PGIM

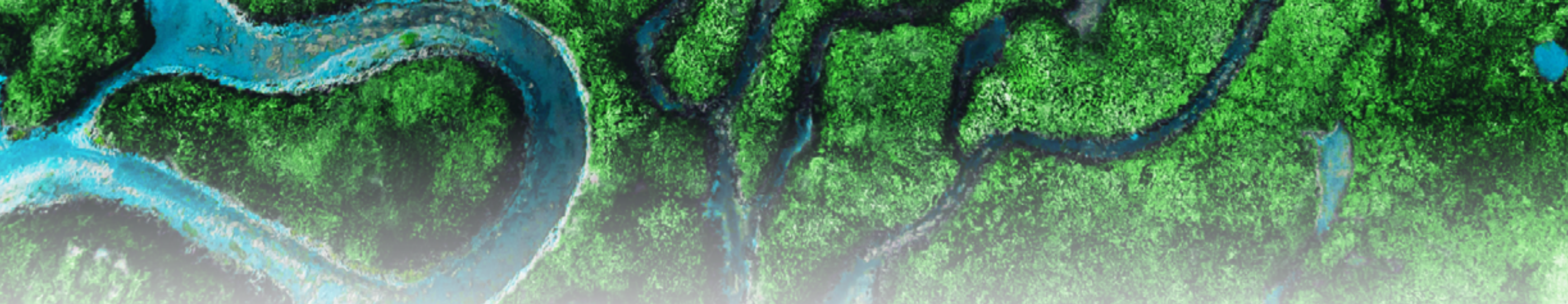
ESG

# ESG INVESTING REPORT

## 2022

Published July 2023

# CONTENTS



# INTRODUCTION

**PGIM's inaugural ESG investing report comes at a contentious time on the topic and an increasing bifurcation of ESG investing globally. In the United States, several states are limiting ESG investing, citing concerns that it places policy and social objectives ahead of financial ones. In Asia, ESG investing is developing fast, while in Europe, demand for ESG products continues to grow, supported by an ambitious and evolving regulatory framework.**

Despite the varying levels of adoption and debate on ESG, PGIM as a fiduciary is responsible to our clients for investing their assets according to the mandate they provide us and evaluating all financially material risks in every investment, including those risks posed by ESG factors. And for many of our clients that I engage with globally, it is clear to me that they are increasingly looking to invest in line with their values and sustainability goals, and many would like to see their capital generate environmental and social benefits alongside financial returns.

Make no mistake, the companies we invest in are increasingly concerned about the risks and are recognizing the importance of favorable climate conditions, the availability of natural resources, and stable societies for their bottom lines. Additionally, globally, we are seeing governments, regulators and policymakers propose increasingly interventionist measures to address these risks.

However, for PGIM, ESG is not only about managing risks. It is also an important lens for identifying investment opportunities arising from the efforts to decarbonize and protect the sustainability of our world's natural resources, as well as from societal shifts toward goals such as more sustainable consumption, health and wellness, and gender equality.

With our multi-manager model, active investing approach, and more than $1.2 trillion in assets under management globally, PGIM has the scale, breadth and deep expertise to help clients generate investment returns while meeting their ESG objectives. Each of our autonomous asset management businesses specialize in particular asset classes with a focused investment philosophy, allowing us to develop a deep understanding of how individual assets will be impacted by our rapidly changing world. For PGIM, ESG analysis is an integral part of our investment processes, including bespoke ESG analytical frameworks, research, and assessment capabilities that help provide investment solutions designed to achieve both financial and sustainability objectives.

None of this is new to PGIM. Our parent company, Prudential Financial, Inc. (PFI), was founded on the belief that financial security should be within reach for everyone, a commitment we have embraced for nearly 150 years. Embedded in that belief is a deep sense of responsibility to our clients, our employees, and the communities in which we operate. Today, PGIM manages a $1 billion impact investing portfolio that provides capital to social enterprises and financial intermediaries and invests in real assets in the areas of financial inclusion, education, affordable housing and transformative infrastructure.

In this report, you will find real-world examples of how our ESG approach has improved the value of our investments across real assets, helped us identify hidden opportunities, served client mandates and helped us attract and retain top industry talent.

Our hope with this report is to create greater transparency around our actions as responsible stewards of capital for our clients and those who entrust us to help secure a brighter future.

David A. Hunt
President and CEO, PGIM

# ABOUT PGIM

**PGIM is the global asset management business of Prudential Financial, Inc. (PFI)[1] We manage more than $1.2 trillion of assets under management (AUM).[2] PGIM offers a broad range of investment solutions across asset classes from public debt and equity to real estate, alternatives, and multi-asset quantitative solutions to clients throughout the Americas, Europe and Asia Pacific.**

With offices in 18 countries and more than 1,400 investment professionals, PGIM provides investment capabilities to three primary client groups:

- PFI's General Account
- Institutional investors, including 75 of the largest 100 U.S pension funds[3] and 162 of the largest 300 pension funds worldwide,[4] many of whom we have had relationships with for longer than 20 years
- Retail investors

PGIM has a multi-manager structure with five autonomous investment businesses, each specializing in particular asset classes, as well as a fund and distribution platform through PGIM Investments, which provides actively managed investments to retail clients, and PGIM Portfolio Advisory which leverages PGIM's expertise to develop and implement asset-liability management and asset allocation strategies for institutional clients. Each business is managed by an independent leadership team, responsible for delivering investment and business performance, while supported by and adhering to PGIM's global standards for financial controls, risk management, human resources management and compliance. PGIM's leadership team includes the heads of each business, as well as the functional heads (Legal, Compliance, Operations, Finance, Diversity, Equity and Inclusion ("DEI"), Marketing, Communications, HR and Risk), with David Hunt as president and CEO. We believe our multi-manager structure, which allows each investment business to leverage its in-depth asset class expertise and develop tailored and client-centric investment processes, is integral to PGIM's track record of pursuing long-term performance.

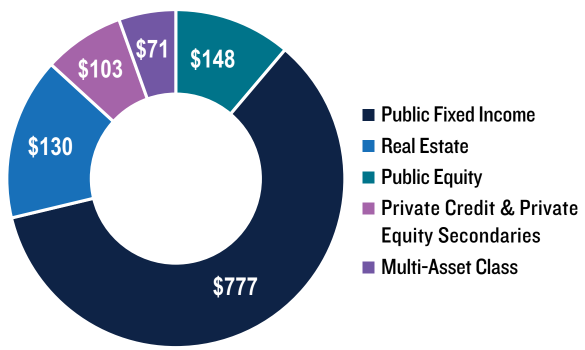
Our investment products and services are offered through the following businesses:

| | | |
|---|---|---|
| PGIM FIXED INCOME | $770 BILLION[5] | A global public and alternative fixed income manager |
| JENNISON ASSOCIATES | $164 BILLION[6] | A fundamental active equity and fixed income manager |
| PGIM PRIVATE CAPITAL | $96 BILLION | A manager of private fixed income and alternative portfolios |
| PGIM QUANTITATIVE SOLUTIONS | $86 BILLION[7] | A quantitative equity and multi-asset solutions manager |
| PGIM REAL ESTATE | $208 BILLION[8] | A global manager of real estate equity, debt, and securities strategies with 4,400 owned and financed properties |
| PGIM INVESTMENTS | $157 BILLION[9] | A fund adviser and manufacturer of fund products and distributor of U.S. retail mutual funds, ETFs and separately managed accounts and UCITS in select countries |
| PGIM PORTFOLIO ADVISORY | | A provider of asset-liability management and asset allocation capabilities to institutional clients |

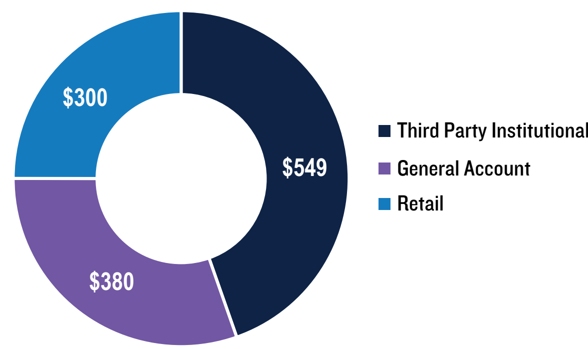
1 Prudential Financial, Inc. of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom.
2 All AUM stated is as of 12/31/2022.
3 Based on PGIM client list as of December 31, 2022 compared to U.S. Plan Sponsor rankings in Pensions & Investments as of September 30, 2021, published February 2022.
4 Based on PGIM client list as of December 31, 2022 compared to P&I/Thinking Ahead Institute's Top 300 Global Pension Funds ranking, data as of December 31, 2021, published September 2022.
5 AUM total includes $16 billion in assets managed by PGIM Fixed Income for affiliated businesses, $79 billion in PGIM Japan assets, and $127 million of which is sub-advised by PGIM Private Capital.
6 Includes equity $112 billion, fixed income $52 billion.
7 The AUM total includes AUM assets for both PGIM Quantitative Solutions LLC and PGIM Wadhwani LLP. PGIM Wadhwani LLP operates as a part of the PGIM Quantitative Solutions business, but is a separate legal entity. PGIM Quantitative Solutions' and PGIM Wadhwani's respective investment platforms, however, operate independently of each other.
8 AUM total is reflected as gross and includes assets under administration. Net AUM is $134 billion and AUA is $49 billion.
9 PGIM Investments AUM as of 12/31/2022 includes U.S. mutual funds: $121.0B (excluding money markets and funds of funds), closed-end funds: $1.4B, ETFs: $4.2B, UCITS funds: $6.5B, PGIM Custom Harvest: $2.2B, and Asia Local: $22.3B. Asia Local AUM includes Everbright PGIM (a joint venture in China in which PGIM has a 45% ownership stake), PGIM SITE, and PGIM India.

## BREADTH OF EXPERTISE ACROSS MULTIPLE ASSET CLASSES AND CLIENT GROUPS[10]

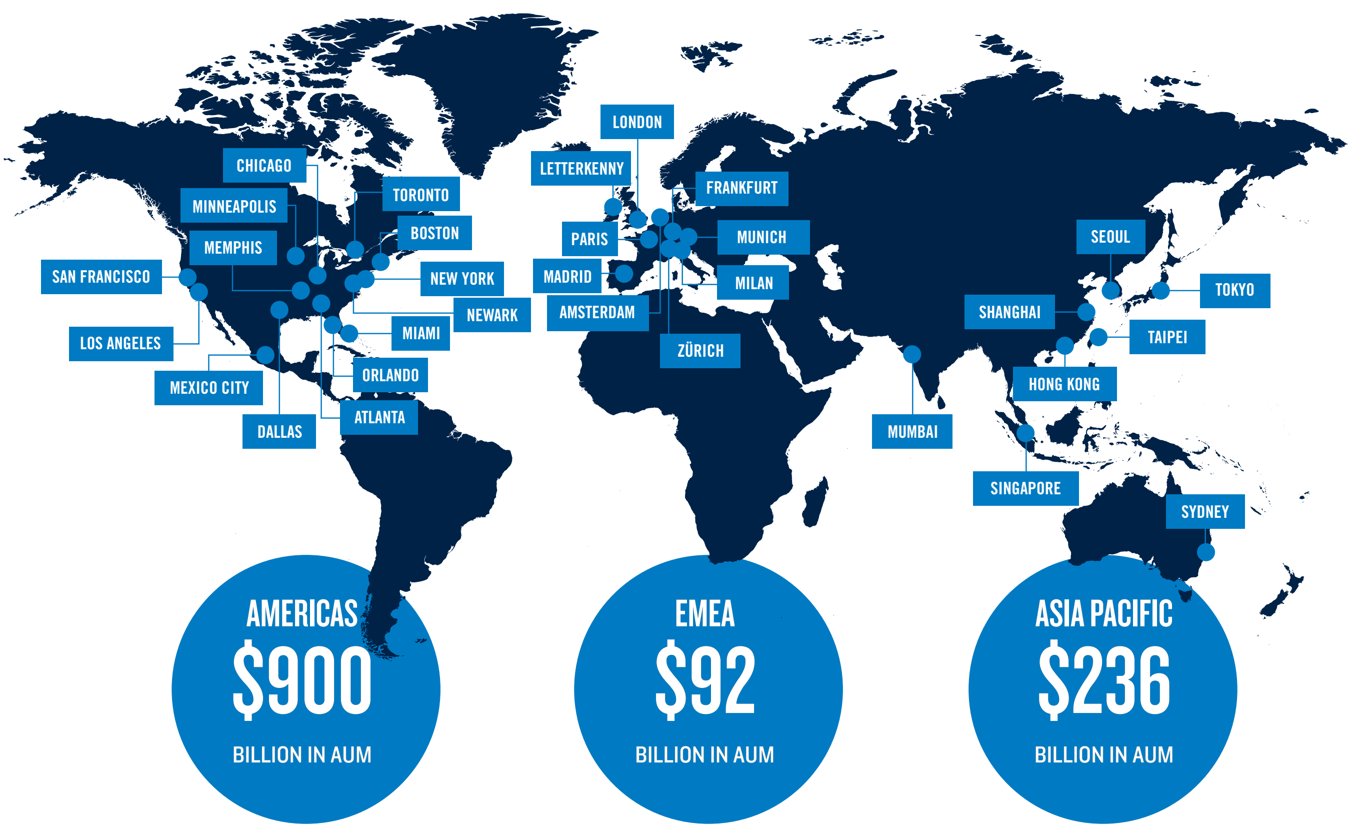
### AUM by asset class[11]
(US$ Billions)



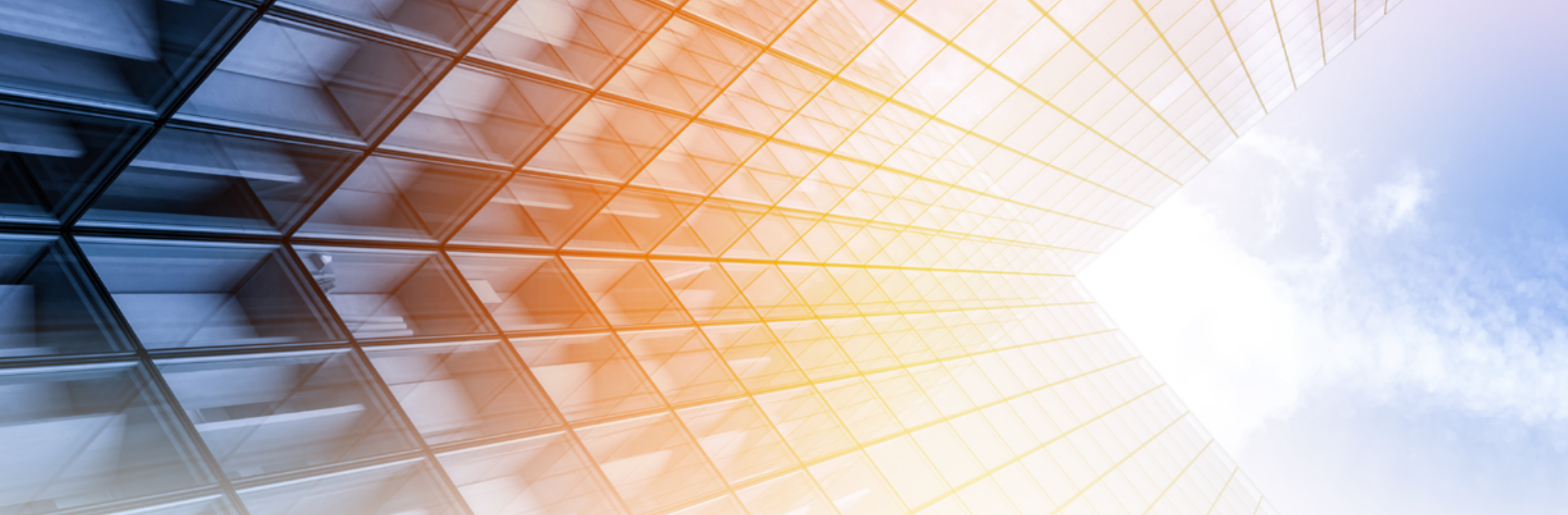

### AUM by client type
(US$ Billions)




## OUR GLOBAL FOOTPRINT ACROSS KEY INVESTMENT CENTERS OF THE WORLD[12]




10 Source: PGIM By the Numbers Q4 2022.
11 For Real Estate $130 billion equals $208 billion. Gross AUM less $49 billion AUA, less $3 billion GRES, less $25 billion leverage = $131 billion (rounded to $130 billion)
12 Source: Business Overview Q4 2022. AUM as of December 31st, 2022.



# ESG GOVERNANCE, PHILOSOPHY AND APPROACH

## PGIM'S ESG PHILOSOPHY

**At PGIM, we believe asset class specific ESG frameworks and integration represent the most credible approach to ESG from a fiduciary and client perspective. PGIM's multi-manager model allows our investment businesses to leverage their deep asset class expertise to develop credible and tailored ESG frameworks and approaches reflecting their investment processes and addressing their clients' and investors' needs while following an overarching PGIM-wide ESG philosophy. PGIM's ESG philosophy is based on our convictions that:**

- Analyzing investment risks and opportunities arising from material ESG factors leads to better long-term investment outcomes. As such, using ESG analysis to manage investment risk (known as ESG integration) is a fundamental component of generating attractive risk-adjusted returns.
- The global transition to environmental and social sustainability provides significant investment opportunities combined with positive impact.
- Active stewardship is integral to influencing investment outcomes and promoting a well-functioning financial system.
- Strong ESG capabilities and expertise are essential to meeting the needs of clients whose investment objectives go beyond risk/return optimization to include environmental and/or social goals.

At PGIM, we do not view ESG as an investment philosophy, an investment style or an investment product but rather as an investment tool. This ESG investment tool can be used to serve different purposes including:

- Managing investment risk (ESG integration).
- Identifying and/or creating attractive investment opportunities.
- Helping clients invest in line with their values, views and/or preferences.
- Helping impact-seeking clients achieve real-world impact.

Our ESG philosophy is client-centric and consistent with the values we subscribe to across PGIM, where operating to high ethical standards, with robust risk management and a diverse and stable team-based culture, has long been vital to our collective success. It also complements the longstanding history and principles of our parent company, PFI, and its ongoing commitment to building long-term value through sustainability.

> **Given PGIM's global scale, footprint and resources, we have immense potential to help our clients address many of today's investment challenges and achieve their investment objectives, whether these are focused purely on risk-adjusted returns or go beyond risk/return optimization to include sustainability focus."**
>
> **EUGENIA UNANYANTS-JACKSON**
> **Global Head of ESG, PGIM**

# ESG GOVERNANCE STRUCTURES

All PGIM businesses share our common ESG philosophy. When it comes to implementation, we leverage the strength of our multi-manager model and our global scale to offer clients the in-depth, asset-class-specific approaches to ESG implementation that they require. For those clients with specific ESG objectives or preferences, we provide customized ESG options to meet their needs.

## ESG governance of PGIM's businesses

Each investment business has its own dedicated ESG governance structure, comprising senior leaders, to guide ESG strategy and oversee its implementation.

PGIM FIXED INCOME

PGIM Fixed Income's ESG approach is governed by the ESG Policy Committee, which focuses on high-level policy decisions and is co-chaired by the Head and the President of PGIM Fixed Income, and the ESG Ratings Sub-Committee, which is primarily responsible for overseeing the methodology and quality of ESG research and is chaired by the Head of Credit. Together these committees are supported by three working groups: Client Advisory Group, Portfolio Management, and Technology and Data. The two co-heads of ESG Research are responsible for managing the strategic integration of ESG into the business and are both members of the PGIM Fixed Income ESG Policy Committee and the ESG Ratings Sub-Committee.[13]

PGIM REAL ESTATE

PGIM Real Estate's ESG protocol is implemented worldwide through a combination of global leadership and regional support teams. The Global ESG Council is the highest-level committee within the ESG governance structure and consults on vision, strategy and policies across the firm with oversight of its global ESG policy, which covers its equity, debt and securities businesses. The global head of ESG oversees overall ESG implementation across the platform and at the regional and organizational levels. The global director of ESG implements the global ESG program by guiding strategy with a view to accelerate reduction of the worldwide environmental footprint and increase the impact of its social initiatives. Regional ESG Councils identify the regional opportunities, promote tools for implementation and measure and report on regional progress. The regional directors of ESG are responsible for program implementation at their respective regional levels. The U.S. Debt ESG Council, established in 2020, further integrates ESG processes into PGIM Real Estate's debt businesses and consults on debt-specific goals, targets and policies.[14]

13 For more information regarding the responsibilities and composition of the PGIM Fixed Income ESG Committees, see the PGIM Fixed Income ESG Report.
14 For more information regarding the responsibilities and composition of the PGIM Real Estate ESG Committees, see the PGIM Real Estate ESG Report.

Jennison Associates' ESG approach is governed by the Jennison Management Team. This executive team, which comprises Jennison's Chief Executive Officer and Chief Operating Officer and the heads of investment strategy, product and strategy, and global distribution is responsible for the oversight and accountability of the firm's overall ESG strategy.[15]

PGIM Private Capital's ESG approach is governed by the ESG Committee which includes the Senior Managing Director and Head of PPC as well as senior leaders from Credit, Real Assets, Alternatives, Institutional Asset Management and Global Corporate Finance. The ESG objectives are set and overseen by the ESG Committee and senior leaders from the Central Credit Team and dedicated ESG leads support their implementation.[16]

PGIM Quantitative Solutions' ESG Executive Council comprises senior firm executives who oversee PGIM Quant's ESG investing and stewardship efforts. The Council meets on a quarterly basis to advise on and oversee ESG investment policies, set ESG strategic priorities and initiatives, and shape the ESG research agenda.[17]

Across these five investment businesses, over 30 ESG specialists drive the implementation of each business's ESG strategy and work closely with investment, client servicing, product development, legal, compliance and other teams within each business.

## PGIM ESG Council

While each investment business is responsible for the governance and execution of its own ESG approach and product capabilities, the businesses collaborate and align their approaches, to the extent possible by their asset class, through the PGIM ESG Council.

The PGIM ESG Council comprises the ESG heads or leads from each of the investment businesses, together with representatives from our retail distribution business, PGIM Investments, and PGIM's central functions including Strategy, Legal, Marketing, Communications, Operations & Innovation, and institutional and retail client advisors and relationship managers. The ESG Council is chaired by PGIM's Global Head of ESG and serves as an active forum to share knowledge, insights, and best practices; to provide inputs and develop PGIM-wide ESG policies and processes; to assess and collectively respond to ESG-related regulatory developments; to contribute to developing PGIM's position on emerging ESG topics; and to address ESG-related matters important for affiliates or PGIM as a whole.

The Council meets monthly and is supported by PGIM's central ESG Strategy Team, headed by PGIM's Global Head of ESG. The PGIM ESG Strategy Team plays a key role in shaping and coordinating ESG strategy and approach across PGIM, facilitating cross-PGIM collaboration on ESG-related matters and helping businesses to enhance their ESG capabilities and expertise, as well as engaging with clients, consultants, regulators and industry associations.


15 For more information regarding Jennison Associates ESG Governance see: https://www.jennison.com/esg
16 For more information regarding PGIM Private Capital ESG Committees see: https://www.pgim.com/private-capital/esg-approach
17 For more information regarding PGIM Quant see: https://www.pgimquantitativesolutions.com/esg-policy

# ESG IMPLEMENTATION APPROACH

As active investors, we strive to embed ESG considerations and best practices throughout our investment, risk and talent management processes as and where appropriate while delivering investment performance to our clients. The common features of ESG implementation approaches by PGIM businesses include the following:

- **ESG integration is a fundamental component of our investment process across asset classes.** We believe analysing investment risks and opportunities arising from financially material ESG factors leads to better risk-adjusted returns and long-term investment outcomes.
- **We draw on deep ESG expertise underpinned by extensive proprietary research and analytics.** As ESG materiality varies along the investment spectrum—depending on risk appetite, return expectations or time horizon of investments—we refrain from blanket assessments or big statements. We focus on targeted and detailed ESG analysis grounded in robust research, which creates a tangible impact on our investment process.
- **ESG is a critical lens for identifying strong investment opportunities.** We believe the societal shift toward greater environmental and social sustainability offers significant investment opportunities that can be realized through active investing in environmentally and socially positive assets.
- **Enhancing our ESG capabilities and product offering helps clients achieve their sustainability and climate objectives.** As a growing number of our clients hold investment objectives that go beyond risk/return optimization to include environmental and/or social goals, our investment businesses develop tools and solutions to help clients achieve all of their investment objectives, financial and ESG.[18]
- **Active stewardship is integral to safeguarding and enhancing the value of our investments.** As stewards of our clients' assets, we conduct our engagement and proxy voting activities in a manner that protects and improves investment performance as material ESG issues are successfully addressed, and ESG opportunities are capitalized on by the management of our investee companies or assets.
- **We leverage the strength of our multi-manager model and our global scale.** Drawing on the expertise of our credit and equity analysts, portfolio managers, underwriters and real estate investment teams, and supported by our ESG specialists, PGIM affiliates have developed analytical frameworks, assessment tools and implementation approaches tailored to their asset class. This enables us to offer clients asset-class specific approaches to ESG implementation and customized ESG solutions across public and private markets.

Furthermore, as a business we recognize that a robust approach toward managing the ESG risks and impacts of our own business is important for effective delivery of our products and services.

- **Our businesses depend upon maintaining a robust and resilient physical infrastructure,** across global locations, that can handle the impacts of a changing climate and the transition toward a low-carbon economy. Given that our headquarters and many of our investment businesses are co-located with our parent company PFI, we are implementing measures focused on building resilience and reducing emissions, water consumption and waste as set out under PFI's environmental program and in line with PFI's operational net-zero by 2050 commitment.
- **We have a long-held commitment to advancing diversity, equity and inclusion,** rooted in the belief that this is not just the right thing to do, but is a prerequisite for PGIM's success and sustainability. Our diversity, equity, and inclusion (DEI) efforts are aimed at attracting, developing and retaining a diverse workforce supported by an inclusive culture.
- **PGIM Sustainable Investing Group's Impact and Responsible Investing portfolio (IRI)** encompasses $1.17 billion in active investments in partners and projects that tackle pressing societal issues.

18 Not all PGIM businesses currently offer dedicated ESG strategies and products.

# ESG RESEARCH & INVESTMENT PROCESSES

**As active investors, in-depth research and analysis underpin our investment decisions. PGIM businesses research and analyze financial materiality of ESG factors for their investments with a primary objective of generating strong risk-adjusted returns for clients. Across the businesses, fundamental, quantitative, underwriting, and real estate investment teams are responsible for incorporating ESG factors that are relevant and material to their investments into investment analysis and due diligence processes, supported by their respective ESG teams.**

Financially material ESG risks/opportunities may impact our investment processes in different ways. For example, they may affect investment theses, internal ratings/scores, relative value assessments, asset-level risk assessments, and portfolio weightings, as appropriate for each PGIM business and its respective investment processes.[19] They will also influence how the investment businesses use active stewardship, including engagement and proxy voting, to help safeguard and enhance the value of their investments. Our focus is on ensuring that ESG input into our investment research, analysis and decision-making is supported by high-quality data and analytics. We are evolving our methodologies and approaches as ESG data and materiality of ESG factors for our investments change over time.

The ESG research and integration processes necessarily differ among the investment businesses as they reflect the unique features of their respective asset classes, investment platforms and investment processes. As financial materiality of ESG factors has many variables, we refrain from blanket assessments, instead focusing on rigorous ESG analysis grounded in robust research and with a tangible impact on our investment process.

Our investment businesses prefer to be on the front foot, understanding and responding to material investment considerations arising from environmental, social and governance factors. For example, we know that climate change will impact the economies and markets we operate in and will create both immense uncertainty and opportunity.[20] We believe longer-term perspective and robust investment analysis is required to develop the nimbleness and foresight to seize the opportunities and navigate the risks of changing climate.

PGIM businesses' approach to understanding and managing climate-related risks includes:

- Identifying material physical and transition climate risks in relation to our investments.
- Conducting investment-level analysis and, where needed, engaging with relevant stakeholders to assess the extent of vulnerability to climate risks and measures taken to mitigate these.
- Identifying investment opportunities related to the reduction of carbon emissions and facilitating transition to a low-carbon economy, as well as building resilience to changing climate across different sectors and geographies.
- Integrating available climate data in the investment risk monitoring and client reporting processes.

19 Not all examples are applicable to all PGIM businesses.
20 Refer to Weathering Climate Change (2021) part of the PGIM Megatrends series for more information. The research draws from a proprietary survey of 100 global institutional investors, as well as thoughts from leading academics, economists, policymakers, scientists and climate change investors. Insights also draw from more than 45 investment professionals across PGIM's fixed income, equity, real estate, private debt and alternatives asset managers.

When considering climate risks, PGIM businesses evaluate the most likely risk channels for issuers in their portfolios. This can vary depending on an issuer's industry, geography of operations, and/or specific circumstances, as well as the time horizons involved. Considerations of physical risks of climate change are embedded into investment analysis for real assets and are also analyzed in relation to investee companies. Being active investment managers, PGIM businesses consider both short-term and longer-term risks. PGIM businesses have access to data, analytical tools and other resources to undertake analysis in a way that is most appropriate for their respective asset classes and their investment processes.

PGIM businesses have access to and use a range of climate metrics from different data providers. We find some metrics, such as emissions data (scopes 1, 2 and 3), carbon intensity and carbon footprint that are generally more available and have better-defined methodologies, as helpful with assessing transition risks. However, we are careful about using some of the more subjective metrics, particularly those commonly used for climate scenario analysis, as we find these are often oversimplistic and require additional validation. Some of our investment teams are also exploring the use of forward-looking indicators, such as implied temperature rise. While we have access to top-down climate models, we believe the most decision-useful information comes from issuer-level analysis, combining climate data with forward-looking company information and fundamental analysis.

We are expanding climate-related data and analytics and deepening our understanding of physical and transition risks and how these are most likely to manifest in relation to our private and public markets investments. We are also exploring different approaches to climate scenario modelling with a view to using those to gain investment-relevant insights. These developments will further inform our investment process and aid our clients in enhancing the resilience of their portfolios.

The examples below illustrate how the investment businesses apply their varied approaches to assessing, evaluating and mitigating ESG investment risks, including climate risks.

## PUBLIC FIXED INCOME

Our public fixed income manager, PGIM Fixed Income, considers integration of financially material ESG factors into its investment analysis and decision-making processes as part of its fiduciary duty, which is why it does so across all of its investments, covering both traditional (non-ESG) and ESG strategies.

The business believes financially material ESG risks and opportunities impact the performance of investment portfolios, and that fully analyzing these ESG factors is critical to its fiduciary duty to generate higher risk-adjusted returns for its clients. It defines "ESG risk" and "ESG opportunity" as an environmental, social or governance event or condition that could directly cause a material negative or positive impact on the financial and/or economic value of a specific investment. Based on guidance from an eight-strong team of ESG specialists, 100+ fundamental research analysts incorporate these credit-material ESG factors directly into their fundamental credit ratings.

Not all ESG factors will be considered credit material for every issuer, as they can depend on the issuer's industry and activities, as well as its unique circumstances. Therefore, analysts will undertake detailed quantitative as well as qualitative research on credit-material ESG factors using the issuer's own materials, third-party ESG research and data providers, and alternative data sources (including, for example, NGO analyses, governmental and inter-governmental studies). They may also supplement their analysis with engagement with the issuer.

The analysis of governance is specific to asset class and sector and does not follow a "checkbox" approach. Rather, analysts undertake a holistic assessment of how the company is run and whether it has sufficient checks in place to limit relevant downside governance risks. This may include an assessment of the following issues: alignment of interests between management, controlling shareholders and other providers of capital; related-party transactions; board quality, effectiveness and oversight; management incentives; audit and accounting issues; quality of risk management; business ethics and conduct issues (e.g., bribery and corruption, anti-competitive practices, and advertising/sales practices); and supply chain sustainability practices. For the purposes of the SFDR regulation,[21] analysts will also use a dedicated "SFDR good governance" framework to evaluate good governance focusing on the four main aspects of sound management structures, employee relations, remuneration of staff, and tax compliance.

The detailed quantitative as well as qualitative analysis of environmental factors may include the spectrum of issues from climate change (both from a transition and physical risk perspective) to pollution of air, water or land; harm to biodiversity through changes in land use, deforestation and ecosystem damage; energy inefficiency; generation and poor management of hazardous and non-hazardous waste; and high water consumption/withdrawal needs, especially in water-stressed areas.

21 The Sustainable Finance Disclosure Regulation (SFDR) is a European regulation introduced to improve transparency in the market for sustainable investment products, to prevent greenwashing and to increase transparency around sustainability claims made by financial market participants.

The analysis of social risks may include poor occupational health and safety and process safety; poor product safety and quality; privacy and data security weaknesses; poor labor relations and/or human capital management, including diversity and inclusion; breaches of employee rights/labor rights; human rights violations; child labor/forced labor; and infringements of rights of local communities and indigenous populations.

This analysis is conducted across all sectors. In addition to corporate issuers, sovereign issuers, securitized credit and municipal debt are also assessed for ESG factors. For the analysis of sovereign issuers, ESG issues feature prominently, and an important focus is put on macroeconomic stability to include pertinent macroeconomic strengths and vulnerabilities as well as debt sustainability. The sovereign ratings framework also includes a comprehensive assessment of qualitative aspects that guide policy making. These aspects include institutional strengths and weaknesses, potential governance issues, as well as social and environmental issues that could affect relevant macroeconomic variables. While the relevant ESG issues are considered, these factors are always considered within a broader macroeconomic context.

ESG is also core to the analysis of securitized credit. Given the nature of these products, governance is particularly relevant to the credit analysis, both in terms of the deal's sponsor or originator, as well as the terms of the deal itself. Understanding the terms and conditions of indentures, contracts, prospectus supplements and related transaction documents is a central part of due diligence relating to securitizations. In the new issue context, depending upon the sector and specific investment opportunity, credit analysts may negotiate transaction terms with issuers and sponsors to improve credit protections and governance on behalf of their clients. This may include a request for enhanced reporting packages, and analysts may actively negotiate transparency provisions if they feel the proposed or existing reporting is deficient for our requirements. Environmental and social considerations are also assessed. For instance, environmental hazards and transition risks can have significant impact on the analysis of products backed by real estate. Specific to social considerations, the quality of servicing, as well as the fair treatment of borrowers, are often key components to consider in deals backed by consumer-facing loans.

### CASE STUDIES

## ESG INTEGRATION IN PGIM FIXED INCOME

### INVESTMENT GRADE – EUROPEAN FINANCIAL SERVICES GOVERNANCE RISKS

The issuer in the Financial Services sector 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 mis-selling and poor anti-money laundering policies contributed to the perception of "ongoing governance issues" and caused spreads to widen. Our analysis led us to conclude the issuer's aggressive risk-taking culture and legacy litigation issues are largely in the past. We felt the historical lapses in corporate governance had been adequately addressed and the bonds were being overly penalized.

Therefore, we thought spreads looked attractive and the market was overpricing these ESG risks. Our ESG analysis influenced our decision to support the name in both primary and secondary markets.

### SOVEREIGN – SOUTH AMERICAN EMERGING MARKET CLIMATE TRANSITION

This issuer's economy is exposed to the risks of more frequent and more severe droughts as a result of climate change. Other tail risks associated with climate change include extreme heat and dramatic ecosystem changes, which would also further exacerbate issues of drought (among other things). At this juncture, the issuer does not seem to be taking the necessary steps to weather this type of shock without material disruptions. 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), 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 (nearly 5% of GDP), manageable external macro imbalances and a solid reserve position ($357 billion, or about 22% of GDP.)

With regard to climate analysis, PGIM Fixed Income considers that climate change and the associated policy and regulatory response are key risk factors that should be integrated directly into fundamental, bottom-up analysis.

Given the importance of climate analysis in its fundamental credit analysis, PGIM Fixed Income dedicates considerable resources to accessing the best information, data and analytical tools to assess and monitor climate-related risks/opportunities. The business believes climate risks are best assessed at the issuer level, rather than the portfolio level given the weaknesses in climate models.[22] Testing conducted using third-party data providers for Climate Value-at-Risk (Climate VaR) has demonstrated that results are oversimplified and unhelpful in decision-making for active investors. These models are generally biased toward industries with concentrated emissions, and do not capture an issuer's capacity and willingness to adapt. The business is therefore dedicating resources to exploring new sources of data, including emerging methodologies for calculating Climate VaR.

In measuring climate risks at the issuer level, analysts take account of "physical" risks (for example, the impact of severe climate events leading to business disruption or investment losses) as well as "transition" risks, which pertain to the risk to investments as the world's economies decarbonize. The issuer's exposure to climate risk and its financial impact is assessed based on factors such as regulatory changes, GHG emissions footprint and intensity, physical location of key assets, and credible targets and plans to mitigate risk. Research focuses on sectors with high direct exposures to the physical and transition risks of climate change, including those exposed to supplying or consuming fossil fuels, carbon-intensive industrials (for example, those producing or using steel, cement and aluminum) and the agriculture sector. They also monitor regulatory developments and the potential impact on issuers; identify sub-industries and issuers with higher resilience and adaptation capacity; identify those with a credible strategy for transitioning toward lower-carbon business models, and explore indirect climate risk vulnerabilities in supply chains.

For sovereigns, climate risk exposure and the mitigation/adaptation capacity of specific countries have been analyzed to consider the potential impact of future repricing of sovereign debt around climate risk. Climate risk associated with underlying assets or asset pools is considered for securitized assets, and the time frame over which climate risks are likely to materialize is also taken into account. Sectors and issuers likely to benefit from or contribute to a low-carbon transition are identified and monitored.

This bottom-up, fundamental credit approach to ESG provides a holistic perspective on all issuers—corporate, sovereign or structured—and, rather than considering credit-material ESG risks and opportunities in isolation, they are directly integrated into the fundamental credit ratings and thus into relative-value assessments. This means that portfolio managers take ESG factors into account when making their investment decisions and ESG factors form part of a holistic picture of the risk/opportunity of each issuer's credit.

# PUBLIC EQUITIES

## Jennison Associates

Jennison's approach to ESG is anchored by three areas of primary focus—Research, Engage and Monitor. Evaluation of material ESG issues is integrated throughout Jennison's investment process and may influence its investment theses, portfolio weightings, proxy voting, and company engagement. Jennison's approach to ESG integration is in keeping with the holistic nature of its investment process: it does not specifically promote E, S, and G characteristics for the majority of its products with the exception of ones with specific ESG objectives and guidelines.

### RESEARCH

- Investment professionals identify material ESG factors as part of their fundamental research
- ESG integration helps mitigate risks or capture potential
- Investment professionals receive for their consideration qualitative and quantitative information from third-party research and data providers and/or proprietary ESG Assessments

### ENGAGE

- Seek to build long-term relationships, while actively engaging management teams
- Direct dialogue with managements to address potential ESG issues and assert a positive influence
- Engagement integral to fundamental research, and outcomes considered when evaluating investment decisions

### MONITOR

- Continuously evaluate management's willingness and ability to manage material ESG risk factors
- Assess management's progress toward achieving ESG commitments
- Express views through stock ownership and proxy voting

22 Refer to Three Flawed Assumptions in Climate Risk Models article, published by PGIM Fixed Income in December 2021.

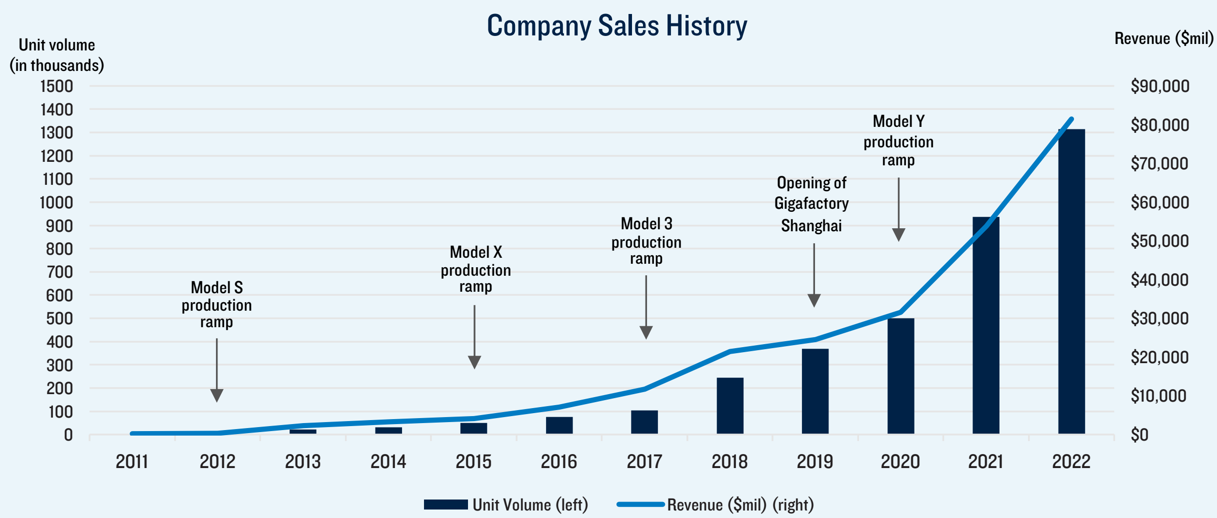
## CASE STUDY

# INTEGRATING ESG IN PUBLIC EQUITIES

### A TECHNOLOGY LEADER DRIVING EV DEMAND

**Investment thesis:** The investment thesis was underpinned by a conviction that the company would be a major beneficiary of the accelerating adoption of electric vehicles. This was based on Jennison's view that the company was well prepared for growth, with industry-leading capacity and battery supply and very attractive unit economics relative to the auto industry overall. It believed that the company has a significant recurring revenue opportunity long-term, led by its full self-driving functionality.

**ESG considerations:** The company was assessed positively for its leading position in the effort to reduce carbon emissions from transportation (electric vehicles) and energy generation (solar). It was also assessed as maintaining robust policies and audits related to critical raw materials. However, the team assessed that while governance has improved, board oversight and the public presence of the CEO present ESG risks and warranted engagement with the company to express their views and desired outcome.



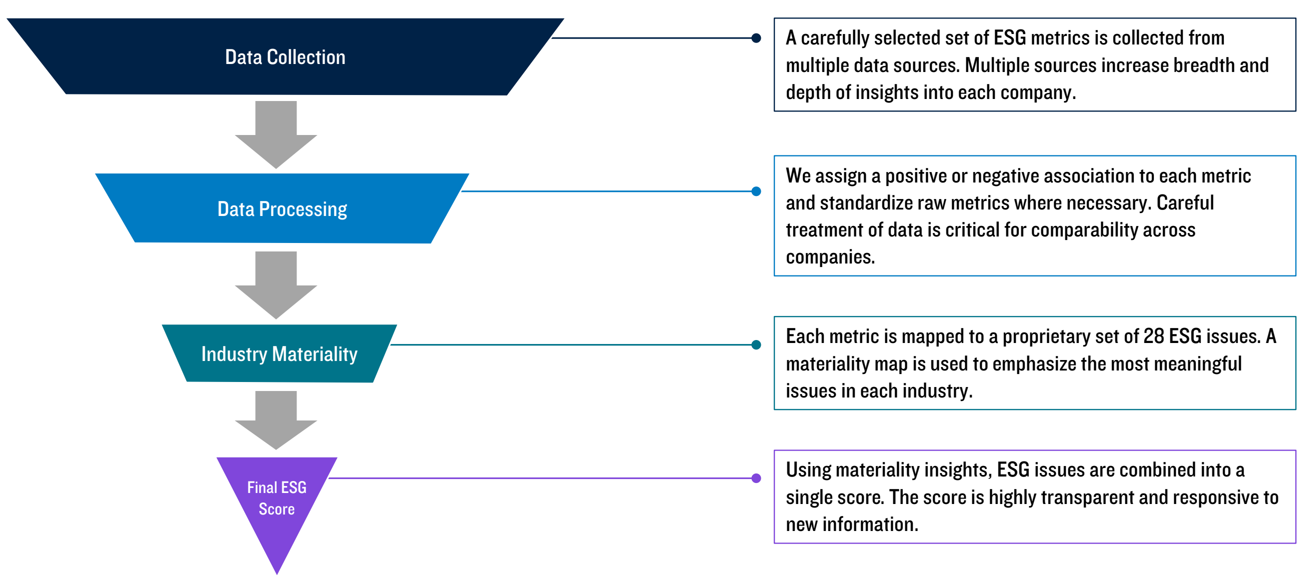
## PGIM Quantitative Solutions

Our quantitative equities business, PGIM Quantitative Solutions ("PGIM Quant") delivers a range of quantitatively developed and managed investment solutions to help its clients achieve a variety of investment objectives.

When assessing investments, PGIM Quant evaluates multiple dimensions of return drivers and sources of potential risk. The business draws on a multitude of data and information sources to comprehensively assess the return and risk prospects of a company. One dimension of focus is around unexpected shocks to the financial performance of a company. PGIM Quant believes a holistic analysis of a company that captures its interactions with customers, suppliers, employees, and environment (i.e., resource utilization) can provide more direct insights into the material risks and opportunities facing a company, and has been working on integrating such material insights across its investment platform. To conduct its analysis, PGIM Quant leverages the materiality framework that underpins SASB standards. Through consultation with investors, companies, and industry experts the standards comprise a comprehensive set of material risks and opportunities that are specific to each industry. PGIM Quant uses this framework as a starting point for its analysis. The business finds that ESG data are one of many valuable sources to gain insights into the material issues necessary for its investment analysis. Because of the broad scope of insights, and their granular nature, PGIM Quant finds it best to utilize multiple data sources to help limit blind spots in its analysis. Through its research process, PGIM Quant has evaluated several thousand data points that span all aspects of a company's operations. From this evaluation, the business has curated the most meaningful metrics to help it quantify the opportunities and material risks relevant to a company in a given industry.

PGIM Quant's research has helped it overcome challenges associated with different types of data and metrics. Its quantitative approaches allow the business to synthesize this data into a score for each company. In the development of a proprietary score, PGIM Quant has been careful to remove outside biases that could inflate or deflate the apparent risks and opportunities facing a company. Doing so improves the value of these insights within the stock selection and risk management processes. An outcome of PGIM Quant's research has been that it can assign a materiality-risk score even in the absence of direct data disclosed by a company. This allows the business to develop insights across all securities within its global investment universe. PGIM Quant explicitly manages the active exposure of its portfolios against these material risks. Material risk insights are just one input into PGIM Quant's investment process. These insights are carefully balanced with valuation, growth, and quality attributes of a company along with risk exposures (e.g., sector, country, size) to construct a portfolio that seeks to reliably deliver the performance expected by clients. While PGIM Quant's materiality risk scores encapsulate a large amount of data, the scores are highly transparent. PGIM Quant can illustrate the material issues for each company and showcase the underlying data that drives the assessment of risks for that company. With ongoing gains in the amount of data disclosed by companies, and new approaches to gaining visibility and insights into companies' interactions via various alternative data sources (which can be much timelier than company-disclosed insights), PGIM Quant sees this as a promising area of research going forward.

## Evaluating Material Event Risks and ESG



## Global Real Estate Securities

For Global Real Estate Securities (GRES), which invests in listed real estate companies or real estate investment trusts (REITs) securities, ESG is also an important part of its multifactor valuation model, which adjusts traditional real estate valuation metrics to achieve a warranted price target for every name in its investment universe. GRES uses a weighted average system of factors to create a comprehensive proprietary ESG score for each company within its universe and works with executive management teams to encourage disclosure of the necessary data. The ESG scoring activity provides insights through peer performance comparisons and gives GRES a meaningful way to effectuate change in ESG throughout the industry. As this process is refined and transparency from REITs is increased, GRES increases the weighting of ESG in its risk assessment and price target methodology.

The factors which drive the ESG score include:

- **Environmental:** ESG case studies, building certifications, greenhouse gas emissions, waste and water consumption rankings and an overall resilience score for each REIT's portfolio.
- **Social:** A company's disclosures with regards to diversity, stakeholder satisfaction and community engagement. A REITs' portfolio social standings, including affordable housing benefits and walkability measures will also be assessed.
- **Governance:** Independent versus non-independent board composition, lengths of tenure of board members, proxy access, insider ownership of stock, non-staggered board, anti-takeover provisions, and business conflicts of interest with executive management teams.

# PRIVATE ALTERNATIVES

## PGIM Real Estate

PGIM Real Estate investments span real estate equity, debt and publicly traded securities across the risk/return spectrum. An active ESG approach is embedded throughout PGIM Real Estate investment processes, based on the understanding that ESG factors including the physical and transition risks associated with climate change as well as social risks such as affordability and tenant/occupier health and well-being, can pose material risks and opportunities to its investments. The business believes reducing the environmental footprint of the properties it invests in and increasing their social value helps to deliver better risk-adjusted returns for clients. It considers ESG as a part of good management and a contributing factor to long-term value preservation and creation, which helps to "future-proof" investments.

Consequently, PGIM Real Estate equity and debt investment teams aim to utilize every opportunity before and during the holding period of their direct investments (typically seven to 15 years for equity core funds and upwards of five years for senior loans) to integrate ESG factors into decision-making. While private real estate debt strategies do not typically have the equity-style rights to influence the decision of their investments post-closing, Real Estate Debt investment teams integrate ESG into debt investments by evaluating borrowers through pre-investment due diligence and active monitoring during the holding period.

As a business, PGIM Real Estate considers it generally more constructive to invest in assets and/or engage and support borrowers in their transition toward sustainability, rather than divest or refuse a loan. The business believes improving the ESG performance of an asset and engaging to improve sustainability practices and focus on a low-carbon transition pathway will ultimately create long-term value, and this approach underpins how the business assesses and mitigates ESG risks and opportunities.

### Real Estate Equity

On the equity side of the business, PGIM Real Estate directly owns, on behalf of its clients, over 1,400 properties across the world representing $84 billion of AUM.[23] The business invests across a range of segments such as Life Sciences (including laboratories, research buildings, clinics), Residential (including multi-family, senior housing, student housing) as well as the rapidly changing Office segment. For some of these segments it not only owns the property but also operates it, for example, in senior or student housing. For these equity investments, PGIM Real Estate's asset risk assessment framework is based on a scenario analysis that considers the impact of a comprehensive set of stressors on a range of various sustainability metrics. To anticipate and manage future risks and opportunities, analysts identify, measure, evaluate and manage investment, market, insurance, liquidity and operational risks individually and in aggregate. This robust stress-testing process examines the sensitivity of long-term obligations and resources to possible financial, operational, behavioral and biometric risks.

23 As of December 31, 2022. AUM reflected as gross. Net AUM is $62 billion. Source: https://www.pgim.com/real-estate/equity

**Risk Review Scorecard**

At the asset level, for each new equity investment, an asset level ESG scorecard is compiled. This follows a comprehensive and thorough process of screening, assessment and due diligence, utilizing the expertise of an approved panel of building surveyors, mechanical and electrical engineers, and environmental / sustainability consultants. The asset-level ESG scorecard is presented to the Investment Committee and calculates environment, social, governance and resilience risk factors into "above average," "average" and "below average" ratings. This includes six investment-critical ESG risks: climate path (as defined by PGIM Real Estate using CRREM), risk classifications for flood, pollution and three regulatory compliance risks: minimum energy performance standards, "energy in-efficient" real estate as defined by SFDR, and the alignment to EU Taxonomy technical screening criteria (Article 8 and 9 funds only). Where a new investment falls short on the six material risks, an estimate of the likely Capex costs for alignment will need to be presented to the Investment Committee.

## Asset-Level ESG Performance Report

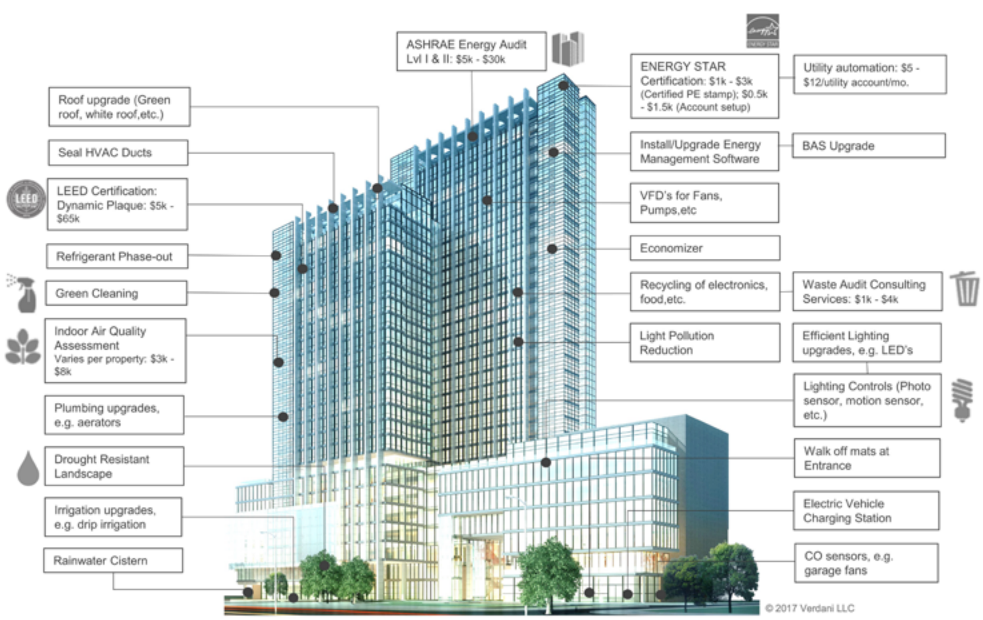
| | SCORE | RATING |
|---|---|---|
| Property ESG Score | 61 | Average |
| Environmental | 71 | Average |
| Social | 90 | Above Average |
| Governance | 45 | Average |
| Resilience | 41 | Average |

Asset-level ESG scorecard is based on questions covering the following factors:

- **Environmental:** physical risks and attributes which promote environmental stability (minimum energy performance standards, building certification, high-efficiency HVAC equipment, presence of energy management system, energy source, lighting and water fixtures, green roof system, biodiversity and recycling infrastructure).
- **Social:** property attributes that impact the living and social experience (affordability; contribution to surrounding area; accessibility; use of sustainably sourced materials; ventilation; air quality; and contaminants).
- **Governance:** property attributes that measure the commitment to ESG (green clauses in leases; ESG Policy, responsible person to implement ESG objectives and EV charging stations).
- **Resilience:** climate-related physical risks at the property level (using Moody's ESG Solutions).[24]

**Asset-level work plans**

Post-investment, GRESB assessments and, in the U.K. and Europe, the BREEAM In Use certification framework are used to evaluate ESG progress and identify opportunities for improvement. During 2022, 82.3% of PGIM Real Estate global equity assets under management were evaluated by GRESB.




24 Data representing Principle Adverse Impacts, as defined under the Sustainable Finance Disclosure Regulation (SFDR), are also presented within the Investment Committee report. Any material risks identified are discussed at committee and underwritten, as required (e.g. through insurance, a price adjustment etc.)

CASE STUDY

## BUILDING CLIMATE RESILIENCE IN REAL ESTATE EQUITY INVESTMENTS

Developed and wholly owned by PGIM Real Estate, Neptune Marina is a 526-unit, 526,636-square foot apartment complex in the heart of Marina del Rey, California. Constructed in 2020, Neptune Marina was built to California Green Building Standards Code (CALGreen) and designed with several features that mitigate climate-related risks: a parking garage pump system, drought-resistant landscaping and mixed-mode ventilation.

While the project already possessed resilient building features, as part of the PGIM Real Estate's resilience program, the team developed a deeper understanding of additional resilience strategies that should be prioritized on an ongoing basis to optimize the potential for risk mitigation and ESG performance improvements.

These included:

- Undertaking a comprehensive screening for physical and transition climate risks using Moody's 427 physical climate risk exposure assessment. This led to the identification of three physical climate-related risks: heat stress, wildfires and sea level rise, which presented a medium level of risk and one red-flag climate-related risk: water stress.
- The development of ongoing best practices and improvement projects to optimize Neptune Marina's resilience from a climate-risk perspective including: the prioritization of additional water-efficiency infrastructure in the forms of water-recapture and water-reuse systems to mitigate water stress; the installation of smart thermostats; an inventory of vulnerable areas and equipment.
- Through a process of annually reviewing asset-level workplans based on GRESB, and the use of Measurabl® Sustainability Dashboard, we expect these strategies and improvements to bring short-term benefits such as reduced energy and water use, decreased costs and improved net operating income.
- In the long term, we expect these ongoing actions to mitigate climate risk, which will help maintain the property's value over time and reduce the probability of property damage and malfunction in the case of extreme weather events such as drought, wildfire or a rise in sea level.

| PHYSICAL CLIMATE RISK FACTORS# | |
|---|---|
| 98<br>Red Flag | **Water Stress**<br>Highly exposed to historical and/or projected risks, indicating high potential for negative impacts |
| 53<br>Medium Risk | **Heat Stress**<br>Exposed to some historical and/or projected risks |
| 50<br>Medium Risk | **Sea Level Rise**<br>Exposed to some historical and/or projected risks |
| 8<br>Low Risk | **Floods**<br>Not significantly exposed to historical or projected risks |
| 0<br>No Risk | **Hurricanes & Typhoons**<br>Not exposed |
| 65<br>Medium Risk | **Wildfires**<br>Exposed to some historical and/or projected risks |

During the ownership stage, detailed asset-level work plans are created for GRESB reporting funds, which include asset-by-asset assessments that prioritize and identify areas of sustainability improvement, such as:

- Energy, water, and waste audits
- Green certifications or properties that could benefit from net zero/energy audits (LEED, IREM, USGBC)
- LED retrofits
- Utility data automation
- Health and well-being certifications such as Fitwel
- Energy ratings (ENERGY STAR)
- Equipment location
- Flood prevention
- Backup power and supplies
- Compliance with latest building codes

These asset-level work plans create a baseline of current implementation status across a portfolio as well as allow more targeted implementation measures for future budget cycles. In the U.K. and Europe, the BREEAM In Use certification standard provides a framework to determine and drive sustainable improvements in the operational performance of PGIM Real Estate assets, leading to benchmarking, assurance and validation of operational asset data.

### Agricultural Investments

PGIM Real Estate Agricultural Investments (PAI) has a long-standing focus on sustainability and regenerative farming practices. The Agricultural Equity business is a supporter of Leading Harvest, which is a nonprofit organization that advances sustainable agriculture, utilizes assurance programs comprising of standards, audit procedures, training, education and reporting across the U.S. and uses the sustainability platform to demonstrate its commitment to ESG best practices due to the rigor of its third-party conformance to the Universal Standard for Agriculture Sustainability. The standard's objectives, which align with PAI's principles of sustainable farming, intend to promote sustainability and ESG considerations within the field of agricultural management and include such topics as soil health, protection of water resources, energy use, conservation of biodiversity, waste management, local communities and labor.

## Leading Harvest Standard Sustainability Principles

LEADING HARVEST

- Sustainable Agriculture
- Soil Health and Conservation
- Protection of Water Resources
- Protection of Crops
- Energy Use, Air Quality, and Climate Change
- Waste and Material Management
- Conservation of Biodiversity
- Protection of Special Sites
- Local Communities
- Employees and Farm Labor
- Legal and Regulatory Compliance
- Management Review and Continual Improvement
- Tenant-Operated Operations

## Real Estate Debt

On the debt side of the business, PGIM Real Estate offers global real estate and agricultural-financing capabilities. In 2021, PGIM Real Estate financed $22 billion of assets, including $2.9 billion in agricultural properties. The firm's wide focus on collaboration across regions and strategies enables the firm to optimize the ways it serves investors and borrowers to create value on their behalf. U.S. agency green program production totaled 31 new loans and $900 million under designated programs such as Fannie Mae Green Rewards, Fannie Mae Green Building Certification, Freddie Mac Green Up and Green Up Plus, and HUD Green MIP (Mortgage Insurance Premium). In addition, $525 million of sustainable-forest financing was implemented, as evidenced by the Sustainable Forestry Initiative certification or Forest Stewardship Council certificates.[25]

| PGIM Real Estate's Proprietary ESG Loan Assessment: | Information for the ESG Loan Assessment is sourced from a wide variety of sources including: |
|---|---|
| • Contains over 30 attributes which are scored<br>• Results in a standardized 0 to 100 score<br>• Is integrated into the Investment Committee approval process | • Borrower Questionnaire<br>• Building, mechanical and electrical and environmental/ sustainability reports<br>• Moody's ESG Solutions |

The process of screening, assessment, and comprehensive due diligence for ESG risks is similar to that undertaken with real estate equity investments. In addition to commissioning a suite of appropriate environmental, engineering, zoning, insurance review, and appraisal reports from approved suppliers and sourcing data from third parties such as Moody's ESG Solutions, PGIM Real Estate's lending team also applies a proprietary ESG Loan Assessment for all new Core and non-Core loans.

### ESG loan assessment

The ESG Loan Assessment is in the form of a questionnaire that evaluates property resilience and environmental risks and consists of a series of sponsor questions to establish borrower engagement. The answers to these important borrower questions provide insight into the borrower's ESG initiatives, and they can reveal best practices that help the team better understand the risks associated with the debt investments. Additionally, the ESG Loan Assessment examines risk based on climate and environmental physical parameters, which facilitates portfolio climate risk exposure analyses. The ESG Loan Assessment generates an overall "ESG Loan Score" (0 to 100) with Environmental, Social, Governance and Resilience sub-scores. The findings from the due diligence assessments and ESG loan score are presented to the Investment Committee, and any material risks identified are discussed at Investment Committee and underwritten through a deferred maintenance reserve (if applicable) or a post-closing obligation. For the post-closing obligation, the borrower is typically given 60-90 days to complete the work, but a shorter time period may be required if appropriate.

### ESG in loan documentation

PGIM Real Estate has adopted the following key ESG priorities in the lending process:

- It will not invest in or lend against assets where it does not believe any environmental risks can be thoroughly mitigated.
- It requires full third-party engineering and environmental impact assessment reports (including a review of sustainability) for every property it finances and completes a needs assessment on every property.
- All assets undergo a structural review during the due diligence process.
- It recognizes that best-in-class borrowers are those that fulfill their social obligations across the assets in which they operate, and in the communities where they are based.
- It actively evaluates borrowers' engagement at the tenant, resident and community level and its underwriting approach quantitively and qualitatively addresses the primary risks and attributes that impact the living and social experience at a property.
- Comprehensive asset-level diligence, appropriate loan documentation, structuring and covenants form important components to delivering on its portfolio-level strategic objectives.

The standardized loan documentation also explicitly addresses environmental risk factors. Examples include:

- Requirements to comply with environmental laws, regulations, and orders.
- Requirements to disclose to PGIM Real Estate, as the lender, any contamination or violation of environmental laws, regulations and orders, and to conduct remediation at the borrower's sole expense.

25 See PGIM Real Estate ESG Report

## CASE STUDY

# INCORPORATING ESG INTO INVESTMENT SELECTION IN REAL ESTATE DEBT

PGIM Real Estate financed the acquisition of a $120.8 million, 234,751sq.ft. multi-family community located in a master-planned mixed-use community. The attractiveness and selection of the opportunity was supported by ESG features at the property and borrower's proposed business plan which included pursuit of LEED O&M certification and Energy Star certification after 12 months of operation.

Property attributes included energy and water efficiency measures, high efficiency heating & cooling, energy efficient appliances and automated thermostats.

In addition to the asset providing tenants with private outdoor spaces, wellness amenities and multiple rooftop gardens, the borrower planned to pursue Fitwel certification post-acquisition. Sponsor is a member of PRI, US Green Building Council ULI Greenprint and reports its assets through GRESB.

The loan asset management team and loan servicer (PGIM Real Estate Loan Services (RELS)) monitors compliance with the environmental and financial covenants throughout the life of the loan to ensure there is continued knowledge and understanding of the assets. It also provides monitoring and outreach in times of extreme climate or natural catastrophe events. For example, during Hurricane Ian in 2022 and California storms in 2023, RELS' proprietary extreme event tracking module was able to quickly identify properties in impacted areas and to offer outreach assistance if needed.

## Climate risk, resilience and net-zero integration in real assets

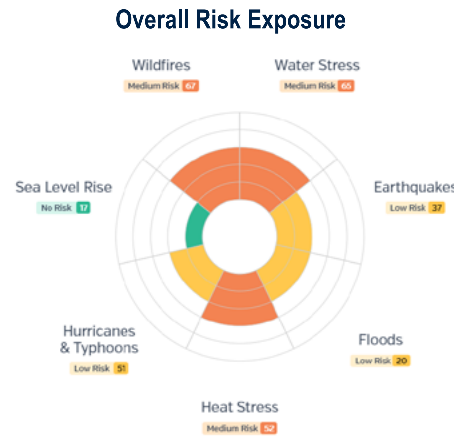
Real estate, due to its fixed location, is typically more exposed to the physical risks of climate change than any other asset class. Physical risks essentially relate to the damage to buildings arising from extreme weather events caused by the changing climate. PGIM Real Estate has implemented a "screen" of the physical risks associated with climate change into the investment and due diligence process for equity and into the ESG Loan Assessment for debt and ensures that existing standing assets are reviewed quarterly as part of Portfolio Reviews; the ESG Team makes budget recommendations for assets flagged as High Risk and/or Red Flag for flooding and sea level rise risk factors.

Real estate is also exposed to transition risks of climate change. Transition risks can arise from efforts to address climate change and the transition to a net zero carbon economy. PGIM Real Estate undertakes net zero carbon audits for selected assets to confirm the energy and carbon intensity of these assets and to estimate the potential costs of meeting carbon-reduction targets. Such analysis is also used to inform a net zero carbon pathway for selected funds. Furthermore, a "screen" of the transitional risks associated with climate change, using the Carbon Risk Real Estate Monitor (CRREM), has been incorporated into the investment and due diligence process for equity standing investments, with the results again presented at Investment Committee.

## Asset-Level Climate Risk Exposure Example

### Seven Physical and Climate-Related Risk Factors Screened by 427 via Measurabl PCRX Climate Module

| No Risk | Low Risk | Medium Risk | High Risk | Red Flag |
|---|---|---|---|---|
| Not exposed | Not significantly exposed to historical or projected risks | Exposed to some historical and/or projected risks | Exposed today and exposure level is increasing | Highly exposed to historical and/or projected risks, indicating high potential for negative impacts |

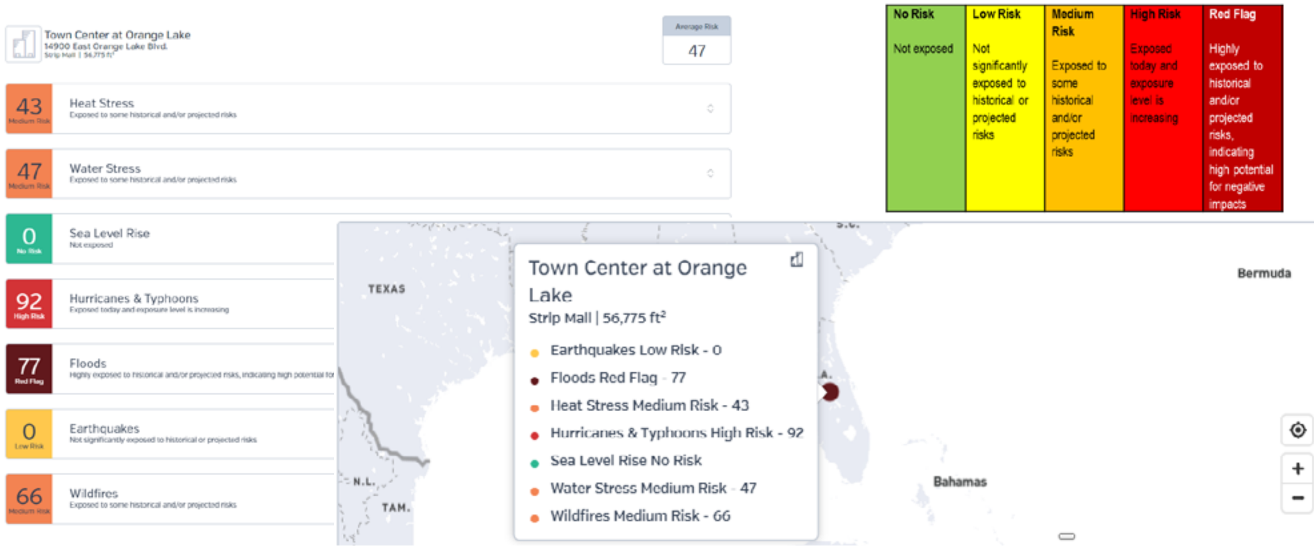



Just because a risk category is not identified as High Risk at the portfolio level, 427 will score individual assets as Red Flags and High Risks for specific risk factors. The Overall Risk Exposure represents average scores for all seven risk factors. Impacts will be experienced for certain categories (such as Sea Level Rise and Flooding) at a smaller number of sites, whereas risk factors such as Heat Stress, Wildfires and Hurricanes will have broader impacts to the majority of assets across the portfolio.

## Portfolio-Level Climate Risk Exposure Example

### Seven Physical and Climate-Related Risk Factors Screened by 427 via Measurabl PCRX Climate Module

| No Risk | Low Risk | Medium Risk | High Risk | Red Flag |
|---|---|---|---|---|
| Not exposed | Not significantly exposed to historical or projected risks | Exposed to some historical and/or projected risks | Exposed today and exposure level is increasing | Highly exposed to historical and/or projected risks, indicating high potential for negative impacts |




## PGIM Private Capital

PGIM Private Capital (PPC), a manager of private credit and alternative portfolios, integrates ESG considerations across its investments as a part of its comprehensive investment process. The business strives to reflect relevant risks presented by material ESG factors as a component of its overall investment thesis. As a primarily long-term investor with many investments held for 10 years or more, ESG risk analysis is embedded throughout PPC's entire investment cycle—from initial transaction review to underwriting and throughout portfolio management.

PPC has developed a risk analysis scoring system that strives to reflect risks presented by a number of material ESG factors. For every investment, investment teams perform a proprietary ESG risk analysis via PPC's ESG Checklist, which consists of a 0-4 scale scorecard that designates a ranking of 0-No Risk, 1-Low Risk, 2-Moderate Risk, 3-High Risk or 4-Severe Risk to rate materiality of risk across 12 explicit ESG factors detailed below. For any factor with material risk, PPC investment teams will undertake further diligence and record associated relevant commentary.

## ESG Integration Throughout The Investment Process

**DEAL TRIAGE**

New deals are reviewed, including consideration for key ESG issues.

**DUE DILIGENCE & ESG CHECKLIST**

Initial DD requires completion of an ESG risk analysis via PPC's proprietary ESG Checklist.

**ENGAGEMENT**

Interaction and engagement with management teams as needed through the entire investment period.

**PORTFOLIO MONITORING**

Ongoing monitoring, diligence, and ESG risk analysis throughout the life of the investment.

## ESG Checklist Factors

| ENVIRONMENTAL | SOCIAL | GOVERNANCE |
|---|---|---|
| • Climate Regulation | • Product Safety | • Board Composition |
| • Climate Change | • Workplace Safety | • Succession Planning |
| • Habitat | • Health & Wellness | • Data Security |
| • Sustainability | • Stakeholder Engagement | • Labor Relations |

### CASE STUDY

# INTEGRATING ESG IN PRIVATE CREDIT

### A U.S. PAPER MANUFACTURER

In analyzing a U.S. manufacturer of corrugated paper products and cardboard boxes, we closely examined risks related to habitat given the company's potential reliance on timber in their manufacturing process. The company primarily sources its raw material needs from recycled materials and natural resources. They harvest timber from a combination of company-owned forest land as well as land managed via partnerships with private landowners. As a result, reputational and financial risk around sustainable forestry management were important environmental risk considerations in our analysis. The company implements a Sustainable Forestry Policy which governs the achievement of relevant forest stewardship and sustainable forestry certifications, as well as compliance with federal, state and local environmental laws. Further, the company runs a program which actively encourages sustainable forest management with private landowners as well as reforestation projects in which it has assisted in replanting millions of trees over the last few decades. In reviewing these forest land management policies and programs, the investment team believes the company implements forestry best management practices and ultimately scored the ESG Checklist 'Habitat' risk factor as 1-Low Risk.[26]

26 This material contains examples of the firm's internal ESG **risk analysis** and is not intended to represent any particular product's or strategy's performance or how any particular product or strategy will be invested or allocated at any particular time. PGIM Private Capital's ESG **analysis** may yield different results than other investment managers and PGIM Private Capital's ESG rankings and factors may change over time. ESG **assessment** is qualitative and subjective by nature; there is no guarantee that the criteria used, or judgment exercised by PGIM Private Capital will reflect the beliefs or values of any investor. Information regarding ESG practices may not be accurate or complete, and PGIM Private Capital depends on this information to evaluate a company's **ESG risks**. ESG norms differ by region. There is no assurance that PGIM Private Capital's ESG **assessment** techniques will be successful.

# ADDRESSING CLIENTS' NEEDS FOR ESG/SUSTAINABLE INVESTING

**A growing proportion of our clients are expanding their investment objectives to go beyond risk/return optimization and include environmental and/or social goals. These may be specific environmental goals (such as portfolio alignment with the Paris Agreement) or social goals (such as supply of affordable housing), or clients may wish to align their investments with their values or preferences (e.g., respect for human rights or non-investment in tobacco). As a fiduciary, PGIM is committed to acting in the best interests of our clients at all times, and our investment businesses employ a variety of tools, analytical frameworks, research and assessment methodologies and investment products to help clients achieve their financial and ESG/sustainability objectives.[27]**

While respective approaches to facilitating client-specific ESG goals differ among PGIM businesses and asset classes, they generally include the following:

- Screening capabilities to identify issues that matter to our clients.
- Analytical frameworks, research and assessment methodologies and investment products focused on environmental/social impacts of investments.

PGIM businesses implement exclusionary screens under certain client mandates and in relation to certain retail investment products. We do not have business-wide exclusion policies as our clients and investors have very different views in regard to the types of holdings they would like to exclude from or include in their portfolios. We strongly believe in providing our clients and investors with a choice on how they would like their assets to be invested and we are committed to doing our very best in helping them to express their policies, views and beliefs through their investments.

Examples of the frameworks, assessment methodologies and product capabilities from our businesses are described below.

## PUBLIC FIXED INCOME

PGIM Fixed Income understands that managing ESG risks is not the same as managing ESG impacts. It is committed to providing investors with an explicit choice between "traditional" and "ESG" strategies to help clients express their policies, views and beliefs through their investments. To do this, the investment research team supplements the analysis of credit-material ESG risks with a proprietary ESG Impact analysis so that an issuer covered from a credit perspective is also assessed and scored for the impact it has on the environment and society.

These proprietary ESG Impact Ratings, which are distinct from fundamental credit ratings, help clients understand the positive and/or negative impacts their investments have on the planet and people, regardless of whether those impacts are immediately credit material. PGIM Fixed Income's ESG specialists develop guidance and assist the firm's 100+ fundamental analysts in implementing the guidance and assessing the ESG Impacts relevant to the industry, issuer and/or issue.

27 Not all PGIM businesses currently offer dedicated ESG strategies and products

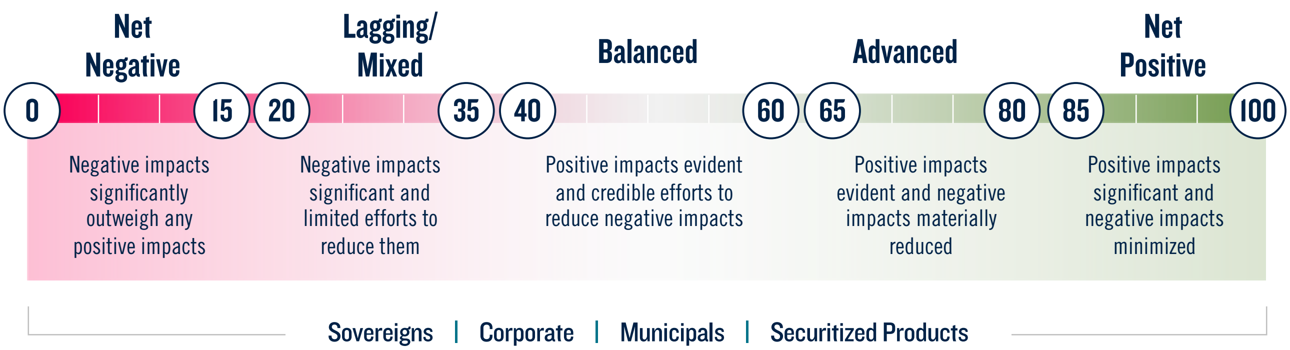
## ESG Impact Ratings Framework

The separation of credit risk from impact assessment provides a useful framework to identify the unpriced negative impacts that an industry, such as tobacco, imposes on society through the higher burden of costs on health care systems and to the environment through the growth of tobacco. ESG Impact Ratings reflect PGIM Fixed Income's assessment of what a positive and negative impact is for the planet and society. ESG Impact Ratings are not credit ratings; they are not an assessment of a company's ability to repay debt, which is already integrated in our fundamental credit ratings.

| CREDIT RISK | IMPACT |
|---|---|
| • Always integrated into our investment decisions<br>• Reflected in our credit ratings | • Positive/negative effects the issuer has on the world/society<br>• Reflected in our ESG impact ratings |

The framework assigns an ESG Impact Rating score on a scale of 0 to 100 in increments of 5, where higher is better. The ratings scale is broken into five Impact Categories—from Net Negative to Net Positive—as shown below.[28]

### ESG Impact Categories and Definitions




### CASE STUDY

## ESG IMPACT RATINGS IN FIXED INCOME

### EXAMPLE OF POSITIVE ESG IMPACT

A U.S. investment grade manufacturing firm is a leading water technology company that creates innovative and smart technology solutions to meet the world's water, wastewater and energy needs. PGIM Fixed Income's analysts assessed that, in addition to the 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 is targeting to use 100% renewable energy and 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 2 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 lowering 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 works with nonprofits to provide education and protect safe water resources for communities around the world, which is clearly linked to the company's overall business model. This investment is assessed as eligible for ESG strategies.

28 For more information please see: www.pgim.com/fixed-income/esg-impact-ratings

## EXAMPLE OF NEGATIVE ESG IMPACT

In this example, the team assessed the underlying assets of a securitized credit ABS which serves as an alternative form 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. This investment opportunity was assessed as ineligible for ESG strategies.

## Green bonds, social and sustainability-linked bonds: assessing additionality

PGIM Fixed Income analysts also assess green, social and sustainability bonds, and sustainability-linked bonds/loans to determine their incremental impact versus an issuer's conventional bonds. The business employs a case-by-case analysis of the credibility and additionality of individual green bonds as part of their security selection process. Credibility is assessed at the security and issuer level, and additionality seeks to measure the potential incremental positive impact that the bond could have on the environment. The combination of the credibility and additionality assessments determines the assessment of the overall impact of the bond.

To assess impact, PGIM Fixed Income seeks to understand the issuer's overall ESG strategy and how the green bond fits into that strategy. A green bond is more credible when it is more consistent with, or supportive of, an issuer's ESG strategy. With regard to additionality, the framework assigns a higher ESG Impact Rating to green bonds with a greater environmental impact. The more the green bond enables a transformation from brown to green activities—either in terms of the issuer or the industry—the greater its incremental impact. For example, if the proceeds have been slated for an existing project or would have happened regardless of the bond, then the issue has less of an impact. All else equal, analysts would assign higher additionality to bonds where proceeds are being used to finance new projects versus refinancing existing ones. When proceeds are used in part for refinancing, the longer the lookback period (or the timeframe in which existing projects might be financed with proceeds from a green bond), the lower the additionality.

### CASE STUDY

## GREEN BOND ESG IMPACT ANALYSIS. ESG IMPACT SCORE: HIGH

A green bond from a U.S. utility following the release of its new green capital markets framework.

The bond's proceeds are directly contributing to the company's goal of reducing emissions by 67% by 2025 vs 2005 (while still managing to double electricity generation over the same period).

The issuer's framework incorporates numerous features which are superior to a typical green issuance, including:

- A coupon step if the proceeds are not allocated as required,
- Proceeds targeted towards specific renewables projects,
- A requirement that projects be operational within 12 months,
- A public certification from the CFO which verifies the framework has been followed.

These features address several shortcomings inherent in typical utility company green bond financings.

### CASE STUDY

## GREEN BOND ESG IMPACT ANALYSIS. ESG IMPACT SCORE: LOW

A green bond from a U.S. food and beverage company categorized as Low Impact.

In terms of credibility, the green bond aligned well with the company's overall sustainability strategy, prioritizing its most material impacts—including recyclable or reusable packaging, decarbonization, 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.

## Climate-related investment objectives

Climate change and GHG emissions are a significant factor in PGIM Fixed Income's ESG Impact assessment and ratings, particularly in analysts' assessments of GHG emissions in intensive sectors where negative climate impacts are material. If an issuer has significant negative climate impacts from Scope 1, 2 or 3 emissions and is not taking credible measures to reduce that impact, it could significantly affect its ESG Impact Rating and result in the issuer's exclusion from ESG-focused portfolios. Additionally, certain portfolios managed by PGIM Fixed Income have exclusions on the most carbon-intensive activities, including thermal coal extraction, thermal coal power generation, oil and gas production in the Arctic and from tar sands, as well as limitations on an issuer's overall carbon intensity.

Where the impact of an issuer's activities on climate are significant and can result in material transition risks, credit and ESG analysts will raise concerns over the issuer's climate impacts and risks through direct engagement and will communicate how these concerns affect PGIM Fixed Income's fundamental credit assessment and ESG Impact Ratings. This approach provides issuers with insights into how climate concerns directly impact demand for their debt, and how they compare against their peers on climate performance, strategy and disclosure.

**Temperature alignment tool**

As clients' climate objectives are becoming more sophisticated and nuanced, moving away from exclusionary strategies and trying to capture transition efforts of issuers across industries and geographies, PGIM Fixed Income is developing a proprietary Temperature Alignment tool to facilitate alignment of portfolios with net zero pathway. Temperature Alignment is a forward-looking approach to estimating the climate impact of an entity's GHG emissions, expressed in degrees Celsius. It compares a projection of an issuer's future emissions (taking into account any targets) against its share of the remaining carbon budget and helps to ensure that the timeline and ambition of companies' decarbonization commitments are aligned with the requirements set out in science-based, sector-specific pathways.

PGIM Fixed Income's Temperature Alignment tool leverages data from multiple providers and supplements it with proprietary categorization of issuers based on their implied temperature rise (ITR), historic carbon reduction performance, any reliance on offsets, and the quality of their data and disclosures. The tool captures an issuer's targets and performance on emissions reduction, as well as additional metrics to gauge the credibility of decarbonization commitments.

### ESG-focused strategies

Investors who seek positive environmental and social outcomes alongside financial returns from their investments may wish to apply the ESG Impact Ratings framework in portfolio construction to avoid issuers with negative environmental and social impacts and/or tilt toward issuers with more positive impacts. PGIM Fixed Income has developed a range of ESG-focused fund products across the risk spectrum of the asset class as highlighted below.

As PGIM Fixed Income evolves its ESG capabilities to meet the needs of clients, its investment teams are continually refining their research processes and tools that inform portfolio construction and investment decisions. Research is prioritized according to a combination of factors including a consideration of client demand. As new ESG data, methodologies and approaches develop, the business is constantly formulating updates to existing frameworks.

| GEOGRAPHY | CREDIT RISK SPECTRUM | | | |
|---|---|---|---|---|
| **US** | **Core Plus ESG**<br>Maximize excess return opportunities from best ideas and diversified alpha sources across the full maturity spectrum while achieving an E and S good. | **U.S. High Yield ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | **Short Duration Core Plus ESG**<br>Maximize excess return opportunities from diversified alpha sources across shorter end of maturity spectrum while achieving an E and S good. | **Strategic Income ESG**<br>Maximize excess return from best ideas globally through broad risk positioning and opportunistic issuer concentration while achieving an E & S good. |
| **Global** | **Global Corporate ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | **Global High Yield Developed Markets ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | **Global Total Return ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | |
| **European** | **European Corporate ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | **European High Yield ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | | |
| **Emerging Markets** | **EM Corporate ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | **EMD Hard Currency ESG**<br>Designed to outperform a relevant index over the long-term and emphasize issuers with higher ESG Impact Ratings. | | |

# PUBLIC EQUITIES

## Jennison Associates

Jennison Associates has been developing thematic strategies and bespoke solutions for clients with desired ESG preferences. Current areas of focus for thematic investment strategies include companies that enable decarbonization and companies that align with the UN Sustainable Development Goals.

Jennison is also partnering with clients to apply ESG-related investment guidelines to existing investment strategies. This enables alignment between clients' ESG-related guidelines and objectives and the investment portfolios Jennison manages for them. For example, Jennison has been implementing customized exclusions based on a client's own values and objectives, to the extent they are consistent with Jennison's investment philosophy and fiduciary duty to help clients achieve their investment objectives and safeguard their economic interests.

## PGIM Quantitative Solutions

PGIM Quant recognizes that investors' ESG and/or sustainability preferences and objectives continue to evolve. To best serve its clients, PGIM Quant has developed a comprehensive and flexible capability to deliver investment solutions to clients with specific preferences and objectives. PGIM Quant builds on its material event risk factors to include additional sustainability attributes of a company that may not strictly be deemed of immediate material importance. The goal is to identify companies managed in a sustainable manner by gaining a broader understanding of a firm's internal operations and behaviors. PGIM Quant's approach is to score a company across all curated sustainability attributes within its data library. The business is careful in the measurement and combination of each attribute. PGIM Quant expands beyond a strict materiality-based approach to ensure effective evaluation of key sustainability attributes across all stocks. That said, the business continues to weight attributes differently in each industry. Additionally, it believes sustainability attributes can vary across sectors, industries and countries. Accordingly, it allows these sector, industry and country effects to influence its sustainability assessments of a company.

With these sustainability scores, PGIM Quant then makes building a portfolio that promotes exposure to companies with more effective sustainability management attributes a primary objective of the portfolio construction process. It emphasizes companies that score highly on sustainability attributes and are also of higher quality and have attractive valuations and growth prospects. In doing so, it ensures that it targets companies with sustainability attributes that are also relatively more attractive investments based on the aforementioned qualitative data. Through careful portfolio construction, final portfolio solutions have intentional, consistent and transparent exposures to companies with sustainability attributes. PGIM Quant's quantitative expertise allows it to customize solutions for clients with varying ESG preferences (for example, a focus on carbon emissions or water usage) and risk targets (for example, lower or higher tracking error outcomes).

### Quantitative ESG investing process

PGIM Quant can also quantify the impact a company's product or service has on the environment or society as a complement to their sustainability modeling. These insights help the business identify which companies contribute most meaningfully to sustainable development, the building of a more sustainable economy and society, and prosperous outcomes for people and the planet. PGIM Quant believes the ability to identify companies with products and services that have a beneficial impact on the environment and society could also help investors take part in longer-term secular growth opportunities.

To determine impact assessments for each company, PGIM Quant leverages the services of a third-party vendor that has developed a distinctive, systematic process for completing this analysis. The vendor links a company's products and services with sustainable development goals by means of a machine learning process that evaluates a significant body of evidence. This process allows for the determination of each company's revenue alignment with Sustainable Development Goals (SDGs). This alignment with SDGs is used as a proxy for impact. The overall process and outputs are intuitive and transparent, and the systematic and evidence-based approach aligns with PGIM Quant's investment philosophy and style.

Similar to the process of building a sustainability-focused strategy, the portfolio construction objective for impact portfolios primarily promotes exposure to higher "impact" companies. PGIM Quant further integrates its sustainability scores to help

CASE STUDY

## ACHIEVING ESG OBJECTIVES IN QUANTITATIVE EQUITIES WITH INDEX-LIKE RETURNS

A U.S. university endowment sought options to divest and decarbonize existing index investments. With limitations of existing ESG index options, the organization partnered with PGIM Quant to match its desired risk, return and targeted ESG goals. PGIM Quant custom-designed U.S., EAFE (European, Australasia and the Far East) and Emerging Market portfolios that delivered index-like risk and return, while satisfying the client-directed preferences. The investment solution delivered a carbon footprint that was 30% lower than the benchmark with ~1% tracking error.[29]

29 Past performance is not a guarantee or reliable indicator of future results.

identify companies that have a positive impact on the world and are also managed in a sustainable manner (for example, a client may wish to avoid electric vehicle companies that have poor governance and/or poor workplace safety etc.). PGIM Quant seeks to ensure those targeted companies are relatively more attractive investments as a result of their higher quality and attractive valuations and growth prospects. Impact scores are particularly appealing because they permit more granular insights at the individual SDG level. Certain investors seek exposure to specific SDGs for thematic purposes. PGIM Quant can further work with investors to build thematic portfolios that can serve as overlays to existing equity investments or as a standalone allocation.

## PRIVATE ALTERNATIVES

### PGIM Real Estate

PGIM Real Estate recognizes that given its global scale and footprint, it has an opportunity to contribute to positive environmental and social impact in the world and works closely with its clients to help them transition their portfolios in line with their selected environmental or social objectives, investment strategy, time horizon, risk budget and financial return expectations. Following feedback from clients and investors, PGIM Real Estate has developed a number of specialized strategies that meet ESG goals and have an environmental or social impact mandate as part of the investment strategy.

Since PGIM Real Estate committed to the Urban Land Institute's (ULI) Greenprint Center for Building Performance Net Zero Carbon Goal to achieve net zero operational carbon by 2050, the decarbonization of its owned properties has become foundational to the firm's overarching investment approach. The baseline net zero goal is based on Scope 1 and 2 GHG emissions, and while Scope 3 emissions are not currently covered, they will be tracked, quantified, mitigated and reported to the extent feasible and material.

In 2022, the business launched its net zero carbon strategy for its real estate equity portfolio, which includes setting up robust systems to improve data collection and integrity, setting energy reduction targets and initiating carbon reduction programs.[30] The business has also joined the U.K. Better Buildings Partnership (BPP) and begun aligning with the Net Zero Asset Managers Initiative framework. To achieve the 2030 and 2050 targets, a variety of asset- and portfolio-level decarbonization strategies will be considered. In 2021, PGIM Real Estate commissioned a series of net zero carbon audits for the assets in their European core equity fund. The program consisted of a series of comprehensive net zero audits, desk-based asset reviews and high-level desk-based extrapolation reports. The audits/assessments were used to confirm the energy and carbon intensity of the assets and to estimate the potential costs of meeting carbon-reduction targets. This analysis will look to inform a net zero carbon pathway for the fund.

#### CASE STUDY

### ALLOCATING CAPITAL TO SUPPORT CLIENTS' SPECIFIC SOCIAL OBJECTIVES IN REAL ESTATE INVESTMENT

Following feedback received from clients, PGIM Real Estate launched its U.K. affordable housing strategy in 2020 to pool client funds to invest in and develop private rental housing at affordable rents across the U.K. for working people, co-renters and families. This investment strategy aims to alleviate the supply-and-demand imbalance in the affordable-housing sector. With PGIM Real Estate's robust ESG strategy and rigorous risk management framework, this strategy strengthens the firm's long commitment to sustainability and ESG. PGIM Real Estate, as Fund Managers, aim to deliver this strategy by:

- Creating and promoting sustainable communities by targeting the provision of high-quality private rental properties let at affordable rents with strong ESG credentials.
- Investing for the long term to provide consistent recognizable homes, service and management standards protecting and enhancing the long-term value of the assets and the reputation of the strategy and providing stable returns to investors.

30 See PGIM Real Estate Net Zero Strategy Report published in September 2022. https://cdn.pficdn.com/cms/pgim-real-estate/sites/default/files/NetZeroReport%20FINAL%209-28-22.pdf

### CASE STUDY

## POSITIONING FOR NET ZERO CARBON IN REAL ESTATE EQUITY INVESTMENT

PGIM Real Estate acquired a £91.5-million mid-1960's core office building (NLA 61,973 sq. ft), in London, U.K.. During acquisition due diligence, enhancements were identified to be required across the services element of the building, alongside the provision of low or zero carbon technologies, in order to retain an Energy Performance Certificate rating of "B" on reassessment and the energy intensity targets set out by the net zero carbon goal.

Based on the life cycle of the service plant and the option of a lease break for the longer of the two leases, major works were recommended to the services of the building in 2027. The works have an estimated capex of £11.9 million, which has been budgeted into the asset strategy for the office building. The capex was approved through the Investment Committee, and the office building was acquired in the fourth quarter of 2021. Our comprehensive due diligence process facilitated the release of capex at point of investment to future proof the asset, specifically in terms of climate mitigation and transition risk.

### Sustainability in Agriculture

Agriculture employs over one billion people, produces over $1.3 trillion of food each year, and occupies 50% of the world's habitable land, and consequently can have a significant impact on climate, biodiversity, and water supplies.[31] In committing to the Leading Harvest sustainability standard and framework to help increase the agricultural sustainability of its assets, PGIM Real Estate Agricultural Investments (PAI) is committed to increasing the sustainability and resilience of its assets in a way that is verifiable and credible to clients and investors.

### CASE STUDY

## IMPROVING SUSTAINABILITY IN REAL ESTATE AGRICULTURAL INVESTMENT

**Leading Harvest:** The wine grape property was enrolled and successfully certified within the Leading Harvest Sustainability Standard in 2021. Leading Harvest is a sustainability framework which defines best agricultural practices across 13 sustainability principles. In 2022, the property was selected for on-site due diligence during the annual audit process and was certified for a second year.

**LODI RULES:** In 2021 and 2022, the property was certified under LODI RULES, a sustainable winegrowing certification based upon six management categories, including business, human resources, ecosystem, soil, water and pest management.

**Unplanted Acreage:** The property includes 651 acres of unplanted land which is comprised predominantly of hillside pastures. The majority of these areas are left undisturbed and serve as a natural plant and animal habitat.

Sustainable Practices Employed:

- Cover crop use throughout the property.
- Alternate pest management through owl boxes and pest scouting.
- Repurposing on property materials no longer utilized for on property fencing and seating areas.
- Efficient irrigation systems using drip line and fertigation.

### Sustainable Investing Group

As of December 2022, PGIM Sustainable Investing Group's Impact and Responsible Investing portfolio (IRI) encompassed $1.17 billion in active investments in partners and projects that tackle pressing societal issues. Since its creation in 1976, the Impact and Responsible Investing portfolio has invested over $3.0 billion (on a cumulative basis) on behalf of PFI's General Account and The Prudential Foundation to support innovative solutions that help create economic and social mobility for untapped populations globally while maintaining attractive financial performance. In 2021, the portfolio was integrated into PGIM Real Estate's U.S. Value-Add team. The merger established a leading sustainable investing platform by leveraging the strengths of a global asset manager, PGIM Real Estate, with the talent and impact expertise of the former impact investing team.

31 World Bank. 2017. Agriculture and Food. World Bank, Washington, DC, as quoted in Leading Harvest Standard. https://www.leadingharvest.org/s/LH_Primer

# ACTIVE STEWARDSHIP

**PGIM defines active stewardship as engagement and proxy voting (as appropriate) activities aimed at preserving and enhancing the value of investments we make on behalf of our clients. Active stewardship is a fundamental part of the investment processes of all our businesses. We believe that, when done well, the interactions, discussion and debate we have with companies we invest in, our borrowers, and our tenants allow us to learn from each other. Stewardship builds relationships that deepen our understanding of long-term business fundamentals, including how ESG risks, opportunities and impacts relate to broader strategic objectives. And it lets us share perspectives on key issues of relevance to our investments and encourage change as appropriate.**

## ENGAGEMENT ACROSS PGIM INVESTMENT BUSINESSES

Engagement is an important aspect of active stewardship. PGIM defines engagement as a purposeful interaction aimed at safeguarding and enhancing the value of our investments. The engagement approaches and preferred channels of engagement employed by PGIM businesses differ depending on asset class and context, but will include, to varying degrees:

- Identifying topics for pro-active dialogue on matters including strategy, financial and sustainability performance, risk, capital structure, social and environmental impact and corporate governance.
- Constructive dialogue with boards and management of investee companies/corporate borrowers on a range of relevant issues including ESG-related matters as appropriate.
- Interactions with stakeholders, for example with tenants, partners and borrowers for real estate investments.
- Engagement with capital markets teams at investment banks, industry groups or trade associations.
- Communication with clients and investors.
- Co-operation and dialogue with policymakers and regulators.
- Engagement with vendors, particularly around data and quality of service issues.
- Collaborative engagements via industry groups.

Proxy voting is a key tool for active investors and a key aspect of stewardship. PGIM's equity managers vote proxies according to their respective proxy voting guidelines and the merits of individual proposals. Examples of engagement activities across PGIM's main asset classes are described in greater detail below.

# PUBLIC EQUITIES

## Jennison Associates

### Company engagement

As an active fundamental equities manager, Jennison's investing approach is rooted in fundamental research and active ownership: portfolios are built from the bottom up, security by security, based on internal research. As a result of this approach, Jennison has direct access to company management teams at some of the world's leading companies and maintains regular constructive dialogue regarding the securities in its investment portfolios, as well as others in the investment universe. Jennison seeks to build long-term relationships while actively engaging management teams in direct dialogue to address potential ESG issues.

CASE STUDY

## ENGAGEMENT IN PUBLIC EQUITIES: LARGE E-COMMERCE PLATFORM

Engagements take many different forms and take place through different channels, including in-person meetings, conference calls, sending correspondence to company management, industry conferences, and proxy voting. The example below illustrates how this approach looks in practice. The ESG team, as part of its fundamental ESG research process, completed an ESG assessment to identify ESG issues that could negatively affect the fundamental investors' investment thesis of this company. Key areas of exposure to ESG issues included energy management, product packaging and distribution, customer privacy and data security, supply chain quality management, and labor relations. Jennison's approach is to share views on the importance of these issues with the company's leadership through the most effective and efficient means available and seek to gain information and insight into how these issues are being addressed and managed. In this example, Jennison's investment professionals held a call with the company's investor relations manager and encouraged the company to increase transparency, particularly around impact data (i.e., financial transactions processed by small- to medium-enterprises (SMEs)). The company outlined its processes for preparing additional disclosures regarding SMEs and energy consumption, and the investment professionals will continue to maintain dialogue as this progresses.

| ESG ENGAGEMENT TOPICS | ACTION TAKEN | SAMPLE OF QUESTIONS RAISED | OUTCOME |
|---|---|---|---|
| • Natural resource use<br>• Cybersecurity<br>• Impact to underserved populations, SMEs<br><br>**ESG KEY ISSUE EXPOSURE**<br><br>• Energy management<br>• Product packaging & distribution<br>• Customer privacy and data security<br>• Supply chain quality management<br>• Labor relations issues | • We conducted an ESG assessment in April 2022 as part of our ongoing internal research.<br>• In June 2022, our investment team's research analvst and a member of the ESG research team held a call with the investor relations manager. | • Q: What % operations is currently run from renewable energy?<br>• Q: Number of beneficiaries of the company's products, overall and specific to underserved populations/regions?<br>• Q: Previously, close to 900,000 families in the region were deriving their main economic livelihood from the platform - is there an updated figure?<br>• Q: Number of beneficiaries from underbanked population?<br>• Q: Number of customers for whom access to credit/loan was the first time? | • The engagement increased our understanding and provided additional information for our assessment.<br>• During the call, we encouraged more transparency, particularly around impact data (i.e., processed financial transactions for SMEs).<br>• The company is in the process of preparing additional disclosures regarding SMEs and energy consumption, and we will continue to monitor for new information.<br>• Additionally, the company is pursuing best-in-class certifications, such as ISO 50001 and 27001. |

Jennison's ESG Team and investment professionals engage with companies where ESG issues could materially impact the fundamental analysis, where there is a high exposure to issuers with potential ESG issues, and/or where positive change is most likely to be effected. Jennison's approach to ESG-focused engagements is tied to its proprietary methodology for ESG research; data on engagements by company including topics, outcomes, and next steps are systematically stored in the internal research portal.

Engagement is integral to Jennison's fundamental research, and outcomes are considered when reviewing fundamental views. Engagements are an important part of the ongoing monitoring of the securities in Jennison's investment portfolios and the Jennison engagement protocol includes an escalation mechanism.

## Proxy voting

Jennison has a well-developed in-house proxy voting policy that informs the business's proxy voting decisions. The business values the rights and privileges that come with the ownership of an equity share in a company and votes all eligible proxies in a manner that it believes best supports the investment interests of its clients over the long term. The business engages in a careful evaluation of issues and makes informed decisions based on robust due diligence. Votes are based on the firm's guideline recommendations, which are created and maintained by Jennison's Proxy Team in partnership with the investment teams and Jennison's ESG Team. Furthermore, investment professionals collaborate with and consider voting recommendations from the ESG Team on resolutions subject to material ESG issues. Jennison's Proxy Committee, which comprises members of Legal, Compliance, Risk, and Operations departments, meets quarterly and reviews engagements with issuers related to their shareholder meetings. All proposals, including shareholder proposals, are carefully reviewed and may or may not be supported.

Reasons for not supporting a shareholder proposal include cases where management is considered to be already taking steps to address the specific issue or that a proposal is considered to be overreaching, lacks merit, or seeks to address matters not relevant to the business.

### Jennison Associates Proxy Voting Results 2022[32]

| TOTAL PROPOSALS |
|---|
| 8,887 |

| MANAGEMENT |
|---|
| 8,575<br>96.5% |

| SUPPORTED | OPPOSED |
|---|---|
| 8,188 | 387 |
| 95.5% | 4.5% |

| SHAREHOLDER |
|---|
| 312<br>3.5% |

| SUPPORTED | OPPOSED |
|---|---|
| 135 | 177 |
| 43.3% | 56.7% |

32 From April 1, 2022 through March 31, 2023. For more details, please see: https://www.jennison.com/about-us/proxy-voting

## CASE STUDY

# PROXY VOTING IN PUBLIC EQUITIES. EXAMPLES OF ESG-RELATED SHAREHOLDER RESOLUTIONS SUPPORTED AND VOTED AGAINST[33]

### EXAMPLE VOTING FOR: SHAREHOLDER PROPOSAL REGARDING REPORT ON FREEDOM OF ASSOCIATION

The Jennison ESG Team recommended that investors covering a large tech platform vote FOR a proposal regarding a report on Freedom of Association at its Annual General Meeting. The ESG Team, in partnership with investment analysts, conducted an engagement meeting earlier in 2022 and discussed company-specific labor management protocols. The ESG Team also monitored ongoing labor-related controversies for the name and analyzed public disclosures by the company such as the company's Human Rights Report. As part of our overall assessment of the name, we identified it as having United Nations Global Compact Watch List status due to human rights controversies. We leveraged our analysis of the company's disclosures and the insights from our engagement meeting as context when considering the merit of management and shareholder proposals at the AGM. We recommended voting FOR because we believed the report on Freedom of Association would suit the long-term economic interests of shareholders.

When analyzing the company's progress in the context of this proposal, the ESG Team found: the company's current Human Rights Report lists generic global standards for third-party suppliers and claims its own employees can unionize. The report also claims the company complies with non-discrimination and non-retaliation policies toward union members, but recent controversies signal the company should disclose more on this topic. For example, corporate actions in response to union votes at specific sites in the U.S. could be construed as intended to repress workers' rights to associate. Such practices, if widespread, would pose material reputational and regulatory risk to the company. This proposal would provide more information to shareholders to better assess how the company's actions could affect its reputational and regulatory risks and, if needed, enable them to engage with the company to prevent freedom of association/collective bargaining rights violations in the future.

### EXAMPLE VOTING AGAINST: SHAREHOLDER PROPOSAL REGARDING REPORT ON PHYSICAL RISKS OF CLIMATE CHANGE

The Jennison ESG Team analyzed a shareholder proposal asking another large tech company for a report on physical risks of climate change. The Team recommended voting AGAINST this proposal as the Team saw proposed disclosures as duplicative with those of the company's current climate risk reporting. We see the company's Environmental Management disclosures as robust, given targets in place, external certifications, and carbon neutral operational history. Accordingly, we have engaged with the company in the past but have not felt the need to discuss environmental reporting in our meetings.

The ESG Team concluded: The company's pre-existing reports on TCFD-aligned environmental strategy and annual Climate Disclosure Project responses, for which the company received an A- rating in 2021, lower the need for an additional systemic risk report. The proposal could add information on how the company will mitigate climate change risks for specific physical assets; however, the company already conducts business continuity/disaster recovery testing at least once per year for its data centers, so an additional report would not add significant value.

33 Illustrative examples were selected from proxy votes cast by Jennison and were identified as either an environmental or social shareholder proposal. These examples are not representative of all votes cast. There is no guarantee Jennison will arrive at the same outcome in a similar vote in the future.

## PGIM Quantitative Solutions

### Company engagement

PGIM Quant believes it is possible to proactively encourage companies to address material risks that they face and/or that do not align with best practices that have been shown to increase shareholder value. For ESG-specific mandates, the business may extend its engagement practices to identify egregious violations of international norms. To achieve this, PGIM Quant participates in collaborative engagements to maximize the breadth of companies that can be targeted. This is important given the highly diversified client portfolios the business manages. To assess the engagements that it aims to support, the business identifies the complete opportunity set of engagements being led by a third party (engagement service provider). These active engagements are overlaid on current portfolio holdings to identify which engagements are relevant to the outcomes sought by its clients. Engagements that are initially identified by the third-party provider are done so based on material risks that could impact the company's financial outcome. For those engagements that overlap with current portfolio holdings, the business participates in calls with company management that are organized by the third party. Through these interactions with companies, PGIM Quant seeks to learn about and support the provision of: 1) information to help understand any action that has been taken to address the material risk; 2) information about possible future actions to address the material risk; and 3) encouraging and enhancing disclosure of additional data to improve its investment decision-making process.

Successful engagements can identify new information or more data that can improve the assessment of material risks for a company. This may lead to increased company exposure in the portfolios the business manages. Unsuccessful engagements will lead to the determination that material risks remain elevated and can result in lower or no company exposure in client portfolios. To further escalate material risk matters, the business can use its proxy voting to vote against management in certain circumstances, including those where management continues to demonstrate an inability to correct those issue(s) the business views as deficient.

## Engagement Process

| FIRST MEETING | DEBRIEFING | IN BETWEEN | FOLLOW-UP MEETING(S) |
|---|---|---|---|
| • Develop understanding of risks.<br>• Create awareness of material ESG issues. | • Define change objective and share suggested actions. | • Check in on progress, potentially revise suggested actions. | • Evaluate progress and discuss emerging issues. |
| TRACKING RESULTS | RESPONSE | PROGRESS | POSITIVE/NEGATIVE |

### CASE STUDY

## ENGAGEMENT IN QUANTITATIVE EQUITIES WITH A DIVERSIFIED METALS AND MINING COMPANY

As an illustrative example, PGIM Quant engaged with a Brazilian diversified metals and mining company that had been under intense scrutiny after two tailing dam failures resulted in more than 200 fatalities. As a result, several material and human rights issues were identified, with a focus on emissions, effluents and waste, and community relations. In our initial meetings, we discussed the need for consistent disclosure on material ESG issues and relevant KPIs. In addition, we participated in an investor human rights roundtable where we highlighted the need to integrate human rights metrics in public reporting, the use of industry standards such as the UNGPs and SASB standards, and the consequences of reputational risk on investors when egregious human rights violations are committed. We have seen the company develop integrated reporting that includes statistics on the fatalities and injuries in the communities where its mines are located and metrics used in its human rights risk management program. While this is still an active engagement, we are seeing positive results and will continue to engage until a sufficient nexus of change objectives has been achieved.

For sustainability-focused and impact strategies managed by PGIM Quant, the business will seek to further engage with companies whose conduct violates international norms. PGIM Quant uses internal processes and third-party screens to identify such violations of standards. In instances when violations are identified, PGIM Quant will initiate engagement with the company in order to uncover additional information about the violations and determine steps that must be taken to mitigate the occurrence of such conduct in the future. Unsatisfactory outcomes from these engagements can lead to exclusion from client-specific portfolios.

## Proxy voting

As a responsible investor and fiduciary, PGIM Quant's policy is to vote proxies in the best long-term economic interests of its clients (the appreciation in value of the investment over time). PGIM Quant's voting guidelines reflect its general philosophy on corporate governance matters, material risks, and its approach to other issues that may commonly arise when voting ballots on the various securities held in client accounts. The views reflected in PGIM Quant's guidelines are consistent with the approaches taken when analyzing companies for inclusion in portfolios. These guidelines are not intended to limit the analysis of individual issues at specific companies, nor do they indicate how the business will vote in every instance. Rather, they express PGIM Quant's views about corporate governance, material risks, and other issues generally, and provide insights into how the business typically approaches issues that often appear on corporate ballots. They are applied with discretion, taking into consideration the range of issues and facts specific to the company and the individual ballot items. As the guidelines are not absolute, context matters and may drive different outcomes for different companies. From time to time, ballot issues arise that are not addressed by the voting policy or circumstances may suggest a vote not in accordance with the established guidelines. In these cases, voting decisions are made on a case-by-case basis taking into consideration the potential economic impact of the proposal. PGIM Quant seeks to actively monitor developments in the proxy voting arena based on a historical analysis of proxy issues and a continuing review of new proposals and legislative changes. PGIM Quant's policies and guidelines are reviewed annually and are updated as needed to address new developments.

PGIM Quant's Proxy Voting Committee (which includes representatives from investment, operations, compliance, risk and legal functions) is responsible for reviewing and interpreting its proxy voting policy, identifying conflicts of interest, and periodically assessing the effectiveness of the proxy voting policies and procedures. The committee also oversees the services provided by its proxy vendor.

### PGIM Quant Proxy Voting Results 2022[34]

| TOTAL PROPOSALS |
|---|
| 66,701 |

| MANAGEMENT | SHAREHOLDER |
|---|---|
| 65,677<br>98.5% | 1,024<br>1.5% |

| SUPPORTED | OPPOSED | ABST/OTHER |
|---|---|---|
| 55,130 | 5,177 | 5,370 |
| 83.9% | 7.9% | 8.2% |

| SUPPORTED | OPPOSED | ABST/OTHER |
|---|---|---|
| 286 | 510 | 228 |
| 27.9% | 49.8% | 22.3% |

34 Calendar year 2022. For more details please see: https://www.pgimquantitativesolutions.com/stewardship-and-governance

## CASE STUDY
# PROXY VOTING IN QUANTITATIVE EQUITIES. EXAMPLES OF ESG-RELATED SHAREHOLDER RESOLUTIONS SUPPORTED AND VOTED AGAINST[35]

### EXAMPLE VOTING FOR: SHAREHOLDER PROPOSAL REGARDING REPORT ON SCIENCE-BASED GHG TARGET AND ALIGNMENT WITH PARIS AGREEMENT

The shareholder proposal involved a request that an air freight and logistics company adopt independently verified short, medium, and long-term science-based greenhouse gas emissions reduction targets. These targets were inclusive of emissions from the company's full value chain and were aimed at achieving net zero emissions by no later than 2050 and attaining emissions reductions in line with the Paris Agreement by 2030. The PGIM Quant Portfolio Manager reviewed the available proxy research, which included detailed information on the Proponent's and Board's perspectives, SASB materiality, and peer review. In reviewing the research, it was evident that the company had elected to make commitments to become carbon-neutral across its global operations by 2050, including Scope 1, 2, and 3 emissions, but it remained unclear to shareholders if the company planned to achieve those net-zero goals through actual emissions reductions or through the purchase of carbon offsets. In addition, in its most recent 10-K filing the company stated that climate change presented a material challenge to its business; however, it went on to state that whilst remaining committed to being responsive to climate change, the company could make no assurances of achieving these goals. We ultimately recommended voting FOR because we felt that having the company's GHG targets independently verified by a leading organization, such as SBTi, would provide shareholders assurances that the company's stated targets would be met satisfactorily on an issue the company itself had stated was material to its business.

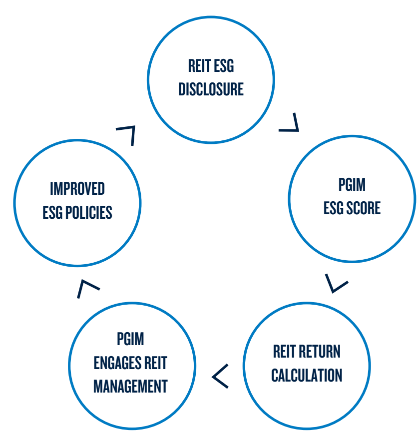
### EXAMPLE VOTING AGAINST: SHAREHOLDER PROPOSAL REGARDING REPORT ON SCIENCE-BASED NET ZERO TARGET

The shareholder proposal entailed a request that an energy delivery company strengthen its net zero commitment by setting a meaningful science-based target by the end of 2022, with a specific focus on Scope 3 emissions. The PGIM Quant Portfolio Manager reviewed the available proxy research, which included detailed information on the Proponent's and Board's perspectives, SASB materiality, and peer review. In reviewing the research, it became evident that the company had already set science-based interim 2023 and net-zero targets in alignment with the Paris Agreement. In addition, the company openly addressed climate change risk in its annual report, and the company's operations are subject to many environmental laws and regulations, including those being raised by the shareholder. Most notably, the SBTi had not yet developed industry-specific guidance on Scope 3 emissions, making the proposal unattainable. We ultimately recommended voting AGAINST because the company was in line with its peers and SBTI, the leading organization on science-based targets, had not yet developed industry-specific guidance.

## Global Real Estate Securities

As significant shareholders, Global Real Estate Securities (GRES) wields significant influence over ESG-related decisions for its REITs. As illustrated in the graphic, ESG considerations and ESG engagement are integrated components in the investment process and have a direct impact on the justified premium/discount to NAV assigned to every REIT under coverage, based on a number of factors including a proprietary ESG score and a management score.

As part of the ESG engagement process, GRES meets with senior management of a REIT each year to discuss ESG scores, priorities and progress. REITs that elect to improve their ESG focus will see a corresponding increase in projected returns and raise the potential for increased ownership in their shares by GRES strategies.




35 Illustrative examples were selected from proxy votes that were cast in 2022 and were identified as either an environmental or social shareholder proposal. PGIM Quant strives to vote environmental and social shareholder proposals manually and the selection of these examples are not representative of all votes cast. There is no guarantee PGIM Quant will arrive at the same outcome in a similar vote in the future.

# PUBLIC FIXED INCOME

## PGIM Fixed Income engagement activities

Engagement is a key tool in PGIM Fixed Income's investment process and takes place across many channels including with issuers, clients, industry groups, policy makers and capital markets teams. PGIM Fixed Income believes engagement offers dual benefits of elevating concerns with issuers while also enriching its own investment analysis. 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.

### ESG Engagements by Type
(Issuers Only)

| TOTAL ESG ENGAGEMENTS | 202 |
|---|---|
| Corporates | 163 |
| Sovereigns | 7 |
| Structured Products | 32 |

Calendar Year 2022 Environmental-Social-Governance

These engagements are influenced by the materiality of ESG factors on financial and/or operational performance, as well as by an issuer's ESG Impact Rating, the quality of an issuer's ESG disclosures and the exposure to specific ESG factors and events that, in its view, require special attention. The size of the overall exposure to the issuer is also considered. Investment professionals aim to be constructive in their engagement, offering context around the importance of the ESG issue and how it is factored into their investment analysis, as well as highlighting their assessment of the impacts the issuer's policies, practices, or products have on the environment and society. They will seek information on the issuer's plans to address the issues and, where relevant, will discuss the implications these ESG factors and impacts may have for the issuer's funding costs and future market demand for any new issue bonds.

As one of the largest active fixed income managers in the world, PGIM Fixed Income believes issuers take their views and concerns seriously and value the insights gained through dialogue with their analysts and economists, which provides for meaningful and constructive engagement on ESG issues.

Given that PGIM Fixed Income's engagement activities with issuers are directly linked to the investment research and investment decisions, it has a strong preference for direct engagement with issuers. This enables the analysts and portfolio managers to speak openly and frankly with company management and arranging banks as relevant. PGIM Fixed Income is open to collaboration with other investors in instances where individual engagement efforts are deemed to have low chances of success in isolation; in such cases the preference is to collaborate via trade associations and other industry initiatives.

### CASE STUDY

## ENGAGEMENT IN FIXED INCOME. A HIGH YIELD MULTINATIONAL CHEMICALS COMPANY[36]

**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 recognizes 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.

36 For more examples please see PGIM Fixed Income ESG Report https://www.pgim.com/fixed-income/environmental-social-governance

Collaborative initiatives related to ESG topics are detailed in the PGIM Fixed Income ESG Annual Report[37] and include acting as co-chairs of the Structured Finance Association's (SFA) Structured Finance Disclosure Framework Working Group, joining the Center for Real Estate Finance Council's (CREFC) Sustainability Steering Committee and the Transparency Subcommittee. Investment professionals also sit on the European Leveraged Finance Association's (ELFA) ESG Committee, which seeks to increase and standardize ESG disclosures in leveraged finance.

# PRIVATE ALTERNATIVES

## PGIM Real Estate stewardship activities

PGIM Real Estate's approach to stewardship is integral to its goal to deliver enhanced risk-adjusted returns for its investors, to become a landlord and lender of choice, to maintain its position as a practitioner of good global citizenship to all stakeholders—investors, partners, borrowers, employees and the communities in which they reside and invest. The business believes engaging to improve sustainability practices and ESG performance of an asset and/or engaging and supporting borrowers in their transition toward sustainability creates long-term value for all stakeholders.

Given the importance placed on stewardship, PGIM Real Estate's Global ESG Council guides the implementation of its stewardship and engagement programs. While the stewardship approach is global, the focus on real estate as a "local business" means investment selection decisions are made locally with accountability and strong risk management oversight. It also means local or regional nuances (such as enhanced data privacy regulation in Europe) are considered with regards to engagement issues.

### Stewardship in PGIM Real Estate Equity

On the equity side, where the business invests directly in the real estate assets, the engagement objectives are primarily set at the time of initial investment, or in the annual asset level work plan process (as described above) and are executed and monitored on an ongoing basis. Escalation of stewardship activities in PGIM Real Estate equity can take several forms, including:

- Escalating issues with service providers: Property managers play a key role in the management of ESG issues at the asset level and the Property Management Agreements, which include SLAs and KPIs that allow the business to benchmark property manager performance against the business's ESG and stewardship objectives and escalate ESG issues should they be identified. Other forms of escalation with property managers and other service providers include collaboration, senior management engagement, and terminating service provider relationships (please see case study relating to removal of property managers below).
- Modification of asset-level work plans: As described above, asset managers develop a strategic plan for each asset that includes specific ESG objectives based on the original underwriting assumptions and the goals of the portfolio. A new or revised plan is produced annually and reviewed and approved by the portfolio manager at the annual budget meetings. These annual reviews provide an opportunity for progress measurement, as well as escalation of engagement when progress toward meeting objectives is behind target.

Improving the performance of PGIM Real Estate's assets under management requires collaboration on many different levels and regular engagement and dialogue is undertaken with a broad range of stakeholders including:

- **Investors:** Through quarterly interactive investor update calls, bi-annual advisory council meetings, annual investor specific meetings, the annual investor conference and a multi-annual client satisfaction survey. This ensures that the business identifies and prioritizes the most relevant sustainability topics to its clients and evolves its ESG strategy accordingly.
- **Property managers:** An annual property manager review program assesses and reduces operational risk. The review program involves annual risk assessment, on-site visits and a workshop. A global property management survey is also undertaken to identify property issues, trends and opportunities regarding tenant and community engagement, procurement and sustainability.
- **Tenants:** Via property managers and asset owners. These include but are not limited to:
  - — MoU and ESG clauses in leases to share data, as a minimum.
  - — Asset-level advice to reduce environmental impact (and operational expenditures) covering lighting, water and HVAC efficiency, among other topics.

37 Please see PGIM Fixed Income ESG Report: https://www.pgim.com/fixed-income/environmental-social-governance

— Tenant events to increase sustainability awareness, including Earth Day, electronic waste drives, World Water Day, and others.

— Fitwel, which works toward improving occupant health and well-being.

### Stewardship in PGIM Real Estate Debt

On the debt side, PGIM Real Estate's ability to escalate ESG issues and seek change is primarily determined during the initial investment, underwriting, due diligence and documentation stages and as ESG-related requirements may be imposed through loan covenants, or structure mechanisms. The servicing of loans is retained in-house, as the business believes it provides additional monitoring and risk management benefits. The engagement interactions the business has with borrowers may include:

- Seeking to educate borrowers in the reduction of their portfolio's environmental impact and where relevant, promote sustainable design and construction methods.
- Encouraging borrowers to develop sustainability expertise on topics such as energy ratings and green building certification as well as to develop their own ESG strategy and industry affiliations.
- Monitoring and enforcing ESG covenants established in the lending documents.
- Reviewing and approving borrower consents.
- Reviewing and approving borrower business plans and plans for efficiency enhancements.

CASE STUDY

## STAKEHOLDER ENGAGEMENT IN REAL ESTATE

In 2021, a continued underperformance and a lack of strategic execution by a property manager was observed in respect of two major senior living properties in Arizona owned by PGIM Real Estate. The investment team conducted repeated engagements with senior management of the property manager. However, there was a lack of improvement by the property manager. This resulted in the replacement by a new property manager, already known to the business, with a strong track record in performance, including with respect to ESG. The new property manager has since put new executive directors in place, has been reducing agency staffing, and has increased occupancy by about 10% at each building. At the transition, net operating income was -$50K, and in the first quarter of 2023 it was +$50K.

CASE STUDY

## COLLABORATING WITH A BORROWER IN REAL ESTATE DEBT TO STRENGTHEN CLIMATE RESILIENCE MEASURES

**Project:** PGIM Real Estate originated a 2022 core loan on a recently constructed hotel in Tampa, Florida. The loan was to provide permanent financing on the full-service, high-rise hotel situated on a waterfront promontory in Tampa that had historically been exposed to flooding and storm surge. In addition, climate modeling commissioned by PGIM Real Estate indicated that the waterfront was subject to high risk of hurricanes.

**Actions:** PGIM Real Estate worked with the borrower to identify probable flood exposure scenarios based on a comparison of climate model data, with construction floor plans and elevations augmented by temporary flood-proofing measures at select locations within and around the building. In addition, we were able to confirm hurricane-resistant exterior glazing and façade details based on projected wind speed analysis of the entire building exterior. Finally, PGIM Real Estate worked with the borrower to implement an acceptable business continuity plan that included hurricane emergency planning and flood preparedness measures.

**Outcome:** Our customized climate risk assessment and close collaboration with the borrower allowed this transaction to close with the hotel benefiting from strengthened climate resilience measures.

## PGIM Private Capital engagement activities

As a relationship-based debt provider, PGIM Private Capital (PPC) has maintained continuous investment relationships with many businesses and institutions extending over several decades. Through the depth of these relationships, PPC cultivates meaningful and constructive dialogue with the companies in its investment portfolios and works closely with management teams to deepen their understanding of the business fundamentals and share perspectives on key ESG issues that might pose downside risks to the company or asset.

Engagement activity takes place throughout the transaction lifecycle, starting from the initial deal structuring and approval/decline decision at the early stages of the investment to deepen understanding of the pertinent issues, and extending to the portfolio monitoring phase as ESG issues arise. The engagement objectives may include seeking additional measures to understand or mitigate risk, improve reporting or disclosure, or sharing best practices and highlighting areas for improvement on material ESG issues. PPC considers that its long-standing, respectful and trusted relationships with investee companies are integral to its ability to act as a good steward of its clients' assets.

### PGIM Private Capital ESG Engagement

Engagements can occur at any stage of the transaction lifecycle, including:

- Engagement during new investments
- Engagement during the portfolio monitoring process

Engagements can relate to ESG risk mitigation, diligence and deal structuring, or to identify opportunities for ESG improvement, sharing of best practices, etc.

## TRACKING ENGAGEMENTS IN PRIVATE CREDIT

At the end of 2022, PGIM Private Capital (PPC) developed an engagement tracking approach to document ESG engagements across their portfolio. The process strives to record instances of engagements in which PPC investment teams interact directly with issuers on ESG topics and seeks to help the firm understand when and how engagements are occurring. A core element of PPC's ESG approach is focus on relevant credit risks, thus ESG engagements are prioritized where a material ESG risk is identified during initial transaction review or in PPC's proprietary ESG Checklist risk analysis. As a primarily debt investor, the intended outcome of engagement is often to gather more information about the identified risk and discuss mitigants if they exist, with the goal to better inform investment teams in their analysis and make better investment decisions where appropriate. The time scale of the engagement period will vary according to the ESG issue and the specific issuer.[38]

38 PPC's ESG processes, rankings and factors may change over time. ESG assessment is qualitative and subjective by nature; there is no guarantee that the criteria used or judgment exercised by PPC will reflect the beliefs or values of any investor. Engagement actions may or may not have measurable results. PPC can not direct or control company actions.

# COLLABORATING THROUGH INDUSTRY ORGANIZATIONS AND INITIATIVES

Collaboration across the industry is another important aspect of good stewardship. The pooling of resources by investors through collaborative engagement enables the sharing of a breadth of insights and expertise on a particular ESG issue as well as the sharing of best practices around the world. It enables investors to focus on areas of consistency and can add weight and emphasis to the particular issues of concern and enhance the likelihood of catalyzing a positive change in the market. Many ESG industry initiatives exist worldwide, many with broad remits. PGIM has carefully chosen to join those organizations which it believes will enable its investment businesses to best serve their clients.

Thus, under the aegis of PGIM, PGIM's investment businesses are members of:

- The Council of Institutional Investors (CII)
- Institutional Investors Group on Climate Change (IIGCC)
- Ceres Investor Network
- IFRS (International Financial Reporting Standards) Sustainability Alliance and SASB (Sustainability Accounting Standards Board) Standards

Additionally, the investment businesses collaborate with world-leading organizations under their own name, including:

- PGIM Fixed Income, PGIM Real Estate, PGIM Quantitative Solutions, and Jennison Associates are all signatories to the UN-backed Principles of Responsible Investment (PRI).
- PGIM Fixed Income and PGIM Real Estate are signatories to the FRC's UK Stewardship Code, which sets high stewardship and stewardship reporting standards for signatories.
- Jennison Associates and PGIM Quant are signatories to CDP and contribute to collaborative efforts to increase worldwide disclosure of carbon emissions data.
- All five investment businesses are formal supporters of the Taskforce for Climate-Related Disclosures (TCFD) framework and work to support the collective effort to increase transparency on climate-related risks and opportunities across their respective asset classes.

The investment businesses participate in various organizations to enhance their expertise within the specialist asset classes on which they focus. Membership of these various organizations is aimed at sharing knowledge, establishing industry standards, promoting best practices in corporate governance and transparency.

For example, PGIM Fixed Income contributes to the European Leveraged Finance Association (ELFA) ESG Committee. Through this committee, PGIM Fixed Income analysts have contributed to the development of ESG factsheets providing significant input on how

## PGIM-Level Membership

IFRS Sustainability Alliance

Ceres

Council of Institutional Investors®
The voice of corporate governance

IIGCC
The Institutional Investors Group on Climate Change

## Business-Led Participation

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

PGIM Real Estate
PGIM Fixed Income
PGIM Quantitative Solutions
PGIM Private Capital
Jennison Associates

CDP DISCLOSURE INSIGHT ACTION

PGIM Quantitative Solutions
Jennison Associates

ULI GREENPRINT NETZEROx2050

PGIM Real Estate

PRI Principles for Responsible Investment

PGIM Real Estate
PGIM Fixed Income
PGIM Quantitative Solutions
Jennison Associates

UK STEWARDSHIP CODE

PGIM Real Estate
PGIM Fixed Income

to better capture data needed by investors. PGIM Fixed Income was also active in ELFA's CLO (Collateralized Loan Obligation) Committee and assisted in developing ESG questionnaires for CLO managers and drafting supplemental guidance for SLBs (Sustainability Linked Bonds) in the high yield market and, in 2022, leading an ELFA workstream to improve ESG data vendor coverage of the leveraged finance space.

# ENGAGING WITH POLICY MAKERS AND REGULATORS

As a global institutional asset manager, PGIM is reliant upon stable, fully functioning markets in order to fulfill its role as a responsible allocator of risk, and enable our clients to pursue a broad range of investment objectives over short-, medium- and long-term time horizons. As part of our role as a steward of our clients' assets, we see it as our responsibility to contribute to preserving and enhancing the integrity and stability of the market system. We therefore believe it is important that PGIM engages with governments, policy makers and regulators to support effective government policy and regulatory standards that uphold the stability of the financial markets.

Given the focus of the policymakers and regulators on ESG and climate disclosures, and investor protection in light of concerns over greenwashing, we have contributed to a number of regulatory consultations with regard to ESG regulation and ESG voluntary frameworks including:

## Response to SEC on Climate Risk Disclosure

In June 2022, PGIM responded to the Securities and Exchange Commission (SEC) regarding its proposed rules on climate-related disclosures. In its response, PGIM expressed overall support for the proposal and noted that it agreed on the need for disclosures and considered the proposal as covering critical needs from an investor perspective. PGIM also made a number of recommendations regarding disclosure requirements, each aimed at improving the basis by which investors can use and analyze information and disclosures. Our recommendations focused on a materiality threshold for climate-related financial disclosures, Scope 3 disclosure requirements, additional guidance on transition plans, corporate governance disclosures, and requirements related to internal carbon price and scenario analysis among other points.

PGIM's full response is available here.

## Response to ISSB on Disclosure Standards

In July 2022, PGIM responded to the International Sustainability Standards Board ("ISSB") regarding its proposed standards for disclosing sustainability/climate-related information to investors (the "ISSB Disclosure Standards"). In our response, we expressed overall support for the ISSB Disclosure Standards and noted the urgent need to achieve more consistent, complete, comparable and verifiable sustainability-related financial information. We also made several recommendations regarding disclosure standards, each aimed at improving the basis by which investors can use and analyze information and disclosures. Our comments addressed the concept of "double materiality" and called for industry-specific standards and testing of climate resilience by investee companies, among other points.

PGIM's full response is available here.

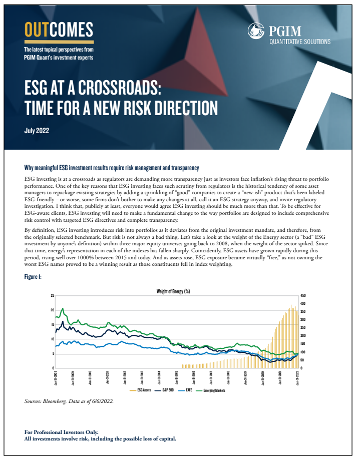
## The SEC ESG Disclosures for Funds and Advisors

In August 2022, we responded to The Securities and Exchange Commission ("SEC") regarding its proposed rules on ESG disclosures for Investments Advisers and Funds. We expressed support for the proposal and made several recommendations to the SEC with regard to ESG Integration and ESG Focused categories, a need for distinction between approaches focused on mitigating ESG risks vs. delivering positive environmental and social benefits, provision of detailed proxy voting and engagement activity information, and disclosure of GHG emissions.

PGIM's full response is available here.

# ESG THOUGHT LEADERSHIP

**As active, research-led, client-focused investors, ESG research and analysis is core to the evaluation and development of ESG products, methodologies and frameworks in each of our investment businesses. Our businesses are keen to share their expertise and research for peer review and regularly publish their research and thought leadership on a breadth of ESG insights and topics. The following highlights a snapshot of recent publications.**

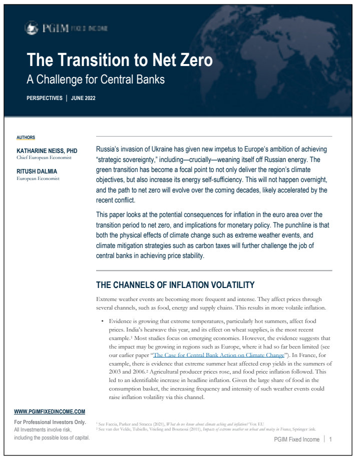



## ESG AT A CROSSROADS: TIME FOR A NEW RISK DIRECTION

PGIM Quant explores why meaningful ESG investment results require risk management and transparency. ESG investing is at a crossroads as regulators are demanding more transparency just as investors face inflation's rising threat to portfolio performance. One of the key reasons that ESG investing faces such scrutiny from regulators is the historical tendency of some asset managers to repackage existing strategies by adding a sprinkling of "good" companies to create a "new-ish" product that's been labeled ESG-friendly – or worse, some firms don't bother to make any changes at all, call it an ESG strategy anyway, and invite regulatory investigation. To be effective for ESG-aware clients, ESG investing will need to make a fundamental change to the way portfolios are designed to include comprehensive risk control with targeted ESG directives and complete transparency.

By definition, ESG investing introduces risk into portfolios as it deviates from the original investment mandate, and therefore, from the originally selected benchmark. But risk is not always a bad thing. Let's take a look at the weight of the Energy sector within three major equity universes going back to 2008, when the weight of the sector spiked. Since that time, energy's representation in each of the indexes has fallen sharply. Coincidently, ESG assets have grown rapidly during this period, rising well over 1000% between January 2015 and June 2022. And as assets rose, ESG exposure became virtually "free," as not owning the worst ESG names proved to be a winning result as those constituents fell in index weighting.

[Access the full white paper]



PGIM FIXED INCOME

The Transition to Net Zero

A Challenge for Central Banks

PERSPECTIVES | JUNE 2022

AUTHORS

KATHARINE NEISS, PHD
Chief European Economist

RITUSH DALMIA
European Economist

Russia's invasion of Ukraine has given new impetus to Europe's ambition of achieving "strategic sovereignty," including—crucially—weaning itself off Russian energy. The green transition has become a focal point to not only deliver the region's climate objectives, but also increase its energy self-sufficiency. This will not happen overnight, and the path to net zero will evolve over the coming decades, likely accelerated by the recent conflict.

This paper looks at the potential consequences for inflation in the euro area over the transition period to net zero, and implications for monetary policy. The punchline is that both the physical effects of climate change such as extreme weather events, and climate mitigation strategies such as carbon taxes will further challenge the job of central banks in achieving price stability.

THE CHANNELS OF INFLATION VOLATILITY

Extreme weather events are becoming more frequent and intense. They affect prices through several channels, such as food, energy and supply chains. This results in more volatile inflation.

- Evidence is growing that extreme temperatures, particularly hot summers, affect food prices. India's heatwave this year, and its effect on wheat supplies, is the most recent example.[1] Most studies focus on emerging economies. However, the evidence suggests that the impact may be growing in regions such as Europe, where it had so far been limited (see our earlier paper "The Case for Central Bank Action on Climate Change"). In France, for example, there is evidence that extreme summer heat affected crop yields in the summers of 2003 and 2006.[2] Agricultural producer prices rose, and food price inflation followed. This led to an identifiable increase in headline inflation. Given the large share of food in the consumption basket, the increasing frequency and intensity of such weather events could raise inflation volatility via this channel.

WWW.PGIMFIXEDINCOME.COM

For Professional Investors Only. All Investments involve risk, including the possible loss of capital.

[1] See Faccia, Parker and Stracca (2021), *What do we know about climate change and inflation?* Vox EU
[2] See van der Velde, Tubiello, Vrieling and Bouraoui (2011), *Impacts of extreme weather on wheat and maize in France*, Springer Link.

PGIM Fixed Income | 1

# THE TRANSITION TO NET ZERO: A CHALLENGE FOR CENTRAL BANKS

Following the Russian invasion of Ukraine, the green transition has become a focal point to not only deliver climate objectives, but also increase energy self-sufficiency. This will not happen overnight, and the path to net zero will evolve over the coming decades. Against this context, PGIM Fixed Income's research looks at the potential consequences for inflation in the euro area over the transition period to net zero, and implications for monetary policy. The ramification is that both the physical effects of climate change such as extreme weather events, and climate mitigation strategies such as carbon taxes will further challenge the job of central banks in achieving price stability. The research notes that higher inflation and uncertainty due to climate change exacerbate the existing backdrop as economies emerge from the pandemic and decouple from Russia. Given such an environment, investors are likely to demand greater risk premia.

Access the full white paper


# FIXED ON ESG

PGIM Fixed Income's ESG Research team supplements its published research with a monthly "Fixed on ESG" podcast series to discuss the latest topics and trends of ESG investing with a focus on fixed income. Throughout 2022, the series explored the investment implications and opportunities on a range of topical ESG issues from the 27th annual UN Climate Change Conference (COP27) to the importance of metals and mining in the low-carbon transition, to the emergence of blue bonds and the economic and investment implications to emerging markets caused by rising food prices. Additional topics, such as the recently agreed Global Biodiversity Framework and prospects for nuclear fusion, have been discussed already in 2023, and new episodes continue to be posted monthly.

Access the podcast


# ESG AND GREENWASHING: NAVIGATING THE TIDE OF FACT AND FICTION IN SUSTAINABLE INVESTING

As part of our OutFront series, PGIM published a white paper: "ESG and Greenwashing: Navigating the tide of fact and fiction in sustainable investing." The paper highlights that as finance rapidly becomes an integral force for decarbonization and as the ESG landscape continues to evolve, asset managers need to act with integrity and investors need solutions they can trust. Investors have different approaches to ESG, and people may disagree with or learn from each other's approach. The crucial element to ESG is that asset managers understand their clients' expectations and objectives and are clear about trade-offs and, vitally, that they do what they say they will do.

Access the full white paper

# OUR PEOPLE

**PGIM has a long-held commitment to advancing diversity, equity and inclusion, rooted in the belief that this is not just the right thing to do, but is necessary for PGIM's success and sustainability. We believe diversity in our workforce is the foundation of the continued success for our businesses, leads to more impactful and innovative solutions, and best positions us to deliver outperformance to our clients.**

Our parent company, PFI, believes strong, independent leadership is a critical aspect of effective corporate governance and has sought to ensure their Board of Directors reflects the diverse communities and geographies the company serves. As of March 2023, the Board comprised 78% of independent (non-employee) Directors.

The CEO of each PGIM business champions DEI throughout their respective business and their work is spearheaded by an in-house team of experts in the PGIM Global Office of Diversity, Equity & Inclusion, established over a decade ago, as one of PGIM's first executive functions. This team is led by PGIM's Chief Diversity, Equity & Inclusion Officer. The global office develops strategic inclusion initiatives, collaborates with PGIM's CEOs and Human Resources to lead on recruiting and retention efforts, works with internal and external advocacy and affinity organizations, and partners with leaders in the investment industry to accelerate an inclusive culture and diverse talent pool in the industry.

Our DEI strategy is centered on five areas of impact: talent, culture, industry, investing and community.

## TALENT

### Attract, develop, promote, and retain talent at all levels

Our work as a global asset manager is entirely dependent on a skilled and diverse workforce. The recruiting challenge we face is not the quality or quantity of talent, but rather a lack of awareness of our industry among underrepresented groups, combined with barriers to entry. We are actively working to open the pipeline by removing these barriers and working to change the perception of groups who do not see a place for themselves in this industry. We partner with a curated set of global and regional diversity organizations, including Girls Who Invest, Sponsorship for Educational Opportunity (SEO), Management Leadership for Tomorrow (MLT), 10K Black Interns, Modern Guild, and BLK Capital Management to bring the best and brightest into PGIM. From the moment people join PGIM—whether as an intern, an entry-level analyst, a work-placement program hire, or as an experienced employee—we commit to ensuring everyone can excel personally and professionally via a wide range of benefits and development programs.

# CULTURE

## Evolve PGIM's culture to be fully inclusive—where everyone has a voice, and feels understood, respected and valued

Diversity of perspectives enables us to make better decisions for our clients. Because diversity goals are hollow if we don't empower people to share their ideas and innovations, we invest in inclusion and we are intentional about creating a workplace where all employees have a sense of belonging and are able to thrive. In our offices in the Americas, Asia, and Europe, we focus on raising the voices of employees from underrepresented communities, expanding awareness of, and connection to, different lived experiences, and engaging allies. Our annual calendar of affinity months and diversity celebrations, coupled with an expansive PFI network of employee-led business resource groups offers employees regular opportunities to learn about, recognize and embrace our differences, and connect with each other.

Established in 2019, our Inclusion Council comprises CEOs from each PGIM business who play an active role in listening to our people, responding with equitable solutions, and driving progress via transparent reporting and accountability for results. In 2020, we formed the Black and Latinx Executive Leadership Teams to serve as key advisors to PGIM CEOs and in the creation of PGIM's Racial Equity Commitments. Our LGBTQ+ Think Tank was launched in 2021 and is tasked with identifying opportunities to highlight LGBTQ+ voices across the company, and creating a platform to share, educate and continue to foster a safe environment. Our global Women's Advisory Council, comprises senior-level women leaders and portfolio managers, sponsors and develops junior-level employees, educates women externally on careers in asset management, and serves as brand ambassadors for the firm.

# INDUSTRY

## Be a recognised agent of change in the drive toward a more equitable asset management industry

The asset management industry stands at the intersection of capital, communities and households. We recognize the significant impact of our investment decisions on people and society. This is why diversity of thought is critical to equitable and accessible investment solutions. And this is why we participate, and actively engage with our peers, in the effort to create a more diverse and inclusive industry. In 2022, we became a founding signatory to the CFA Institute DEI Code in the USA and Canada. We actively work to dismantle barriers to entry for top talent to find a career at PGIM, and asset management in general. In 2022, to provide students from Historically Black Colleges and Universities (HBCUs) with real-world investing experience, we established a program to create and maintain student-run investment funds at select HBCUs, along with support and training, as well as scholarships for HBCU students to increase education affordability. We believe this initiative will help to funnel more incredible talent into the industry. Financial news media paints a gender-imbalanced picture of our industry that can prevent women from envisioning a career in asset management, leading to less diversity of thought and skill within teams. In 2019, PGIM launched Diverse Voices, a multifaceted program to boost gender diversity among our bench of spokespeople via a dedicated training program, introductory opportunities to engage with the media, and rigorous efforts to bolster representation in internal and external events.

# INVESTING

## Deploy capital to investments that advance equity and social justice, while remaining true to our fiduciary responsibilities

The investment industry possesses enormous potential to direct much-needed capital to the most pressing issues our society faces, including education, affordable housing, and the racial wealth gap. We bring deep expertise to help our clients understand how factors related to human capital management and DEI can provide superior risk management and serve as a driver for better outcomes and returns. We have developed tools, products, and capabilities that enable us to support clients who wish to allocate capital to achieve their desired social or environmental goals. We have also deployed capital to deliver societal benefits and financial return in our own $1 billion portfolio of impact investments and a $200 million DEI portfolio. These investments focus on providing intellectual and financial capital; and by serving as an advocate for women and minorities with our DEI portfolio, we are seeking to break down the structural barriers that prevent diverse-led teams from raising capital.

# COMMUNITY

## Engage our wider community to promote social justice and equality

At PGIM we have an opportunity—and a responsibility—to leverage our reach to advance social justice and equity more broadly. We care about and support the global communities in which we operate, combining the aspirations of our employees and clients with meaningful firmwide projects that leave a lasting impact on our world. We partner with dozens of community organizations globally, whose work spans education and job readiness, food security and healthcare. We seek out opportunities for our employees to volunteer their time and skills to support these organizations in a meaningful way. Our generous employee match platform, PruCares, matches employee donations of up to $5,000 annually to over thousands of non-profit organizations globally. We have a multiyear, multifaceted partnership with YouthBuild International, an organization that prepares and empowers opportunity youth to make a positive impact in their community through service and leadership. We drive outcomes through financial contributions and by partnering the skills and expertise of PGIM employees to over 75 projects globally. As part of our diversity events and affinity month celebrations, we work with local, minority-owned businesses, vendors, and artists. To find suppliers, we reach out to the diverse business community in a variety of ways, particularly through our memberships in prominent supplier diversity organizations.

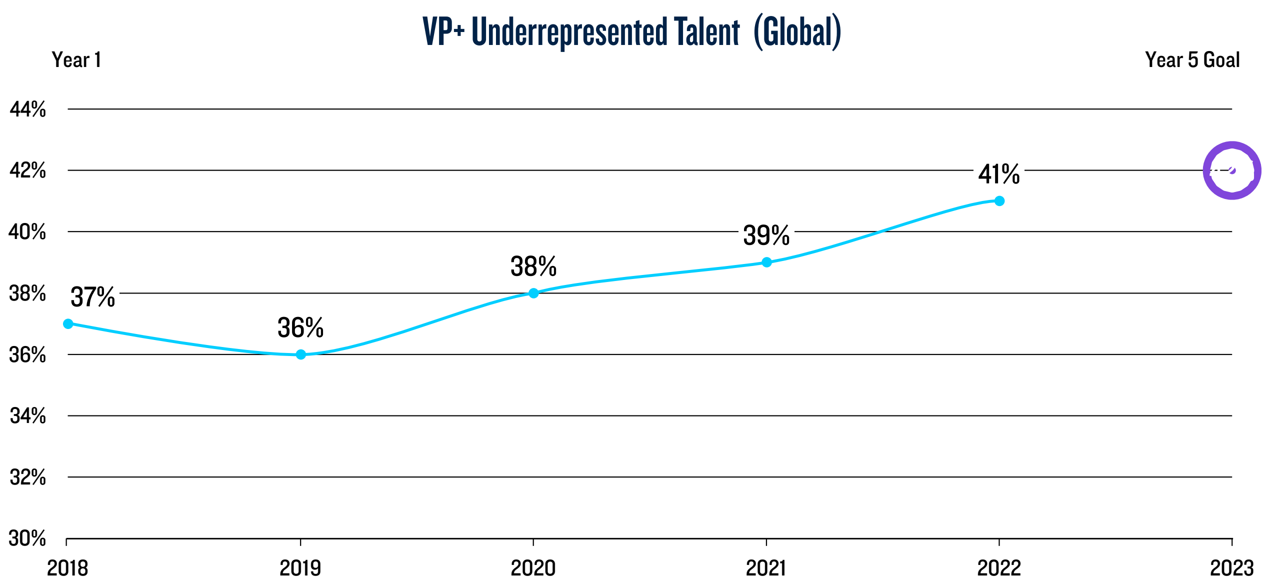
# PGIM'S "5-OVER-5"

PGIM has committed to a goal of "5 over 5" for a 5% increase in representation at the senior-most levels of the firm (VP+ population) globally by year-end 2023, through a series of outcome-oriented actions including:

- Build diverse candidate pools to fulfil future hiring needs by activating employee external networks, partnering with talent feeder organizations, mapping key talent markets, and building brand awareness.
- Engage PGIM leaders in developing and retaining internal diverse talent through targeted development, mentoring and executive sponsorship.
- Develop and maintain an environment that leverages differences and enables success through continuous learning, inclusive practices, and promoting the meritocracy of ideas and diversity of perspective.

PGIM's Inclusion Council, comprising the CEOs of each of the PGIM businesses as well as our Chief Operating Officer, meet bi-monthly to review progress and develop strategies to drive representation within each business.

The chart below depicts our progress toward our "5-over-5" goals at the end of 2022. Globally, we have achieved a 4% increase in underrepresented talent at the senior-most levels from year-end 2018 through year-end 2022 and are on track to hit our 5% goal by year-end 2023. The five-year period will close at year-end 2023, so we will provide final data as well as the new goals in next year's report.




Global data is a composite of year-end U.S. data and international locations data. U.S. data represents the proportion of women and men of color at VP level and above. International locations data represents the proportion of women at VP level and above who are based outside of the U.S.

# DIVERSITY, EQUITY & INCLUSION INITIATIVES

In addition to specific efforts across each of the investment businesses, PGIM and our parent, PFI lead a number of Diversity, Equity & Inclusion initiatives and programs to support increased diversity across all aspects of the company. These include:

- Enterprise diverse talent goal tied to the long-term compensation of senior leaders.
- Employee-led business resource groups which inform the company's diversity and inclusion strategy and drive business execution to help make sure business solutions reflect the diversity of our customers.
- Supplier diversity program seeks to leverage the talent of suppliers in every colour, gender, origin, religion, sexual orientation, and physical capability—using diverse firms as fully as possible and ensuring that long-term agreements with non-diverse vendor partners share our vision for and dedication to supplier diversity.

## Talent attraction

We support several programs and initiatives that help attract diverse talent across the enterprise. These programs include:

- Historically Black Colleges and Universities (HBCUs): These institutions provide a path to high quality education, lucrative careers and economic mobility for Black students, thereby reducing the racial wealth gap. Yet HBCUs have long faced disadvantages in raising funds and creating robust endowments to sustainably support their students compared to their peer institutions across the country. In 2022, we launched an investment initiative to provide investment management education and training for select HBCU decision-makers that manage endowments to support their work as stewards.
- Led by our PGIM Global Office of Diversity, Equity & Inclusion, our businesses also support partnerships with several other external organizations to enhance our diversity recruiting efforts and talent identification. These organizations include:
  - Robert Toigo Foundation (2012)
  - Posse Veterans (2019)
  - Management Leadership for Tomorrow (2020)
  - Point Foundation (2021)
- Additional programs providing networking and mentorship opportunities include:
  - Diversity Recruiting Program at Entry Levels
  - Ron Andrews Diversity Scholarship Program
  - Mental Health Champions
  - Intern Cohorts for Black, Latinx, Veterans, and Female Talent
  - Women Unlimited
  - 30% Club
  - We Are All Human Hispanic Promise
  - The Diversity Organization
  - Diversity Project UK

## Talent retention

We also support a number of key talent retention initiatives including:

- **Student Veteran Cohort:** Provide mentorship and support to entry-level military talent.
- **Virtual Business Challenge Competition:** Support the participation of candidates from Historically Black Colleges and Universities, as well as Hispanic serving institutions. In this competition, the participants submit responses to a research question and get mentorship and access to senior leaders at the firm.
- **Girls Who Invest:** Sponsor external initiative which targets 30% of global capital managed by women by 2030.

- **Handshake and Posse Veterans:** Sponsor of external initiatives which focus on military talent transitioning into corporate America.
- **Women Educating on Careers in Asset Management:** Senior-level women at the firm focus on providing an overview of careers in asset management to underserved populations, sponsoring female talent at the firm, and mentoring junior-level female talent.
- **Women's Advisory Council:** Comprising senior-level women across the firm who sponsor and develop junior-level employees and serve as educators and ambassadors on careers in asset management. In a similar way, the Junior Women's Advisory Council supports and engages junior-level women at PGIM in New York and New Jersey.
- **Veterans Leadership Circle:** Focuses on veterans' recruitment and retention, and increasing a sense of belonging at the firm.
- **Black Executive Leadership Team:** Comprising VP+ senior leaders who focus on recruitment, retention and increasing representation at the firm. The group also advises senior leadership on creating a sense of belonging for this talent group and provides strategic advice on racial equity plans.
- **Latinx Executive Leadership Team:** Comprising VP+ senior leaders who focus on recruitment, retention, and increasing representation at the firm. The group also advises senior leadership on creating a sense of belonging for this talent group and provides strategic advice on racial equity plans.
- **LGBTQ+ Think Tank:** Provides strategic direction and counsel to senior leadership, the talent and market opportunity, and how to recruit and retain the top talent from this community.
- **Employee-led Business Resource Groups:** Inform the company's diversity and inclusion strategy and drive business execution to help make sure business solutions reflect the diversity of our customers.
- We are also proud that *Pensions & Investments* has named PGIM a "Best Place to Work in Money Management."

# APPENDICES

## APPENDIX I: TCFD DISCLOSURE INDEX

The following table outlines where recommended disclosures by the Task Force on Climate-Related Financial Disclosures (TCFD) can be found throughout this report.

| DISCLOSURE | PAGE |
|---|---|
| Governance | |
| Describe the Board's oversight of climate-related risks and opportunities | – |
| Describe management's role in assessing and managing climate-related risks and opportunities | 3, 6-7 |
| Strategy | |
| Describe the climate-related risks and opportunities the organization has identified over the short, medium, and longer terms | 8-9 |
| Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning | 9-10 |
| Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario | – |
| Risk Management | |
| Describe the organization's processes for identifying and assessing climate-related risks | 9-12, 16-22 |
| Describe the organization's processes for managing climate-related risks | 9-12, 17-22, 40, 43 |
| Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management | – |
| Metrics and targets | |
| Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk-management process | 10, 26, 29-30 |
| Disclose Scope 1, Scope 2 and if appropriate, Scope 3 GHG emissions and related risks | – |
| Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets | 26, 28-30 |

# APPENDIX II: ESG /SUSTAINABILITY INITIATIVES

| | PGIM FIXED INCOME | PGIM REAL ESTATE | JENNISON ASSOCIATES | PGIM PRIVATE CAPITAL | PGIM QUANTITATIVE SOLUTIONS |
|---|---|---|---|---|---|
| Principles for Responsible Investment (UN PRI) Signatory | Y | Y | Y | | Y |
| Formal Supporter of Task Force for Climate-Related Disclosures (TCFD) | Y | Y | Y | Y | Y |
| UK Stewardship Code Signatory | Y | Y | | | |
| Council for Institutional Investors* | Y | Y | Y | Y | Y |
| Institutional Investors Group on Climate Change (IIGCC)* | Y | Y | Y | Y | Y |
| Ceres Investor Network* | Y | Y | Y | Y | Y |
| International Financial Reporting Standards Foundation (IFRS) Sustainability Alliance* | Y | Y | Y | Y | Y |
| Global Real Estate Sustainability Benchmark (GRESB) participant | | Y | | | |
| Net Zero commitment - Urban Land Institute's (ULI's) Greenprint Net Zero Carbon Operations goal | | Y | | | |
| Better Buildings Partnership | | Y | | | |
| Climate Action 100+ | | | Y | | |
| Access to Medicine Foundation | | | Y | | |
| CDP | | | Y | | Y |
| IFRS Sustainability Alliance, Investor Advisory Group | | | | | Y |
| Climate Bond Initiative | Y | | | | |
| European Leveraged Finance Association (ELFA) ESG Committee | Y | | | | |

* Initiative joined at PGIM level.

# APPENDIX III: LINKS TO KEY DOCUMENTS AND THOUGHT LEADERSHIP

| | PGIM FIXED INCOME | PGIM REAL ESTATE | JENNISON ASSOCIATES | PGIM PRIVATE CAPITAL | PGIM QUANTITATIVE SOLUTIONS |
|---|---|---|---|---|---|
| ESG Policy | PGIM Fixed Income – ESG Policy Statement | PGIM Real Estate ESG Policy | Jennison Responsible Investment Policy | PPC ESG Approach | PGIM Quant ESG Policy Statement |
| SFDR Disclosure | SFDR Information | SFDR Downloads | | | |
| UN PRI Assessment & Transparency Reports | Fixed Income PRI Assessment and Transparency Reports | Real Estate UN PRI Transparency Report | | | PGIM Quant UN PRI Transparency Report |
| UK Stewardship Code Report | Fixed Income Stewardship Report | Investment Stewardship Report 2021 | | | |
| Voting Policy | | | Jennison Proxy Voting Policy | | PGIM Quant Proxy Voting Overview |
| Voting Record | | | Jennison Proxy Voting Record | | PGIM Quant Proxy Voting Results |
| Engagement Policy | | | Jennison Engagement Policy | | |
| ESG Overview | PGIM Fixed Income ESG Investing | | Jennison ESG Insights | | PGIM Quant ESG Overview |
| White Papers/Thought leadership | The Transition to Net Zero – A Challenge for Central Banks | PGIM Real Estate – Impact Investing | The Multi-Decade Energy Transition | | ESG Indexing with Exclusions |
| | Corporate ESG Impact Ratings: Concept, Process, and Implementation | Incorporating ESG and Sustainability into Real Estate | Beyond Fuel: The Reinvention of Energy Infrastructure | | ESG at a Crossroads: Time for a New Risk Direction |
| | The Data Deficiency Problem Facing ESG | Diversity, Equity and Inclusion in Real Estate | | | Seeking a Strong Alternative to ESG Indexes |
| | The Environmental and Social Trade-offs of Electric Vehicles | The Great Repricing: Financial Advice in the Age of Climate Change | | | ESG Solutions: Low Carbon Emission Outcomes |
| | ESG-Labelled Muni Funds: Fact or Fiction | The Evolution of ESG in Real Estate | | | ESG Solutions: Low Water Usage Outcomes |
| | | | | | Navigating the ESG Bubble |
| Podcasts: Fixed on ESG | Fixed On ESG | The Intersection of Climate Change and Inequality | | | |

# DISCLAIMER

For Professional Investor Use Only. All investments involve risks, including possible loss of principal. Past performance is not indicative of future results.

The information contained herein is provided by PGIM, Inc., the principal asset management business of Prudential Financial, Inc. (PFI), and a trading name of PGIM, Inc. and its global subsidiaries. PGIM, Inc. is an investment adviser registered with the U.S. Securities and Exchange Commission (SEC). Registration with the SEC does not imply a certain level of skill or training.

This report is for informational and educational purposes only and should not be construed as investment advice or an offer or solicitation in respect of any products or services to any persons who are prohibited from receiving such information under the laws applicable to their place of citizenship, domicile or residence. The information is not intended as investment advice and is not a recommendation about managing or investing assets.

In the United Kingdom, information is issued by PGIM Limited with registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR. PGIM Limited is authorized and regulated by the Financial Conduct Authority ("FCA") of the United Kingdom (Firm Reference Number 193418). In the European Economic Area ("EEA"), information is issued by PGIM Netherlands B.V. with registered office: Gustav Mahlerlaan 1212, 1081 LA Amsterdam, The Netherlands. PGIM Netherlands B.V. is, authorized by the Autoriteit Financiële Markten ("AFM") in the Netherlands (Registration number 15003620) and operating on the basis of a European passport. In certain EEA countries, information is, where permitted, presented by PGIM Limited in reliance of provisions, exemptions or licenses available to PGIM Limited under temporary permission arrangements following the exit of the United Kingdom from the European Union. These materials are issued by PGIM Limited and/or PGIM Netherlands B.V. to persons who are professional clients as defined under the rules of the FCA and/or to persons who are professional clients as defined in the relevant local implementation of Directive 2014/65/EU (MiFID II). In Italy, information is provided by PGIM Limited authorized to operate in Italy by Commissione Nazionale per le Società e la Borsa (CONSOB). In Japan, information is provided by PGIM Japan Co., Ltd. ("PGIM Japan") and/or PGIM Real Estate (Japan) Ltd. ("PGIMREJ"). PGIM Japan, a registered Financial Instruments Business Operator with the Financial Services Agency of Japan offers various investment management services in Japan. PGIMREJ is a Japanese real estate asset manager that is registered with the Kanto Local Finance Bureau of Japan. In Hong Kong, information is provided by PGIM (Hong Kong) Limited, a regulated entity with the Securities & Futures Commission in Hong Kong to professional investors as defined in Section 1 of Part 1 of Schedule 1 of the Securities and Futures Ordinance (Cap. 571). In Singapore, information is issued by PGIM (Singapore) Pte. Ltd. ("PGIM Singapore"), a regulated entity with the Monetary Authority of Singapore under a Capital Markets Services License to conduct fund management and an exempt financial adviser. This material is issued by PGIM Singapore for the general information of "institutional investors" pursuant to Section 304 of the Securities and Futures Act 2001 of Singapore (the "SFA") and "accredited investors" and other relevant persons in accordance with the conditions specified in Section 305 of the SFA. In South Korea, information is issued by PGIM, Inc., which is licensed to provide discretionary investment management services directly to South Korean qualified institutional investors on a cross-border basis.

The information provided in this report reflects PGIM's approach to ESG as at the date of this report and is subject to change without notice. We do not undertake to update any of such information in this report. Any references to "sustainable investing", "sustainable investments", "ESG" or similar terms in this report are intended as references to the internally defined criteria of the Company or our businesses only, as applicable, and not to any jurisdiction-specific regulatory definition. Our approach to inclusion of disclosures in this report is different from disclosures included in mandatory regulatory reporting, including under Securities and Exchange Commission ("SEC") regulations. While this report describes events, including potential future events, that may be significant, any significance does not necessarily equate to the level of materiality of disclosures required under U.S. federal securities laws. No reports, documents or websites that are cited or referred to in this document shall be deemed to form part of this report. Prudential is not responsible for the information contained on third-party websites, nor do we guarantee their accuracy and completeness.

This report does not amend or supplement in any way any offering documents relating to our clients, including publicly filed registration statements. No liability whatsoever is accepted for any loss (whether direct, indirect, or consequential) that may arise from any use of the information contained in or derived from this report. PGIM and its affiliates may make investment decisions that are inconsistent with the recommendations or views expressed herein, including for proprietary accounts of PGIM or its affiliates. Any projections or forecasts presented herein are as of the date of this presentation and are subject to change without notice. Actual data will vary and may not be reflected here. Projections and forecasts are subject to high levels of uncertainty. Accordingly, any projections or forecasts should be viewed as merely representative of a broad range of possible outcomes.

This material may contain examples of the firm's internal ESG research program and is not intended to represent any particular product's or strategy's performance or how any particular product or strategy will be invested or allocated at any particular time. PGIM's ESG processes, rankings and factors may change over time, and differ across PGIM affiliates. ESG investing is qualitative and subjective by nature; there is no guarantee that the criteria used or judgment exercised by PGIM will reflect the beliefs or values of any investor. There is no assurance that PGIM's ESG investing techniques will be successful.

Certain information in this document has been obtained from sources that PGIM believes to be reliable as of the date presented; however, PGIM Real cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. Information regarding ESG practices is obtained through third-party reporting, which may not be accurate or complete, and PGIM depends on this information to evaluate a company's commitment to, or implementation of, ESG practices. ESG norms differ by region.

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.



**Forward-Looking Statements**

Certain of the statements included in this report, including those regarding our ESG initiatives, constitute forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are made based on management's current expectations and beliefs concerning future developments and plans and their potential effects upon Prudential Financial, Inc. and its subsidiaries. All statements other than statements of historical fact could be forward-looking statements, which speak only as of the date they are made, are not guarantees of future performance and are subject to certain risks, uncertainties and other factors, many of which are beyond our control and are difficult to predict. Prudential Financial, Inc.'s actual results may differ, possibly materially, from expectations or estimates reflected in or implied by such forward-looking statements. Certain important factors that could cause actual results to differ, possibly materially, from expectations or estimates reflected in such forward-looking statements can be found in the "Risk Factors" and "Forward-Looking Statements" sections included in Prudential Financial, Inc.'s SEC filings, including our most recent Annual Reports on Form 10-K and subsequent Quarterly

Reports on Form 10-Q and current reports on Form 8-K. Statements regarding our ESG initiatives are subject to the risk that we will be unable to execute our strategy because of market or competitive conditions or other factors. Except as required by law, Prudential Financial, Inc. does not undertake to update any particular forward-looking statement included in this document as a result of future events or otherwise.

## IMPORTANT INFORMATION AND DISCLOSURES REGARDING THIRD PARTY REFERENCES/RANKINGS MENTIONED THROUGHOUT THIS REPORT

**GRESB**

GRESB is an independent rating agency. Participation is voluntary and administration fees were paid by PGIM Real Estate's various funds for this submission, which is a volume-based fee for all submitters and is required to participate in the ranking. For more information, please visit https://www.gresb.com/nl-en/. PGIM Real Estate submitted 23 total funds/properties for GRESB evaluation in 2022, of which 2 were submitted for Management only and 21 for Management & Performance; 11 of the 21 were also submitted for Management & Development. The GRESB ratings published in October 2022 represent AUM as of December 31, 2021 which was submitted for assessment in July 2022. Participation is voluntary and administration fees were paid by PGIM Real Estate's various funds for this submission, which is a volume-based fee for all submitters and is required to participate in the ranking. GRESB ranks 1,100 property companies and funds on behalf of its investor members across the globe. GRESB scores allow for comparison within a specific year against global GRESB universe as well as defined peer groups by rating the fund out of 5 stars.

**PRI**

Principles for Responsible Investment (PRI) is an independent rating agency. These latest ratings were published in September based on data as of December 31, 2021. Participation is voluntary and administration fees were paid by PGIM Real Estate for this submission.

**MEASURABL**

Measurabl is the data management provider of choice for PGIM Real Estate. Measurabl collects and tracks the data for 13 billion square feet of commercial real estate across 90 countries as of June 30, 2022.

**GREEN BUILDING CERTIFICATIONS AND RATINGS:**

Generally, we share internationally recognized certifications. A certificate is independently verified recognition that a property has received a green building rating. Participation in a green building rating is voluntary and each property pays prevailing market fees to participate in green building certification programs. Green building certifications referenced in this report are accurate as of June 30, 2022, based on data as of December 31, 2021. Included in this report are references to green building certifications such as: +LEED +ENERGY STAR Label +Fitwel +CAL Green +IREM +WIRED +GBAC +NGBS +BOMA 360 +TOBY +WELL +WiredScore

**FITWEL**

Fitwel® certifications are valid for 3 years and designates properties with a numerical score and star rating out of 3. Participation is voluntary and properties pay individually for certification.

PGIM

THE PURSUIT OF OUTPERFORMANCE™

For media and other inquiries, please contact thought.leadership@pgim.com.

Visit us online at www.pgim.com.

Follow us @PGIM on LinkedIn and Twitter for the latest news and content.