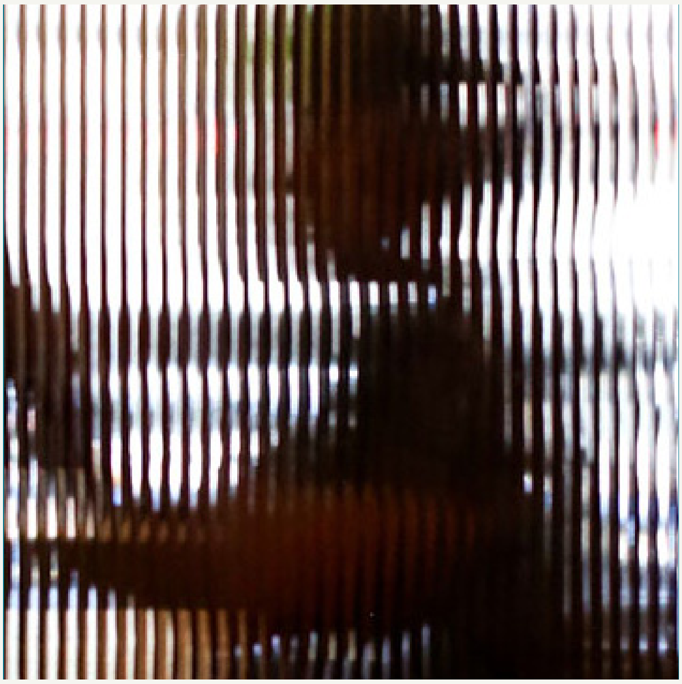


Sustainable Fixed Income Solutions

Case Studies from Institutional Investors

Executive Summary

State Street Investment Management has extensive experience helping institutional investors integrate sustainability requirements into their investments. New technology and big data are creating tremendous opportunities for investors while also disrupting conventional approaches to portfolio management. We understand that our clients view their sustainable investing objectives, and in turn their portfolios, holistically and we look to enable the integration of sustainable investing criteria, where desired, across fixed income, equity and beyond.

Here we share insights and examples of sustainable fixed income solutions developed and managed for institutional clients in recent years.

The data sources, metrics and thresholds used in the examples are driven by the unique needs of the investor.

We look to provide clients with investment solutions and customization capabilities that meet both their sustainable investing needs today and their future ambitions.

Contents

Reaching the Right Solution

Diversity of investor ambition and objectives is a common challenge implementers face when it comes to investing propositions that integrate climate-related objectives. Investors need a flexible range of solutions that can be tailored to their requirements with the possibility to adapt to incorporate new information and needs in the future. The ability of an asset manager to develop flexible and tailored solutions is crucial to meeting the variety of unique needs and risks investors face.

State Street Investment Management's sustainable investing capabilities and solutions are driven by our commitment to partnering with our clients. Our investment expertise, deep research, proprietary tools and robust reporting help give our clients the information they need to achieve their goals and invest with confidence.

While some investors have strong preferences for benchmarking their passive portfolio to a third-party index (either via an off-the-shelf sustainability index or customized version of an index with sustainability objectives integrated into its design), others prefer what we call a Custom Portfolio Solution. In a Custom Portfolio Solution the objectives are directly implemented into the portfolio construction process via explicit restrictions and targets, while remaining benchmarked against a standard or non-sustainability index.

We employ an iterative, consultative process to partner with clients and help ensure all relevant objectives and investment concerns are taken into consideration. The process includes inputs from our specialized sustainable investing data team, trading, portfolio management, investment strategists and risk management.

An Overview of Solutions

Whether an investor is seeking an equity or fixed income solution, each approach has certain trade-offs to consider.

Figure 1
Solution Characteristics

	Third-Party Index (Standard)	Third-Party Index (Custom)	Custom Portfolio Solution[1]
Tracking Error vs Index[2]	Low	Low	Medium / High
Flexibility to Change Over Time	Low	Medium	High
Variety of Sustainability Data	Low	Low	High
Speed of Implementation	High	Medium	Medium
Rebalance Frequency of Sustainability Data	Rigid	Rigid	Flexible
Index Label Elegibile (e.g. EU PAB)	Yes	Yes	No

Source: State Street Investment Management. June 2026.
Shading intensity relates to each factor (shown in the first column) and seeks to represent the option typically preferred by institutional investors seeking an index-like strategy while incorporating sustainability objectives. The more intense the shading, the more the option is commonly preferred; while the lighter the shading the less it is commonly preferred.

In our extensive experience working with sophisticated investors from around the world, the most common reasons why investors opt for the Custom Portfolio Solution is the flexibility to customize objectives and the ability to incorporate multiple data sources directly into the investment process while still achieving a low tracking-error volatility to the reference benchmark.

Figure 2
Data Providers in State Street Investment Management's Centralized Sustainability Factor Database

General	Climate/Carbon	Governance	Controversies & Business Involvement	Sovereign
ISS ESG MSCI ESG Ratings Moody's Refinitiv Net Purpose Sustainalytics ESG Risk Ratings Sustainable Fitch	Climate Bonds Initiative FTSE LCE ISS Climate LGX DataHub MSCI Climate S&P Trucost	ISS Governance MSCI Governance	MSCI BISR MSCI Controversies Sustainalytics Product Involvement Sustainalytics Global Compact Sustainalytics Controversial Weapons Radar	LSEG MSCI ESG Government Ratings S&P Trucost Sustainalytics Country Risk Rating

Source: State Street Investment Management, June 2026.

The proprietary Systematic Equity Tilted Beta Strategy and the Systematic Corporate Bond Tilted Beta Strategy are just some examples of the climate-thematic indexing and smart beta investment solutions which we offer.

The table below showcases a range of climate-thematic investment solutions that we have built and managed for clients in recent years.

In some instances we worked directly with an index provider to build a custom third-party index, while other case studies focus on bespoke custom portfolio solutions that apply a flexible, optimized structure utilising our multi-source sustainability data framework. The table below provides a summary of the case studies included in this paper. These are examples provided for illustrative purposes.

Figure 3
Fixed Income Case Study Examples of Customized Climate-Thematic Investment Solutions

	Case Study 1	**Case Study 2**	**Case Study 3**	**Case Study 4**
Benchmark	ICE Global Corporate	Bloomberg US Corporate Bond 1% Index	Bloomberg US Corporate Bond Index and the Bloomberg US High Yield Index	JPM CEMBI
Approach	Custom Portfolio Solution	Custom Portfolio Solution	Custom Portfolio Solution	Custom Third-Party Index
Carbon Reduction	✓	✓	✓	✓
YoY Carbon Reduction	✓	✓		
Forward-Looking Climate Metrics		✓		
Product Involvement Screening (#of screens)	✓ (>5)	✓ (>5)	✓	✓ (>5)
Controversy Screening	✓	✓	✓	✓
Sustainability Score Enhancement	✓	✓		
Other	Green Bonds	Green Bonds	Client Exclusion List	Green Bonds
	Client Exclusion List	Client Exclusion List		Country Exclusion Policy

YoY = Year-on-Year
Source: State Street Investment Management, June 2026.

Sustainable Fixed Income Solutions

Case Studies

Case Study 1

A Customized Climate Bond Strategy for a European Pension Fund

Background

An institutional investor wished to move from an active to a passive global corporate bond portfolio while maintaining their ICE Global Corporate Custom Bond Index with tailored sector exposures. They sought to integrate a comprehensive and targeted set of sustainable and climate-themed objectives into the investment strategy, while maintaining a low tracking error against the strategic benchmark.

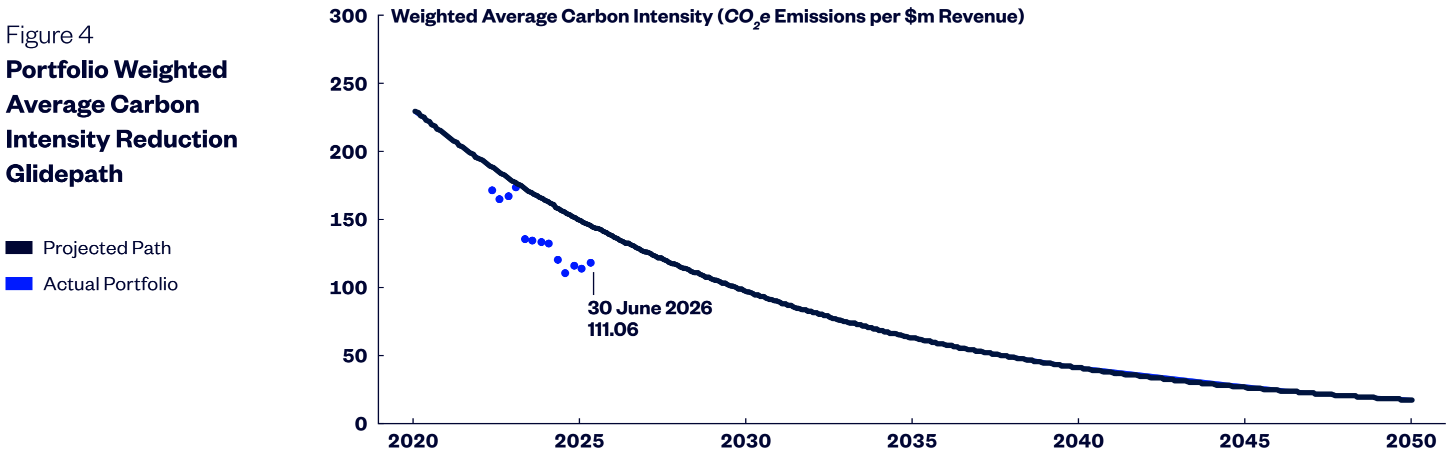
Solution Implementation

Using a modified version of the Systematic Corporate Bond Tilted Beta Strategy Framework this was then adjusted with the following key customizations to align with the client objectives:

- **Climate** 30% carbon reduction by 31 December 2024, with a then ongoing 7.6% year-on-year decarbonization pathway.
- **Green Bonds** Increase allocation to Green Bonds by more than 200% that of the weight in the benchmark.
- **Exclusions** Exclusion list provided by the client quarterly and complemented by State Street Investment Management's proprietary data analytics and a negative screening framework, using a selection of Product Involvement and Controversy Factors from the Point of View (POV) to identify and exclude high carbon and controversial companies from the investment universe.
- **Risk Rating** The portfolio's sustainability risk rating must be equal to or greater than that of the benchmark.
- **Flexibility** Ability to adjust restrictions, targets and inputs as and when required by the investor.
- **Overweight/Underweight Constraints** The client required ICE sub-sector level 2 relative to benchmark limits of 3% overweight/underweight as well as an issuer max 1% overweight constraint versus the benchmark.

Outcome We successfully launched the strategy with an initial €650 million investment in November 2022, based on a tailored version of the Systematic Corporate Bond Tilted Beta Strategy using specific data sources to align with the client's own data sources used for risk oversight, research and reporting purposes. We have been working with the investor to gradually incorporate the carbon reduction glide path as illustrated in figure 4 overleaf.

Figure 4
Portfolio Weighted Average Carbon Intensity Reduction Glidepath



Source: State Street Investment Management. As of 30 June 2026. The above estimates are based on certain assumptions and analysis made by State Street. There is no guarantee that the estimates will be achieved.

Case Study 2

A Customized Climate Bond Strategy with Forward-Looking Metrics for a Nordic Pension Fund

Background

An institutional investor sought to align its existing US corporate bond indexed strategy (benchmarked to the Bloomberg US Corporate Bond 1% Index) with a robust sustainable investing framework that incorporated both forward-looking and backward-looking metrics into a customized version of the Systematic Corporate Bond Tilted Beta Strategy.

Solution Implementation

Starting in Q4 2023, we worked with the investor to run simulations in applying a climate investment framework, in addition to their core exclusion list, on an existing portfolio benchmarked to the Bloomberg US Corporate Bond Index with a 1% issuer cap.

In Q1 2024, we worked to advance the framework further by incorporating forward-looking metrics. The final implementation was based on a customized version of the Systematic Corporate Bond Tilted Beta Strategy, integrating forward-looking climate-related metrics through a proprietary optimization engine. Key features of the strategy design included:

1 **Climate**
- 50% Scope 1 & 2 carbon intensity reduction versus the benchmark with annual 7.6% YoY reduction kicking in from 2030
- Minimize fossil fuel reserves & brown revenue
- Implied temperature rise target of ≤2°C
- Carbon risk rating assessment

2 **Exclusions** The screened factors included:
- Controversies (Violations of UN Global Compact Principles and Extreme ESG Controversies)
- Business Involvement (Civilian Firearms, Controversial Weapons, Thermal Coal, Arctic Oil & Gas, Oil Sands, Tobacco)

3 **Green Bond** The strategy overweighted green bonds by 2x the benchmark weight.

To bring the standard indexed strategy in line with the new custom climate framework required an approximately 30% turnover over 5 days, bringing the current mandate into line with our upgraded climate framework, ensuring best execution, minimizing trading costs and staying well within the 50 basis points tracking-error tolerance level.

Outcome We were able to identify and respond to the need of the client for climate integration and could offer our improved climate framework at the appropriate time. In April 2024, the Systematic Corporate Bond Tilted Beta Strategy successfully aligned the Nordic pension fund's investment approach with its sustainability framework, while also meeting its financial objectives. By incorporating forward-looking metrics and stringent screening criteria, the strategy aligned to the client's commitment to sustainable investing and desire to mitigate climate-related risks. The use of green bonds further enhanced the portfolio's exposure to assets expected to be more climate-resilient and contributing to a lower-carbon economy.

Case Study 3

A USD Investment Grade and High Yield Custom Low-Carbon Bond Strategy

Background

A Swiss pension fund sought to align its internally- and externally-managed portfolios across various asset classes with a consistent sustainability and climate-thematic framework, while maintaining a low tracking error to the strategic benchmarks (consisting of the Bloomberg US Corporate Bond Index and the Bloomberg US High Yield Index).

Solution Implementation

Research started with a number of focused workshops and meetings involving scenario testing and with a broad range of possible metrics including:

- Policy Value-at-Risk (VaR) improvement compared to standard benchmark[3]
- Technology VaR improvement compared to standard benchmark[4]
- Physical VaR improvement to standard benchmark[5]
- Low Carbon Transition score improvement to standard benchmark

Following extensive deliberation and scenario testing, the client opted for a nuanced allocation strategy based on a variation of the State Street Low-Carbon Corporate Bond Framework, specifically targeting the following factors:

1 **Climate** 40% carbon intensity reduction versus the benchmark.

2 **Exclusion List** A client-specific custom exclusion list.

Outcome The client chose State Street Investment Management as the preferred manager, recognizing the flexibility in the custom investment solution framework, experience in managing climate-thematic solutions, as well as its efficient and value-adding indexed fixed income approach.

Case Study 4

An Emerging Market Corporate Custom Climate Bond Index Strategy

Background

The client wished to switch their Emerging Market corporate bond strategy from an active to an indexed mandate, while also incorporating a customized version of the Systematic Corporate Bond Tilted Beta Strategy Framework into the index construction.

Solution Implementation

Using our proprietary data and optimization models we conducted in-depth analysis to explore data coverage and the various trade-offs between tracking error and the desired sustainability objectives. These scenarios were crucial in helping the client make informed decisions regarding their investment strategy. Once the preferred framework had been identified the index provider (JP Morgan) incorporated these into an index which could be systematically supplied to the client and the portfolio manager.

Starting with the JP Morgan CEMBI Broad Diversified Benchmark as the parent index, this was customized based on the following parameters:

1. **Climate** 50% carbon reduction versus the benchmark.

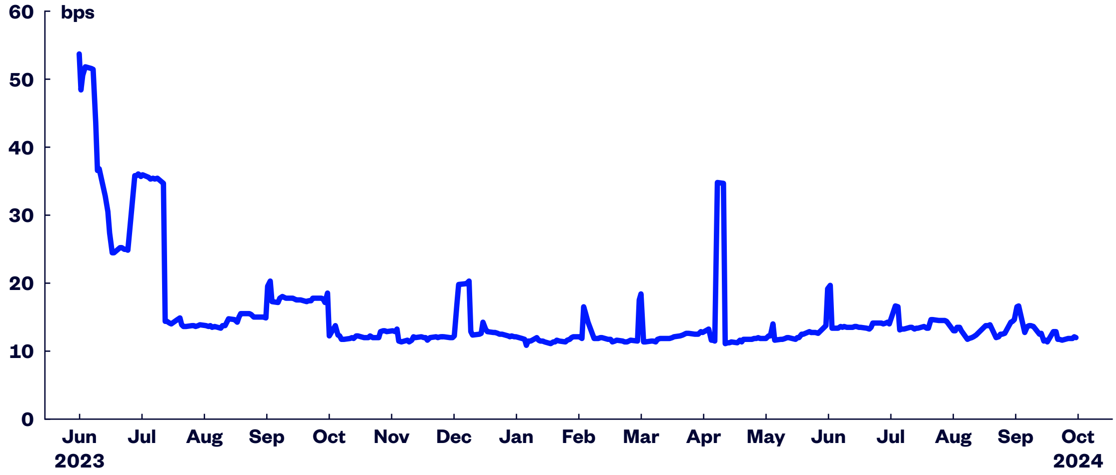
2. **Controversy & Business Involvement Screening** On a quarterly basis the client updates their exclusion list which includes Controversial Weapons, Civilian Firearms, Oil Sands, Shale Gas, Thermal Coal, and Tobacco. State Street Investment Management also provides a secondary screening check for these sustainability factors using the data sources and thresholds in our POV.

3. **Country Policy** Avoid investments in companies and governments which breach the investor's country policy, with a minimum threshold of 50% of share capital for state-owned companies.

Outcome We worked closely with the client to transition the portfolio from the legacy exposure into the new custom climate strategy which incepted in June 2023 with €650 million. Through our ongoing value-add stratified sampling approach, including the advantage of new corporate issues and corporate action participation, we have been able to further lower the tracking error volatility (TEV) to around 12 basis points, as demonstrated in Figure 5.

Figure 5

Tracking Error of the Emerging Market Corporate Custom Climate Bond Index Strategy



Source: State Street Investment Management, FactSet. As of 30 October 2024.

Sustainable Investing at State Street Investment Management

State Street's multi-source data architecture, along with our own insights in the field of sustainable investing, gives flexibility in data application. The data sources and metrics used in the examples provided vary considerably and are driven by the unique needs of the investor.

We are a global-scaled index and systematic investment manager with strengths in index investing (both institutional and ETFs), cash, and select active and multi-asset capabilities — underpinned by a spectrum of sustainable investing capabilities. Providing our clients with a range of investment solutions and customization capabilities that cater to their sustainable investing needs is a key pillar of our sustainable investing strategy.

Sustainable investing is a core pillar of our business and a key strategic initiative for the firm, and we have built extensive experience, resources and expertise into our sustainable investing solutions for clients. We continue to add resources to both the Sustainable Investing and Asset Stewardship teams across the organization, as well as collaborating with a broad range of partners, helping us remain at the forefront of sustainable investing and to continually enhance best-practice frameworks.

Whether clients are focused on risk management, responding to new regulations, making investments that align with their values, or seeking to enhance long-term performance, our capabilities can support clients in achieving their sustainable investing objectives.

Get in Touch

To learn more about how our sustainable aligned strategies could help you meet your investment goals please contact your State Street Investment Management representative or email us at: InstitutionalEMEA@statestreet.com

Endnotes

1 A passive investment solution which is typically benchmarked to a third-party index but which applies fund/portfolio level guidelines, restrictions and targets based on sustainable investment objectives.

2 The index is the benchmark used for standard performance and reporting purposes.

3 A company's aggregated downside policy risk exposure according to all emission sources (Scope 1, 2, 3), expressed as a percentage of the company's market value, assuming a global specified temperature target and using carbon prices from the REMIND model under the NGFS Orderly scenario.

4 A company's upside technology opportunity exposure, expressed as a percentage of the company's market value capped at 100%, assuming a global specified temperature target and calculated using carbon prices from the REMIND model under the NGFS Orderly scenario.

5 A company's expected downside or upside potential, expressed as a percentage of the company's market value, assuming trends in extreme cold, extreme heat, extreme precipitation, heavy snowfall, extreme wind, coastal flooding, fluvial flooding, tropical cyclones, river low flow and wildfires continue along the specified temperature target REMIND Orderly scenario.

statestreet.com/im

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Important Information

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All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

The returns on a portfolio of securities which exclude companies that do not meet the portfolio's sustainable strategy criteria may trail the returns on a portfolio of securities which include such companies. A portfolio's sustainable strategy criteria may result in the portfolio investing in industry sectors or securities which underperform the market as a whole.

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Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates raise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Equity securities may fluctuate in value and can decline significantly in response to the activities of individual companies and general market and economic conditions.

This document provides summary information regarding the Strategy. This document should be read in conjunction with the Strategy's Disclosure Document, which is available from State Street Investment Management. The Strategy Disclosure Document contains important information about the Strategy, including a description of a number of risks.

ID4719150-6729237.1.5.GBL.INST 0826
Exp. Date: 31/07/2027

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