



PGIM FIXED INCOME

ESG RESEARCH

WHAT WE DO

ESG ANNUAL REPORT 2022

Prepared by

PGIM Fixed Income ESG Research

RELEASED AUGUST 2023

A WORD FROM OUR LEADERSHIP

In a world seeking sound bites and simple answers, it can be difficult to convey the complexities and nuances of ESG investing. But if we had to sum up ESG in 2022, we'd deem it a year in which increasingly polarised views drove many asset managers to take stock of their ESG beliefs and some to take drastic action. In the wake of various catalysts—from Russia's invasion of Ukraine to fears of a global recession—governments, issuers, institutions and individuals faced reason to thoughtfully consider their respective ESG motives and values.

From an asset management perspective, many investors have seen their ESG infrastructure tested and have since evolved their thinking. ESG as an investment construct is multifaceted and, in many aspects, still developing. So as a firm, we are continuously seeking to improve our ESG approach and sharpen the tools we offer clients. But to be abundantly clear, PGIM Fixed Income's ESG philosophy is unchanged: We seek to provide our clients with the tools and analysis necessary to make informed choices about how they reflect ESG considerations through their investment decisions.

Diving deeper into the improvements in our approach to ESG, one of the highlights over the course of 2022 was the work we did to develop a Temperature Alignment Tool. The tool assesses the alignment of an issuer—and ultimately a portfolio—with various temperature scenarios. This assessment extends beyond standard metrics by incorporating both forward- and backward-looking data points, and considering not just the existence of targets, but also their credibility. When this tool is launched and in production, we believe the outputs of this tool will represent a significant advancement in our clients' ability to measure the climate impact of their portfolios.

From a resource standpoint, we invested in growing our team of ESG specialists by adding three ESG research analysts, an ESG product specialist, and a dedicated ESG reporting analyst. This brings our total dedicated ESG resources to 10 people, alongside our deep base of more than 120 credit research analysts and economists to conduct ESG analysis at the issuer level as well.

We also took part in the broader ESG conversation via thought leadership pieces, participation in ESG conferences and events, regulatory consultation responses, involvement in ESG-focused industry groups, as well as interaction with our peers and the issuers in which we invest. It's important to provide our opinion on the challenges faced by ESG investors, and the solutions we think are best placed to help solve them.

While this serves as a brief preview of PGIM Fixed Income's ESG highlights in 2022, the report that follows provides a detailed account of the work, aiming for transparency and accountability into our process and approach. We hope it drives thoughtful conversation and informed investment decisions.



MIKE LILLARD, CFA

Head of PGIM Fixed Income



JOHN VIBERT

President of PGIM Fixed Income



ENGAGEMENT

33

Engagement with...

Clients 34	Data Vendors 55
Issuers 36	Industry 57
Investment Banks 53	Our Employees & Community 58
Regulators/Polymakers 54	

ABOUT PGIM FIXED INCOME¹

PGIM Fixed Income is a global asset manager offering active solutions across fixed income markets for institutional clients, affiliated insurance companies, mutual funds, and managed accounts, as well as specialised products and customised solutions.

PGIM Fixed Income's culture is centred around mutual respect, trust in each other, collegiality, teamwork, meritocracy, intellectual honesty, transparency, and an unwavering commitment to our clients.

Our business model is aligned with our mission to provide consistent, superior risk-adjusted returns and top-quality service to our clients and to generate superior value for our stakeholders.²

Accordingly, our strategy and objectives are designed with a consistent focus on:

- protecting and evolving the strength of our investment culture, processes, and philosophy with the goal of generating consistently strong investment performance;
- demonstrating commitment to our clients by being both proactive and highly responsive;
- building and refining our product mix to meet market needs;
- refining our global distribution strategy;
- integrating our business globally;
- investing in technology and infrastructure to support growth; and
- focusing on talent and culture.

Our philosophy hinges on investing for the long term with fundamental research-driven security selection at the heart of everything we do. We believe that diversified portfolios, built through the integration of macroeconomic, credit, quantitative and ESG analysis—coupled with an emphasis on risk management—can achieve consistent excess returns with high information ratios. Risk budgeting is central to our approach, with allocations made within portfolio-specific risk budget thresholds.

As a global fixed income manager, we have the resources and ability to strategically hire the individuals and develop the infrastructure needed to support our business objectives.

¹ For the purpose of this report, all information unless otherwise stated is intended to be representative of PGIM Fixed Income as of 31 December 2022. PGIM is the asset management business of Prudential Financial, Inc. ("PFI") PGIM Fixed Income is one of the asset management businesses with PGIM. Prudential Financial, Inc. of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom, or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom.

² There is no guarantee that this objective can be achieved.

An aerial, isometric view of a city layout. The city is composed of numerous small islands of varying sizes, each densely packed with grey, rectangular building models. These islands are separated by a network of dark blue water channels. Interspersed among the buildings on each island are clusters of bright green, bushy vegetation. The overall perspective is from a high angle, looking down at the city's organic yet structured form.

SECTION 1

PHILOSOPHY & APPROACH

01

ESG PHILOSOPHY AND APPROACH

As a fundamental research-driven active fixed income manager, we believe ESG issues can affect the financial performance of investment portfolios. Therefore, we recognise the importance of integrating environmental, social and governance factors in our global investment research, decision-making, and portfolio management processes.¹ In general, we view ESG through two separate but interrelated prisms: 1) credit-material ESG factors, and 2) the impact issuers are having on the environment and society. We consider credit-material ESG factors in our investment process as part of working towards our ultimate duty—searching for the highest risk-adjusted returns for our clients based on their return objectives.² Separately, when our clients request that we consider ESG impact as part of their objectives, we offer our clients tools to help express their views. The core tenets of our ESG philosophy and approach are summarised below.

- We believe ESG factors can impact investment performance, and we therefore integrate financially material ESG factors into the credit analysis processes used across all of our strategies.
- We believe credit risk cannot be disaggregated into individual components and must be assessed holistically. Our credit ratings incorporate analysis of credit-material risks and opportunities arising from ESG factors, alongside other risk factors, to reflect our overall fundamental credit view of the issuer. This is done for all credit strategies that we manage and is consistent with our fiduciary obligations.
- Separately, we have observed that an issuer's ESG impact on the environment and society does not always create material credit risks for that issuer, even when those ESG impacts are significant. Our proprietary ESG Impact Ratings assess our view of the negative and positive impacts of issuers on the environment and society—whether or not they are immediately credit-material—and determine their eligibility for investment by our ESG strategies. We offer clients the choice (but not the obligation) to apply this additional “impact” lens to their portfolios.
- We believe our 100+ fundamental research analysts, economists and ESG specialists are well placed to analyse an issuer's ESG characteristics; therefore, we conduct our own ESG research and risk assessment as part of credit analysis. We use our ESG Impact Ratings as a tool to help our clients invest in line with their ESG/sustainability preferences.
- We engage with issuers to communicate our views on fundamental and ESG issues. We aim for such engagements to be constructive and offer issuers insights into our concerns and information on industry best practices, as well as how their ESG efforts may be perceived in the market and the potential effect this could have on future market demand for their bonds. We disclose our ESG Impact Ratings to issuers, when requested, as we see that these ratings and other ESG tools and analysis provide tangible feedback to issuers.
- As a signatory to the Principles of Responsible Investment (PRI) since February 2015, we are committed to implementing the PRI.

As one of the world's largest active fixed income managers, we cater to a variety of client needs, and a growing number of these clients demand a robust approach to ESG and stewardship to enable them to fulfil their ESG obligations and aspirations. Integrating ESG and stewardship into our investment process and culture is essential to our mission of pursuing consistent, superior risk-adjusted returns and providing excellent service to our clients and value for our stakeholders. PGIM Fixed Income has been a signatory of the UK Stewardship Code since 2022. We believe the 12 Principles laid out by the UK Stewardship Code set a high standard for responsible stewardship, and we seek to disclose the relevant information necessary to maintain our signatory status on an annual basis.

We manage assets across a wide range of products and vehicles, and our ESG philosophy remains consistent throughout. We believe in providing clients with an explicit choice of how to express their policies, views and beliefs through their investments. As such, we believe in providing our clients with a range of solutions including investing in strategies that a) integrate credit-material ESG factors within our credit research and relative value analysis to achieve the highest risk-return objectives, b) evaluate and achieve more positive impacts on the environment and/or society, and/or c) offer customisation to achieve individual risk-return and impact objectives.

¹ Where consistent with applicable law and regulation.

² There is no guarantee that this objective can be achieved.

The background is a complex 3D composition. On the left, a dense, flowing stream of small green spheres, with occasional brown ones, moves from the top left towards the bottom right. The right side of the image is divided into several geometric sections: a light green curved shape at the top, a grey semi-circular shape below it, and a white triangular shape at the bottom right. The entire scene is set against a grey background with a fine, regular grid of small dots.

SECTION 2

MAJOR UPDATES 2022

02

MAJOR ESG UPDATES 2022¹

RESEARCH

Temperature Alignment Tool

The ESG Team developed a methodology for assessing our view of the ambition and credibility of corporate issuers' alignment with several key temperature rise levels. We believe incorporating a sector-specific and forward-looking approach is superior to one based simply on carbon footprint metrics. Unfortunately, many implied temperature rise methodologies to date assume an issuer's targets are robust, comprehensive and will be met, which we often find to be overly optimistic. These methodologies also involve their own judgements and biases. The PGIM Fixed Income Temperature Alignment methodology seeks to address these shortcomings by combining both forward- and backward-looking data, from multiple sources where possible, to look critically at companies' climate commitments, subject to data availability.²

TECHNOLOGY & RESOURCES

ESG Team

The ESG Team grew from five team members to eight ESG specialists, one ESG product specialist, and one ESG reporting specialist.

ESG Data

We expanded data resources to include:

- Clarity AI's SFDR and EU Taxonomy Product
- Institutional Shareholder Services (ISS) Product Screens
- Climate Bonds Initiative's Partners Programme and access to the Green Bonds Database

Engagement Tracking Tool

We also deployed a cloud-based engagement tracking tool to better report, monitor and analyse ESG engagements across the Firm.

THOUGHT LEADERSHIP

Fixed on ESG

In 2022, PGIM Fixed Income launched its own ESG podcast series called *"Fixed on ESG"* and released nine episodes within the year. In the series, PGIM Fixed Income's rotating lineup of ESG-expert hosts and guests explore the latest topics and trends of ESG investing. We provide our take on the investment implications and value opportunities we see in this space and how changes in the market may directly affect our decision-making.

PRODUCT DEVELOPMENT

Mutual Fund Launch

We launched our third ESG-focused U.S. mutual fund, a Short Duration Multi-Sector-focused strategy.

¹ The data points across this section represent the status as of 31 December 2022.

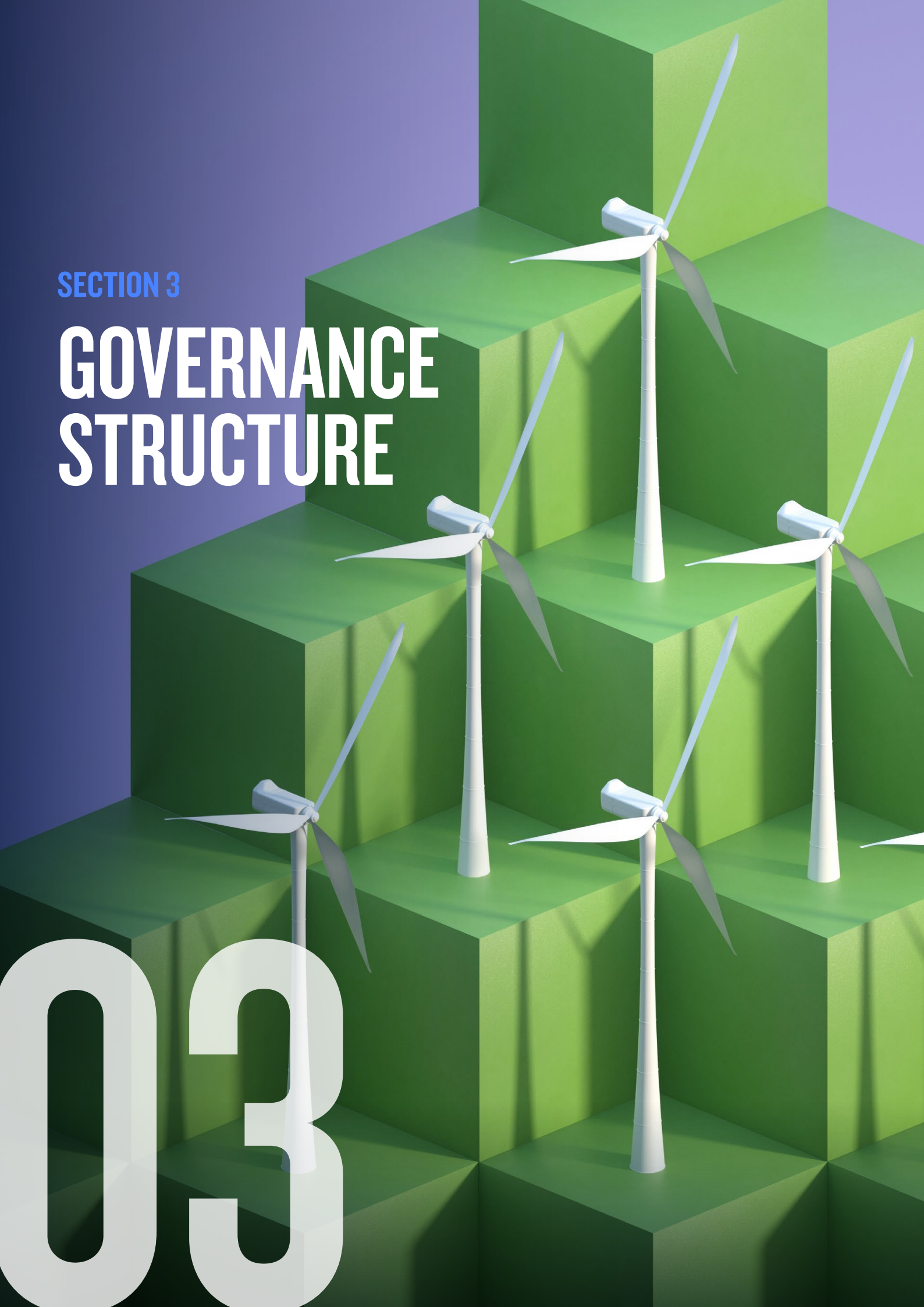
² This Temperature Alignment Tool is currently under development by the PGIM Fixed Income ESG Ratings Committee and may be subject to change.



SECTION 3

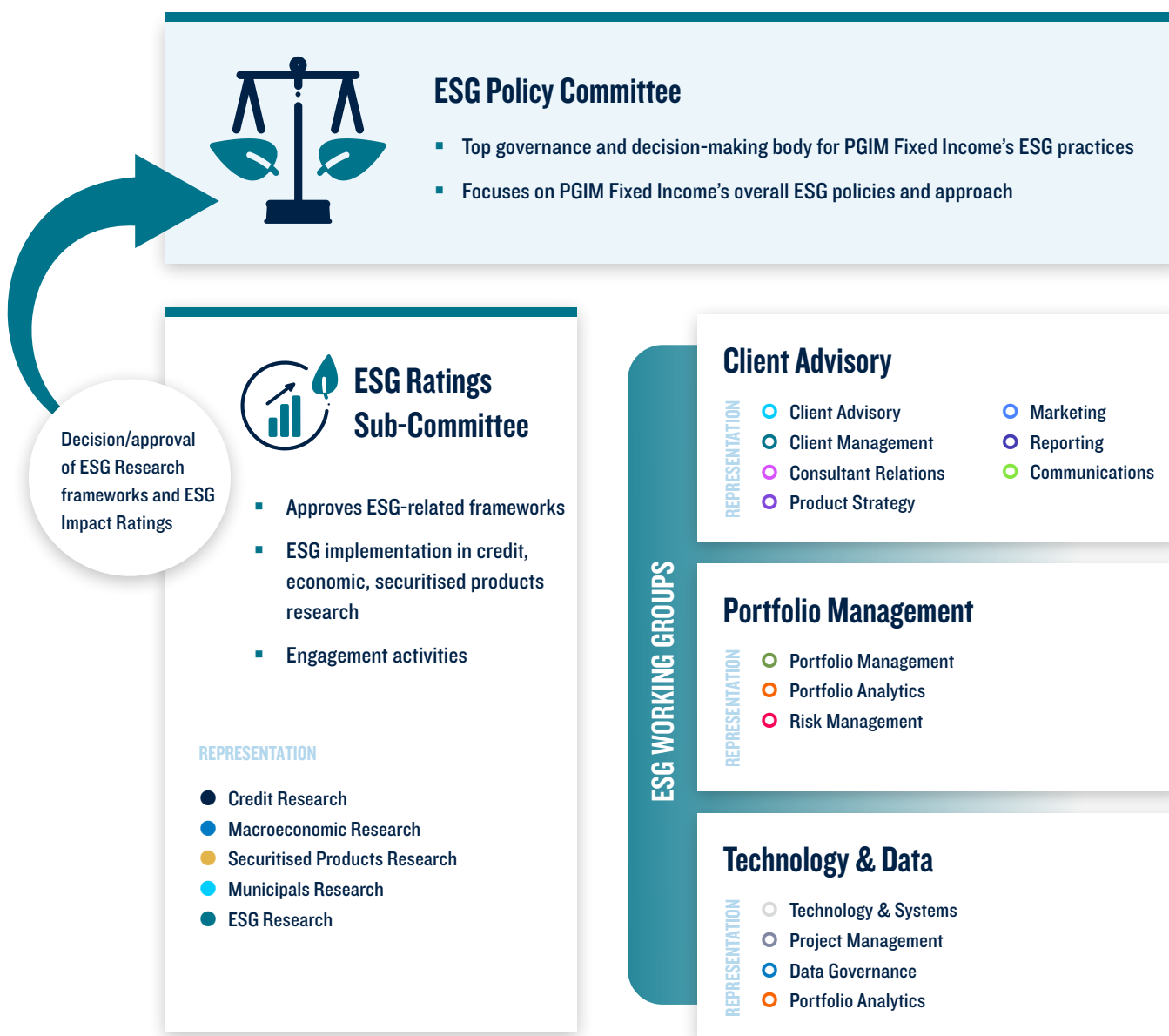
GOVERNANCE STRUCTURE

03



GOVERNANCE, RESOURCES AND INCENTIVES TO SUPPORT ESG STEWARDSHIP

PGIM Fixed Income has established an ESG policy committee (the “**ESG Policy Committee**”) that is supported by an ESG ratings sub-committee (the “**ESG Ratings Sub-Committee**”), and three ESG working groups. The three ESG working groups consider ESG issues from their respective perspectives: Client Advisory Group, Portfolio Management, and Technology & Data. The ESG Policy Committee acts as the top governance and decision-making body for PGIM Fixed Income’s ESG practices and focuses on PGIM Fixed Income’s overall ESG policies and approach, whereas the ESG Ratings Sub-Committee makes decisions on matters related to ESG integration in credit analysis, ESG Impact Ratings and other frameworks and tools related to ESG assessments used in our investment process. We believe this structure has better enabled us to make decisions effectively, facilitate constructive dialogue, maintain effective communications across the organisation, and promote the involvement of all relevant internal stakeholders. For more information about the responsibilities of the Committees and Working Groups, please refer to [Who We Are: ESG at PGIM Fixed Income](http://www.pgim.com/fixed-income/annual-report/esg-background-report)¹.



¹ <http://www.pgim.com/fixed-income/annual-report/esg-background-report>

ESG Policy Committee

Co-Chairs



MIKE LILLARD, CFA

Head of PGIM Fixed Income



JOHN VIBERT

President of PGIM Fixed Income

Overarching Responsibility

Serves as the top governance and decision-making body for ESG and climate-related topics. For full list of responsibilities, please see [Who We Are: ESG at PGIM Fixed Income](#).

Composition

- Reasonably small in size to enable healthy debate
- Comprising senior leaders and decision-makers who are able to make decisions, communicate these decisions to their teams, and oversee implementation
- Committee members include:
 - Head of PGIM Fixed Income
 - President of PGIM Fixed Income
 - Co-Chief Investment Officers
 - Head of Credit
 - Co-Heads of ESG Research
 - Co-Heads of Credit Research
 - Head of Emerging Markets Debt
 - Chief Business Officer
 - Global Head of Client Advisory Group
 - Global Head of Product Strategy and Marketing
 - Head of EMEA
 - President & CEO, PGIM Japan
- Average years of experience² of committee members: 26 years
- 21% female members

Frequency of Meetings

Quarterly; however, interim meetings may be held as needed

Key Decisions Made by the ESG Policy Committee in 2022

- Set priorities for ESG Ratings Sub-Committee and Working Groups
- Approved recommended changes to the binding ESG constraints for PGIM-sponsored ESG products
- Reviewed and approved updated ESG policies

² For investment professionals on the ESG Policy Committee it relates to investment experience, and for non-investment professionals it relates to the number of years of experience they have had in the industry.

ESG Ratings Sub-Committee

Chair



RICHARD GREENWOOD, CFA

Head of Credit

Overarching Responsibility

Approve ESG Ratings Frameworks and make decisions on matters related to ESG integration, including climate, in credit analysis and ESG Impact Ratings

Composition

- Comprising senior representatives of research teams across Investment Grade, High Yield, Emerging Markets, Municipals, Securitised Products, Macroeconomic, and ESG from our Newark, New Jersey, London and Tokyo offices to promote diversity of thought
- Average years of investment experience of committee members: 28 years
- 32% female members

Frequency of Meetings

Monthly

Key Decisions Made by the ESG Ratings Sub-Committee in 2022

- Approved methodology for assessing Good Governance according to SFDR's definition³
- Challenged ESG Impact Ratings for Russia and Belarus
- Approved analyst guidance for how to consistently assess issuers with low disclosure
- Approved methodology for PGIM Fixed Income's Temperature Alignment Tool

ESG integration and investing is evolving rapidly across several dimensions—regulatory, product development, political, and investment. In order to best serve our clients, we need to evolve quickly yet deliberately. Our attempt to evolve our governance structure at the end of 2021 was a first step towards supporting that objective: it gave us the opportunity to leverage our global senior leaders' input while allowing us to be more effective and efficient. However, as with anything else, we continue to learn and make improvements to our processes so that we can continue to adapt and scale in our endeavours to maintain the highest quality and integrity within our work. In addition, the PGIM Limited board, our UK entity, has designated a specific member to oversee ESG responsibilities.

³ Articles 28(b) and 41(b) of the Delegated Regulation requires the website disclosure of "the description of the policy to assess good governance practices of the investee companies [...], including with respect to sound management structures, employee relations, remuneration of staff, and tax compliance".

Resources

ESG resources extend beyond simply our “ESG Team”. While the ESG Team itself has expanded from five ESG Specialists in 2021 to eight ESG Specialists in 2022, one ESG Product Manager, and one ESG Reporting Analyst, there are many other teams within the organisation who provide ESG resources on a day-to-day basis:

ESG Resources

ESG Research Team

6 senior & 2 junior analysts

Key ESG Responsibilities

- Develop, maintain, and monitor implementation of ESG frameworks and policies
- Conduct sector-level and thematic ESG research
- Each ESG analyst is assigned to specific corporate sectors, and partners with all credit analysts globally covering that sector
- Each ESG analyst assigned to specific country regions, and partners with the economist covering those countries
- Identify, onboard, and oversee development of ESG data, applications, tools, and resources
- Participate in ESG-related industry groups and associations
- Monitor, comment on, and adapt to new ESG regulations
- Lead targeted ESG engagements

Fundamental Research*

Corporate Research: 60 senior & 31 junior analysts

Municipals Research: 7 senior analysts

Global Macroeconomic Research: 11 senior analysts

Securitised Products Research: 11 senior & 7 junior analysts

Key ESG Responsibilities

- Issuer-level ESG risk and impact assessments
- GSS Bond and SLB impact assessments
- Sector-level and thematic ESG research
- Ongoing issuer-level ESG engagements
- Participate in ESG-related industry groups and associations

Client Advisory

Key ESG Responsibilities

- | Product | Client Management | Reporting |
|---|--|--|
| <ul style="list-style-type: none"> • Develop new ESG products • Regularly re-assess product ESG characteristics • Ensure products adhere to ESG regulations • Understand shifting market standards on ESG | <ul style="list-style-type: none"> • Understand/implement client ESG preferences • Respond to client ESG queries • Communicate client ESG preferences internally • Understand shifting market standards on ESG | <ul style="list-style-type: none"> • Generate standard ESG reporting • Provide client-specific ESG reporting |

Technology & Data

Key ESG Responsibilities

- | Technology Solutions | Project Management | Dedicated ESG Apps/Tools | Data Vendors & Partners |
|--|---|--|--|
| 4 associates** | 2 associates** | Engagement Recording App; Temperature Alignment Tool*** | MSCI, Sustainalytics, ISS, Clarity AI, Bloomberg, Climate Bonds Initiative |
| <ul style="list-style-type: none"> • ESG data and resources | <ul style="list-style-type: none"> • Integrate ESG data into existing research platforms | <ul style="list-style-type: none"> • Create dedicated, proprietary ESG tools and applications | |

Note: As of 31 March 2023.

* Excludes CLO analysts.

** At least one-third or more of the associate's time is spent on ESG.

*** Under development. Anticipated mid-2023.

When it comes to our investment process though, our research teams have ultimate responsibility for assessing ESG risks and opportunities, including climate-related issues, and assigning ESG Impact Ratings to each issuer they cover. As the impact ratings framework evolves, the focus on ESG factors by our analysts and portfolio managers tends to increase as they establish and maintain ESG Impact Ratings on over 1,000 issuers, validate these ratings across sectors and fixed

income asset classes, and incorporate these ratings in ESG-focused portfolios. At the end of 2022, our credit research team comprised 126 research analysts with an average of 14 years of experience, as well as 10 economists with an average of 18 years of experience, making them well-placed to keep abreast of the latest ESG, regulatory and industry developments for the issuers they cover.

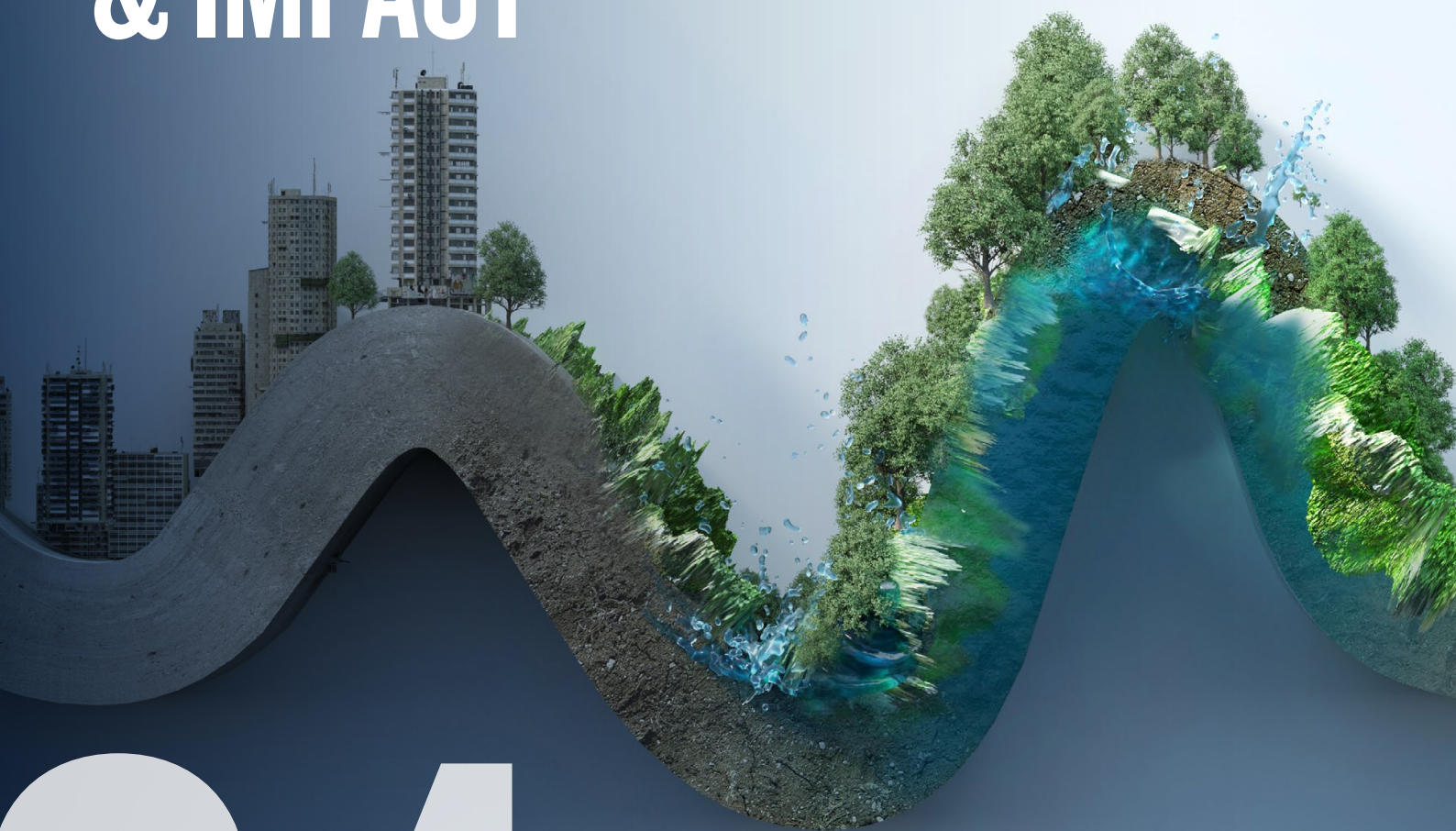
Whereas ESG specialists develop, maintain and monitor implementation of the ESG frameworks and policies, it is the credit research analysts and economists that carry out and implement the ESG frameworks when assessing their individual issuers. ESG specialists also provide thematic research to research teams, monitor regulatory developments, oversee developments pertaining to ESG data sourced from third-party providers, and play an active role in engaging with issuers and the ESG industry.

Incentive compensation for investment professionals, including the annual cash bonus, the long-term equity grant, and grants under our long-term incentive plans, is primarily based on such person's contribution to our goal of providing investment performance to clients consistent with portfolio objectives (including ESG objectives), guidelines, risk parameters, and our compliance, risk management and other policies, as well as market-based data such as compensation trends and levels of overall compensation for similar positions in the asset management industry. Given our belief that ESG factors can impact financial performance and relative value, we believe our investment professionals' compensation inherently includes their ability to appropriately incorporate these views into their credit assessments and portfolio construction. In addition, an investment professional's qualitative contributions to the organisation and its commercial success are considered in determining incentive compensation. For more information about compensation of our investment professionals, please see [PGIM, Inc.'s and PGIM Limited's Form ADV Part 2A with regard to PGIM Fixed Income \(the "PGIM Fixed Income Brochure"\)](http://www.pgimfixedincome.com/pramerica/fi/pdf/adv/PGIM_Fixed_Income_Form_ADV_Part_2A.pdf)⁴.

⁴ http://www.pgimfixedincome.com/pramerica/fi/pdf/adv/PGIM_Fixed_Income_Form_ADV_Part_2A.pdf

SECTION 4

ESG INTEGRATION & IMPACT



04

In general, we view ESG through two separate but interrelated prisms: 1) credit-material ESG factors, and 2) the impact that issuers are having on the environment and society.

ESG INTEGRATION

Credit-material ESG risks and opportunities are assessed as an integral part of our credit decision and embedded in our bottom-up investment process. We incorporate ESG risk assessments in our investment decisions by incorporating them into our credit ratings and considering them through our relative value frameworks, as we believe these risks can be financially material.

We assign an internal fundamental credit rating to every issuer the firm invests in, across the whole PGIM Fixed Income investment universe. In our view, credit-material ESG factors are not isolated from an issuer's overall credit profile, and the line between ESG risks and other forms of risk is often blurred. So, rather than layering a separate ESG risk rating on top of our credit assessment, our approach is to embed ESG risks and opportunities into fundamental credit ratings themselves. We assess whether our investments offer adequate compensation for the fundamental risk profile of the company, which includes ESG risks, on a sector-by-sector basis. This is our analysis of how ESG factors impact the issuer and affect their economic value. These are integrated into credit analysis and feature strongly in relative value discussions for all mandates.

ESG IN RISK MANAGEMENT

Additionally, PGIM Fixed Income's senior investment team, comprising the Head of PGIM Fixed Income, President, Co-Chief Investment Officers, Chief Investment Strategist, heads of the sector teams, and heads of macroeconomic, credit, securitised products, quantitative analysis and risk management, meets weekly at a "desk heads" meeting to analyse marketwide and systemic risks, including those related to ESG. This may include analysing economic, interest rate, credit spread, market technical, underlying fundamental themes, social and political instability, and macro-climate-related impacts in each major fixed income sector. The senior investment team develops a PGIM Fixed Income-wide market outlook consolidating these views, which may influence the overall risk profile, sector allocation, and duration/yield curve positioning in our fixed income portfolios, depending on the specific strategy.

Relative value decisions, including sizing and hedging, are made by portfolio management in consultation with credit research analysts. Credit research analysts are responsible for confirming that relevant ESG risks and opportunities are reflected in their credit analysis and ratings. ESG factors, including climate-related risks and opportunities, are incorporated in the identification and monitoring of individual credit risks.

ESG constraints are considered when constructing portfolio risk budgets, which are used in our daily risk surveillance. Guideline constraints for ESG-dedicated accounts and accounts with specific ESG-related restrictions are monitored by our compliance department as part of their daily process.

Additionally, our risk management framework combines monitoring the risk of individual credits and the risk of the overall portfolio. Market Implied Rating curves that drive our risk analytics are recreated each night based on market spread levels. These curves are then used to assign CUSIP-specific ratings based on the spread and tenor of each bond. In this framework, if an individual credit, industry or country trades with a spread premium due to ESG or other factors, it would be assigned a lower credit rating in our risk system. The lower rating would result in tighter thresholds and/or bigger stress shocks being applied to those credits. While not a specific ESG filter, if market forces cause names with less favourable ESG characteristics to trade with wider spreads, they will be assigned lower ratings and higher risk weights in our system.

CLIMATE RISK ASSESSMENTS

We believe that climate-related risks and opportunities are best assessed at the issuer level rather than at the portfolio level given the weaknesses of climate models. Nonetheless, we consider climate change and the associated policy and regulatory response to be an important risk factor that should be incorporated into our credit assessment and credit ratings, especially where the issuer's exposure to climate risk is deemed high. As part of this, analysts consider climate scenarios where risks could be material. These vary by sector, region, and sometimes issuer to reflect the most likely channel(s) through which climate risks may arise.

We then fit climate risk into the overall credit assessment (e.g. a less carbon-intensive firm with much higher leverage can still be higher risk overall). Bottom-up analysis can also help identify risks and opportunities arising through less obvious channels. For example, the mining industry is very carbon intensive. The sector's reliance on heavy machinery, remote operations, and the need for extreme heat during the refining processes all act as significant challenges to the sector's decarbonisation. Yet the low carbon transition is inextricably linked to the availability of many metals. The International Energy Agency (IEA) forecasts that total mineral demand would need to triple by 2050 relative to 2020 levels to meet the demands from clean energy generation, transmission and storage technologies to limit global warming to well below 2 degrees Celsius.¹ As a result, while mining companies may face higher costs from carbon pricing measures, we would expect that the impact of these costs will in many cases be dwarfed by the increase in demand for the transition-critical metals these companies produce. This is another example of a climate opportunity we typically do not see reflected in top-down models and demonstrates our determination that carefully considered, bottom-up analysis remains the most useful tool we have for assessing climate risks and opportunities.

TEMPERATURE ALIGNMENT

Clients are increasingly seeking to understand the extent to which their portfolios are aligned with the long-term goal of the Paris Agreement of limiting global warming to well below 2 degrees Celsius. Leveraging third-party data providers, we have been able to offer this measurement to clients through the use of “temperature alignment” metrics as part of our suite of reporting capabilities. Temperature alignment metrics represent a significant step forward in the way clients can estimate the climate impact of their portfolios by incorporating forward-looking data into their assessments.

Temperature alignment is an estimate of a company's climate impact measured in degrees Celsius and is derived by comparing projections of the company's future cumulative emissions to its budget of emissions modelled under a science-based, sector-specific decarbonisation pathway developed by climate and energy systems modellers such as the IEA. By measuring companies' commitments against pathways linked to science, temperature alignment offers a more nuanced view into the targets set by companies. Rather than looking only at the year in which issuers target net zero, temperature alignment also considers the speed at which issuers progress towards those targets, which is equally crucial, and which must be evaluated relative to industry-specific trajectories needed for given temperature rise levels.

However, our analysis of third-party temperature alignment data sources uncovered a number of opportunities to improve the reliability and accuracy of third-party temperature alignment metrics. This led the ESG Research team to develop a proprietary Temperature Alignment Tool,² which brings together multiple data points—both forward-looking and backward-looking—pulled from multiple data sources to assess issuers' targets and performance on emissions reductions in an effort to present a more accurate reflection of how a company's climate actions align with various temperature scenarios.

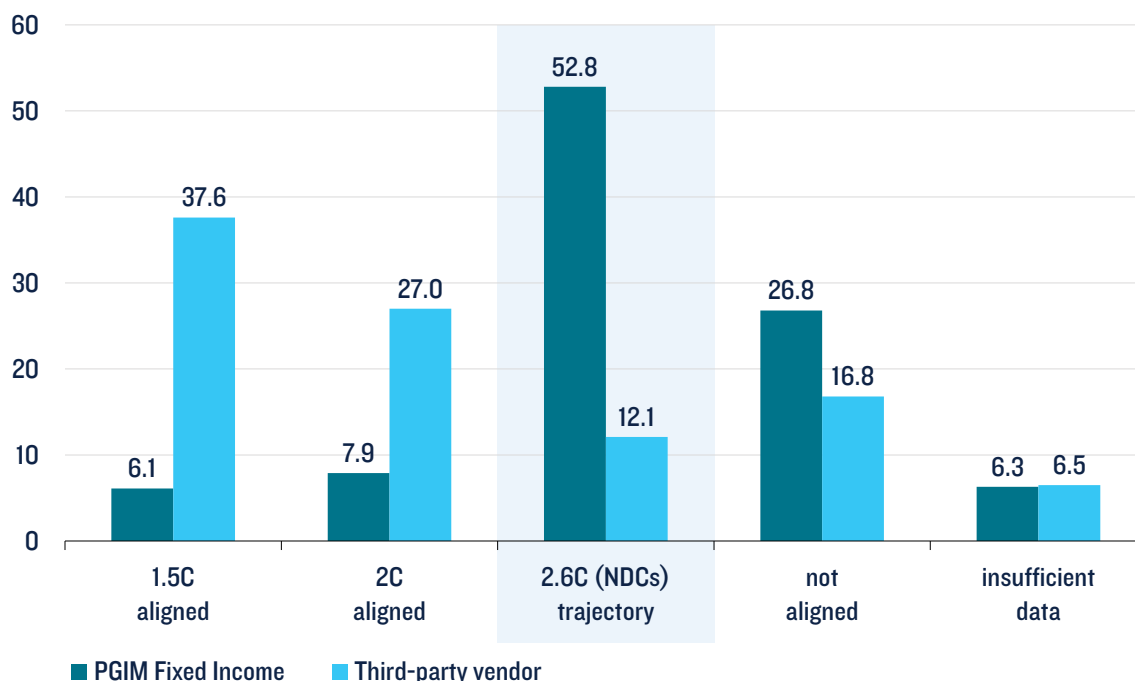
Limitations of third-party temperature alignment metrics	Potential consequence	PGIM Fixed Income's Temperature Alignment Tool solution
Decarbonisation targets are assumed to be met	Portfolio's average temperature alignment adjusted upwards if companies do not decarbonise in line with stated targets	Incorporate rules to test progress against targets
Limited consideration of factors that influence the credibility of the issuer's decarbonisation pledges	Increases risks of supporting companies engaged in greenwashing	Incorporate a wide range of metrics to help gauge the credibility of decarbonisation commitments
No indication of uncertainty inherent in the temperature alignment assessment	No mechanism to identify companies that may require additional scrutiny	Issuer's alignment categorisation is complemented by an indication of its level of uncertainty
Designed for equities—difficult to correct inaccuracies	Data quality issues cannot be addressed, such as when an independent opco issuer (e.g. renewable utility) is inappropriately inheriting the carbon emissions profile of its holdco parent (e.g. largely coal-powered utility)	Ability for analyst to use intimate knowledge of issuers to override results to improve the accuracy of assessments
No consensus on the “best” methodologies and assumptions for several more detailed aspects of temperature alignment calculations	Reliance on a single vendor can limit end-user confidence and result in materially different results for the same issuers than if another vendor were used	Leverage multiple providers—degree of agreement between providers helps inform our confidence in the classification

¹ Source: IEA's The Role of Critical Minerals in Clean Energy Transition (<https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>).

² This Temperature Alignment Tool is currently under development by the PGIM Fixed Income ESG Ratings Committee and may be subject to change.

In short, our tool seeks to enhance existing temperature alignment data providers' models and methodologies by applying a series of credibility and assurance checks to validate the issuers' commitments and progress. At the same time, it leverages multiple data sources where available to address cases where an issuer's categorisation may be highly sensitive to the assumptions used by any one source. The output of PGIM Fixed Income's Temperature Alignment Tool is geared towards understanding whether issuers will in fact be contributing to limiting global warming to 1.5 or 2 degrees Celsius of warming (versus pre-industrial levels) or whether their net-zero targets are more symbolic in nature.

MV% of Bloomberg Global Aggregate Corporate Index (%)



Source: PGIM Fixed Income. As of June 2023. This proposed Temperature Alignment Tool is currently under development by the PGIM Fixed Income ESG Committee and may be subject to change. **Benchmark Description: The Bloomberg Global Aggregate Corporate Index** is a component of the Global Aggregate Index that includes the global investment-grade, fixed-rate or step up, taxable securities sold by industrial, utility and financial issuers. The three major components of this index are the U.S. Aggregate Corporate, the Pan-European Aggregate Corporate, and the Asian-Pacific Aggregate Corporate indices. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian corporate securities, and USD investment-grade 144A securities. Securities included in the index must have at least one year until final maturity and be rated investment-grade (Baa3/ BBB-/BBB-) or better using the middle rating of Moody's, S&P, and Fitch.

By applying our own credibility checks, we believe the results may produce a much more sobering picture of what the investment universe actually looks like versus off-the-shelf tools. However, we feel this is a much more realistic assessment, and less likely to result in significant future “downgrades” or to encourage greenwashing through setting targets with low credibility.



2022 ESG INTEGRATION CASE STUDIES

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INVESTMENT GRADE

EUROPEAN FINANCIAL SERVICES

△ Governance Risks

DESCRIPTION

The issuer was subject to an emergency government bailout due to its inability to manage operational risks partially as a consequence of an autocratic management culture. The issuer struggled to regain credibility despite undergoing a restructuring process that brought in new management and drastically reshaped the business. Regulatory fines and reputational damage resulting from product misselling and poor anti-money laundering policies caused spreads to widen.

ASSESSMENT

Our analysis led us to conclude the issuer's aggressive risk-taking culture and legacy litigation issues are the reasons behind the widened spreads. We felt the bonds were being overly penalised for historical lapses in corporate governance that have since been adequately addressed. Therefore, we thought spreads looked attractive and the market was overpricing these ESG risks and have been supportive of the name in both primary and secondary markets.

INVESTMENT GRADE

U.S. LIFE INSURANCE COMPANY

△ Governance Risks

DESCRIPTION

Poor auditing practices and transparency evidenced by the issuer's recent failure to disclose significant litigation costs indicated weaknesses in the company's internal controls. The issuer's heightened level of governance risk was also compounded by its complex and opaque underlying business mix, causing poor risk visibility. Frequent management turnover added to our belief that the issuer lacked the necessary leadership to navigate its uncertain future and address our concerns.

ASSESSMENT

We believed the market was not adequately pricing in these governance risks and we decided to pass on the deal.

SECURITISED CREDIT

ABS

△ Regulatory Risks—Predatory Lending

DESCRIPTION

The issuer of this ABS is a specialty finance company providing used car financing to deep subprime borrowers who often lack access to other auto financing options. Recently, the issuer has become subject to a formal complaint filed by the Consumer Financial Protection Bureau (CFPB) related to its lending practices. Instead of using a variable interest rate to adjust for increased risk, its business model hinged on incentivising dealers to inflate the principal of loans for high-risk borrowers and add ancillary products, including dealer service contracts, in exchange for compensation. This scheme did not appear to align with a borrower's ability to repay the loan, as the issuer generates profit even in scenarios when loan repayment is significantly below expectation due to a high loan-to-value (LTV) ratio and aggressive collection practices.

ASSESSMENT

Since its business model is based on hidden profit realisation that may be unknown to the borrower, we felt the issuer was likely to face regulatory action related to predatory lending practices. As a result of this significant ESG risk, we ultimately decided not to purchase the issuer's securitisation.

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HIGH YIELD

U.S. BUILDING MATERIALS COMPANY

△ Sustainable Product Opportunities

DESCRIPTION

The issuer is one of the largest North American distributors of fly ash, a by-product of coal that can be used as a partial substitute for cement in the production of concrete. Approximately 77% of concrete's CO₂ footprint comes from the production of cement, and fly ash offers the potential to serve as a substitute for 20% of cement mix and decrease its water intensity of production.

ASSESSMENT

We felt the issuer's business model was well positioned to capitalise on a projected increase in demand for sustainable inputs in cement production like fly ash in the future. Strong long-term growth potential enabled by the issuer's pursuit of ESG opportunities encouraged our participation in the new deal.

HIGH YIELD

AUSTRALIAN METALS & MINING COMPANY

△ Climate Risk Mitigation

DESCRIPTION

Operating in a carbon-intensive industry, this issuer is susceptible to volatile energy prices and transitional climate risks, including the implementation of various emissions regulations in its primary areas of operation. The company has made credible efforts to mitigate its exposure to these ESG risks by investing heavily in alternative energy sources, with a focus on developing a hydrogen-powered mining fleet and a solar-backed solution for one-quarter of the company's stored energy.

ASSESSMENT

Although these efforts are capital intensive, we felt they would better position the issuer to outperform peers over the long run. The deal's attractive relative value and the issuer's core focus on reducing its emissions encouraged our participation in the new deal.

HIGH YIELD

GLOBAL METALS & MINING COMPANY

△ Climate Risks

DESCRIPTION

Serving as a large producer and exporter of metallurgical coal, the issuer faced an increased cost of capital relative to its credit strength primarily due to its environmentally harmful business model. Metallurgical coal is the primary contributor of CO₂ emissions from the steelmaking process and is responsible for nearly 5% of global greenhouse gas emissions.

ASSESSMENT

Our analysis supported the notion that the issuer's poor environmental profile and significant exposure to transitional climate risks was adequately priced into the deal as ESG risks. The issuer's strong LTM credit fundamentals amidst elevated prices for metallurgical coal, the fact that we see little to no viable alternative to coal-based steel in the near term, and our view that steel demand is expected to remain high globally supported our belief that the deal was attractive on a relative value basis, encouraging us to purchase the bonds.

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LEVERAGED LOANS

U.S. SPECIALTY RETAILER

⚠ Regulatory Risks

DESCRIPTION

The issuer is a rental and leasing services company focused primarily on home furnishings and appliances. Our analysis encouraged us to be critical of issuers with rent-to-own business models due to the high implied interest rates associated with renting consumer durable goods as opposed to outright purchasing them. As a result of its niche market, the issuer was out of the purview of the federal agency typically responsible for overseeing the conduct of rental and leasing servicing companies, subjecting it to less regulation.

ASSESSMENT

We believe there is a meaningful probability of an increase in future regulatory action, likely at the state level, that would negatively impact the issuer's revenue over the long run. This ESG risk was not sufficiently priced into the offering, motivating us to pass on the deal.

LEVERAGED LOANS

U.S. PRIVATE SECURITY CONTRACTOR

⚠ Labour Management

DESCRIPTION

The highest standard of employee training and human capital management were critical for this issuer to effectively provide security services for its high-risk clients, including banks and airports. Our research revealed recurring reports of negligence and a systemic inability to properly oversee the actions of employees during field operations.

ASSESSMENT

Poor treatment of employees along with considerable health and safety concerns also led to significant employee turnover, serving as a red flag of the issuer's ability to attract and retain talent. We passed on the deal after our analysis indicated these substantial ESG risks were not adequately priced into the offering.

LEVERAGED LOANS

U.S. TELECOMMUNICATIONS SERVICES PROVIDER

⚠ Regulatory Risks

DESCRIPTION

As a large provider of real-time event captioning services and language interpreting, the issuer is regulated by the Federal Communications Commission (FCC). A history of FCC and other regulatory fines due to misconduct have caused an increase in the issuer's operating expenses in recent years. Heightened regulatory scrutiny is likely to further impact the ability of the company to maintain or increase its current growth rate.

ASSESSMENT

Despite the issuer's poor track record, these ESG risks were not priced into the deal according to our analysis. Therefore, we passed on the offering.

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SOVEREIGN

SOUTH AMERICAN EMERGING MARKET

△ Climate Transition

DESCRIPTION

Droughts are the main mechanism through which climate change affects this South American country's economy. Consequently, this issuer's exposure to climate change will likely increase insofar as climate change produces more frequent and more severe droughts. Other tail risks include extreme heat and dramatic ecosystem changes, which may also further exacerbate issues of drought, among other things. At this juncture, this issuer does not seem to be taking the necessary steps to weather this type of shock without material disruptions.

ASSESSMENT

In our assessment, climate change has a net negative impact on the country's macroeconomic fundamentals, chiefly via lower capital and trade flows, to the extent deforestation hinders ESG-conscious investment and/or impacts international trade partnerships, and downside risks to the growth outlook and upside risks to the inflation dynamics, insofar as droughts weigh on these variables. However, we are of the view that these headwinds are unlikely to compromise the country's ability to service its external debt liabilities given its low stock of external debt, manageable external macro imbalances and a solid reserve position.

SOVEREIGN

MIDDLE EAST FRONTIER MARKET

△ Climate Transition Risk | Security | Corruption

DESCRIPTION

From the risk perspective, our sovereign credit rating already incorporates any ESG risks that we believe to be credit-material. Some of the potential risks we see include climate transition risks given this issuer's economy's dependence on the hydrocarbon sector, security concerns, as well as governance issues such as heightened corruption risk and weak institutions. On the other hand, this issuer has some of the strongest macro scores in our frontier markets' Fundamental Macro Scorecard, thanks to low debt ratios, solid external solvency or liquidity ratios (e.g. debt coming due or current account balances compared with buffers such as reserves) and low stock of credit.

ASSESSMENT

Thus, our sovereign credit rating considers the ESG risks in addition to and within the context of some of these positive credit fundamentals. Valuation takes this sovereign credit rating into account, and therefore we believe we are positioned to be compensated for any risks we are taking on.

EMERGING MARKET CORPORATE

SOUTH AMERICAN ENERGY COMPANY

△ Governance Risks

DESCRIPTION

This issuer is a state-owned multinational company, and its government has repeatedly exerted its political influence to affect fuel prices. The government has replaced its CEO multiple times and appointed new members to the board of directors.

ASSESSMENT

The political interference in the company's management team does raise governance concerns and the continued uncertainty resulted in us reducing our exposure to this issuer.

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ESG IMPACT

In addition to assessing credit-material ESG risks and opportunities, where agreed to with clients or as disclosed in offering documents, we also assess issuers' impacts on the environment and society, separate from our credit assessment and represented through a distinct ESG Impact Rating that we assign.

Essentially, ESG Impact Ratings are an assessment of issuers' positive impacts and also the reduction of their negative impacts and their plans to do so. As a result, we track their progress in this regard over time. Our ESG Impact Rating framework is designed to provide analysts with detailed, granular guidance on the key negative and positive ESG impacts at a sub-industry level. In many cases, analysts review certain KPIs, including relevant Principal Adverse Impact Indicators where available, to assess performance on those impacts. However, the relevant impacts are highly varied depending on the activities issuers in each sub-industry are involved in, and not all impacts can be fully assessed using only quantitative metrics.

While we review data from external data providers, we combine this data with our in-house research, analysis and engagement capabilities. Using this combined approach to leverage quantitative and qualitative data along with our analysts' expertise allows us to build a more comprehensive and granular view of ESG performance and trajectory than would be possible if we were to rely solely on a limited number of data-driven, but scope-limited KPIs.

We believe our ESG Impact Ratings are crucial elements to determine eligibility of issuers in PGIM Fixed Income ESG strategies and are explicitly used in portfolio construction for those strategies, and others where clients direct us to do so. However, they are designed only for specific strategies and clients that aim to pursue ESG objectives that extend beyond what is purely financially material. For information on how ESG Impact Ratings are determined across our asset classes, please see [Who We Are: ESG at PGIM Fixed Income](#).



2022 ESG IMPACT CASE STUDIES

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INVESTMENT GRADE
U.S. INDUSTRIALS COMPANY

PRIMARY PRODUCTS & SERVICES IMPACT

Sustainable products (water, waste & energy reduction)

PRIMARY OPERATIONAL IMPACT

GHG emissions

ASSESSMENT

This U.S. manufacturing firm is a leading water technology company which creates innovative and smart technology solutions to meet the world's water, wastewater and energy needs. In addition to overall positive environmental impact through its products, this company is a strong performer across all areas of ESG and has avoided major controversies. Management is very committed to a strong ESG profile and obtained a credit facility that is linked to the company's sustainability performance. The company consistently outlines various ESG initiatives and recently achieved a 28.3% reduction in GHG intensity compared to its 20% target set in 2014. By 2025, the company targets to use 100% renewable energy at its major facilities and use 100% process water recycling at its major facilities. The company's sustainability report highlights that 10 of its 22 major facilities use 100% renewable energy while two of its 22 major facilities are using 100% process water recycling. In addition, it has a net-zero commitment by 2050. The company is not only working to reduce its own impact on the environment through reducing waste and greenhouse gas emissions but is also very focused on helping to solve water challenges around the world. One example is a program where the company also works with nonprofit organisations to provide education and protect safe water resources for communities around the world, which is clearly linked to the company's overall business model as well.

OUTCOME

Eligible for ESG strategies.

INVESTMENT GRADE

EUROPEAN FINANCIAL SERVICES COMPANY

PRIMARY PRODUCTS & SERVICES IMPACT

Sustainable lending

PRIMARY OPERATIONAL IMPACT

Product labelling and selling practices

ASSESSMENT

This European financial services company is one of the largest business and commercial banks in the United Kingdom. With Scope 1 and 2 emissions accounting for less than 1% of its total greenhouse gas emissions, the primary concern for the bank is tackling Scope 3. The issuer's strategy to achieve net zero by 2050 consists of interim targets to reduce the climate impact of its financing activities by 50% by 2030 and a pledge of \$100 billion in climate and sustainable funding by the end of 2025. It sits among one of the largest—and few—financial services companies with a Science Based Target Initiative (SBTi) validated 1.5C near-term target. Additionally, its investment banking group has been steadily building out a sustainable finance division, serving as the lead bookrunner on some of the largest Green, Social and Sustainability (GSS) Bond deals over the past 12 months.

Although its environmental performance is above average, one-off incidents involving customer fraud and financial product suitability indicate the company slightly lags peers on social factors. Regulatory investigations in recent years led to judgements against the issuer requiring it to repay customers for breaches of overdraft regulations. It also has historically been the subject of several misselling controversies related to payment protection insurance (PPI), although we note significant time has elapsed since these incidents, and we believe future unscrupulous behaviour is unlikely. A combination of credible emissions reductions targets but poor product labelling and selling practices derive the issuer's slightly below industry average ESG Impact Rating; however, recent governance improvements have resulted in increased ESG Impact Ratings.

OUTCOME

Eligible for ESG strategies.

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HIGH YIELD

EUROPEAN CHEMICALS COMPANY

PRIMARY PRODUCTS & SERVICES IMPACT

Sustainable products (water treatment & reduction)

PRIMARY OPERATIONAL IMPACT

GHG emissions

ASSESSMENT

This French chemical company is the world's leading producer of PAM (polyacrylamide), whose main use is as a wastewater treatment chemical that works via the process of flocculation whereby waste particles bind to PAM molecules and, in turn, fall to the bottom of tanks, are collected and dried out.

It is hard to argue that making chemicals that are crucial in cleaning up wastewater is a "bad thing", and the company is the primary player of making said chemicals, chiefly PAM. PAM is widely used in potable water production and in municipal and industrial wastewater treatment. It can also be used to change the viscosity of water, which means it allows for water usage that is three to six times lower when cleaning out oil wells. Granted, the production of its products are ultimately born of petrochemicals, and the precursor to its products is a Class 2B carcinogen. But by polymerising this precursor (acrylamide) into PAM, this chemical's toxicity is eliminated.

Additionally, this company's carbon intensity is slightly below average when it comes to CO₂ per tonne of volume sold, but bottom quartile (which is good) when it comes to CO₂ emissions per euro million of sales (i.e. 175 metric tonnes versus a sector average of 493 tonnes). In terms of decarbonisation goals, the group has finally adopted targets; chiefly it wants to be carbon neutral by 2050 and to reduce its carbon intensity by 30% by 2030. Therefore, a combination of average targets, good/low carbon intensity and high "S" utility leave us rating this issuer a little higher than the sector average.

OUTCOME

Eligible for ESG strategies.

PRIMARY PRODUCTS & SERVICES IMPACT

Sustainable products

PRIMARY OPERATIONAL IMPACT

GHG emissions

ASSESSMENT

This materials company is a marketer and distributor of fly ash and one of the leading producers of sustainable cementitious products in the United States. The company was formed in connection with a merger between a leading designer, manufacturer and marketer of innovative low carbon products that are used as a green substitute and another company that was the No. 1 player in the harvest, marketing treatment and distribution of fly ash.

Many of cement's applications have limited practical building material alternatives available. As a result, efforts to reduce its environmental impact and, in particular, the carbon emissions from its production process should be heavily rewarded, which is why we feel this issuer's ESG Impact Rating of 55, which is the upper end of our Balanced category, is warranted. Fly ash reduces the water intensity of production, improves the end-product quality, and diverts waste from landfills. Fly ash enables concrete supplies to use less cement with relatively no impact to quality.

OUTCOME

Eligible for ESG strategies.

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SECURITISED CREDIT

ABS

ISSUER IMPACT

Predatory lending concerns

IMPACT OF COLLATERAL

Energy-efficient properties

ASSESSMENT

The underlying assets of this ABS serve as alternative forms of financing for energy-efficient home improvements. Unlike traditional loans that are tied to borrowers, these loans are tied to an individual property and repaid as part of the property owner's annual property taxes. While the environmental impact of these loans is positive, its senior lien priority makes it difficult for borrowers to sell or refinance their mortgage without being forced to pay off the loan. This has had a significant negative social impact by trapping many households in difficult-to-navigate financial circumstances.

Our assessment also revealed the issuer of this ABS has been attempting to take advantage of gaps in consumer protections and varying degrees of regulatory oversight of the loan origination across different states, leading to the exploitation of borrowers primarily in communities with poor financial literacy. The issuer has been the subject of numerous complaints, regulatory fines, and class-action lawsuits in recent years related to misleading advertising practices. Even when considering the environmental benefits of enabling the improvement of residential home energy efficiency, our assessment of this ABS remains poor. The negative social factors associated with the flawed structure of the underlying loans and the harmful underwriting practices of the issuer significantly outweigh any positive environmental impacts.

OUTCOME

Ineligible for ESG strategies.

PRIMARY PRODUCTS & SERVICES IMPACT

Sustainable travel

PRIMARY OPERATIONAL IMPACT

GHG emissions, energy efficiency

ASSESSMENT

This public sector enterprise has one of the world's largest rail networks and is the most environmentally friendly mass transport system in India given the inherent gains provided in terms of energy efficiency and resource optimisation. Rail is known to be 12 times more efficient in freight traffic and three times more efficient in passenger traffic as compared with road transport in India. As such, India's achievement of its sustainable development goals hinges on its ability to increase its share of freight traffic by rail from a current 36% to 45% by 2030. With transport accounting for 25% of India's overall energy needs and 14% of total GHG emissions, increasing rail-based transport is expected to be a key driver of the targeted 33% reduction in emissions intensity through 2030. The target also requires the railways to utilise at least 10% of energy requirements from renewable sources.

Despite good progress, the issuer still has room for improvement in terms of energy use given that despite large-scale scrapping of diesel engine and substantial track electrification, diesel consumption remains extremely high. While there has been an invitation of bids to explore potential retrofitting of diesel-powered units into a hydrogen fuel-based train, this is currently at an early stage.

OUTCOME

Eligible for ESG strategies.

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SOVEREIGN

AFRICAN FRONTIER MARKET

DESCRIPTION

This country performs slightly above the frontier market (FM) average on the environmental pillar. This is driven by very strong performance on the biodiversity and habitat theme as well as good performance on climate and energy. However, the country is significantly underperforming on the social pillar across nearly every theme. For governance, the country scores lower than the FM average on most of our indicators which include government effectiveness and regulatory quality. However, we have applied a qualitative overlay and given the country a 10-point uplift to reflect the positive change in the country resulting from the 2021 general election. Since coming into power, the new government has adopted a more open and transparent way of governing, the structure of the government is more collegial and not dependant on the will of the president (as in the previous years), and allegations of corruption are absent.

ASSESSMENT

Eligible for ESG strategies.

SOVEREIGN

MIDDLE EAST FRONTIER MARKET

DESCRIPTION

This country performs roughly in line with peers for the environment and social pillar but significantly underperforms on governance. Within environment, the country scores above its peers on climate and energy, air quality and water-related indicators. In social, the country scores well compared to its frontier market peers on certain indicators such as access to advanced education and income inequality but poorly on others like inclusiveness and access to information and communications. For governance, the country underperforms against peers on every area, and we have further downgraded the country due to the political instability that remained after the May 2022 elections: the country is still without a government, and the caretaker administration remains gridlocked.

ASSESSMENT

Eligible for ESG strategies.

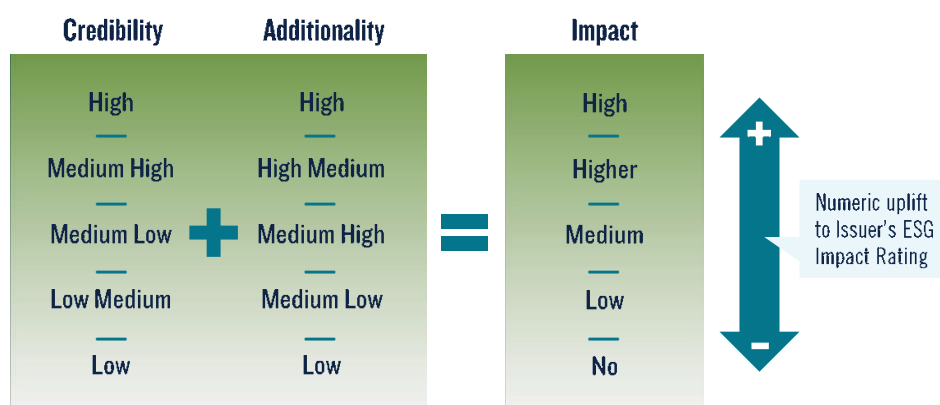
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ESG LABELLED BONDS

Despite the lower issuance in Green, Social and Sustainability Bonds (GSS Bonds), as well as sustainability-linked bonds (SLBs), last year, we continue to believe that such “ESG-labelled bonds” have a role in transitioning towards a sustainable economy, provided the projects and activities they fund have legitimate and additional positive impacts on the environment and society. In order to assess the impact of individual issuances, we have developed proprietary frameworks for assessing ESG-labelled bonds, which is linked to our ESG Impact Ratings.

Under our GSS Bond framework, we assess both the issuer’s credibility with respect to the bond, and the bond’s additionality. The credibility assessment starts by evaluating the quality (or not) of the issuer’s overall sustainability strategy, and then how the GSS bond fits into that strategy. The key consideration for additionality is the degree to which the bond transforms the issuer, e.g. by meaningfully replacing “brown” assets or activities with “green” (versus funding “green” activities that are essentially business as usual, or that represent relatively minor add-ons to a business that remains primarily “brown”). This assessment results in an uplift (or a lack thereof) of a GSS Bond’s ESG Impact Rating versus the ESG Impact Rating of its issuer. We distinguish between High, Higher, Medium, Low and No Impact GSS Bonds. For more information on our ESG-labelled bond frameworks, please see [Who We Are: ESG at PGIM Fixed Income](#).

The combinations of determining a Green Bond Impact Rating



Source: PGIM Fixed Income. Provided for illustrative purposes.

We take a more sceptical view of SLBs, which we assess via another, similar framework. The market for SLBs is new and evolving, but, to date, we have found the materiality and/or ambition of targets are often lacking. Further, targets are typically set at the issuer level (and sometimes already existed), and the bonds usually do not fund any specific projects. At the same time, the penalties for missing SLB targets are frequently small (especially relative to an issuer’s overall costs of capital) and short-lived. Therefore, it is unclear what material benefit investors receive by investing in an issuer’s SLB instead of its other bonds. That said, SLBs may increase scrutiny on an issuer’s targets and, if well structured, could offer some downside protection if financially material ESG targets are missed. Therefore, for higher-quality SLBs (e.g. those with targets that are highly material and ambitious, and that have strong structural features), we may still apply a modest uplift based on our SLB framework; however, this is currently limited.

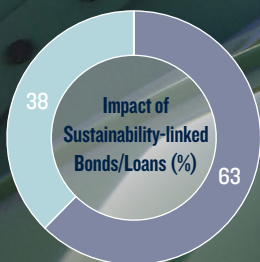
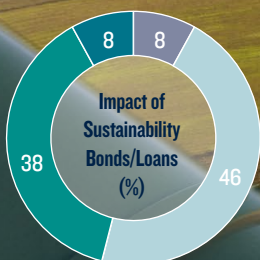
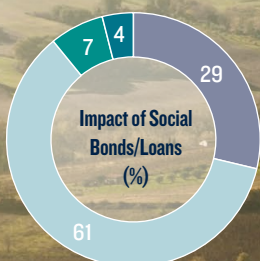
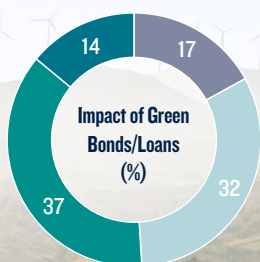
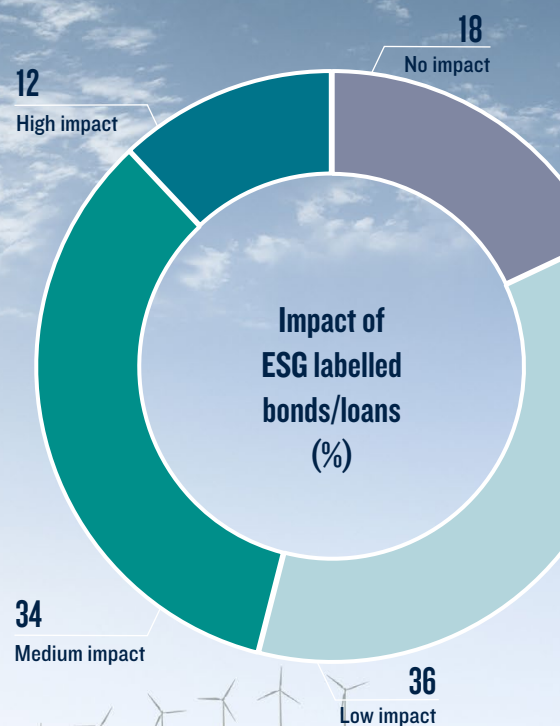
From a credit and relative value perspective, we analyse ESG-labelled bonds as we would analyse any other corporate investment, and if we believe we are being paid for the credit risk, we would be happy to invest. However, if a company is issuing at too tight of a spread level just because the bond is “ESG-labelled”, we do not see that as an attractive financial opportunity to invest. We generally would not pay a premium (i.e. tighter spread) to purchase a GSS Bond versus non-GSS Bonds of the same credit, unless superior in some form to the existing issuance, or unless this helps meet clients’ specific ESG objectives.

IMPACT BY THE NUMBERS

As of 31 December 2022, approximately 53% of the Green, Social and Sustainability Bonds as well as sustainability-linked bonds we had assessed were deemed to be of No or Low incremental impact versus an issuer's conventional bonds. Some of the reasons for this appears to be due to:

- low credibility of the issuer's ESG strategy
- eligible projects appear to be geared towards business-as-usual activities and don't represent true additionality
- eligible projects do not focus on meaningful change or business model shifts but are more focused on "greening" tangential activities
- lack of transparency or adequate description that can give investors comfort as to where proceeds will be allocated

Generally, we have found that while there aren't many that we deem to have meaningfully higher impact versus their conventional counterparts, Green Bonds have had the most impact within the ESG-labelled bond market; whereas we are still seeing significant weakness in terms of incremental impact coming out of Social and SLB issuances.



■ High impact ■ Medium impact
■ Low impact ■ No impact

Source: PGIM Fixed Income. Assessments conducted as of 31 December 2022.

IMPACT CASE STUDIES



High Impact Green Bonds

Proceeds are used to finance a project that is core to transforming an issuer's business model and operations from brown to green, with green economic activities expected to replace brown activities.

Many of the High Impact bonds will likely be issued by relatively "brown" issuers considering that they have the most room to transform themselves via credible, ambitious plans and need a way to finance the transition. Furthermore, a substantial uplift to an issuer's ESG Impact Rating may allow us to buy their Green Bonds in ESG-oriented portfolios, even if we can't buy their traditional bonds in those portfolios.



In 2022 we re-evaluated a Green Bond from a U.S. utility that had been issued in 2019 and which we bought in 2021, moving it from a Medium Impact assessment to High Impact. This was driven by the company's annual reporting and impact report, which had shown a substantial amount of additionality tied directly to the bond's proceeds.

From a credibility standpoint, we viewed this bond favourably: while it was issued before the company's Sustainable Financing Framework was released, it is consistent with the new Framework, which is aligned with ICMA's Green Bond Principles through a second-party opinion. This is because the proceeds are to be used for eligible green projects, including the development, construction, acquisition and operation of solar energy projects and utility-scale battery projects,

which are central components of the company's sustainability strategy to transition away from its high natural gas generation fleet towards a renewable one.

Additionally, this bond is certified by the Climate Bonds Initiative and commits the company to annual reporting on the disbursement of the net proceeds. When considering additionality, we also viewed this issuance favourably, as investment in the eligible projects could help fundamentally transform the issuer's business strategy to be more sustainable.

However, it wasn't until we saw the reporting on the impacts of the bond that we felt comfortable assigning this bond a high additionality, and, ultimately, high overall impact, score.



Medium Impact Green Bonds

Proceeds are used to finance projects that are either non-core to the issuer's business or are in addition to core brown activities.

Even though the share of green activities in an issuer's mix is growing, they are not always replacing "brown" activities. For example, when Green Bond proceeds finance new, renewable energy projects that expand a utility's capacity but do not meaningfully speed up the retirement of its coal power plants, the issue may fall into these categories.



We recently evaluated a Green Bond from a U.S. technology hardware company that we assigned as having Medium Impact.

From a credibility standpoint, the company's Green Bond was consistent with its sustainability strategy and the projects were eligible under ICMA's Green Bond Principles. However, there was no clear timeline for the distribution of proceeds, indicating to us that it might take a considerable amount of time for the proceeds to be distributed.

From an additionality perspective, we didn't feel the eligible projects were transformative for the company but assessed that the Green Bond may ultimately help mitigate many of the negative impacts from the company's operation through its focus on green buildings, pollution and water conservation, among other eligible projects.

Additionally, the 24-month lookback period was reasonable, but the issuance could have generated more incremental impact if it were 12 months or shorter.

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Low Impact Green Bonds

Proceeds are used to finance projects that are unambitious, have low credibility, or a combination of both characteristics.

Low additionality often occurs when an issuer has a large proportion of green economic activities in their overall mix already, and are using Green Bonds mainly to finance these existing activities. In this case, there is no meaningful increase in the overall share of green activities or active replacement of brown activities with green ones. It is worth noting that in this scenario, even though the Green Bond impact is assessed as low with a smaller ESG Impact Rating uplift, the issuer is likely to have a higher ESG Impact Rating to begin with because it is already involved in a large number of green activities.

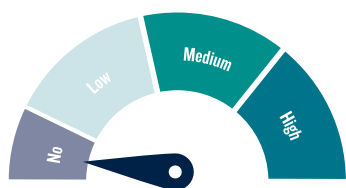


In early 2022 we analysed a Green Bond from a U.S. food and beverage company that we categorised as Low Impact.

In terms of credibility, the Green Bond aligned well with the company's overall sustainability strategy, prioritising its most material impacts—including recyclable or reusable packaging, decarbonisation, water use and regenerative agriculture. Additionally, the issuance and corresponding Green Bond Framework had very clear reporting guidelines to track the use of proceeds and committed to spending most of the proceeds within three years of issuance. However, while

we viewed these characteristics positively, the company failed to obtain a second-party opinion for their Green Bond Framework, which meant we could not be confident the bond aligned with key verification guidelines such as ICMA's Green Bond Principles.

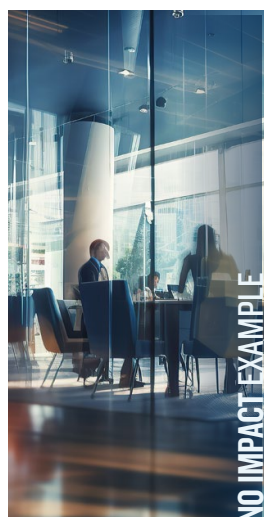
We viewed this bond as having low additionality, driven mainly by the lack of quantifiable targets for all the eligible project areas. As a result, while we felt the eligible projects were slightly ambitious, the lack of clarity on specific projects the company hoped to fund with the proceeds meant we couldn't confidently assign any higher additionality to this bond.



No Impact Green Bonds

Proceeds are used to finance projects; however, these projects have low credibility and do not seem to present any additional impact beyond what the issuer is already investing in.

Assigning zero additional uplift points to a Green Bond simply means that we believe the specific issuance does not create any meaningful or additional impact versus the issuer's conventional issuances. This might be because of low credibility with respect to the issuer and issuance or because the projects intended for the use of proceeds appear to be "business as usual" with no additionality associated with them.



We recently assessed a Green Bond from a European asset manager and insurance company as having No Impact.

From a credibility standpoint, it is positive that six out of the seven eligible green assets included in the Green Bond Framework are compliant with the EU Taxonomy. However, there is no clear timeline to achieve full compliance and we don't expect the issuer to accomplish this anytime soon.

Additionally, the issuer recently sold its asset management operations to another asset manager, with the sale agreement stipulating that the outside asset manager would manage the assets for a 10-year period, resulting in less stringent oversight over the issuer's

sustainability strategy, especially since origination of many of the eligible assets under the Green Bond Framework is now done by the outside asset manager.

We deemed this issuance to have low additionality as well because most of the green asset portfolio is made up of green buildings, but the Framework doesn't specify any plans to promote newly built houses using the issuer's green mortgage program. Since there doesn't appear to be a pathway to increase the issuer's overall share of eligible assets through their Green Bond Framework, we believe this issuance is more of a repackaging of the issuer's existing assets rather than a way to drive incremental impact.

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SECTION 5

ENGAGEMENT



05

ENGAGEMENT

We consider engagement to be a meaningful direct dialogue with an issuer or stakeholder on an ESG topic (e.g., climate change, biodiversity, human rights, etc.) and believe engagement is a key tool in our investment process.

While the majority of our engagements in 2022 were with individual issuers, we also engaged with other stakeholders, including our clients, arranging banks, ESG data providers and regulators, and with the industry through our active roles in organisations, including: PRI's Securitised Products Advisory Committee, Structured Products Workstream; European Leveraged Finance Association's (ELFA) ESG Committee; Structured Finance Association's (SFA), ESG Steering Committee, ESG Transaction Level Disclosure Working Co-Chair; and Center for Real Estate Finance Council's (CREFC) Sustainability Steering Committee and Transparency Subcommittee, Climate Bond Initiative.

We believe these engagements are not only valuable to us, as they give us insights into how other stakeholders are tackling and addressing current and emerging ESG challenges; they also offer us an opportunity to educate and share our insights with the objective of offering high-quality ESG investment options to our clients.

ENGAGEMENT WITH CLIENTS

At PGIM Fixed Income, we strive to provide clients with quality products and solutions to meet their varied needs and objectives and to provide clients with transparent reporting that allows them to assess our performance. Throughout 2022, our Client Advisory Group worked with clients to align guidelines, risk budgets, and portfolio construction approaches to their investment beliefs. We communicated portfolio outcomes and our approach to ESG to our clients through regular meetings with clients, our reporting outputs, and responses to detailed due diligence questionnaires that clients ask us to complete. As the ESG industry continues to evolve, we actively seek input from our clients, which helps guide enhancements to our internal frameworks and tools, while also ensuring that we continue to offer the most relevant ESG products. ESG has no agreed-upon definition, and ESG sensitivities can be highly nuanced, which is why we believe one-on-one dialogue with our clients is critical to meeting our clients' objectives while also complying with applicable regulatory guidance. Such conversations with clients have informed enhancements in our ESG research and processes on several occasions.



EXAMPLES OF ENGAGEMENTS WITH CLIENTS HELD IN 2022

TOPIC

Credits with ESG Challenges

We engaged in one-on-one dialogue with certain clients to explain our rationales for holding specific credits. At a firm level, there are certainly credits we own that have observed ESG challenges. Our rationale for owning credits where we observe credit-material ESG challenges is generally twofold. We see the company or country moving in the right direction to reduce these risks and/or we feel that spreads have sufficiently compensated us for the ESG risks. We believe timely discussions with our clients on the rationale for our views on the current status and trajectory of individual credits are a valuable contribution to their stewardship efforts.

TOPIC

Implementation of a Green Bond allocation target

In an effort to further integrate ESG into their portfolio's management, a client advised us that they wished to add a minimum 25% Green Bond allocation to their existing Global Credit portfolio. Our Client Managers and Global Corporates team engaged with the client in order to gain a good understanding of their objectives and offer options that may help meet their needs. Our Global Corporates team then worked with the client to develop a project plan that allowed the client to achieve their goal while being mindful of performance and transaction costs. Not only did we reach the 25% target, but we also bought Green Bonds that we found attractive from a relative value perspective and maintained the portfolio's desired risk profile at all times.

TOPIC

Regulatory Reporting

With the EU's Sustainable Finance Disclosure Regulation (SFDR) Level 2 requirements taking effect from January 2023, along with mandatory Task Force for Climate-Related Financial Disclosures (TCFD) reporting, compliance with such requirements was at the top of our, and several of our European clients', minds. We proactively engaged with these clients to help them prepare for their new reporting obligations. Through one-to-one discussions with clients, our Client Managers, ESG Research and Legal teams sought to understand clients' reporting requirements, shared best practices, discussed how our reporting capabilities could help meet clients' needs, and gained a better understanding of the wider market's approach to these new reporting obligations. As part of this work, we completed a number of highly detailed questionnaires focusing on TCFD reporting capabilities and the relative merit of different climate metrics and approaches to reporting on them. Our clients' questions in turn led us to look more deeply into our own approach to these climate metrics and add further nuance to emissions reporting templates.

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ENGAGEMENT WITH ISSUERS

Debt investors are a critical stakeholder for corporate and sovereign issuers reliant on debt financing markets. We see issuer engagement as an important tool in our investment process insofar as it helps us gain a more holistic understanding of the issuers, from both the fundamental and ESG impact perspectives. We also believe that by discussing our ESG concerns with an issuer, we make them aware of how those concerns factor into our investment decision. This can increase focus on ESG at the issuer, while at the same time enriching our investment analysis.

Our ESG engagement activities are focused on issuers that have credit-material ESG risks, generate significant adverse impacts on the environment or society, or lag their peers in ESG practices. Engagements are influenced by the materiality of ESG factors on financial and/or operational performance, our proprietary ESG Impact Rating of the issuer, the quality of an issuer's ESG disclosures, the exposure to specific ESG factors and events that, in our view, require special attention, as well as the size of our overall exposure to the issuer. At times, issuers take the initiative to approach us to request feedback on their ESG efforts. We aim for these discussions to be constructive for both sides, which helps maintain an ongoing dialogue between our analysts and the issuers they cover. In all cases, our engagements seek to preserve or enhance the value of our investments.

Further, given our scale and global coverage, such discussions often provide useful insights for issuers on how they compare to industry peers and how markets perceive their ESG initiatives. Our ESG Impact Ratings offer additional tangibility and context to the conversations, as they allow our analysts to show issuers interested in our process how we rank them on ESG impacts, while also providing the rationale and factors behind the ratings. As a result, engagement can also positively influence issuer behaviour.

As a manager of primarily fixed income investments, we generally do not have ownership rights and, therefore, are not actively engaged in proxy voting. In the rare instance where we are able to vote by proxy at an Annual General Meeting, PGIM Fixed Income abides by its proxy voting policy, which includes guidance on environmental and social shareholder resolutions, seeking to balance the interests of all our clients.

202

 Total ESG Engagements

163 Corporates | 7 Sovereigns | 32 Securitised Products

188

 Total Issuers Engaged

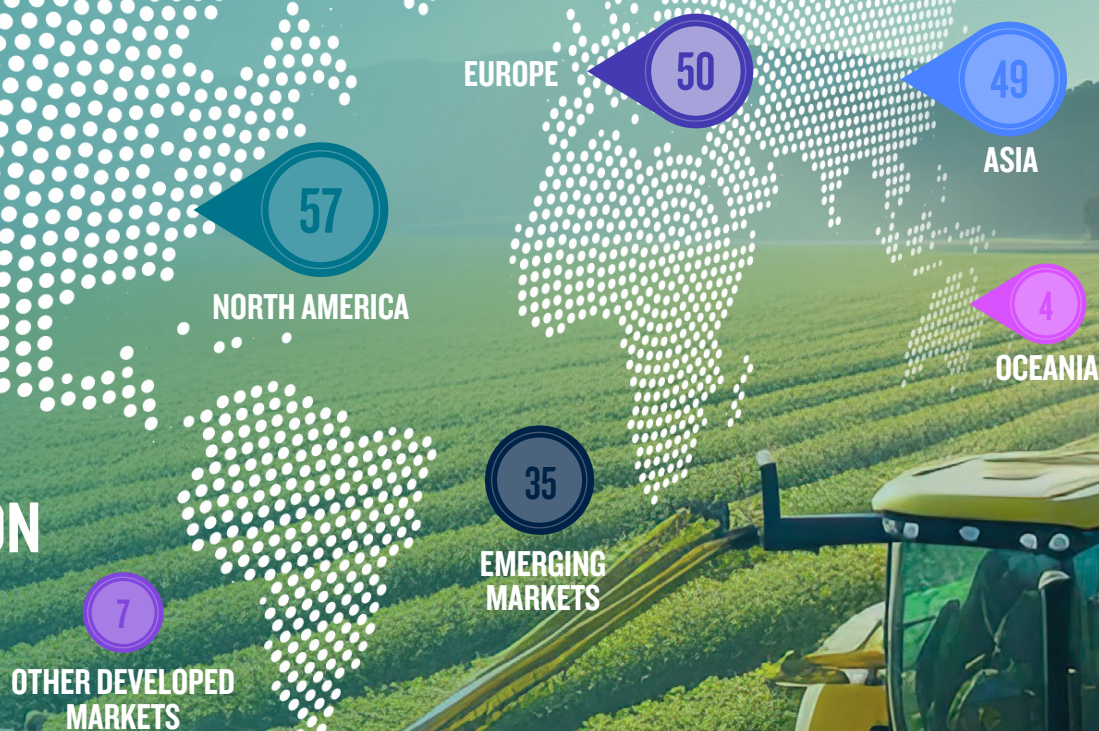
155 Corporates | 7 Sovereigns | 26 Securitised Products

TOP 10 ENGAGEMENT THEMES IN 2022

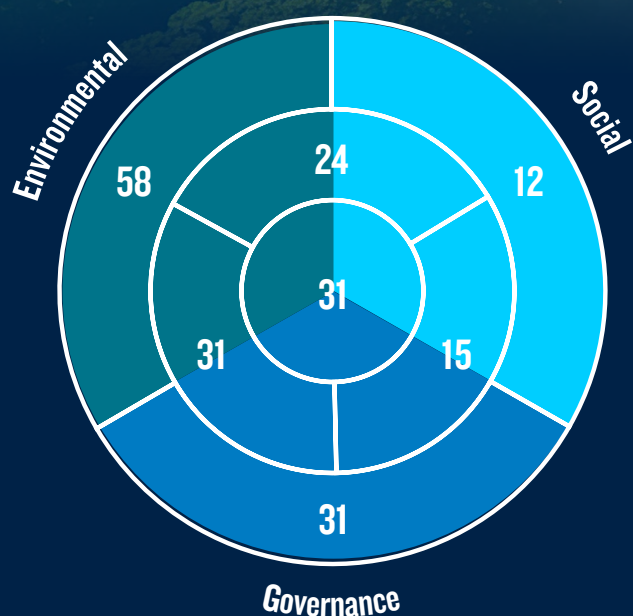
- | | | | |
|---|--------------------------------|----|--------------------|
| 1 | GHG emissions & climate change | 6 | Capital management |
| 2 | ESG strategy | 7 | Risk management |
| 3 | Disclosure & reporting | 8 | Circular economy |
| 4 | Energy use & efficiency | 9 | Social inclusion |
| 5 | Corporate governance | 10 | Green securities |

Note: All data as of 31 December 2022.

2022 ESG ENGAGEMENTS BY REGION



2022 ESG ENGAGEMENTS BY CATEGORY AND ASSET CLASS



	Corporates	Sovereigns	Securitized Products
Environmental	49	7	2
Social	10	—	2
Governance	16	—	15
Environmental and Social	23	—	1
Environmental and Governance	28	—	3
Social and Governance	11	—	4
Environmental, Social and Governance	26	—	5

Note: All data as of 31 December 2022.



EXAMPLES OF ENGAGEMENTS WITH ISSUERS HELD IN 2022

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CORPORATE FIXED INCOME

INVESTMENT GRADE ASIAN FINANCE COMPANY

TOPICS

GHG emissions & climate change

Strategy/business model

ESG strategy

OBJECTIVE

When we met with the issuer last year, Management said the company would set a GHG emissions target within a year. We engaged again to determine what, if any, progress had been made towards setting emissions reduction targets since our last engagement, and to get an update on the company's ESG-related activities.

OUTCOME

In our meeting, we learned that the company set emissions targets and introduced an action plan related to ESG initiatives in April 2022. Management told us that the company aims to achieve domestic net-zero Scope 1 & 2 GHG emissions on a non-consolidated basis by 2023, and on a consolidated basis by 2025. It also plans to expand various renewable energy businesses and is currently working on more than 1,600 renewable energy business projects, which is one of the best records in the leasing industry. Management also shared that the company has set up a Sustainable Development Goals Promotion Committee, chaired by the president, in order to promote and strengthen the company's ESG-related efforts. While these initiatives have not led us to change our ESG Impact Rating for the company, it is positive to see that the company has achieved its goal of setting emissions targets within a year, and is actively promoting green finance, including sustainability-linked leases to support its customers' GHG reduction efforts. We will continue to engage with a focus on the progress towards the emission reduction targets and the business expansion strategy centred on renewable energy.

Source: PGIM Fixed Income as of May 2022.

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CORPORATE FIXED INCOME

INVESTMENT GRADE U.S. RETAIL COMPANY

TOPICS

Disclosure & reporting

GHG emissions & climate change

Disclosure & reporting

ESG strategy

Disclosure & reporting

Labour management

OBJECTIVE

Media coverage of the company has often focused on issues around labour relations and claims of anti-competitive behaviour, as well as their GHG emissions. We used an introductory meeting between representatives of PGIM Fixed Income's ESG Research team and the company's ESG investor relations to address these issues, as well as to ask for improvements to their ESG disclosures in order to make them more useful and topical.

OUTCOME

There were few major revelations during this meeting. On labour relations, representatives cited a daily poll of employees as a way of improving worker satisfaction, and stated that "contractors" were often companies, which are covered by the issuer's Supplier Code of Conduct. However, they did not provide information on whether this requires similar treatment for contractors towards their own employees. Regarding anti-competition probes, they said the U.S. case had been dismissed and the European verdict was suspended pending appeal. While there was no commitment to any major overhauls of their disclosures, the issuer seemed receptive to hearing what we thought would make them more useful to investors. On emissions, they didn't offer much more clarity on what is excluded from their Scope 3 and did not want to discuss their upcoming SBTi target before it is released. While there was no commitment to any major overhauls of their disclosures, they seemed receptive to hearing what we thought would make this more useful for investors. Following this introductory meeting, future engagements will likely focus on individual themes, such as labour relations.

Source: PGIM Fixed Income as of April 2022.

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CORPORATE FIXED INCOME

HIGH YIELD MULTINATIONAL CHEMICALS COMPANY

TOPICS

Disclosure & reporting

GHG emissions & climate change

OBJECTIVE

Following a public earnings call where we flagged the need for the company to improve its ESG disclosures, we met with the CFO and investor relations representatives in order to share PGIM Fixed Income's approach to assessing issuers on ESG risk and impact; discuss the company's current level of ESG disclosures; and reiterate our request that the company publish funding entity-level ESG data, including Scope 1 and 2 emissions, in order to enable a more accurate ESG assessment of its business activities.

OUTCOME

The company is attuned to the significant business opportunities linked to the low carbon transition, but also recognises the need to improve its ESG disclosures. Management indicated that they aim to increase the scope and granularity of the company's ESG disclosures in line with our requests. At the time of engagement, the company's ESG Impact Rating was weighed down by its lack of disclosure. It later published a Sustainability Report, which included silo-by-silo emissions reporting. The increased disclosure levels led us to upgrade the company's ESG Impact Rating.

Source: PGIM Fixed Income as of September 2022.

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CORPORATE FIXED INCOME

HIGH YIELD U.S. MIDSTREAM OIL & GAS COMPANY

TOPICS

Disclosure & reporting

OBJECTIVE

We met with the issuer to follow up on a previous engagement and press the issue of ESG disclosure. We had identified the issuer as a company providing only limited ESG disclosure and informed management that we would like to see more. In our earlier engagement, we requested their plans and a timetable for increasing ESG data disclosure. At that time we also informed management that, due to their low disclosure, we give them a lower ESG Impact Rating, which prevents the issuer from being included in a large portion of our ESG products as they are near a key ESG Impact Rating cut-off.

OUTCOME

Management noted that they formed an ESG team in 2019 and have been tracking ESG data including Scope 1 and 2 GHG emissions. They informed us that, although they originally planned to release some ESG data this year, this was halted as they are waiting to see if there are any new ESG disclosure requirements from the SEC. While it is logical to wait for further SEC developments before releasing the ESG data they have collected, waiting until 2023 to provide it characterises the issuer as an ESG laggard compared to peers who already report ESG data and provide sustainability reports. We will continue to be conservative in our rating of the issuer until action is taken, and will continue to encourage management to expedite their ESG disclosure process. Once the issuer reports more ESG data, we will re-evaluate our ESG Impact Rating.

Source: PGIM Fixed Income as of June 2022.

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CORPORATE FIXED INCOME

HIGH YIELD EUROPEAN TELECOMMUNICATIONS COMPANY

TOPICS

G Disclosure & reporting

OBJECTIVE

The company's investor relations and reporting quality significantly deteriorated over the 12 months since it was taken private. We still have a positive view on the company's fundamentals and earnings trajectory; however, the bonds sold off in recent days, which we believe stems from its poor market communications strategy, rather than being driven by operational performance. The objective of the call was to rectify these issues and get an update on the company's strategy.

OUTCOME

The CFO advised us that as a result of feedback from PGIM Fixed Income, it is making changes to its investor relations strategy. Going forward it will offer Q&A calls with lenders on a one-to-one basis, will run live Q&A on results calls and will reintroduce quarterly KPI/revenue stats. The company is currently recruiting a new dedicated investor relations person. We provided additional areas where the company could improve further, including providing an overview on the shareholder strategy, and how to present certain financial items better. The CFO welcomed our feedback and said the company would look into actioning these points. The company is taking the issues we raised seriously, and we are satisfied they are taking necessary steps and appropriately engaging with lenders. However, we will await delivery on the action points before increasing the issuer's ESG Impact Rating back to its previous level (which did not include the current Governance handicap). We will also continue to provide feedback on its investor relations strategy, praising the positive aspects while also offering advice for areas which can be further improved.

Source: PGIM Fixed Income January 2022.

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EMERGING MARKETS DEBT

EMERGING MARKET MINING COMPANY

TOPICS

Biodiversity, ecosystems & land use

Disclosure & reporting

OBJECTIVE

We requested a meeting with the issuer in advance of its debut issuance to ask for disclosure on the environmental impact assessment that had been undertaken as part of their licence extension to continue operating at a mine. Our key concern was around the environmental impact of their riverine tailings disposal system.

OUTCOME

Management said the impact assessment and roadmap studies have not been completed and that the findings from their human health study would be released in 2022. Management also said that, while they have been cooperating and could provide details of the consultants that have been engaged to produce studies commissioned by the Ministry of Environment and Forestry, there is no timeline on publishing the studies' results. They noted that there are 90 monitoring programs in place to track environmental impacts but stated that these are not disclosed externally. Given the length of time the company has been operating this mine and its high level of disclosure on sustainability in general, it is surprising that so little is disclosed regarding environmental impact assessments at this site. Given this, we are monitoring the ESG disclosure at the issuer and will follow up for the results of the environmental and human health studies or consider downgrading the ESG Impact Rating.

Source: PGIM Fixed Income as of April 2022.

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EMERGING MARKETS DEBT

SOUTH AMERICAN FOOD & BEVERAGE COMPANY

TOPICS

ESG strategy & disclosure

OBJECTIVE

Following publication of the issuer's new Sustainability Report, which laid out the first set of hard goals in its ESG Strategy, we met with the CFO and Head of Investor Relations to gain more clarity on these new goals and ask for further ESG-related data points.

OUTCOME

This engagement helped us gain a better understanding of the issuer's new 2030 ESG goals, which included goals relating to Water Management, Sustainable Packaging, Energy Management, Supply Chain Consolidation (to limit energy and fuel waste in production and distribution), Female Employee Participation and Diversity, Customer Engagement and Well-Being, Sugar/Calorie reduction per serving, and Social/Community Engagement. In response to our questions, the company shared the percentage of sales tied to low- and no-sugar beverage volumes, reiterated its commitment to increasing penetration of reusable bottles, and clarified that its elevated 2023 CapEx will be due in large part to investment in a resin recycling plant, reinforcing the company's commitment to creating unit economics that encourage circularity. We believe the additional disclosures substantially enhanced the issuer's long-term credibility and show it to be a leader among its peers. As a result, we upgraded its ESG Impact Rating. We will continue tracking the company's progress towards their 2030 ESG goals.

Source: PGIM Fixed Income as of October 2022.

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LEVERAGED FINANCE

CONSUMER CYCLICAL SERVICES COMPANY

TOPICS

S Labour management

OBJECTIVE

Following the announcement of the issuer's acquisition of a large Human Resources service provider for healthcare recruitment and secondment, we engaged with the issuer to understand the price their new acquisition charges for temporary healthcare staff and how this compares to permanent roles in the healthcare sector, so we could assess whether the prices they charge appear to be predatory and exploit the healthcare sector. We wanted to obtain key data points in order to determine our view, which in turn could affect our ESG Impact Rating for the issuer.

OUTCOME

We asked the issuer to provide the average prices the Human Resources service provider charges for temporary healthcare staff and how these compare to permanent wages in the sector, and also for the highest differential the company charges between temporary and permanent healthcare workers. Management provided data confirming that they do not engage in predatory pricing: on average, a temporary professional's salary is 6% to 20% higher compared to similar, fixed healthcare employees. Based on this information, there was no change to the issuer's ESG Impact Rating, but we will continue to monitor this topic.

Source: PGIM Fixed Income as of February 2022.

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LEVERAGED FINANCE

PHARMACEUTICALS COMPANY

TOPICS

S Health & safety

G Business conduct

OBJECTIVE

Between late 2020 and 2021, the United Kingdom's Financial Conduct Authority issued several statements relating to their approach to companies with cannabis-related business. Based on these publications, there is a risk that companies generating revenues from cannabis-related products could be impacted by the United Kingdom's Proceeds of Crime Act unless certain safeguards are put in place. After constructively engaging with the issuer's Management and Investor Relations on this topic in 2021, we had a follow-up meeting with their Director of Investor Relations in order to confirm whether the sale of their cannabis-related products would be lawful in the United Kingdom.

OUTCOME

During our meeting, the company confirmed that the sale of their products would be considered lawful in the United Kingdom. The group is mostly exposed to generic or over-the-counter products, and the markets have been tightly regulated. While their exposure to cannabis-related products is not material from an earnings perspective, it poses elevated regulatory risk which requires ongoing monitoring. We rate the issuer in the second quartile of our ESG Impact Ratings for pharmaceutical companies and will continue to maintain our rating after this meeting.

Source: PGIM Fixed Income as of March 2022.

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SECURITISED CREDIT

U.S. CONSUMER LOAN ABS

TOPICS

Disclosure & reporting

Green securities

OBJECTIVE

After hearing PGIM Fixed Income speak at a Structured Finance Association conference, the issuer contacted us seeking advice on how best to integrate ESG into their ABS offerings as they are currently exploring green-labelled issuances. We used this engagement to introduce our approach to ESG investing, share our list of aspirational ESG disclosure indicators with the issuer, and describe how we view green-labelled debt from a credibility and additionality aspect.

OUTCOME

We learned that the issuer has made no ESG disclosures to date and explained that a first step for the company would be to start disclosing both at the corporate and security level. We suggested they disclose information including tailpipe emissions and safety ratings and explained that from an ABS perspective the more granular the data the better. The issuer seemed genuinely interested in understanding how we view ESG in securitisation offerings, and what is important from an investor's point of view. They were confident that they could obtain most of the information we suggested. Following our initial engagement call, the issuer provided us with a list of ESG data they currently track versus that which they do not. Getting this information was a positive first step and should help them identify which data disclosures they could prioritise. The issuer offered to begin thinking about how they could start disclosing this data, which is also a sign that they are taking this request seriously. Additional disclosures would allow us to conduct a better ESG risk and ESG impact analysis on the company/ABS level.

Source: PGIM Fixed Income as of June/July 2022.

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SECURITISED CREDIT AGENCY CMBS

TOPICS

Disclosure & reporting

Green securities

S Disclosure & reporting

S Social securities

OBJECTIVE

Our primary focus for this meeting was to catch up with the issuer to discuss underwriting, changes to their ESG strategy, and their plans for future Green and Social labelled issuances.

OUTCOME

During the meeting, we learned that the issuer will be issuing a Green deal within a couple of months, while a Social deal may only be marketed in Q2 or Q3 of 2022, the reason being of the stricter standards collateral must fit in to satisfy its inclusion in a Social deal. We discussed the issuer's ability to meet the new affordable targets and, on a credit basis, discussed the changes to subsector composition expected in 2022 and their views on the multifamily market lending environment as a whole. We are comfortable with the work and progress the team has made and continue to view the issuer as a leader in the ESG space. While there was no impact to our views from this meeting, we are pleased to see the issuer continue to maintain its focus on supporting affordable housing and their belief that meeting the caps imposed this year is still possible.

Source: PGIM Fixed Income as of January 2022.

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SOVEREIGNS

OCEANIA DEVELOPED MARKET

TOPICS

Disclosure & reporting

GHG emissions & climate change

Green securities

OBJECTIVE

We engaged with representatives from the Treasury to learn about the country's strategy on climate change.

OUTCOME

The officials explained the current government's climate change commitments, policies and programs. It was positive to see them explain their climate conditions and challenges in detail. The government also appears to be investigating investor demand for a green sovereign bond. They shared some of the challenges they believe they would face were they to issue one, and we told them about the Green Transformation bond (GX bond) which is to be issued by the Japanese government. They showed interest in its framework. We will need to follow up on the detailed strategy on their labelled bond if it is issued.

Source: PGIM Fixed Income as of July 2022.

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SOVEREIGNS

ASIAN EMERGING MARKET

TOPICS

GHG emissions & climate change

OBJECTIVE

We engaged with officials from the Ministry of Finance in order to delve more deeply into the country's plans for phasing out coal by 2060 in support of their GHG reduction targets.

OUTCOME

The meeting provided us with a good level of detail on their plans to meet their GHG reduction targets. We learned that their 2060 coal phase-out goal is applied only to the state-owned electricity distributor, and not to value-adding industry. Moreover, the authorities viewed all their climate commitments to be conditional on external financing becoming available to offset the implied costs. They also saw their continued use of coal as enabling their reforestation policy and transition to renewables and pointed out that all new coal-using projects needed carbon offsets in order to be approved. Their preferred emissions reduction approach was to combine a cap-and-trade system with carbon taxes for those exceeding their caps. When it comes to phasing out coal, it is clear the plans are not nearly as ambitious as originally thought, given their limited application, even taking into account the carbon offset requirement for new projects using coal. We will continue to monitor news coming out of the country regarding their targets and coal production/use.

Source: PGIM Fixed Income as of July 2022.

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SOVEREIGNS

AMERICAS DEVELOPED MARKET

TOPICS

GHG emissions & climate change

Green securities

OBJECTIVE

We wanted to gain a better understanding of the country's approach to climate change and find out whether the government is considering or planning a Green Bond issuance or working with multilaterals on green financing. We raised questions on these topics during a one-on-one meeting with the Premier and representatives from the Ministry of Finance.

OUTCOME

While they are not currently considering a Green Bond issuance, we learned the government is hoping to leverage the country's position in the reinsurance industry in order to innovate in the climate risk financing/risk/insurance space. The meeting also highlighted the country's resilience to hurricanes and storms, particularly compared to regional peers: some of the strict building codes were enacted in the 1960s to ensure buildings could withstand major hurricanes. They have also taken steps to mitigate risk from rising sea levels and raised and reinforced critical infrastructure in the low-lying part of the country. It is also incorporating a clean energy sandbox to allow new and innovative technologies to be connected to the grid, which will be financed by the private sector. We were pleased to see the keen attention to ESG issues. While we are not implementing an ESG uplift at this time, we will track developments with the clean energy sandbox, in the climate risk financing space, and for other ESG initiatives.

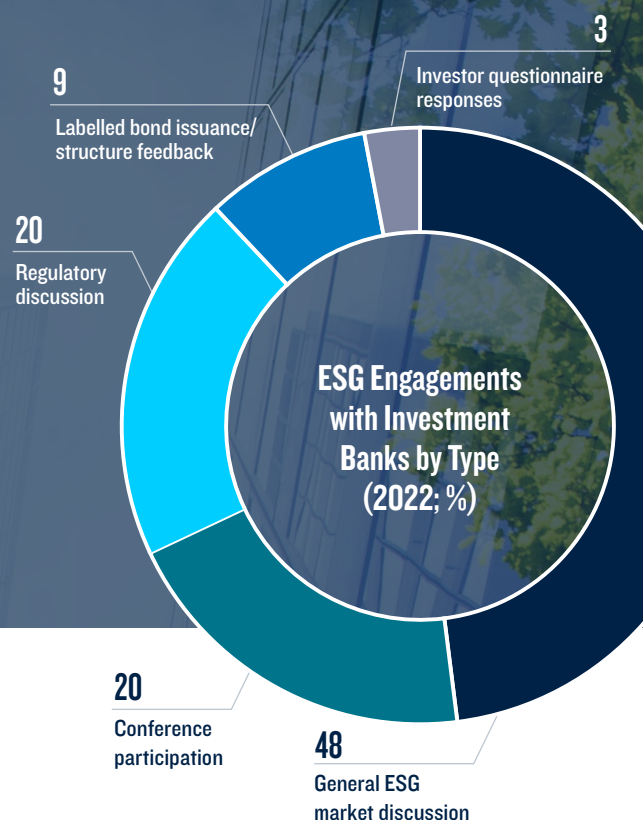
Source: PGIM Fixed Income as of July 2022.

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ENGAGEMENT WITH INVESTMENT BANKS

PGIM Fixed Income regularly engages with investment banks to discuss the labelled bond market, regulatory developments, and overall ESG market trends, as well as to participate in industry conferences and provide feedback on specific ESG-labelled issuances and structures. We believe these engagements allow us to provide banks with meaningful insight on what matters to large fixed income investors like ourselves and help raise the industry standard for quality ESG investing, which ultimately benefits our clients. Additionally, we also benefit from these discussions as they provide us with different views in terms of the general ESG market and have also at times led us to directly engage with certain issuers on specific ESG-labelled issuances.

Note: Data as of 31 December 2022.



EXAMPLES OF ENGAGEMENTS WITH INVESTMENT BANKS HELD IN 2022

TOPIC

Labelled Bond Feedback

In September 2022 a Latin American sovereign issued a Sustainability-Linked Bond (SLB) with a relatively rare two-way pricing structure that featured both a step-up and step-down mechanism. As this was the first SLB structured in this manner, there was considerable interest across the fixed income market on whether this type of issuance was attractive to ESG investors. As a result, PGIM Fixed Income's ESG Research team set up a series of meetings with investment banks (including both those that were directly involved in arranging this issuance and those that were not) to share our views on this SLB. Specifically, we discussed how our investment team is pricing the step-down feature, the stringency of the KPIs, how the step-down influences our assessment of materiality and impact, and whether this structure is applicable to the corporate bond market. PGIM Fixed Income agreed to comment on specific corporate deal structures as they develop, since these discussions remain ongoing and will continue as the SLB market further evolves.

TOPIC

Regulatory Discussion

In March 2022 the SEC announced a new proposal for registered companies to disclose their emissions, titled "The Enhancement and Standardization of Climate-Related Disclosures for Investors". In response, PGIM Fixed Income arranged a meeting with the Sustainable Finance team of a large European investment bank with a significant presence in the United States to share perspectives on the proposal. Key discussion topics included the appropriateness of GHG emissions as well as physical and transition risk disclosures, the inclusion of safe harbour provisions, and the need to standardise reporting across jurisdictions. These discussions helped inform PGIM Fixed Income on the various market perspectives around the SEC proposal, which was helpful context as PGIM Fixed Income was actively involved in developing PGIM's response to the SEC proposal, together with the other PGIM affiliates. This engagement was part of PGIM Fixed Income's larger strategy to comment on the SEC proposal, as it complemented our active efforts to provide feedback to the SEC through our work with various industry groups.

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ENGAGEMENT WITH REGULATORS/POLICYMAKERS

As a large, global asset manager, PGIM Fixed Income is affected by regulation in many jurisdictions, both where this applies to investee issuers and to investors themselves. And in recent years, there has been rapid growth in regulation worldwide that is specifically ESG-related. Where proposals for such regulation are particularly relevant to PGIM Fixed Income, we actively engage with policymakers, either directly or via collaboration with other PGIM businesses at the PGIM level (and, at times, via its trade association partners as well). This is most often achieved through responses to open regulatory consultations, such as the SEC's proposals on climate disclosures and ESG fund disclosures. It may also involve consultations with standard setters, such as on the ISSB's proposed sustainability disclosure standards.

EXAMPLES OF ENGAGEMENTS WITH REGULATORS/POLICYMAKERS HELD IN 2022

TOPIC

SEC Climate Disclosure Regulation Consultation

In 2022, the SEC proposed regulations that require detailed, climate-related disclosures for listed companies in the United States. These rules would have a material effect on a large portion of PGIM Fixed Income's investee companies, as well as indirectly on PGIM Fixed Income itself via its parent, Prudential Financial, Inc. As a result, PGIM Fixed Income partnered with other PGIM businesses to produce a response to the SEC's consultation on proposed climate disclosure rules. Although this was a collaborative effort, PGIM Fixed Income was heavily involved in reviewing the SEC's proposals and provided significant input into the firm's response. In [PGIM's submission](#)¹, we generally supported the SEC's proposals, but made several recommendations for improvements.

TOPIC

ESMA ESG Fund Names Proposal

In 2022, ESMA opened a consultation on a proposal for guidelines to national regulators within the European Union on minimum standards for financial products using ESG-related terms in their names. Although PGIM Fixed Income generally supports clearer standards, we had many concerns around details of the proposal from a practical perspective. PGIM and PGIM Fixed Income took part in an open hearing held by ESMA on the proposal, where it attempted to raise several of its concerns. As with the SEC regulation, it then partnered with other PGIM businesses to draft a written response, again taking on a very active role in this process.

TOPIC

Biodiversity Risks and Impacts

A PGIM Fixed Income representative was invited to speak at a symposium held by OMFIF in Amsterdam titled "Moving Beyond Climate: Integrating Biodiversity into Financial Markets". In attendance were various members of both the public and private sector, as well as academia and civil society. This included several representatives of central banks. The panel discussion focused on how to better manage biodiversity-related risks and impacts in investment activities. The PGIM Fixed Income representative advocated for a nuanced, bottom-up approach, which was in contrast to proposals for largely data-driven, top-down methodologies from several participants. Using our ESG Impact Rating framework as an illustration, the representative explained why biodiversity impacts and risks are separate dimensions requiring independent evaluations, and highlighted our view that management of biodiversity issues requires case-by-case qualitative assessment that is informed by, but not entirely dependent on, quantitative data.

¹ PGIM's submission can be viewed here: <https://www.sec.gov/comments/s7-10-22/s71022-20132230-302751.pdf>

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ENGAGEMENT WITH DATA VENDORS

PGIM Fixed Income uses third-party providers for ESG data, research, regulatory reporting, and screening services, but does not rely on service providers for ESG ratings or engagement activities. PGIM Fixed Income evaluates its ESG service providers both in the initial due-diligence phase and as part of our ongoing monitoring process. As part of these efforts, we assess the quality and appropriateness of their services, their coverage and screening parameters, their technical and customer support, the methodologies that support their research, regulatory offerings and screening services, as well as their data delivery capabilities. We also provide regular feedback to our providers on an ad hoc basis and during regular service review meetings. This proactive engagement with our service providers plays a key role in our continued focus on improving data coverage and functionality. We can also question and correct, when necessary, any inaccuracies we discover in the data and research we rely upon for our ESG processes.

In addition to monitoring our existing providers, we are exploring new sources of ESG data and insights in the market from both our existing providers as well as new providers. This past year, we focused these efforts on climate- and carbon-related data and analytics, regulatory reporting products, and ESG data for high-yield issuers, bank loans and securitised products, for example. We also provide regular feedback to our various vendors on new products and those in development, helping them to more effectively tailor their offerings to meet market needs.

In general, we find that our current ESG data and research needs cannot be fully met by any of the third-party providers, notably due to a lack of coverage for certain fixed income asset classes such as high yield, bank loans, emerging market corporates, and securitised products. We acknowledge that this is driven in large part by the lack of standardised disclosure requirements and overall deficit in ESG data disclosure. Therefore, PGIM Fixed Income actively engages with issuers, banks, trade bodies, and regulators to encourage relevant and consistent ESG disclosures. However, we closely monitor trends around data disclosure and actively engage with data vendors—both directly and via industry groups such as the European Leveraged Finance Association and Structured Finance Association—to encourage them to develop new offerings when we see improved disclosure across different markets. We believe disclosure will only improve over time, so we view engagement with data vendors as an important part of our strategy to continuously improve our ESG capabilities.

EXAMPLES OF ENGAGEMENTS WITH DATA VENDORS HELD IN 2022

TOPIC

Correction of Specific Data Point

A financial services firm PGIM Fixed Income held in various ESG strategies was flagged as having significant ownership in an aerospace and defence company that is involved in the production of controversial weapons. Due to the exclusion that prohibits us from holding any investments in issuers that are involved in the production, sale and/or distribution of nuclear or other controversial weapons in our ESG strategies, this flag triggered a sale warning. However, the relevant portfolio manager and credit analyst believed this classification was an error. This is because the issuers' ownership in the aerospace and defence company was through client positions in its ETFs rather than through a direct equity stake at the corporate level. As a result, we felt the data vendor was incorrectly aggregating the indirect ownership stake up to the parent company, even though the issuer showed no direct equity positions on its balance sheet. In response, PGIM Fixed Income engaged with the data vendor to confirm our understanding was correct and to advocate for the removal of the controversial weapons flag. When the data vendor explained that it would not remove the flag, we escalated the problem and engaged directly with the issuer, explaining the situation and recommending they work directly with the data vendor to resolve the agreed-upon error. PGIM Fixed Income was later informed by the issuer that, after discussing the issue with the data vendor, the error was fixed.

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EXAMPLES OF ENGAGEMENTS WITH DATA VENDORS HELD IN 2022 (CONTINUED)

TOPIC

General Data Quality and Due Diligence

In order to prepare for the EU's Sustainable Finance Disclosure Regulation (SFDR), PGIM Fixed Income undertook an in-depth review of data vendors to assess which vendor was most suitable for our reporting needs. As part of this process, we ran a series of quality assurance checks on the principal adverse impact indicators (PAI Indicators), analysing what was driving any differences between the data sets across vendors, how their methodologies differed, and whether we felt comfortable with the data quality. As part of this review, PGIM Fixed Income identified several outliers in the various data sets, prompting both an internal examination and a series of discussions with the data vendors to identify whether these outliers were correct or were errors. As a result of this process, we identified and ultimately fixed a number of errors in the SFDR data sets and were able to engage more directly with the various data vendors on their quality assurance processes. Additionally, this review played a key role in helping PGIM Fixed Income decide which data vendor to employ for SFDR reporting.

TOPIC

Clarification of Opco vs. Holdco

In early 2022, an Emerging Market utility company that generated 100% of its revenues from renewable energy generation was being flagged by one of PGIM Fixed Income's data vendors as having exposure to thermal coal. As a result, we were unable to buy this company's issuance in our EM ESG strategies. When the relevant portfolio manager on these accounts identified this discrepancy, PGIM Fixed Income reached out to the data vendor to understand why this company was being tagged as having exposure to thermal coal and whether the data vendor would be able to remove the flag. Upon further investigation, the data vendor informed PGIM Fixed Income that the flag was applied because the parent company of this subsidiary also owned a thermal coal generation plant in a separate subsidiary. Given that the proceeds of this issuance were being used to fund a pure-play renewable energy company, PGIM Fixed Income advocated that this flag be removed. These efforts proved successful, as the data vendor's research team agreed that the thermal coal flag was inappropriate, ultimately removing the flag and allowing us to purchase this issuance in our EM ESG strategies.

TOPIC

Inconsistent Application of Vendor's Methodology

PGIM Fixed Income's ESG Research team discovered that one of our data vendors was reporting Total Recordable Injury Rate (TRIR) inconsistently across companies. After comparing the vendor's data with the companies' self-disclosed data contained in the sustainability reports of two oil and gas issuers, we became aware that the vendor was showing full-time employee TRIR for one issuer and contractor TRIR for the other, despite both forms of TRIR being disclosed by both issuers. We engaged with the data vendor to highlight the discrepancy and get more information on its process for pulling health and safety performance metrics. The vendor acknowledged the error was due to a recent methodology change and a manual error by a data analyst, prompting it to clarify its process for prioritising data scraped from TRIR tables. The data vendor also fixed the data discrepancy, which is now being pulled correctly across its platform.

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ENGAGEMENT WITH THE INDUSTRY

At PGIM Fixed Income we believe in constructive engagement with policymakers and regulators, as well as industry collaboration to help establish best-in-class industry standards. To maximise our impact, we are a member of several trade associations and industry initiatives and are committed to providing feedback to the industry that we believe can positively impact PGIM Fixed Income, our clients, or our investments. To that end, we are active participants of the following working groups:

Organisation	Working Group	Participation
Structured Finance Association	Structured Finance Disclosure Framework Working Group	Co-Chair
	CMBS Working Group	Co-Chair
	Auto ABS Working Group	Active Participant
Center for Real Estate Finance Council	Sustainability Steering Committee	Active Participant
	Transparency Subcommittee	Active Participant
European Leveraged Finance Association	ESG Committee	Active Participant
United Nations Principles for Responsible Investment	Securitised Products Advisory Committee	Active Participant

As part of these efforts, we very actively participate in a series of calls and working groups that help set the strategic direction of these organisations, provide feedback to regulators and policymakers, organise stakeholder sessions, and establish industry standards around data disclosures. This work is considered a key mandate for the ESG Research team.

Other organisations of which PGIM Fixed Income is a member:

- UN PRI
- Association for Financial Markets in Europe
- Loan Market Association
- Loan Syndications and Trading Association
- Climate Bond Initiative

Other organisations of which PGIM is a member¹:

- SASB
- IIGCC
- Council of Institutional Investors

Additionally, for the second year, PGIM Fixed Income is a signatory to the UK Stewardship Code.

¹ PGIM Fixed Income has access to these organisations through PGIM's membership.

EXAMPLES OF INDUSTRY ENGAGEMENTS HELD IN 2022

As part of PGIM Fixed Income's work with the Structured Finance Association (SFA) ESG Task Force Steering Committee, we were asked to provide feedback on the new social index released by the U.S. housing government-sponsored entities (GSEs). This resulted in a series of discussions with a small group of SFA members, where PGIM Fixed Income provided its perspective and helped craft a letter outlining SFA members' positions on the social index. Additionally, we participated in a group call organised by SFA with one of the housing GSEs, which, through our active participation on the call, resulted in a follow-up one-on-one engagement with the organisation that requested PGIM Fixed Income's more detailed perspective. The primary focus of these efforts was on improving transparency on the components underlying the social index and its calculation, as well as confirming that the index did not promote housing in areas with high physical climate risk. We believe this social index will play a key role in creating market standards around ESG disclosures for both agency and non-agency single-family mortgage securitisations, so we will continue to work closely with the SFA to provide feedback as these disclosures evolve.

As part of PGIM Fixed Income's work on the United Nations Principles for Responsible Investing (UN PRI) Securitized Products Advisory Committee (SPAC), we helped organise and participated in a series of joint workshops with the United Nations Environment Programme Finance Initiative (UNEP FI) to bring together asset managers and banks to discuss ways to improve ESG data disclosure in the securitized products market. This included four separate workshops throughout 2022 focused on environmental, social and governance factors for the CMBS, RMBS, ABS and CLO markets. As part of these efforts, we provided extensive feedback on the discussion topics for these sessions and leveraged our relationships with banks to increase participation. The findings of these workshops may be used by the UN PRI to publish a public report highlighting a series of market recommendations for improved data disclosure in the securitized product market.

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ENGAGEMENT WITH OUR EMPLOYEES & COMMUNITY

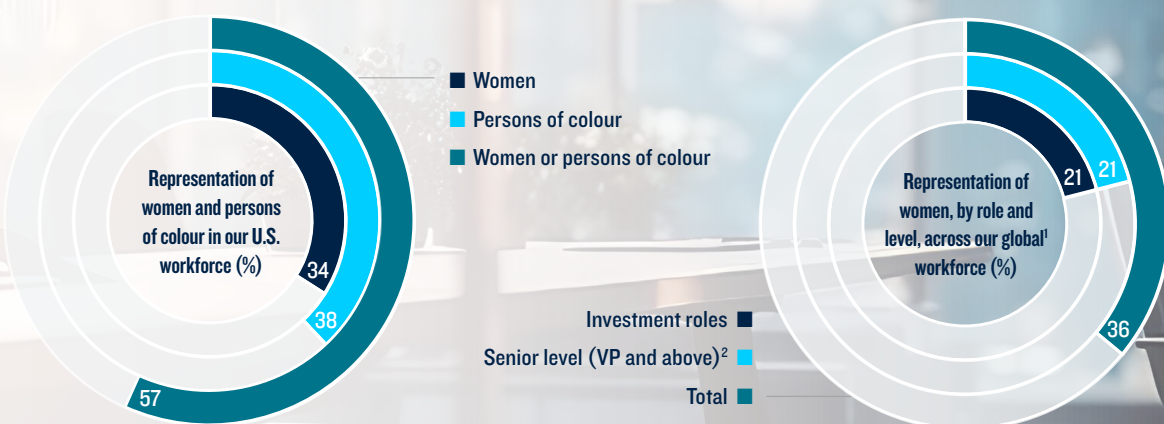
At PGIM Fixed Income, we view our employees as our greatest asset, which is why we value engaging across the business to better understand how we can continue to attract, develop, retain and promote diverse talent. We believe that diversity in our workforce is the foundation of the continued success for our business, leads to more impactful and innovative solutions, and best positions us to deliver outperformance to our clients.

We believe in creating a safe, inclusive environment centred around mutual respect, trust in each other, collegiality, teamwork, meritocracy, intellectual honesty, transparency, and an unwavering commitment to our clients.

As part of our engagement with our employees, PGIM Fixed Income participates in PGIM's annual, enterprisewide employee engagement survey, called The EQ. All employees are encouraged to share their candid feedback about their experience working at PGIM Fixed Income. PGIM Fixed Income senior leaders leverage EQ feedback in partnership with Human Resources in its efforts to inform changes the organisation can make to drive engagement and improve the employee experience. For example, the results informed the establishment of a companywide rewards and recognition platform, as well as a program that amplifies the voices and ideas of rising talent.

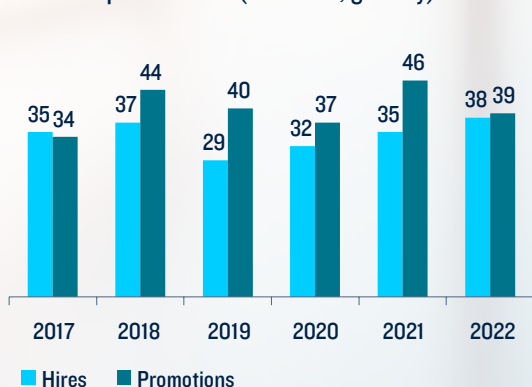
Understanding our workforce representation: To enable PGIM Fixed Income to continue to make informed decisions about our DEI strategy, we require a good understanding of the composition of our workforce and the lived experiences of our employees. In 2022, we launched a voluntary and anonymous diversity information sharing campaign in the UK called "Count Me In!" to encourage employees to share their diversity information across a range of diversity dimensions, including race and ethnicity, sexual orientation, caring responsibilities, socioeconomic background, disability, and faith or religion.

2022 WORKFORCE STATISTICS



ANNUAL HIRING AND PROMOTION STATISTICS

Women representation (% of total, globally)



Ethnically diverse representation (% of total, U.S.)



Source: PGIM Fixed Income as of 31 December 2022.

¹ Global PGIM Fixed Income staff as of 31 December 2022 (including administrative professionals).

² Senior level refers to the Vice President level and above.

EXAMPLES OF HOW WE ENGAGE ACROSS OUR WORKFORCE

Diversity, Equity and Inclusion

We engage in a broad range of programs to support our diversity, equity and inclusion efforts across PGIM Fixed Income with a representative sample of activities detailed below.



Head of Diversity, Equity and Inclusion (DEI): Given the importance of DEI across our organisation and the growing scale of work underway to support our efforts, we hired Diane Parker as head of Diversity, Equity and Inclusion for PGIM Fixed Income in 2022, reporting to President John Vibert and underscoring the importance of this role and our commitment to engagement at the most senior levels. Diane Parker is now responsible for developing and implementing a global DEI strategy specific to PGIM Fixed Income and its 1,119 employees around the world.¹ She partners with senior leadership to advise the organisation on best-in-class DEI practices and engages with PGIM's Office of DEI helmed by Kathryn Sayko, as well as Prudential's Inclusive Solutions group led by Lata Reddy, in our efforts to capitalise on the strategic initiatives and diverse talent sourcing programs which PGIM and Prudential have established to advance equity and inclusivity.

Education & Awareness: As a part of our DEI efforts, we have an **Education, Awareness and Training Workstream** whose mission is to raise awareness within PGIM Fixed Income of racial and social inequities through training and education, in our efforts to maintain a diverse and inclusive workplace that reflects our core cultural values of trust, collegiality, teamwork, meritocracy, intellectual honesty, transparency and mutual respect. This workstream is responsible for the establishment and ongoing organisation of a speaker series, which brings in outside perspectives to help shine a light on additional aspects of diversity, equity and inclusion for employees to consider.

An agent of change in the asset management industry: Through partnerships with external diversity organisations, we endeavour to make the asset management sector more diverse and inclusive by empowering and developing the next generation of industry leaders. PGIM Fixed Income has been a member of the **Diversity Project UK** since 2019, a cross-company initiative championing a truly diverse and inclusive UK investment and savings industry with the right talent to deliver the best possible financial outcomes for clients, reflect the society we serve, and ultimately build more sustainable businesses. Sarah McMullen, head of EMEA, sits on the CEO Advisory Council.

Affinity Groups: Employee-led affinity groups were established to provide a forum for colleagues of different backgrounds to give consistent, honest and unfiltered feedback to senior leaders. In 2022, the PGIM Fixed Income affinity groups include:

- Black Professional Alliances at PGIM Fixed Income (BPA@FI)
- PGIM Fixed Income Asian Pacific Islander Community (APIC)
- PGIM Fixed Income Women Initiatives Network (WIN)
- PGIM Fixed Income Latinx Community (LATINX)
- LGBTQ+Ally Community at PGIM Fixed Income

Talent Attraction

In 2022, we hired an Early Talent Program Manager who is dedicated to the hiring, development and retention of early talent into our five offered programs: Credit Research, Portfolio Analysis Group, Client Advisory Group, Operations, and Technology. This has allowed us to focus on some key initiatives to help expand the diversity representation of our candidate pipeline:

Early Talent Pipeline

- **Campus Recruiting Target Schools & Recruiting Sub Council:** PGIM Fixed Income deploys a hybrid campus recruiting model where we actively visit 13 “target” schools in-person throughout the fall and spring semesters. We also have a list of 30+ “virtual” schools with which we share our opportunities and host separate virtual events.
- **The Engagement Sub Council** is a group of program Analysts/Associates which organises programming/events for

¹ As of 31 December 2022.

educational and networking purposes for our three offered types of early-talent programs: Sophomore Externship, Summer Internship, and Three-Year Analyst/Associate Programs

- **PGIM Fixed Income Summer Internship Experience:** Last summer we welcomed 24 rising seniors for a 10-week long internship in our Newark, New Jersey office. Our Interns were spread across five functional areas: Credit Research, Portfolio Analysis Group, Client Advisory Group, Technology Solutions Group, and Operations. Of the 24 Interns, 16 received return conversion offers and all 16 accepted. We will be welcoming 27 rising senior Interns in 2023.
- **Girls Who Invest:** In 2022, we hosted Interns through Girls Who Invest (GWI). GWI is a nonprofit organisation dedicated to increasing the number of women in portfolio management and executive leadership roles in the asset management industry, with the goal of reaching 30%. In summer 2023 PGIM Fixed Income will host three rising senior GWI Interns.
- **Sponsors for Educational Opportunity (SEO) London Internship program:** SEO focuses on preparing talented students from underserved and underrepresented backgrounds for career success by providing opportunities to gain insight into different industries and sectors through 12-week internships. PGIM Fixed Income in partnership with SEO has created opportunities for students to gain insight into the investment industry with a view for permanent placements following the successful completion of the programme.

Additional Pipeline Initiatives

PGIM Fixed Income Returners programme (London): In the summer of 2022, PGIM Fixed Income partnered with the Diversity Project for the first time to provide six, six-month paid returnship opportunities with a view to offering permanent placements subject to successful completion of the programme. Aimed at experienced professionals returning from an extended career break, this programme provides a fully supported route back to employment within the investment industry.

Talent Retention

Attracting top talent is critical, but it's also incumbent upon us to retain the best and brightest by providing a productive, inclusive and meritocratic culture where our employees feel valued. To that end, in addition to working to diversify our talent pipeline, we've made concerted efforts to increase the resources devoted to developing and retaining existing talent. Those efforts include:



Culture Council: A global dedicated group responsible for promoting and supporting the values of PGIM Fixed Income by incorporating existing positive cultural attributes while also advocating for necessary changes.



Revamping promotion criteria and governance: The senior leadership team continued efforts to increase fairness and transparency in the promotion process. Those efforts involved clearly defining promotion criteria and governance for each PGIM Fixed Income functional area and communicating those criteria and details of the promotion process to all employees. Additionally, in 2022, all performance reviews included a new "culture" goal to hold our community accountable to promoting a culture aligned with our mission across the organisation.



We are also proud to announce that in December 2022, for the third year in a row, *Pensions & Investments* has named PGIM a Best Place to Work in Money Management.² The list is published by Pensions & Investments, who worked with Best Companies Group, by undertaking a two-step process: Firstly, employers complete a questionnaire about the firm's policies, practices, benefits and demographics, which is then confirmed by Best Companies. The second part, which represents 75% of the total score, includes

an engagement survey with 77 statements to which employees of the company are expected to respond. The engagement survey revealed that employees feel PGIM is a talent destination for its inclusive and meritocratic culture, where employees feel empowered to make a high impact from day one. The data is then compiled, verified and finalised by Best Companies, and companies are ranked against others of similar size.

² Source: *Pensions & Investments* "Best Places to Work" survey, as of 12 December 2022. Ratings, rankings and awards shown herein may not be indicative of PGIM's investment performance, or any future investment performance or sustainability accomplishments. PGIM has sourced these ratings, rankings and awards from third-party providers. We have not solicited or paid for any of these ratings, rankings and awards. The rating, ranking or award may not be representative of any client's individual experience. PGIM does not pay a fee to participate in the award survey or distribute the award results. However, PGIM does pay a fee to use the award logo displayed herein.

Social and Community Impact

PGIM Fixed Income's Social & Community Impact Workstream is focused on partnering with community organisations that focus on employment, training and mentoring opportunities for youth. This workstream operates in both London and Newark, New Jersey.

Examples of the initiatives organised by the Social & Community Impact Workstream include:

- Since 2016, PGIM and PGIM Fixed Income have partnered with Braven, an organisation with substantial Newark and Rutgers ties that helps first-generation, low-income young adults graduate college with the necessary skills and networks necessary to obtain a strong employment opportunity. PGIM Fixed Income volunteers helped Braven students develop their interviewing skills via mock interviews. In 2022, we continued our work with the organisation and over 40 of our employees conducted mock interviews with students.
- Additionally, in our London office, as part of PGIM Fixed Income European Forum under Corporate Social Responsibility we teamed up with an external organisation called [IntoUniversity](https://intouniversity.org/)³, which provides programs that support young people from disadvantaged backgrounds to get admissions into universities. We conducted a workshop/presentation for 13- to 14-year-old students called "Life in the Investment Management Industry", which included general knowledge and overview on investment management. The second half of the presentation was a workshop activity, which focused on financial literacy, credit cards and student loans. They felt that this topic is important, especially if the students decide to attend university in the future.

³ <https://intouniversity.org/>

SUPPLEMENTAL INFORMATION

APPENDIX

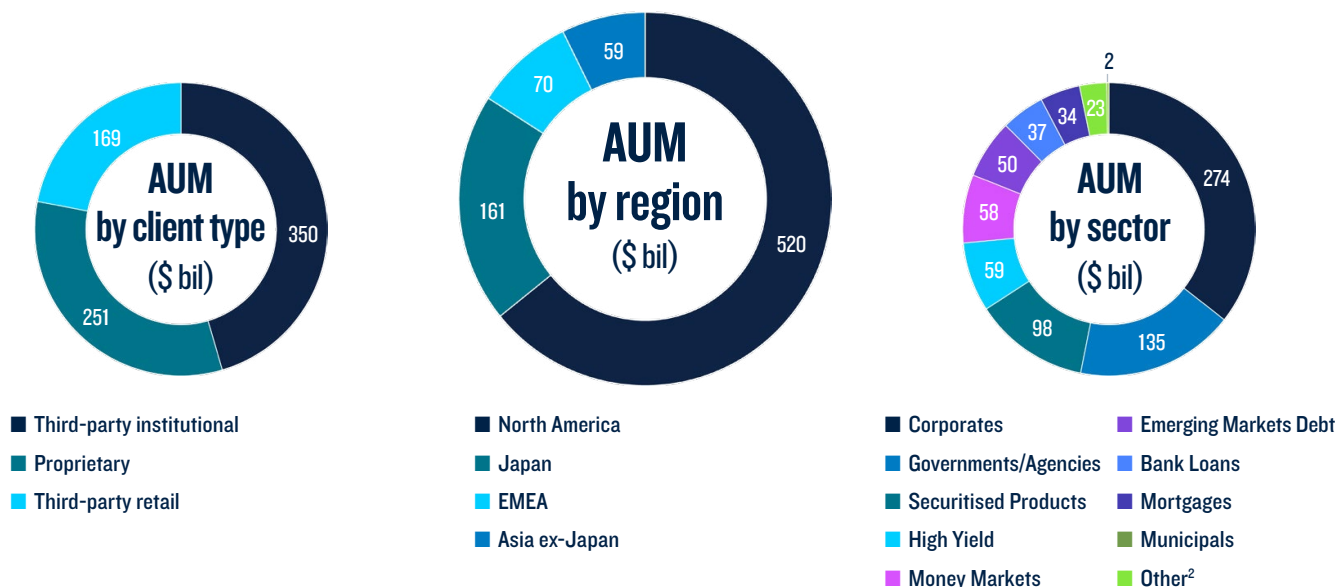


I. PGIM FIXED INCOME: FACTS & FIGURES

PGIM Fixed Income's business includes a wide breadth of fixed income strategies and products, including traditional multi-sector and single-sector fixed income strategies for institutional clients, insurance companies and mutual funds, as well as alternative products including long/short strategies and collateralised loan obligations (CLOs), with an emphasis on credit-related strategies.

With \$770 billion in assets managed globally, we serve 955 global clients with 366 investment professionals across the globe. PGIM Fixed Income has been recently recognised as a leader in fixed income, receiving industry awards for the full range of our global, U.S., European and Asian funds.

PGIM Fixed Income manages \$770 billion in assets under management, with expertise across a broad range of sectors¹



PGIM Fixed Income has experienced significant growth in assets under management over the last decade, from approximately US\$400 billion as of 31 December 2011 to US\$770 billion as of 31 December 2022. Through the same period we have seen significant growth in the number of institutional clients and employees, with 955 institutional clients and 1,119 employees as of 31 December 2022, compared to 270 institutional clients and 467 employees as of 31 December 2011.

Technology and Infrastructure

We have the resources necessary to maintain a comprehensive, technology-driven infrastructure. We invest significant resources in technology and information systems for research, portfolio construction and management, trading, portfolio administration, and compliance. As of 31 December 2022, 83 professionals in our internal quantitative analysis and risk management, as well as a 109-member applications development team, are focused on developing and maintaining technology-based quantitative research, risk management, and performance analysis analytics.

Ongoing investment in technology to support our global business objectives is a strategic priority for us. In the last 18 months, we have invested considerably through a multiphased project to update our data architecture and processes across the firm, with the goal of increasing the accuracy and performance. We also commenced a series of data and cloud initiatives aimed at improving the speed to deliver data to our investment desks and distribution teams. This series of initiatives has increased our capacity to ingest, consume, process, distribute and analyse data in our proprietary quantitative analytics, risk management and research tools, often with greater speed, accuracy, reliability and scalability.

¹ Assets as of 31 December 2022. Please see the Notice section for important disclosures, including risk. Source: PGIM Fixed Income. Assets under management (AUM) are based on company estimates and are subject to change. PGIM Fixed Income's AUM includes the following businesses: (i) the PGIM Fixed Income unit within PGIM, Inc., located in the USA; (ii) the public fixed income unit within PGIM Limited, located in London; (iii) PGIM Netherlands B.V., located in Amsterdam; (iv) locally managed assets of PGIM Japan Co., Ltd. ("PGIM Japan"), located in Tokyo; and (v) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore. Asset class breakdown based on company estimates and is subject to change.

² Other includes Japanese equities and Japanese real estate equities.

II. MANAGEMENT OF CONFLICTS OF INTEREST

Like other investment advisers, we are subject to various conflicts of interest in the ordinary course of our business. We strive to identify potential risks, including conflicts of interest, that are inherent in our business, and we conduct annual conflict of interest reviews. However, it is not possible to identify every potential conflict that can arise. When actual or potential conflicts of interest are identified, we seek to address such conflicts through elimination or disclosure of the conflict, or management of the conflict through the adoption of appropriate policies, procedures or other mitigants.

We have adopted various policies and procedures designed to address conflicts of interest. For example, we follow policies on business ethics, personal securities trading, and information barriers. In addition, we have adopted a code of ethics, allocation policies and conflicts of interest policies, among others, and have implemented supervisory procedures to monitor compliance with our policies.

Examples of Conflicts of Interest: Side-by-Side Management

The management of numerous client accounts on a side-by-side basis can create conflicts of interest. Some examples of side-by-side management and the related conflicts of interest are as follows:

- **Performance fees:** We manage accounts with asset-based fees alongside accounts with performance-based fees. This creates an incentive for us and our investment professionals to favour accounts for which we receive performance fees, and possibly take greater investment risks in those accounts, in order to bolster performance and increase our fees.
- **Affiliated accounts:** We manage accounts on behalf of our affiliates as well as unaffiliated accounts. We have an incentive to favour accounts of affiliates over others. Additionally, at times, our affiliates provide initial funding or otherwise invest in vehicles managed by us, for example by providing “seed capital” for a fund or account. Managing “seeded” accounts alongside “non-seeded” accounts creates an incentive to favour the “seeded” accounts to establish a track record for a new strategy or product. Additionally, our affiliated investment advisers from time to time allocate their asset allocation clients’ assets to us. We have an incentive to favour accounts used by our affiliates for their asset allocation clients to receive more assets from our affiliates.
- **Larger accounts/higher fee strategies:** Larger accounts and clients typically generate more revenue than do smaller accounts or clients, and certain of our strategies have higher fees than others. As a result, a portfolio manager could have an incentive when allocating scarce investment opportunities to favour accounts that pay a higher fee or generate more income for us (or which we believe would generate more revenue in the future).

These are some examples of side-by-side conflicts of interests. Please refer to the [PGIM Fixed Income Brochure³](#) for additional information.

We have developed policies and procedures reasonably designed to address the conflicts of interest with respect to our different types of side-by-side management. For example:

- Each quarter, the head of PGIM Fixed Income holds a series of meetings with the senior portfolio manager and team responsible for the management of each of our investment strategies. At each of these quarterly investment strategy review meetings, the head of PGIM Fixed Income and the strategy’s portfolio management team review and discuss the investment performance and performance attribution for client accounts managed in the strategy. These meetings generally are also attended by one or both of our Co-Chief Investment Officers, the Head of Quantitative Analysis and Risk Management or their designee and a member of our compliance group, among others.
- In keeping with our fiduciary obligations, our policy with respect to trade aggregation and allocation is to treat all of our client accounts fairly and equitably over time. Our Trade Management Oversight Committee, which generally meets quarterly, is responsible for providing oversight with respect to trade aggregation and allocation.
- Our compliance group periodically reviews a sampling of new issue allocations and related documentation to confirm compliance with our trade aggregation and allocation policy. In addition, our compliance and investment risk management groups review forensic reports regarding new issue and secondary trade activity on a quarterly basis. This forensic analysis includes such data as the:
 - number of new issues allocated in the strategy;

³ http://www.pgimfixedincome.com/pramerica/fi/pdf/adv/PGIM_Fixed_Income_Form_ADV_Part_2A.pdf

- size of new issue allocations to each portfolio in the strategy;
- profitability of new issue transactions;
- portfolio turnover; and
- metrics related to large and block trade activity.

- The results of these analyses are reviewed and discussed at our Trade Management Oversight Committee meetings.

These procedures are designed to detect patterns and anomalies in our side-by-side management and trading so that we may assess and improve our processes.

Examples of Conflicts of Interest: Affiliated Investments

To avoid conflicts of interest related to affiliated investments, we do not purchase securities issued by our parent company or our other affiliates for client accounts.

Examples of Conflicts of Interest: Gifts and Entertainment

Our employees may occasionally give or receive gifts, meals or entertainment of moderate value, subject to compliance with applicable laws and regulations (including the U.S. Foreign Corrupt Practices Act and the UK Bribery Act 2010) and rules of self-regulatory organisations. We have adopted policies to address the conflicts of interest related to gifts and entertainment, such as the appearance of having given or received something of value that influenced our business decisions or the business decisions of our clients. The policies require the reporting and preclearance of gifts, meals and entertainment given or received which exceed certain thresholds. In addition, our employees are prohibited from soliciting the receipt of gifts, meals or entertainment. Senior management periodically reviews summaries of gifts and entertainment activity to detect trends of abuse, conflicts of interest, or possible violations of the policy.

Examples of Conflicts of Interest: Proxy Voting

We accept the authority to vote securities held in our clients' accounts when our clients wish to provide us with this authority. Our policy is to vote proxies in the best economic interest of our clients. We do not receive a significant number of proxies since we primarily invest client assets in debt instruments. Please see the [PGIM Fixed Income Brochure⁴](#) for a more detailed description of our proxy voting policy.

Occasionally, a conflict of interest may arise in connection with proxy voting. For example, the issuer of the securities being voted may also be a client of ours. When we identify an actual or potential material conflict of interest between our firm and our clients with respect to proxy voting, the matter is presented to senior management who will resolve such issue in consultation with the compliance and legal departments.

⁴ http://www.pgimfixedincome.com/pramerica/fi/pdf/adv/PGIM_Fixed_Income_Form_ADV_Part_2A.pdf

III. TCFD METRICS

GHG emissions (tCO₂e attributed)

	Corporate GHG emissions (tCO ₂ e attributed)	Corporates as a % of total portfolio	% of corporate subset missing data
All portfolios*	34,573,353	55.39	28.51
Sample Global Corporate Bond Portfolio	43,469	97.12	16.83
Sample ESG Global Corporate Bond Portfolio	445	97.02	20.30
Sample Global High Yield Bond Portfolio	16,220	91.41	38.77
Sample ESG Global High Yield Bond Portfolio	2,679	84.14	36.63
Sample ESG Emerging Markets Corporate Bond Portfolio	1,338	87.90	36.23

Carbon footprint (tCO₂e attributed/\$M invested)

	Corporate carbon footprint (tCO ₂ e attributed/\$M invested)	Corporates as a % of total portfolio	% of corporate subset missing data
All portfolios*	127	55.39	28.51
Sample Global Corporate Bond Portfolio	71	97.12	16.83
Sample ESG Global Corporate Bond Portfolio	26	97.02	20.30
Sample Global High Yield Bond Portfolio	237	91.41	38.77
Sample ESG Global High Yield Bond Portfolio	49	84.14	36.63
Sample ESG Emerging Markets Corporate Bond Portfolio	97	87.90	36.23

Carbon intensity (tCO₂e attributed/\$M sales attributed)

	Corporate carbon intensity (tCO ₂ e attributed/\$M sales attributed)	Corporates as a % of total portfolio	% of corporate subset missing data
All portfolios*	327	55.39	28.49
Sample Global Corporate Bond Portfolio	224	97.12	16.83
Sample ESG Global Corporate Bond Portfolio	99	97.02	20.30
Sample Global High Yield Bond Portfolio	463	91.41	38.77
Sample ESG Global High Yield Bond Portfolio	99	84.14	36.63
Sample ESG Emerging Markets Corporate Bond Portfolio	252	87.90	36.23

Exposure to fossil fuels (% of MV)

	Corporate exposure to fossil fuels (% of MV)—revenue based	Corporates as a % of total portfolio	% of corporate subset missing data
All portfolios*	19.67	55.39	17.52
Sample Global Corporate Bond Portfolio	16.97	97.12	6.51
Sample ESG Global Corporate Bond Portfolio	13.12	97.02	7.12
Sample Global High Yield Bond Portfolio	14.65	91.41	29.60
Sample ESG Global High Yield Bond Portfolio	8.62	84.14	29.15
Sample ESG Emerging Markets Corporate Bond Portfolio	8.94	87.90	26.20

*Note: All Portfolios refers to all AUM of PGIM Fixed Income. The sample portfolios listed are only a subset of this AUM.
Source: MSCI as of 31 December 2022.

IV. PRUDENTIAL FINANCIAL, INC. (“PFI”)⁵

At the enterprise level, PFI, of which PGIM Fixed Income is a part, published its 2022 ESG Report, replacing the company’s annual Sustainability Report and underscoring PFI’s continued efforts to meet the evolving needs of its customers, employees, shareholders and communities and to fulfil the company’s purpose of solving the financial challenges of our changing world.

The full report can be found here: <https://www.prudentialesg.com/sustainability/default.aspx>

The UK Stewardship Code-Related Disclosures

PGIM Fixed Income became a signatory to the UK Stewardship Code in 2022. In support of our application and constant desire to improve our disclosures, we have included stewardship-related disclosures in our annual ESG report. Please see below for where you can find relevant information throughout the report.

Stewardship Code Principles	Relevant disclosures in the report	Page
Principle 1: Signatories’ purpose, investment beliefs, strategy, and culture enable stewardship that creates long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society.	• About PGIM Fixed Income	3
	• Appendix I. PGIM Fixed Income Facts & Figures	63
	• ESG Philosophy and Approach	5
	• Major ESG Updates in 2022	6
Principle 2: Signatories’ governance, resources and incentives support stewardship.	• Governance, Resources and Incentives to Support ESG and Stewardship	9
	• ESG Resources	12
	• Who We Are: ESG at PGIM Fixed Income , ESG Resources	8
	• Who We Are: ESG at PGIM Fixed Income , ESG Data Vendors & Partnerships	11
Principle 3: Signatories manage conflicts of interest to put the best interests of clients and beneficiaries first.	• Appendix II. Management of Conflicts of Interest	64
Principle 4: Signatories identify and respond to marketwide and systemic risks to promote a well-functioning financial system.	• ESG in Risk Management	15
	• Climate Risk Assessments	15
	• Engagement: With Investment Banks	53
	• Engagement: With Regulators/Policy makers	54
	• Engagement: With the Industry	57
Principle 5: Signatories review their policies, assure their processes and assess the effectiveness of their activities.	• Governance, Resources and Incentives to Support ESG and Stewardship	9
Principle 6: Signatories take account of client and beneficiary needs and communicate the activities and outcomes of their stewardship and investment to them.	• Appendix I. PGIM Fixed Income Facts & Figures	63
	• Engagement: With Issuers	36
	• Engagement: With Clients	34
Principle 7: Signatories systematically integrate stewardship and investment, including material environmental, social and governance issues, and climate change, to fulfil their responsibilities.	• ESG Integration	15
	• ESG in Risk Management	15
	• Climate Risk	15
	• Temperature Alignment	16
	• Case Studies on ESG Integration	18
	• ESG Impact	23
	• Case Studies on ESG Impact	24
	• Who We Are: ESG at PGIM Fixed Income , ESG Integration	13
	• Who We Are: ESG at PGIM Fixed Income , Climate Risk Integration	14
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	• Who We Are: ESG at PGIM Fixed Income , ESG Impact	18
	• Who We Are: ESG at PGIM Fixed Income , Climate Impact	21
	• Who We Are: ESG at PGIM Fixed Income , ESG Impact in Portfolio Construction	24

⁵ Prudential Financial, Inc. of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom, or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom.

Principle 8: Signatories monitor and hold to account service providers.	• Engagement: With Data Vendors	55
	• Who We Are: ESG at PGIM Fixed Income, ESG Data Vendors & Partnerships	11
Principle 9: Signatories engage with issuers to maintain or enhance the value of assets.	• Engagement: With Issuers	36
	• Who We Are: ESG at PGIM Fixed Income, Engagement Activities	26
Principle 10: Signatories, where necessary, participate in collaborative engagement to influence issuers.	• Engagement: With Investment Banks	53
	• Engagement: With the Industry	57
Principle 11: Signatories, where necessary, escalate stewardship activities to influence issuers.	• Engagement: With Issuers	36
	• Who We Are: ESG at PGIM Fixed Income, Engagement Activities	26
Principle 12: Signatories actively exercise their rights and responsibilities.	• Engagement: With Issuers	36
	• Who We Are: ESG at PGIM Fixed Income, Engagement Activities	26
	• Who We Are: ESG at PGIM Fixed Income, Transaction Structures and Documentation Packages	15
	• Who We Are: ESG at PGIM Fixed Income, Impairment Rights	16

Task Force on Climate-Related Financial Disclosures (TCFD) Related Disclosures

TCFD recommendations	Relevant disclosures in the report	Page
Governance	• Governance, Resources and Incentives to Support ESG and Stewardship	9
Strategy	• Climate Risk Assessments	15
	• Who We Are: ESG at PGIM Fixed Income, Climate Risk Integration	14
Risk management	• Governance, Resources and Incentives to Support ESG and Stewardship	9
	• Temperature Alignment	16
	• Climate Risk Assessments	15
	• Who We Are: ESG at PGIM Fixed Income, ESG in Risk Management	16
	• Who We Are: ESG at PGIM Fixed Income, Climate Risk Integration	14
Metrics and targets	• Climate Risk Assessments	15
	• Appendix III: TCFD Metrics	66
	• Who We Are: ESG at PGIM Fixed Income, Climate Risk Integration	14
	• Who We Are: ESG at PGIM Fixed Income, ESG Impact in Portfolio Construction	24

NOTICE: IMPORTANT INFORMATION

Source(s) of data (unless otherwise noted): PGIM Fixed Income, as of 31 December 2022.

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