

June 2025

Climate-related risk and opportunity report

Introduction

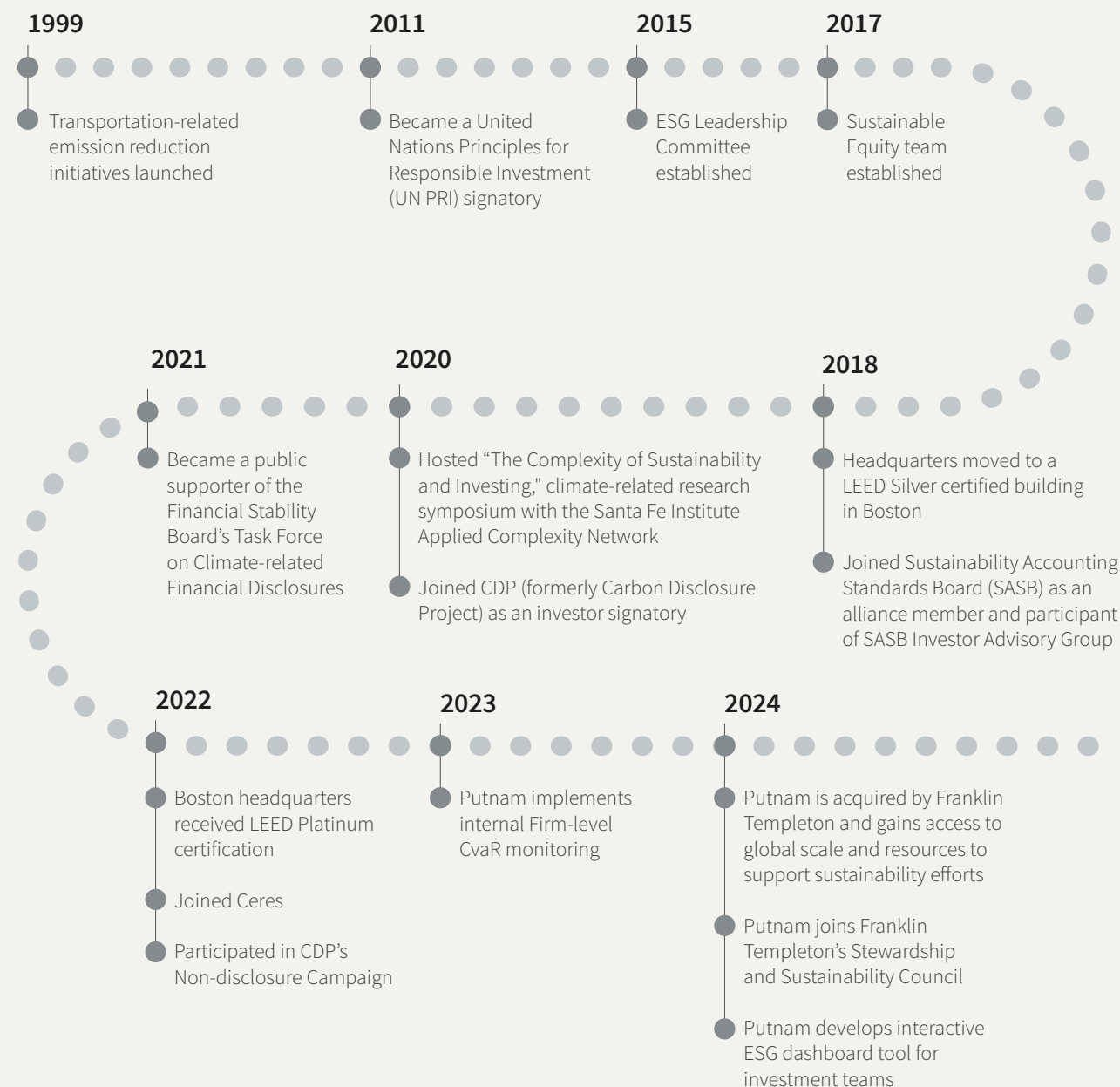
Climate risk and environmental management are focus areas for Putnam as these issues present important risks and opportunities for businesses and investors. We perceive notable economic consequences from the transition to a lower-carbon economy, including development of new technologies and business models, rapidly changing regulatory frameworks, shifting consumer decisions, and impacts on materials availability and costs. Analysis of these intertwined elements creates opportunities for active managers to identify potential beneficiaries and to continue to refine research questions.

Consistent with Putnam's overall investment approach and as noted in our ESG Integration Policy, we believe that incorporating consideration of financially material environmental issues is additive and complementary to our fundamental research process and can provide long-term value to clients.

We are a public supporter of the initial disclosure framework created by the Financial Stability Board's (FSB) Task Force on Climate-related Financial Disclosure (TCFD), the integration of TCFD recommendations in the inaugural ISSB Standards and IFRS Foundation's ongoing progress monitoring of company climate related disclosures. We encourage issuers to adopt the set of reporting guidelines focused on climate risk governance, strategy, risk management, metrics and targets.*

* The TCFD fulfilled its objective to develop recommendations and released its status report on October 12, 2023. The IFRS Foundation (International Financial Reporting Standards) now monitors companies' progress on climate-related disclosures. The IFRS Foundation is a not-for-profit, public interest organization established to develop high-quality, understandable, enforceable, and globally accepted accounting and sustainability disclosure standards.

Putnam milestones — Sustainability and climate



Governance

Disclose the organization's governance around climate-related risks and opportunities

At Putnam, responsibility for assessing and managing climate-related risks and opportunities is spread across different teams and individuals. Putnam's ESG Leadership Committee is responsible for setting ESG-related policy, including climate-related policy. It also oversees the establishment of strategic priorities for Putnam's ESG-related activity. The Committee includes senior leaders from across the organization and meets regularly to monitor progress across multiple functions and ensure fulfillment of client, regulatory, and investment objectives.

ESG integration and oversight at Putnam is a collaborative effort that spans numerous functional roles throughout the firm. While portfolio managers have ultimate decision-making authority for the strategies they manage, and the level of ESG integration will vary across strategies, the collaborative investment culture incorporates discussion, analysis, and oversight throughout the research process. Investment teams have access to third-party ESG data and internally developed ESG analytical tools. Climate risk and environmental management are core elements of Putnam's overall ESG integration strategy and are part of the firm's risk function.

Climate responsibilities and reporting structure

Role	Reporting to	Climate-related responsibilities
Chief Investment Officer	Head of Public Markets	Lead strategy and execution for Putnam; oversee of all investment-related matters
Head of Risk & Quantitative Strategies	Chief Investment Officer	Incorporate climate-related risk approach in firmwide risk processes
Risk Analysts	Risk Manager	Identify, monitor, and communicate climate risks and controls across Putnam's investment activities; determine metrics and calculations for portfolio analysis and client reporting
Director of Investment Compliance	VP – Franklin Templeton Investment Compliance	Oversee daily compliance with the investment guidelines and restrictions imposed by law, regulation, or contracts with clients
Head of Sustainable Investing	Chief Investment Officer	Lead strategy for ESG integration; manage sustainable investment strategy suite
Director of Equity Research	Chief Investment Officer	Manage sector analysts and oversee research activities, including assessment of climate risks and opportunities at the sector and issuer level
Equity Analysts	Director of Equity Research	Assess impact of financially material climate risks at the issuer and sector level
Head of Sustainability Strategy	Chief Investment Officer	Lead strategy for stewardship and engagement and collaborative affiliations; coordinate with parent company across a range of activities, including climate reporting

Climate-related committees and working groups

Committee/Working group	Leadership	Focus
ESG Leadership Committee	Chaired by Head of Sustainability Strategy	Responsible for setting firmwide ESG-related policy and strategic priorities for Putnam ESG-related activity; meets quarterly to monitor progress across multiple functions to ensure fulfillment of client, regulatory, and investment objectives; composed of cross-divisional senior professionals
Proxy Voting Committee	Chaired by a Portfolio Manager	Responsible for establishing proxy guidelines; considers special proxy issues that may arise; composed of Portfolio Managers and the Head of Sustainability Strategy
Stewardship and Engagement Working Group	Led by Head of Sustainability Strategy	Responsible for reviewing and prioritizing stewardship activities; composed of Sustainability Strategy, Research, and client service professionals
Climate Risk Working Group	Led by Head of Quantitative Equities & Risk	Responsible for collaborating on climate initiatives, including reporting and analytics; composed of Investment Risk, Investments, and Sustainability Strategy professionals

As a Franklin Templeton specialist investment manager (SIM), our governance structure is complemented by Franklin Templeton's overarching approach to governance of climate-related risks and opportunities which involves Board and Executive Committee oversight as described in [Franklin Templeton's TCFD Corporate Report for Fiscal Year 2024](#).

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material

At Putnam, we are driven by our commitment to active investing and its potential to create valuable products, pursue strong performance, and steward long-term investments with care.

Climate-related risks faced by the companies in our investment portfolios fall into two primary categories:

- Transition risks that may result from shifts including legal and regulatory landscapes, technology changes, market responses, and reputational considerations
- Physical risks that may stem from acute weather-driven events (droughts, floods, or fires) or chronic shifts in weather patterns (long-term shifts in precipitation and/or temperature)

Putnam's strategic approach for assessing climate risks and opportunities involves four key objectives:

- Integrate financially material climate-related risks and opportunities (transition and physical, among others) in fundamental research processes across the sectors in which we invest
- Include climate risk assessments in risk oversight processes. Metrics used to assess climate-related risk and opportunities at the portfolio and firmwide level are provided in the "Metrics and targets" section of this report
- Apply active stewardship efforts (engagement and proxy voting) to encourage issuer disclosure of investment relevant climate-related risks and effective corporate governance to manage such risks
- Increase internal expertise regarding climate risks and opportunities and associated tools, metrics, and analysis through active participation in affiliations with comparable goals and objectives

Risk management

Disclose how the organization identifies, assesses, and manages climate-related risks

Investment research

We believe that climate-related risks are relevant and material to long-term business fundamentals, and for that reason, important to all investors. Climate-related risks vary by sector, geography, and issuer context. Therefore, fundamental research that is tailored to different settings has potential to add meaningful value.

Given this philosophy, our ongoing climate-related research is guided by our internally developed [materiality map](#), which is inspired by the work of the Sustainability Accounting Standards Board (SASB), now the International Sustainability Standards Board (ISSB). Analysts consider climate-related issues, where financially material, within their research process and publications, which are documented within Putnam's internal investment systems. We believe that this kind of tailored and forward-looking research focus has the potential to mitigate risk, generate alpha, and be a key contributor to long-term investment results.

Putnam's materiality map is reviewed annually and currently reflects the relevance of a range of environmental considerations such as climate change mitigation; physical climate-change risk; greenhouse gas emissions; energy intensity and renewable energy use; materials sourcing, intensity, and lifecycle management; water intensity and stress; and biodiversity and ecosystems impact. Additionally, Putnam's Sustainable Equity team's research is informed by a Thriving Planet map which includes a spectrum of environmental related opportunities including Circular economy, Biological Solutions, Resource Stewardship and Sustainable agriculture.

Research of material climate matters is used in conjunction with assessment of governance and social issues, as many risks and opportunities are interconnected. Members of the Putnam Equity investment team have access to third-party data to assess ESG metrics for issuers, sectors, and portfolios. ESG data sets are embedded within the investment platform, allowing for integration where relevant.

As a Franklin Templeton specialist investment manager, Putnam benefits from centralized support offering the data, analytical tools, and opportunities for internal team collaboration and resources to meet clients' needs.

Investment risk

Putnam has established an independent risk team charged with identifying, monitoring, assessing, and communicating market-related risk factors and controls across Putnam's investment activities. The risk team conducts a quarterly climate value at risk (VaR) review of Putnam's overall assets, a forward-looking and return-based valuation assessment to measure climate-related risks and opportunities. The risk team also reviews climate related risks as part of the quarterly fund review held with each investment team, with the goal of raising awareness of any trends in climate metrics and how each strategy compares to the benchmark. In addition, Putnam's web-based investment platform provides a dashboard for the investment teams and the risk team to effectively monitor ESG exposures for each strategy. The dashboard is updated daily to incorporate any changes to portfolio holdings or vendor data.

Engagement and proxy voting

In addition to investment research, Putnam may identify potential climate risks through the engagement and proxy voting processes. Putnam believes that proxy voting can be an important tool for investors to promote best practices in corporate governance and votes proxies in the best interests of its clients as investors. Furthermore, Putnam believes that sustainable environmental practices are important components of long-term value creation. We expect companies to evaluate the potential risks to their business operations that are directly related to environmental factors (among others). In evaluating shareholder proposals relating to environmental initiatives, Putnam takes into account (1) the relevance and materiality of the proposal to the company's business, (2) whether the proposal is well crafted (for example, whether it references science-based targets or standard global protocols), and (3) the practicality or reasonableness of implementing the proposal. Should the investment research or proxy review processes uncover material climate risks or opportunities that warrant further exploration, Putnam will engage with issuers in two-way dialogue to assess

the issuer's knowledge of material climate risks, to better understand the cost-effectiveness of any plans to mitigate risks and maximize opportunities, and to assess governance practices. The majority of engagements occur privately and directly with issuers and includes direct dialogue with company management and/or boards of directors. We believe that engaging directly and privately leads to the most effective and candid communication, is most additive to our research process and mosaic of information gathering and offers the highest benefit to our clients.

Metrics and targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material

Acknowledging the immense complexity of climate-related risk, we note that while frameworks and data have progressed significantly, any metric or set of metrics still requires significant context. We analyze climate-related factors where material and financially relevant, and where the data is available and, we believe, sufficiently accurate. We also incorporate climate-related factors where expressly agreed with our clients, such as in response to their legal requirements or sustainable investment goals.

Analysis to assess climate value at risk is focused on three key components:

- Transition risks associated with shifts in regulatory and policy landscapes as well as corporate and country greenhouse gas emission reduction approaches
- Physical risks associated with acute and chronic weather-related events
- Opportunities stemming from technological advancements and process innovation

A variety of climate-related metrics may be evaluated, such as but not limited to:

- Carbon footprint — emissions, intensity, and weighted average carbon intensity
- Adaptive capacity to climate change — presence of GHG reduction targets, use of cleaner energy sources
- Exposure to companies classified as low carbon or low carbon solutions
- Exposure to energy sector and power generation – thermal coal, oil and gas, renewables

Relevant climate risk metrics, subject to availability and data quality, are periodically reviewed against applicable benchmarks at the portfolio level and firm level by Portfolio Managers and the Head of Risk & Quantitative Strategies, respectively. Established thresholds allow for identification of risk trends that require further review of portfolio holdings or firm-issuer composition. Results of periodic reviews may trigger initial or follow-up engagement with issuers, as described in detail above.

Conclusion

Putnam believes that an effective, sustainable global financial system is necessary for value creation on behalf of its clients. Our active, research-intensive approach inherently recognizes the importance of fundamental business issues to the investment process, including thoughtful assessment of financially material climate-related risks and opportunities.

While Putnam's ESG Leadership Committee is responsible for setting firmwide ESG-related policy and establishing strategic priorities, numerous roles across the firm play a part in climate-related research, analysis, and reporting for individual securities, portfolios, firm-level assets.

We are committed to monitoring the regulatory landscape, client interests, and the availability and accuracy of climate-related data and will continue to refine our strategy with the goal of providing long-term value to clients.

This material is a general communication being provided for informational and educational purposes only. It is not designed to be investment advice or a recommendation of any specific investment product, strategy, or decision, and is not intended to suggest taking or refraining from any course of action. The opinions expressed in this material represent the current, good-faith views of the author(s) at the time of publication. The views are provided for informational purposes only and are subject to change. This material does not take into account any investor's particular investment objectives, strategies, tax status, or investment horizon. Investors should consult a financial advisor for advice suited to their individual financial needs. Putnam Investments cannot guarantee the accuracy or completeness of any statements or data contained in the material. Predictions, opinions, and other information contained in this material are subject to change. Any forward-looking statements speak only as of the date they are made, and Putnam assumes no duty to update them. Forward-looking statements are subject to numerous assumptions, risks, and uncertainties. Actual results could differ materially from those anticipated. Past performance is not a guarantee of future results. As with any investment, there is a potential for profit as well as the possibility of loss.

ESG Integration: At Putnam, we define ESG integration as the systematic inclusion of financially material ESG issues (including sustainability risks) as additional inputs into investment analysis and investment decision-making, where possible and appropriate. By considering financially material ESG issues across asset classes, we believe that ESG integration can inform better long-term investment decision-making and may contribute to long-term financial returns. As ESG integration is an enhancement to achieving a financial goal, we believe it can be applied across a wide spectrum of strategies and portfolios. We believe that certain ESG issues are relevant and material to long-term business fundamentals and security values, and important to all investors. Because our goal is to focus research in areas that are most investment relevant, our approaches are guided by mapping financially material ESG issues. Our efforts were inspired by the work of the Sustainability Accounting Standards Board (SASB), which is now part of the International Sustainability Standards Board (ISSB). We have internally developed materiality maps to help structure our ESG-related research priorities, with a goal of adding investment-relevant insights. The relevance and materiality of other ESG issues in our process will differ from strategy to strategy, from sector to sector, and from portfolio manager to portfolio manager, and for some strategies, most notably those where we lack relevant ESG data, ESG considerations are not a material part of our process. Unless stated otherwise in a financial product's documentation, and included within its investment objective and investment policy, ESG integration does not change a product's investment objective or constrain Putnam's investable universe. ESG determinations may not be conclusive, and securities of companies/ issuers may be purchased and retained, without limit, regardless of potential ESG impact. The impact of ESG Integration on performance is not specifically measurable as

investment decisions are discretionary regardless of ESG considerations. This material or any portion hereof may not be reprinted, sold, or redistributed in whole or in part without the express written consent of Putnam Investments. The information provided relates to Putnam Investments and its affiliates, which include Putnam Investment Management, LLC, The Putnam Advisory Company, LLC and Putnam Investments Limited®. Putnam Investments is a Franklin Templeton company. Products, services and information may not be available in all jurisdictions and are offered outside the U.S. by other FT affiliates and/or their distributors as local laws and regulation permits. Please consult your own financial professional or Franklin Templeton institutional contact for further information on availability.

Brazil: Issued by Franklin Templeton Investimentos (Brasil) Ltda., authorized to render investment management services by CVM per Declaratory Act n. 6.534, issued on October 1, 2001.

Canada: Issued by Franklin Templeton Investments Corp., 200 King Street West, Suite 1500 Toronto, ON, M5H3T4, Fax: (416) 364-1163, (800) 387-0830, www.franklintempleton.ca.

Offshore Americas: In the U.S., this publication is made available by Franklin Templeton, One Franklin Parkway, San Mateo, California 94403-1906. Tel: (800) 239-3894 (USA Toll-Free), (877) 389-0076 (Canada Toll-Free), and Fax: (727) 299-8736. U.S. by Franklin Templeton, One Franklin Parkway, San Mateo, California 94403-1906, (800) DIAL BEN/342-5236, franklintempleton.com. Investments are not FDIC insured; may lose value; and are not bank guaranteed.

Issued in Europe by: Franklin Templeton International Services S.à r.l. – Supervised by the Commission de Surveillance du Secteur Financier - 8A, rue Albert Borschette, L-1246 Luxembourg. Tel: +352-46 66 67-1 Fax: +352-46 66 76. **Poland:** Issued by Templeton Asset Management (Poland) TFI S.A.; Rondo ONZ 1; 00-124 Warsaw. **South Africa:** Issued by Franklin Templeton Investments SA (PTY) Ltd, which is an authorised Financial Services Provider. Tel: +27 (21) 831 7400 Fax: +27 (21) 831 7422. **Switzerland:** Issued by Franklin Templeton Switzerland Ltd, Stockerstrasse 38, CH-8002 Zurich. **United Arab Emirates:** Issued by Franklin Templeton Investments (ME) Limited, authorized and regulated by the Dubai Financial Services Authority. **Dubai office:** Franklin Templeton, The Gate, East Wing, Level 2, Dubai International Financial Centre, P.O. Box 506613, Dubai, U.A.E. Tel: +9714-4284100 Fax: +9714-4284140. **UK:** Issued by Franklin Templeton Investment Management Limited (FTIML), registered office: Cannon Place, 78 Cannon Street, London EC4N 6HL. Tel: +44 (0)20 7073 8500. Authorized and regulated in the United Kingdom by the Financial Conduct Authority.

Australia: Issued by Franklin Templeton Australia Limited (ABN 76 004 835 849) (Australian Financial Services License Holder No. 240827), Level 47, 120 Collins Street, Melbourne, Victoria 3000. **Hong Kong:** Issued by Franklin Templeton Investments (Asia) Limited, 62/F, Two IFC, 8 Finance Street, Central, Hong Kong. **Japan:** Issued by Franklin Templeton Investments Japan Limited. **Korea:** Issued by Franklin Templeton Investment Trust Management Co., Ltd., 3rd fl., CCMM Building, 12 Yoido-Dong, Youngdungpo-Gu, Seoul, Korea 150-968.

Malaysia: Issued by Franklin Templeton Asset Management (Malaysia) Sdn. Bhd. & Franklin Templeton GSC Asset Management Sdn. Bhd. This document has not been reviewed by Securities Commission Malaysia. **Singapore:** Issued by Templeton Asset Management Ltd. Registration No. (UEN) 199205211E and Legg Mason Asset Management Singapore Pte. Limited, Registration Number (UEN) 200007942R. Legg Mason Asset Management Singapore Pte. Limited is an indirect wholly owned subsidiary of Franklin Resources, Inc. 7 Temasek Boulevard, #38-03 Suntec Tower One, 038987, Singapore.

Please visit www.franklinresources.com to be directed to your local Franklin Templeton website.

Copyright © 2025 Franklin Templeton. All rights reserved.