party data from MSCI, Bloomberg, and the Sustainability Accounting Standards Board (“SASB”), which provide the current status and recent trends for E, S, and G, as well as ESG overall for each asset class. For sovereigns, we have developed a proprietary framework incorporating publicly sourced ESG factors to assess countries’ exposures to, and management of, ESG risks.

- **Understanding the recent improvement trends and current state for each of the E, S, and G pillars.**

  This provides a baseline to frame the ESG Outlook and ESG Engagement Level. We then drill down to understand each asset class’s history and its current E, S, and G status. When a security skews these results, it becomes a useful guide for the team to identify which companies need to be engaged with, and which issues need to be addressed.

  The art is in identifying the potential catalysts of forward-looking improvement to move us above or below the existing trajectory. To complement our ESG research, we discuss and debate ESG-related changes underway at the asset class level with our bottom-up specialists, and then independently decide whether the forward-looking ESG Outlook is “Improving,” “Stable,” or “Lagging.” We also place a special focus on certain E and S characteristics of global importance for each sub-asset class, specifically carbon emissions and board gender diversity, as well as the wealth gap for sovereigns (i.e., Gini coefficient).

2 ESG Engagement Level

Engagement is a key component of our ESG improvement philosophy, particularly when we see potential in investments that are lagging on ESG.

The ESG Engagement Level reflects our assessment of the ESG risk if we were to invest passively in the asset class. The associated level of engagement we prescribe (Low or High) refers to what is required of investors, in our view, to drive enough ESG improvement given the asset class’s current state, historical ESG trends, and degree of potential improvement in the asset class.

For instance, a “High” Engagement Level indicates the asset class’s current ESG state is not favorable, the existing trends are not encouraging, and triggers for improvement are not apparent. In our view, traditional passive investing is not acceptable or appropriate for such an asset class, even if investing in the asset class is financially attractive after taking the drag from ESG into account as part of our Capital Market Line modeling.

Too few constituents in the index are likely to improve or appear receptive to engagement for improvement. In such circumstances, we will consider exposure to the asset class if we can source an active manager that we deem is very likely to add alpha in the right way – via vigorous ESG integration and engagement. We also may create an ESG-optimized allocation using third-party data for current and momentum carbon emissions and board gender diversity factors.

We seek to identify the potential good actors in segments that may be lagging on ESG, looking to incentivize others by producing clear improvements in performance. This is essential in a world where the largest potential improvement in areas like carbon emissions are in the lagging asset classes.

COP28 Update

The COP28 United Nations Climate Change Conference took place in Dubai from 30 November to 12 December 2023. The annual summit represents the world's only multilateral decision-making forum on climate change, with membership spanning nearly every country in the world. During the conference, world leaders, negotiators, and stakeholders gathered to discuss and address global challenges related to climate change. The event aimed to foster international cooperation and agreements to mitigate the impact of climate change and promote sustainable practices on a global scale. Various sessions, discussions, and negotiations occurred over the two-week period, culminating in agreements and resolutions designed to advance the global climate agenda.

This year, approximately 65,000 attendees participated in COP28.

Key updates

COP28 was anchored by the first Global Stocktake (GST) since the Paris Agreement and showed a **2.1°C-2.8°C global warming trajectory**. The assessment underscored the urgent need to accelerate efforts to maintain the 1.5°C target. Countries have been asked over the next two years to set ambitious, economywide emission-reduction targets in their Nationally Determined Contributions (NDCs) covering all greenhouse gasses (GHGs), in line with limiting global warming to 1.5°C.

A rapid shift from fossil fuels to clean energy. This is the first COP summit to officially acknowledge that fossil fuels are the root cause of climate change. Countries agreed on a statement that we must "transition away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science." This language – a "transition away" rather than a full "phase-out" – is not as strong as many wanted.

The outcome also included an agreement to **triple the world's renewable energy capacity and double its energy efficiency by 2030.** The agreement calls on countries to map out climate plans that shift their baseload energy away from fossil fuels and ramp up renewable energy to reduce GHG emissions by 43% this decade and 60% by 2035, in line with scientifically derived net-zero pathways.

Possible impacts include **prospects for transition risk for companies and for a repricing of assets sooner.** A fossil-free economy means that a majority of companies need to significantly reimagine their business models to align with the path mapped out in Dubai. The agreement holds out a role for transition fuels, a provision that leaves oil and gas in the mix while enhancing efforts to replace them with renewables. The final agreement leaves room for varied national interpretations around the pace of transition away from fossil fuels.

COP28 Update

Key updates

Transforming the energy system at this pace demands significant investment, and financial institutions will play a crucial role – facilitating the transformation by helping speed development of transition technologies, including renewables, nuclear energy, technologies for reducing and removing carbon, and low-carbon hydrogen. It will also involve accelerating efforts toward a phasedown of unabated coal power.

The Loss and Damage Fund goes into effect. "Loss and damage" is the term given to finance for developing countries that have suffered a major climate change-related disaster. The Loss and Damage Fund became fully operational on the first day of the Dubai summit. A number of countries also stepped forward with roughly $700 million to fill the fund. Vulnerable countries may face approximately $580 billion in climate-related damage by 2030.

Over 50 national and international oil companies, representing about 40% of global production, signed a decarbonization charter. The initiative sets three main aims: to achieve net zero emissions in each company's direct operations (as opposed to the use of their products) by or before 2050; to achieve near-zero methane leakage from the production of oil and gas by 2030; and to achieve zero routine flaring (burning excess gas) by 2030.

Morgan Stanley and Boston Consulting Group and a consortium of other companies are set to back the **US State Department-led Energy Transition Accelerator,** for which a framework was launched at COP28 to generate emissions reductions from the early retirement of coal plants and their replacement with renewables in developing economies.

The **Glasgow Financial Alliance for Net Zero (GFANZ)** has put its support behind energy-transition credits to support the managed phase-out of high-emitting assets.

The agreement reached at COP28 reinforces the nexus between nature and climate by stressing the importance of protecting and restoring nature and ecosystems to achieve global climate goals. Fifteen countries, including the US and China, said they would align country climate targets, national biodiversity strategies, and action plans, as well as work to standardize data collection, methods, and frameworks across climate and nature. This initiative may leverage a global baseline launched in September 2023 by the **Taskforce on Nature-related Financial Disclosures.**

The **Taskforce on Climate-related Financial Disclosures (TCFD) has been disbanded** and is passing the baton to the International Sustainability Standards Board (ISSB). The consolidation of reporting standards will reduce the burden on corporations and financial institutions and has already received widespread support, with over 10,000 companies committing to adopt the ISSB standards at COP28.

The **launch of the Net-Zero Data Public Utility (NZDPU) at COP28 provides a key resource to support financial institutions** in understanding both their clients' transition trajectories and their own. The NZDPU's mission is to provide a trusted, central source of company-level climate data that is transparent and openly accessible to all.

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