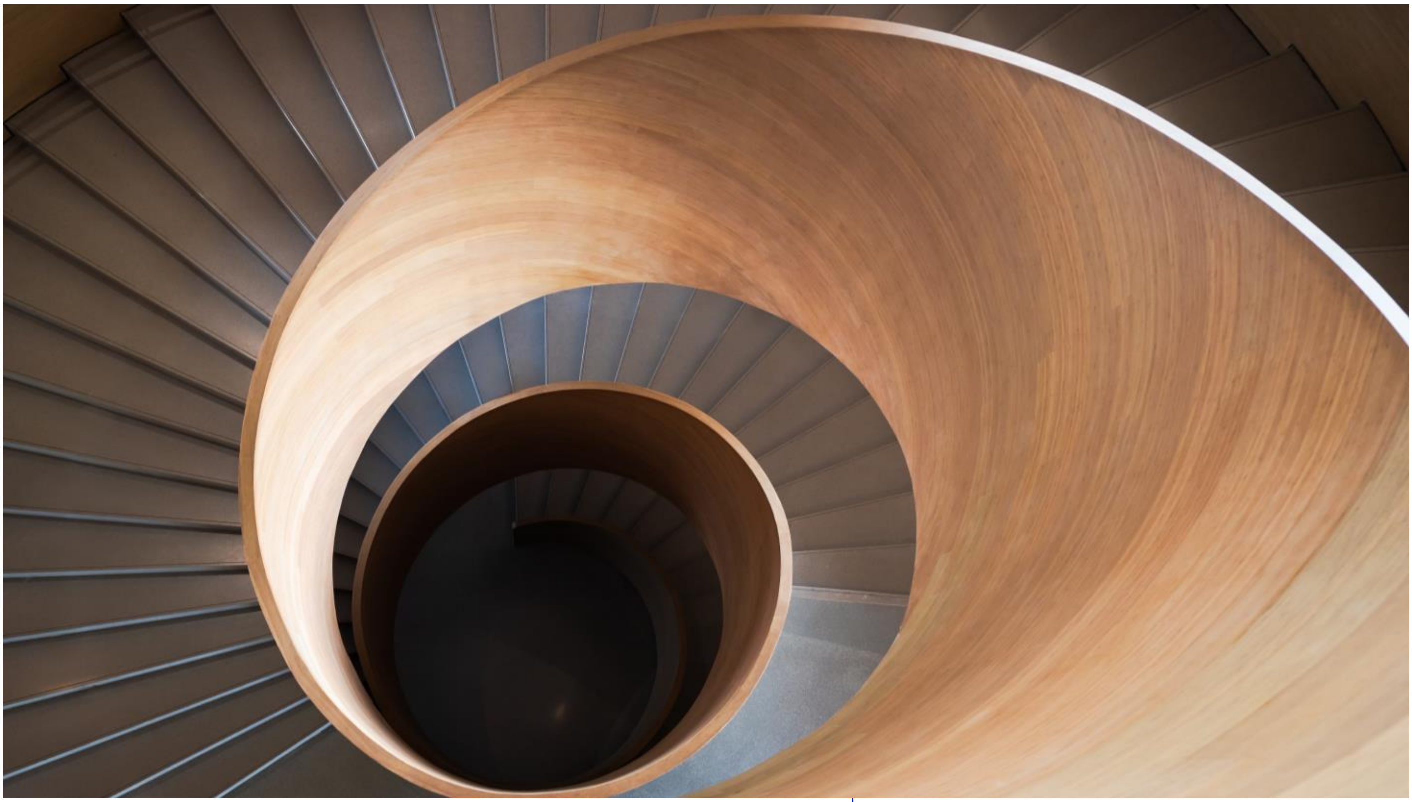


Index Insights | Fixed Income

Helping meet climate goals through bond index design

The FTSE TPI Fixed Income Index Series

December 2024

FTSE RUSSELL
An LSEG Business

Overview

As the transition to the low-carbon economy gains urgency, we need more tools to assess companies' preparedness for the climate transition and their progress in meeting climate goals. This is becoming an important element in investors' decision-making and engagement activities.

Increasingly, those investors wish to integrate climate considerations into their investment strategies and their implementation decisions are also increasing in sophistication. FTSE Russell has addressed these trends through a variety of data and analytical partnerships, index designs and launches.

In this paper we show how one of those data and analytical partnerships—with the Transition Pathway Initiative (TPI)—has supported the development of two new fixed income index series, the FTSE Fixed Income Corporate TPI Focused Glidepath Index Series and the FTSE Fixed Income TPI Climate Transition Index Series.

These index series meet the diverse needs of fixed income investors seeking more sustainable investment solutions, with one taking a more gradual, "glidepath" approach to the reduction of greenhouse gases and the other seeking a more immediate decarbonisation effect (see below for more detail).

In the paper, we cover:

- The Transition Pathway Initiative (TPI) and its purpose
- TPI design principles and methodology
- The role of TPI data in index design
- How sustainable fixed income indices can serve as an engagement tool
- From low-beta to high-alpha—different TPI fixed income index solutions

Contents

Introducing the TPI

The Transition Pathway Initiative (TPI) assesses companies' preparedness for the transition to a low-carbon economy. FTSE Russell is the data partner of the TPI and the Grantham Research Institute on Climate Change and the Environment (based at the London School of Economics and Political Science) is the academic partner of the TPI.

The TPI was created in 2017 as a joint initiative of the National Investing Bodies of the Church of England and the Environment Agency Pension Fund. It is now a global effort, led by asset owners and supported by asset managers, representing around $60trillion in assets under management or advisement worldwide (as of March 2024—see Figure 1).

One of the TPI's missions is to assess the progress of corporations on the transition to a low-carbon economy. The TPI also publishes separate climate assessments for corporate bond issuers, banks and sovereigns. TPI research is based on publicly available information and its assessments are free for all to use. Among those making use of TPI research and data are investors as they aim to mitigate their portfolios' climate transition risks.

FTSE Russell co-produces the TPI Management Quality data and has created a growing range of indices incorporating a combination of data inputs from the TPI and in-house climate data sets, covering both the equity and fixed income asset classes[1].

Figure 1: TPI at a glance

Source: TPI, as of March 2024.

[1] For more on FTSE Russell's approach to building TPI equity indices, see our recent paper, "Helping meet climate goals through index design"

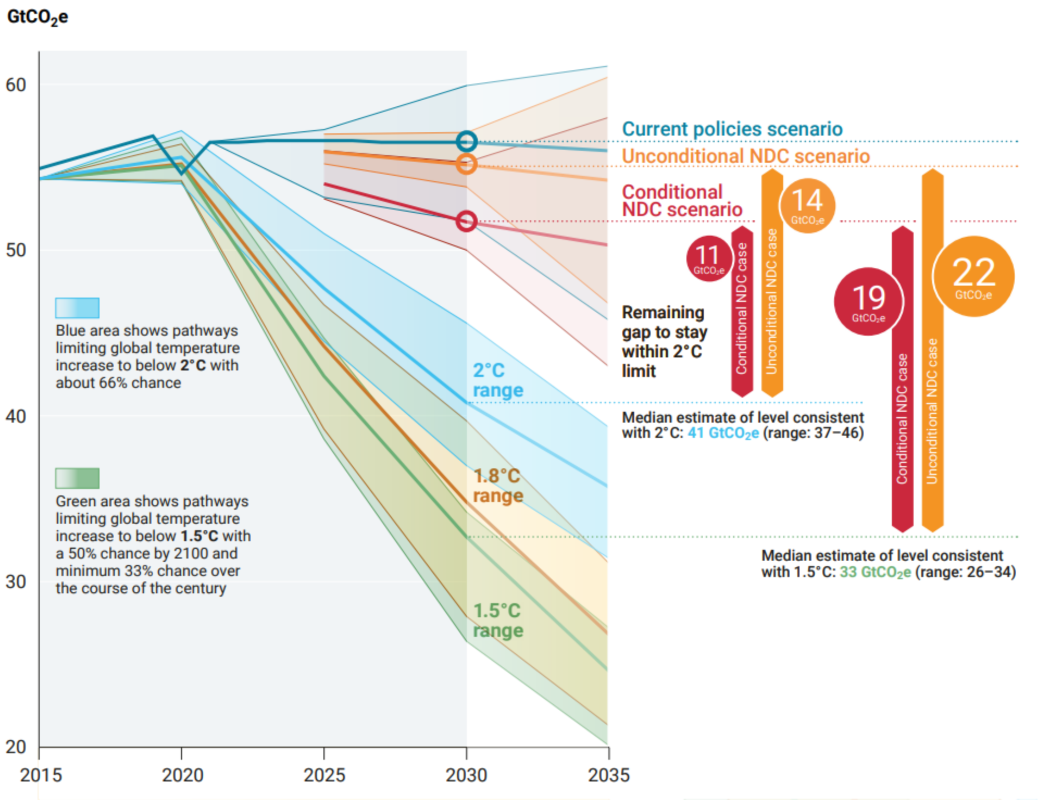
Cutting carbon and the climate transition

Climate change is a defining global risk of the 21st century. The World Economic Forum ranked extreme weather events as the second short-term global risk by severity in 2024, and as the number one long-term risk[2].

Under the 2015 Paris Agreement, 196 countries committed to limit increases in the global average temperature to below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. These goals require deep cuts in global carbon emissions by 2050. However, the current trajectory on emissions suggests an overshoot of the agreed targets (which imply a cut in emissions from 2030 onwards—see Figure 2). Reaching those targets will require dramatic changes in company strategies and activities.

For the world's economy it means a large-scale transition to low-carbon production and consumption systems. It is impacting most economic sectors and requires a huge reallocation of capital from high-carbon to low-carbon assets. For private investors this will mean a revamp of current capital allocation strategies. The financial industry plays a key role in developing investment frameworks, data and products to support those decisions.

Figure 2: Paris Agreement targets



Source: UNEP Emissions Gap Report 2023.

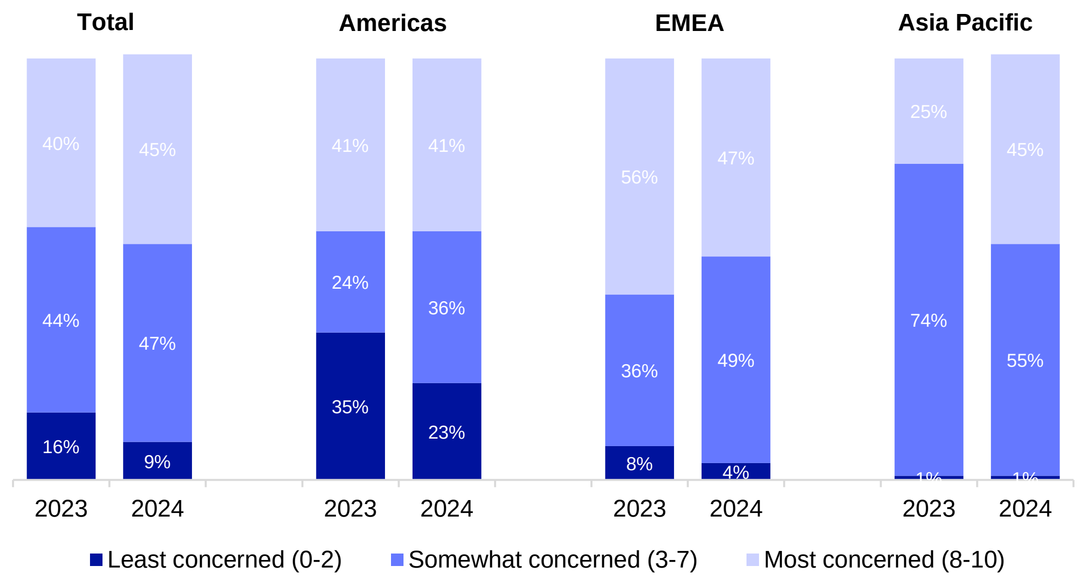
[2] WEF_The_Global_Risks_Report_2024.pdf (weforum.org)

Rising investor concern about climate risk

Increasingly stark warnings from the world's scientific community on the societal and economic impact of climate change, along with the number and extent of extreme weather events, are having an impact on asset owners.

The 2024 FTSE Russell sustainable investment asset owner report, which collected survey responses from 303 asset owners in fifteen countries, revealed that 91 percent of all asset owners are somewhat or very concerned about the investment impact of climate risks, up from 84 percent of all respondents in our 2023 survey (see Figure 3).

Figure 3: Level of concern with investment impact of climate risk



Question: What level of concern do you have with the investment impact of climate risk? (asked on an 11-point scale; responses grouped into three buckets) Total asset owners (2023/2024) – Total (n=325/29f); Americas (n=138/91); EMEA (n=83/97); Asia Pacific (n=104/103)

Source: FTSE Russell, Sustainable Investment: 2024 global survey findings from asset owners.

TPI design principles

To help achieve decarbonisation goals, the TPI serves a variety of use cases. For investors, it is mainly a climate risk mitigation tool. TPI data can be used by investors to assess which companies have sufficient Paris-aligned decarbonisation plans, enabling them to reweight their positions in portfolios based on this information. The TPI also provides information to help investors engage with companies on carbon disclosure and policies, as explained in our 2021 paper on active ownership and engagement through index investing (see the text box). And it can be used to shape company action through shareholders' voting strategies.

How can passive investment improve sustainability?

The growth in the use of sustainability indices by asset owners and asset managers has created an opportunity for a new type of issuer engagement that is linked to the index methodology and rules.

If companies understand how they can achieve inclusion in a sustainability index, they can be incentivised to achieve a real-world improvement in corporate sustainability performance. The incentives can then extend to greater investment flows as larger asset volumes follow the index.

The collaborative engagement exemplified by the Transition Pathway Initiative (TPI) provides a powerful and simple approach to engagement on climate performance.

The weight of asset owner backing for the TPI, the clear engagement agenda involved and the simplicity and transparency of the TPI index approach collectively send a strong message to companies about what is expected of them by investors.

While traditional shareholder engagement remains important, sustainability indices can provide an effective new lever for engagement. Corporate engagement through index investing can complement the more traditional forms of shareholder engagement carried out by active asset managers.

Sustainability index design can deliver scalable, efficient, and impactful corporate engagement across entire markets. It offers clear incentives for companies to improve sustainability performance and deliver the outcomes sought by asset owners and society at large.

For more on this topic, read the 2021 FTSE Russell paper by David Harris and Arne Staal, "Achieving scale in active ownership and engagement through index investing".

To serve these purposes, the TPI framework embeds the following design principles:

- **Transparency**—company assessments should be based solely on publicly available information
- **Objective**—indicators should be objectively assessable, so companies can understand how they have been scored
- **Relevant**—TPI management quality indicators (see below) should be relevant to all companies in the research universe
- **Sector-specific**—TPI carbon performance benchmarks (see below) should be sector-specific and account for the challenges each sector faces in the transition to a low-carbon economy
- **Useful**—the tool should be useful to asset owners, asset managers and the broader public, regardless of their individual levels of expertise
- **Compatible**—the TPI indicators should link to and be compatible with existing climate frameworks, such as the Task Force on Climate-Related Financial Disclosures (TCFD) and the Net Zero Investment Framework
- **High-level**—TPI indicators should be pitched at a high level and apply to the whole corporation

TPI methodology

The TPI's methodology was developed by an international group of asset owners, in partnership with the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science, supported by data from FTSE Russell.

The methodology has two components, each based on publicly available information:

– **Management Quality (MQ)**—the quality of companies' management of their greenhouse gas emissions and of risks and opportunities related to the low-carbon transition

– **Carbon Performance (CP)**—how companies' carbon performance now and in the future might compare to the international targets and national pledges made as part of the Paris Agreement

TPI Management Quality assessment

Companies' management quality is assessed against a series of indicators, covering issues such as company policy, emissions reporting and verification, targets, strategic risk assessment and executive remuneration. Based on their performance against these indicators, companies are placed on one of six steps on the TPI staircase:

– Level 0 (unaware of, or not acknowledging climate change as a business issue)

– Level 1 (awareness—acknowledging climate change as a business issue)

– Level 2 (building capacity)

– Level 3 (integrating climate change into operational decision-making)

– Level 4 (strategic assessment)

– Level 5 (transition planning and implementation)[3]

Figure 4: TPI management quality staircase

Source: [TPI's methodology report: Management Quality and Carbon Performance, Version 5.0, November 2023].

[3] Not yet used in FTSE Russell indices at the time of writing in 2024, but will be in future

TPI Carbon Performance assessment

Companies' carbon performance is based on the Sectoral Decarbonisation Approach (SDA), which translates absolute, economy-wide emissions budgets into sectoral budgets, against which the individual companies' targeted emissions can be compared.

TPI uses 3 benchmark scenarios, which in most sectors[4] are:

- a "1.5 degrees" scenario (which is consistent with a carbon budget that limits the global mean temperature rise to 1.5°C, with a 50% probability)
- a "below 2 degrees" scenario (which is consistent with a carbon budget that limits the global mean temperature rise to 1.65°C, with a 50% probability)
- a "national pledges" scenario (which is consistent with a carbon budget that limits the global mean temperature rise to 2.6°C by 2100, with a 50% probability)

Companies' emissions intensity paths are derived from public disclosures (including responses to the annual Carbon Disclosure Project questionnaire, as well as companies' own reports) as far as possible. Company disclosures are used to estimate recent and current emissions intensity and are the source of information on targets for future emissions.

How do TPI scores incentivise decarbonisation?

TPI scores can incentivise companies to commit to decarbonisation in different ways.

The TPI data is used by large investors to scrutinise companies' climate transition plans and their decarbonisation commitments. As the information is public, it increases the pressure on corporations to improve levels of disclosure and to commit more strongly to the climate transition.

Typically, by using TPI assessments in their engagement efforts, investors can focus on the largest corporate greenhouse gas emitters (for example, via the Climate Action 100+ initiative). In this way, companies are encouraged to improve their disclosures and, by a ripple effect, sector or market peers are then encouraged to do so too.

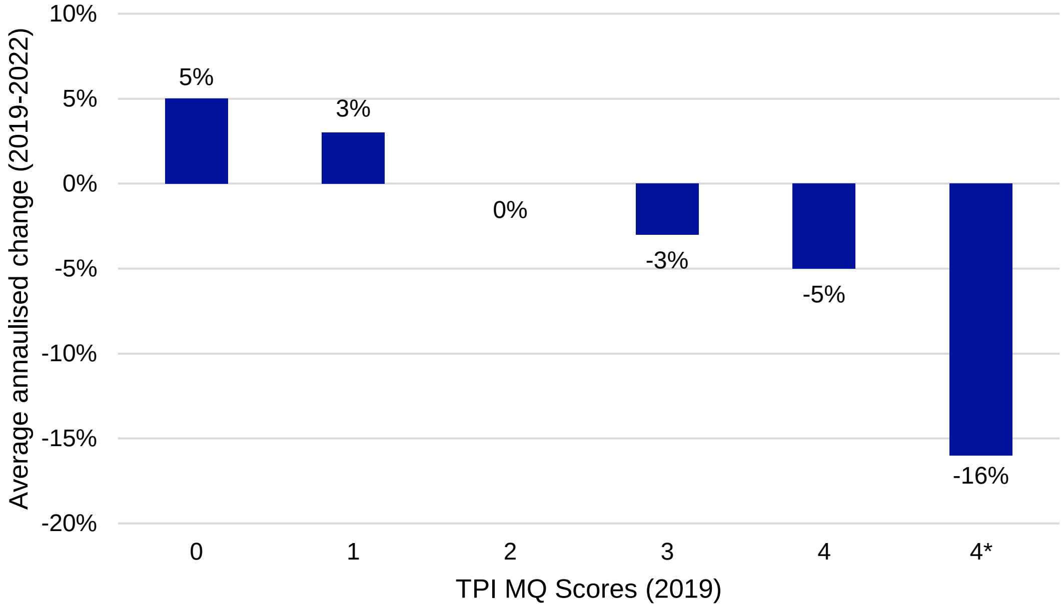
Using TPI scores as key performance indicators

In a study published in 2023[5], researchers at FTSE Russell found that companies with high TPI management quality (MQ) scores are more likely to reduce their carbon emissions, as well as to deliver larger emissions reductions than those with low TPI MQ scores (see Figure 5).

This research is an indication that TPI MQ scores can be a useful tool to identify companies that are more likely to decarbonise in the future.

[4] Carbon performance methodologies are sector-specific. For more details, see the Transition Pathway Initiative methodology document.
[5] "Deliberate decarbonisation", FTSE Russell, June 2023

Figure 5: Average annualised change in scope 1 and scope 2 carbon emissions by TPI MQ score (for FTSE All-World index members)



Source FTSE Russell, June 2023

When used in combination with traditional carbon metrics such as carbon emissions or emissions intensity, the TPI MQ scores can also help investors to:

– **Engage with companies on transition efforts** – TPI MQ scores can be used as key performance indicators to flag companies that are climate transition leaders and laggards, providing an evidence base for corporate engagement

– **Track and report on transition risks in portfolios** – TPI MQ scores can help identify parts of the portfolio that lack adequate transition strategies

– **Manage transition risk exposure and support security selection/portfolio construction** – TPI MQ scores can support security selection, particularly in carbon intensive sectors, and can be used as a factor in the construction of climate-aligned indices

The climate transition and the fixed income markets

According to McKinsey[6], the climate transition is expected to cost $3.5 trillion per year in extra spending on physical assets, with much of this total being financed through the debt markets[7]. Globally, many asset owners and asset managers are committed to financing the transition. They also wish to align the weightings of their fixed income portfolios to climate change targets.

[6] The net-zero transition: Its cost and benefits | Sustainability | McKinsey & Company
[7] Current commitments to finance the climate transition still fall short of this total: at the November 2024 UN Climate Change Conference (COP 29), participants agreed to triple climate finance to developing countries to US$300bn annually by 2035, although this was a three-fold increase on a previous goal of US$100bn annually.

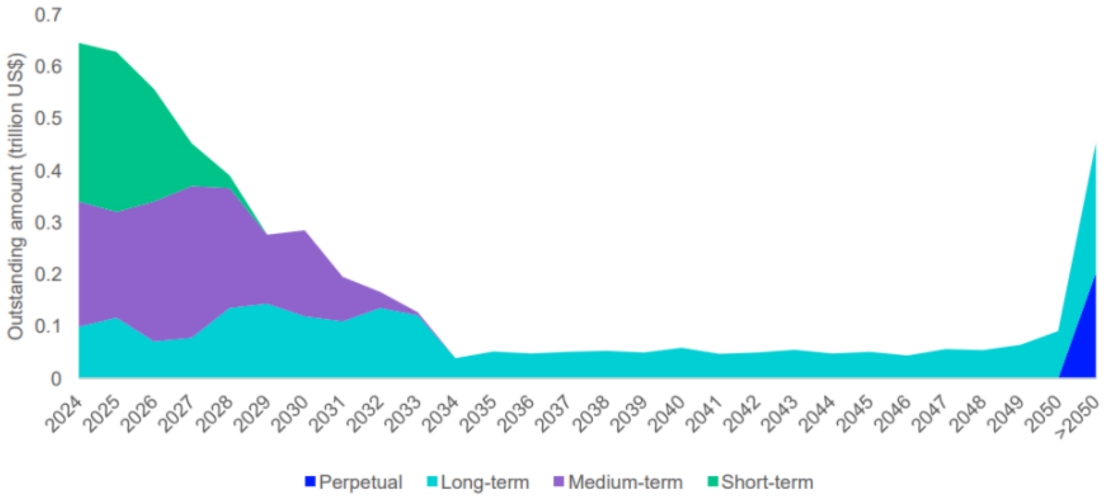
At the same time, fixed income investors must bear in mind the specific features of this asset class. Most bonds have a finite life, they are typically only available to institutions for purchase, there is great variety in risk exposures (such as credit risk, duration risk, optionality, reinvestment risks) and they are generally less liquid than equities.

However, bonds' finite life and the fact that they are refinanced regularly throw up an opportunity in index design: maturing issues can be replaced by new bonds that are better-aligned with climate change objectives.

By comparison with equities, which offer investors voting rights and therefore some collective control over the running of a company, fixed income investors typically have no direct say over corporate policies. However, there is an argument that if, collectively, investors were not to refinance maturing fixed income issues, then the cost of capital would go up to the detriment of the issuer. There is therefore real room for engagement in fixed income by using climate data and climate benchmarks to help influence funding decisions.

Recent London Stock Exchange Group research shows that, as at early 2024, around half of carbon-intensive debt (worth US$3.2trn) was expected to mature within 5 years (see Figure 6). Expressed differently, over half a trillion dollars of carbon-intensive debt might need to be refinanced annually. The scale of this refinancing requirement suggests that fixed income investors could have a major impact on companies' future carbon footprints.

Figure 6: Maturity profile of carbon-intensive debt



Source [Tracing carbon-intensive debt in corporate fixed income | LSEG](). March 2024

FTSE Russell TPI fixed income index solutions

FTSE Russell has launched two TPI fixed income index series, which target a decarbonisation outcome in different but complementary ways (see Figure 7).

The FTSE Fixed Income Corporate TPI Focused Glidepath Index Series has been developed to serve as a benchmark for investors wishing to implement a low-turnover, low-tracking error decarbonisation investment strategy.

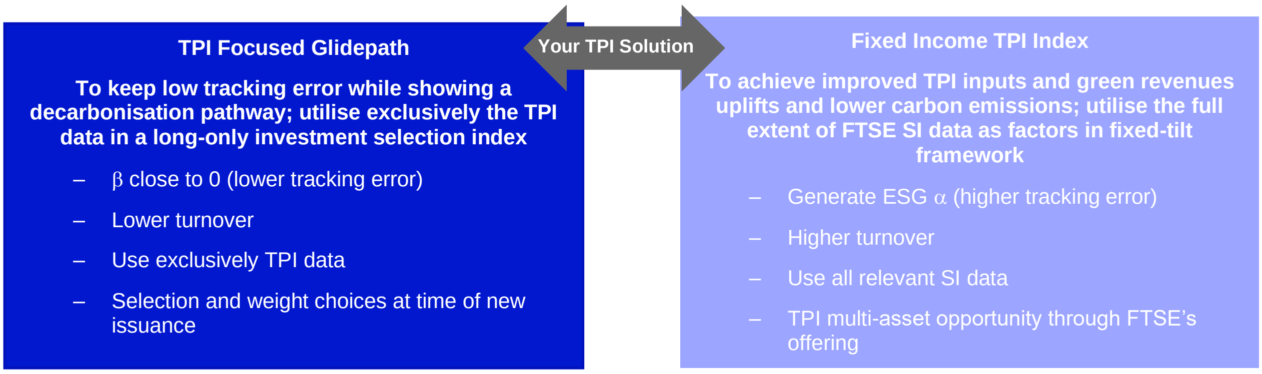
The index series methodology supports engagement with fixed income issuers rather than immediate divestment from climate laggards, generating a steady reduction in carbon emissions and intensity over time by comparison with a market-weighted corporate bond index.

The FTSE Fixed Income TPI Climate Transition Index Series uses the full FTSE Russell Sustainable Investment dataset—carbon emissions, green revenues, green bonds and TPI data—to set index weightings.

Compared to the FTSE Fixed Income Corporate TPI Focused Glidepath Index Series, the FTSE Fixed Income TPI Climate Transition Index Series targets a higher immediate TPI and green revenues uplift and lower greenhouse gas emissions.

As a result of its more ambitious short-term sustainable investment goals, the FTSE Fixed Income TPI Climate Transition Index Series incurs higher internal index turnover and generates higher tracking error compared to the starting index universe.

Figure 7: FTSE Russell TPI Fixed Income Index solutions



Source: FTSE Russell

In the next two sections, we describe the construction approaches of these complementary index series in more detail.

Index Construction Approach—FTSE Fixed Income Corporate TPI Focused Glidepath Index Series

We construct the FTSE Fixed Income Corporate TPI Focused Glidepath Index Series using the following steps (see Figure 8).

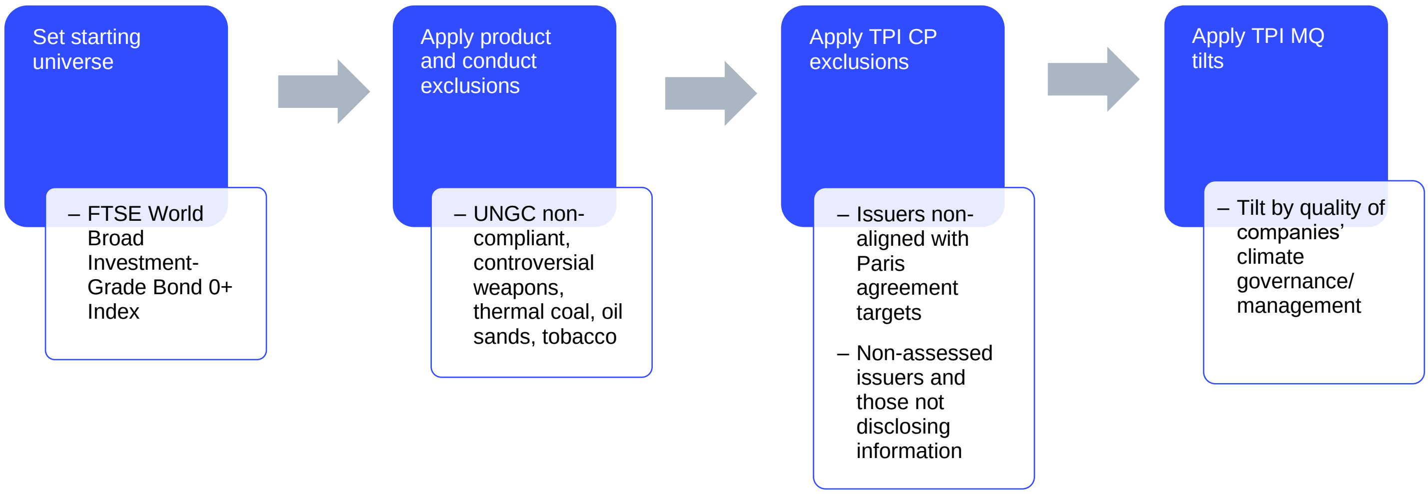
Set starting universe: The starting universe for this index series is an existing market capitalisation-weighted FTSE Russell corporate bond index, such as the corporate bond component of the market capitalisation-weighted FTSE World Broad Investment-Grade Bond 0+ Index (WorldBIG). The FTSE WorldBIG index is a multi-sector, multi-currency benchmark which provides a broad-based measure of the global fixed income markets.

Apply PI/UNGC exclusions: We use product involvement data and global standards screening data from Sustainalytics to exclude issuers involved in undesirable product categories or in undesirable business activities (such as those breaching the United Nations Global Compact).

Apply TPI CP exclusions: We exclude issuers with non-aligned TPI carbon performance (TP) scores, those not assessed by TPI or those not disclosing relevant information. TPI CP exclusions are calculated only for highly carbon-intensive sectors, defined as Automobiles & Auto Parts, Construction Materials, Electric Utilities & IPPs, Metals & Mining, Multiline Utilities, Oil & Gas, Paper & Forest Products.

Tilt by TPI MQ scores: We tilt starting index weights by a factor of between 0-1.2, using TPI management quality (MQ) data. TPI MQ scores evaluate and track the quality of companies' governance/management of their greenhouse gas emissions and of the risks and opportunities related to the low-carbon transition.

Figure 8: FTSE Fixed Income Corporate Transition Pathway Initiative (TPI) Focused Glidepath Index Series construction approach



Source: FTSE Russell.

Index Construction Approach—FTSE Fixed Income TPI Climate Transition Index Series

We construct the FTSE Fixed Income Corporate TPI Climate Transition Index Series using the following steps (see Figure 9).

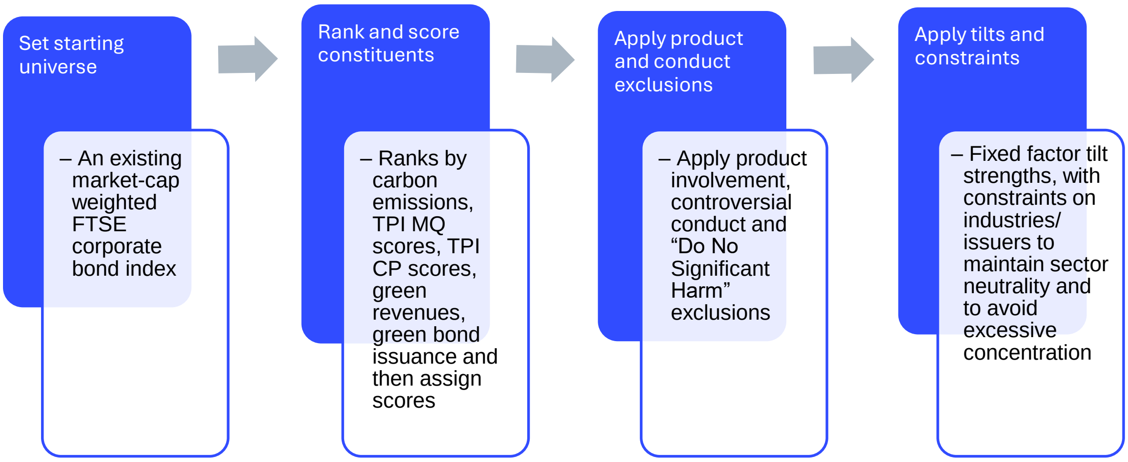
Set starting universe: The starting universe for this index series is an existing market capitalisation-weighted FTSE Russell corporate bond index.

Rank and score constituents: we rank companies on their sustainable investment metrics, such as carbon emissions, TPI management quality (MQ) scores, TPI carbon performance (CP) scores, green revenues, green bond issuance and then assign scores.

Apply product and conduct exclusions: we combine several data sources and apply the relevant product involvement, controversial conduct and "Do No Significant Harm" exclusions.

Apply tilts and constraints: We achieve the stated index objectives by applying fixed factor tilt strengths, adding additional constraints on industries and issuers to maintain sector neutrality and to avoid excessive concentration.

Figure 9: FTSE Fixed Income Corporate Transition Pathway Initiative (TPI) Focused Glidepath Index Series construction approach



Source: FTSE Russell.

A comprehensive sustainable fixed income index solution

The FTSE Fixed Income TPI Index Series helps our clients build more sustainable bond portfolios. It does so by embedding:

Forward-looking Metrics: FTSE Russell's exclusive partnership with the Transition Pathway Initiative (TPI) allows access to a dataset that provides forward-looking views on company alignment with the climate transition.

Inclusive Approach: FTSE Russell has an innovative approach to mapping fixed income issuers to public companies' fundamental data and to addressing data gaps, allowing us to be more inclusive in the index methodology.

Consistency Across Asset Classes: The FTSE TPI fixed income index range aligns with the FTSE TPI equity offering in terms of dataset and concept, while also incorporating specific design features to reflect the requirements of fixed income index users (such as the requirements to maintain diversification, manage turnover and liquidity).

Improvements on climate parameters: The FTSE Russell TPI fixed income index methodology combines market-leading insights from internal and external datasets, providing a comprehensive SI solution.

Granular Definition on Exclusions: FTSE Russell uses several data sources for exclusions, helping minimise any potential risk of exposure to undesirable sectors, product involvement and areas of conduct.

Flexibility of Customisation: FTSE Russell allows flexibility to build fully customisable TPI solutions, tailored to each investor and reflecting a specific investment philosophy, view and purpose.

Product information

FTSE Fixed Income Corporate TPI Focused Glidepath Index Series
FTSE Global Corporate TPI Focused Glidepath Index
FTSE Global Corporate TPI Focused Glidepath Index 0+[8]
FTSE US Corporate TPI Focused Glidepath Index
FTSE US Corporate TPI Focused Glidepath Index 0+
FTSE Euro Corporate TPI Focused Glidepath Index
FTSE Euro Corporate TPI Focused Glidepath Index 0+
FTSE Sterling Corporate TPI Focused Glidepath Index
FTSE Sterling Corporate TPI Focused Glidepath Index 0+
FTSE Australia Corporate TPI Focused Glidepath Index
FTSE Australia Corporate TPI Focused Glidepath Index 0+

FTSE Fixed Income TPI Climate Transition Index Series
FTSE WorldBIG TPI Corporate Bond Index
FTSE USBIG TPI Corporate Bond Index
FTSE EuroBIG TPI Corporate Bond Index
FTSE AUSBIG TPI Corporate Bond Index
FTSE AUSBIG TPI Corporate Bond 0+ Years Index

Source: FTSE Russell

[8] FTSE 0+ Indices are indices that hold bonds to maturity.

ABOUT FTSE RUSSELL

FTSE Russell is a leading global provider of index and benchmark solutions, spanning diverse asset classes and investment objectives. As a trusted investment partner we help investors make better-informed investment decisions, manage risk, and seize opportunities.

Market participants look to us for our expertise in developing and managing global index solutions across asset classes. Asset owners, asset managers, ETF providers and investment banks choose FTSE Russell solutions to benchmark their investment performance and create investment funds, ETFs, structured products, and index-based derivatives. Our clients use our solutions for asset allocation, investment strategy analysis and risk management, and value us for our robust governance process and operational integrity.

For over 35 years we have been at the forefront of driving change for the investor, always innovating to shape the next generation of benchmarks and investment solutions that open up new opportunities for the global investment community.

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