

FTSE EU Climate Benchmarks Index Series

v3.0



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Section 1

Introduction

1. Introduction

1.1 This document sets out the Ground Rules for the construction and management of the FTSE EU Climate Benchmarks Index Series. Copies of these Ground Rules are available from www.lseg.com/en/ftse-russell/.

1.2 The FTSE EU Climate Benchmarks Index Series is designed to align with the minimum requirements of the Paris-Aligned Benchmarks and Climate Transition Benchmarks set out in the EU Benchmark Regulation and the UK Benchmark Regulation¹ (BMR).

1.3 These Ground Rules should be read in conjunction with:

- FTSE Global Equity Index Series Ground Rules
- FTSE UK Index Series Ground Rules
- FTSE TPI Climate Transition Index Series
- FTSE Global Factor Index Series Ground Rules

and the Corporate Actions and Events Guide for Non Market Cap Weighted Indices which are available at www.lseg.com/en/ftse-russell/.

1.4 Price and Total Return Indices will be calculated on an end of day basis.

1.5 The base currency of all indices is US Dollars (USD). Index values may also be published in other currencies.

1.6 The FTSE EU Climate Benchmarks Index Series takes account of ESG factors in its index design.

If a tilting approach is used for ESG data input, the objective is for the index methodology to overweight and/or underweight constituents according to specific ESG criteria. This approach will not remove all companies with exposure to a specific ESG activity or sector.

1.7 FTSE Russell

FTSE Russell is a trading name of FTSE International Limited, Frank Russell Company, FTSE Global Debt Capital Markets Limited (and its subsidiaries FTSE Global Debt Capital Markets Inc. and FTSE Fixed Income Europe Limited), FTSE Fixed Income LLC, FTSE (Beijing) Consulting Limited, Refinitiv Benchmark Services (UK) Limited, Refinitiv Limited and Beyond Ratings.

1.8 FTSE Russell hereby notifies users¹ of the index series that it is possible that circumstances, including external events beyond the control of FTSE Russell, may necessitate changes to, or the cessation of, the index series and therefore, any financial contracts or other financial instruments that reference the index series or investment funds which use the benchmark to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index series.

¹ The requirements are set out in [Regulation \(EU\) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds](#) (the European Benchmark Regulation) and the [Commission Delegated Regulation \(EU\) 2020/1818 of 17 July 2020 supplementing Regulation 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks](#). The European Benchmark Regulation is retained EU law in the UK under [The Benchmarks \(Amendment and Transitional Provision\) \(EU Exit\) Regulations 2019](#) (the UK Benchmark Regulation).

- 1.9 Index users who choose to follow this index series or to buy products that claim to follow this index should assess the merits of the index series' rules-based methodology and take independent investment advice before investing their own or client funds. No liability whether as a result of negligence or otherwise is accepted by FTSE Russell for any losses, damages, claims and expenses suffered by any person as a result of:
- any reliance on these Ground Rules, and/or
 - any inaccuracies in these Ground Rules, and/or
 - any non-application or misapplication of the policies or procedures described in these Ground Rules, and/or
 - any inaccuracies in the compilation of the index series or any constituent data.

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index series.²

2.1.2 FTSE is responsible for the daily calculation, production and operation of the index and will:

- maintain records of the index weightings of all constituents;
- make changes to the constituents and their weightings in accordance with the Ground Rules;
- carry out the periodic reviews of the index series and apply the changes resulting from the reviews as required by the Ground Rules;
- publish changes to the constituent weightings resulting from their ongoing maintenance and the periodic reviews;
- disseminate the index series.

2.1.3 These Ground Rules set out the methodology and provide information about the publication of the FTSE EU Climate Benchmarks Index Series.

2.2 Amendments to These Ground Rules

2.2.1 These Ground Rules shall be subject to regular review (at least once a year) by FTSE Russell to ensure that they continue to best reflect the aims of the index series. Any proposals for significant amendments to these Ground Rules will be subject to consultation with FTSE Russell advisory committees and other stakeholders if appropriate. The feedback from these consultations will be considered by the FTSE Russell Index Governance Board before approval is granted.

2.2.2 As provided for in the Statement of Principles for FTSE Russell Equity Indices, where FTSE Russell determines that the Ground Rules are silent or do not specifically and unambiguously apply to the subject matter of any decision, any decision shall be based as far as practical on the Statement of Principles. After making any such determination, FTSE Russell shall advise the market of its decision at the earliest opportunity. Any such treatment will not be considered as an exception or change to the Ground Rules, or to set a precedent for future action, but FTSE Russell will consider whether the Ground Rules should subsequently be updated to provide greater clarity.

² The term administrator is used in this document in the same sense as it is defined in [Regulation \(EU\) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds](#) (the European Benchmark Regulation) and [The Benchmarks \(Amendment and Transitional Provision\) \(EU Exit\) Regulations 2019](#) (the UK Benchmark Regulation).

Section 3

FTSE Russell index policies

3. FTSE Russell index policies

These Ground Rules should be read in conjunction with the following policy documents which can be accessed using the links below:

3.1 Corporate Actions and Events Guide

3.2 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide for Non Market Cap Weighted Indices using the following link:

[Corporate Actions and Events Guide for Non Market Cap Weighted Indices.pdf](#)

3.3 Statement of Principles for FTSE Russell Equity Indices (the Statement of Principles)

Indices need to keep abreast of changing markets and the Ground Rules cannot anticipate every eventuality. Where the Ground Rules do not fully cover a specific event or development, FTSE Russell will determine the appropriate treatment by reference to the Statement of Principles which summarises the ethos underlying FTSE Russell's approach to index construction. The Statement of Principles is reviewed annually and any changes proposed by FTSE Russell are presented to the FTSE Russell Policy Advisory Board for discussion before approval by FTSE Russell's Index Governance Board.

The Statement of Principles can be accessed using the following link:

[Statement_of_Principles.pdf](#)

3.4 Queries and Complaints

3.4.1 FTSE Russell's complaints procedure can be accessed using the following link:

[Benchmark_Determination_Complaints_Handling_Policy.pdf](#)

3.5 Index Policy for Trading Halts and Market Closures

3.5.1 Guidance for the treatment of index changes in the event of trading halts or market closures can be found using the following link:

[Index_Policy_for_Trading_Halts_and_Market_Closures.pdf](#)

3.6 Index Policy in the Event Clients are Unable to Trade a Market or a Security

3.6.1 Details of FTSE Russell's treatment can be accessed using the following link:

[Index_Policy_in_the_Event_Clients_are_Unable_to_Trade_a_Market_or_a_Security.pdf](#)

3.7 Recalculation Policy and Guidelines

3.7.1 Where an inaccuracy is identified, FTSE Russell will follow the steps set out in the FTSE Russell Index Recalculation Guidelines when determining whether an index or index series should be recalculated and/or associated data products reissued. Users of the FTSE EU Climate Benchmarks Index Series will be notified through appropriate media.

For further information refer to the FTSE Russell Recalculation Policy and Guidelines document which is available from the FTSE Russell website using the link below or by contacting info@ftserussell.com.

[Recalculation Policy and Guidelines Equity Indices.pdf](#)

3.8 Policy for Benchmark Methodology Changes

3.8.1 Details of FTSE Russell's policy for making benchmark methodology changes can be accessed using the following link:

[Policy for Benchmark Methodology Changes.pdf](#)

3.9 FTSE Russell Governance Framework

3.9.1 To oversee its indices, FTSE Russell employs a governance framework that encompasses product, service and technology governance. The framework incorporates the London Stock Exchange Group's three lines of defence risk management framework and is designed to meet the requirements of the IOSCO Principles for Financial Benchmarks³, the EU Benchmark Regulation⁴ and the UK Benchmark Regulation⁵. The FTSE Russell Governance Framework can be accessed using the following link:

[FTSE Russell Governance Framework.pdf](#)

3.10 Real Time Status Definitions

3.10.1 For indices which are calculated in real time, please refer to the following guide for details of real time status definitions:

[Real Time Status Definitions.pdf](#)

³ IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013

⁴ Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds

⁵ The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019

Section 4

ESG data inputs

4. ESG data inputs

4.1.1 The following ESG datasets are used in the construction of indices in the FTSE EU Climate Benchmarks Index Series.

ESG data inputs	Details	Used for selection, weighting or exclusion ⁶
FTSE Green Revenues	<p>FTSE Russell's Green Revenues data model identifies companies providing green products and services and classifies associated revenues based on the Green Revenues Classification System (GRCS). GRCS is a taxonomy used to define and measure the industrial transition to a Green Economy.</p> <p>More information can be found here: https://www.lseg.com/content/dam/ftse-russell/en_us/documents/other/ftse-russell-green-revenues-classification-system.pdf</p>	Weighting
TPI Management Quality (MQ)	<p>FTSE Russell's Transition Pathway Initiative (TPI) Management Quality (MQ) data evaluates and tracks the quality of companies' governance/management of their greenhouse gas emissions and of risks and opportunities related to the low-carbon transition. More information can be found here:</p> <p>https://www.transitionpathwayinitiative.org/methodology</p>	Weighting
TPI Carbon Performance Scores (CP)	<p>TPI Carbon Performance (CP) scores assess 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. More information can be found here:</p> <p>https://www.transitionpathwayinitiative.org/methodology</p>	Weighting
FTSE Carbon Reserves	<p>FTSE Carbon Reserves data model provides granular coverage of fossil fuel reserve ownership among publicly listed companies in developed markets and emerging economies. More information can be found here:</p> <p>Guide to FTSE and Third Party ESG Data used in FTSE Russell Indices</p>	Weighting
FTSE Carbon Emissions	<p>The FTSE Carbon Emissions Dataset provides reported and estimated Scope 1, Scope 2 and Scope 3 emissions data for both the assets and activities controlled by global publicly listed companies and their entire value chain (upstream and downstream activities). More information can be found here:</p> <p>Guide to FTSE and Third Party ESG Data used in FTSE Russell Indices</p>	Weighting

⁶ Definitions

Selection- ESG data is used to select or rank constituents, or calculate minimum scores or thresholds

Weighting- EG data is used to calculate the weight of a constituent in an index

Exclusion- ESG data is used to exclude companies from the index

ESG data inputs	Details	Used for selection, weighting or exclusion ⁶
Product related data- FTSE Russell	FTSE exclusion lists on the activities of companies with exposure to specific products or services. More information can be found in Section 7 of the Guide to the Construction and Maintenance of FTSE Exclusion Lists.pdf .	Exclusion
Product related data- Sustainalytics	Sustainalytics Product Involvement data identifies the nature and extent of a company's involvement in a range of product and business activities. More information can be found here: https://www.sustainalytics.com/investor-solutions/esg-research/esg-screening/esg-criteria	Exclusion
Conduct related data- FTSE Russell	FTSE exclusion lists on the activities of companies that are directly or indirectly linked to controversial conduct and diversity. More information can be found in the Guide to the Construction and Maintenance of FTSE Exclusion Lists.pdf .	Exclusion
Conduct related data- Sustainalytics	Sustainalytics Global Standards Screening (GSS) assess companies' impact on stakeholders and the extent to which a company causes, contributes or is linked to violations of international norms and standards. More information can be found: https://www.sustainalytics.com/investor-solutions/esg-research/esg-screening/global-compact-norms-based-screening-and-guide-to-ftse-and-third-party-esg-data-used-in-ftse-russell-indices .	Exclusion
Conduct related data- RepRisk	The RepRisk Index (RRI) captures and quantifies a company's reputational risk exposure to ESG issues. More information can be found: https://www.reprisk.com/news-research/resources/methodology	Exclusion
Minimum Set of Exclusions for ESG Indices	The minimum set of exclusions are applied to this Index Series. Details of the minimum exclusions can be found in Section 7 of the Guide to the Construction and Maintenance of FTSE Exclusion Lists.pdf .	Exclusion

4.1.2 Further information on ESG data provided by FTSE Russell and third parties used in this index (index series) can be found in the following guide:

[Guide to FTSE and Third Party ESG Data used in FTSE Russell Indices](#)

This includes information on the data and standards used for these ESG data inputs. These data sets may include estimated data.

4.2 ESG Metrics

4.2.1 The FTSE Russell [ESG Metrics](#) website publishes the environmental, social and governance (ESG) factors listed in Annex II to Delegated Regulation (EU) 2020/1816 for each index which uses ESG data within this family.

Further details on the metrics methodology and calculation are available using the following link:

[ESG Disclosures Methodology and Calculation Guide](#)

Section 5

Climate transition indicators

5. Climate transition indicators

5.1 Green Revenues (GR)

- 5.1.1 The Green Revenues (GR) score is the ratio of revenues as classified by the FTSE Green Revenues Classification System to total revenue based on the FTSE Russell Green Revenue 2.0 data model.
- 5.1.2 The FTSE Green Revenues application excludes any green revenues from Tier 3 activities. Tier 3 activities are defined as micro sectors which have some environmental benefits but are overall net neutral or negative.
- 5.1.3 All constituent securities are assigned a FTSE Green Revenues ratio value. The FTSE Green Revenues ratio for a company can be:
- Zero if a constituent company has no exposure to the Green Economy.
 - A non-zero value, when a constituent company is identified to generate Green Revenues as defined by the FTSE Green Revenues Classification System.
 - The minimum of the stated range of possible Green Revenues, when a company discloses insufficient information for a precise determination of the FTSE Green Revenues ratio.

5.2 The Transition Pathway Initiative (TPI)

- 5.2.1 The TPI methodology assesses companies' progress on the transition to a low-carbon economy on two dimensions: Management Quality and Carbon Performance.
- 5.2.2 TPI Management Quality (MQ) assesses the quality of companies' management of their greenhouse gas emissions and of risks and opportunities related to the low-carbon transition. MQ scores are derived from the climate theme data from FTSE Russell's ESG data model based on TPI's methodology which is published on the public website www.transitionpathwayinitiative.org/methodology.
- 5.2.3 TPI Carbon Performance (CP) assesses individual companies' current and projected future emissions pathways and how this compares to the international targets and national pledges made as part of the UN Paris Agreement. Companies that receive an assessment are categorized into different groups. Details of the TPI CP categories are described in the FTSE TPI Climate Transition Index Series Ground Rules.
- For companies in Pulp and Paper:
- Below 2°C: A company's carbon emissions pathway is aligned with limiting global warming to below 2°C above pre-industrial levels.
 - 2°C: A company's carbon emissions pathway is aligned with limiting global warming to 2°C above pre-industrial levels.
 - Paris Pledges: A company's carbon emission pathway is aligned with the public country-level commitments made on the Paris Agreement (known as Nationally Determined Contributions or NDCs) but is not aligned with limiting global warming to 2°C

- A company’s carbon emissions pathway is not aligned with limiting global warming to 2°C above pre-industrial levels or has insufficient disclosures to enable such an assessment.
- A company has not yet been assessed for its Carbon Performance

For companies in Electricity Utilities, Oil & Gas, Automobiles, Airlines, Shipping, Cement, Diversified Mining, Steel, and Aluminium sectors (“all other sectors”):

- 1.5°C: A company’s carbon emissions pathway is consistent with the overall aim of the Paris Agreement, and at the high end of the range of ambition, namely, to limit “the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels”.
- Below 2°C: A company’s carbon emissions pathway is consistent with the overall aim of the Paris Agreement to limit warming, albeit at the middle of the range of ambition.
- National / International Pledges: A company’s carbon emission pathway is consistent with the global aggregate of emissions reductions related to policies introduced or under development as of mid-2021.
- A company’s carbon emissions pathway is not aligned with limiting global warming to 2°C above pre-industrial levels or has insufficient disclosures to enable such an assessment.
- A company has not yet been assessed for its Carbon Performance

Companies are assigned a CP score based on their Carbon Performance assessment.

Carbon Performance Categories	CP scores
Below 2°C (pulp & paper only)/ 1.5°C	2
2°C (pulp & paper only)/ Below 2°C	1.5
Paris/National/International Pledges	0.8
Not aligned	0*
Not assessed	1

*The Carbon Performance score of ‘not aligned’ is set to $exp(x)$ for CTB and x is the tilt strength for not aligned emission reduction. Tilt strength for an index is determined in the weighting (see section 8).

5.3 Carbon Emissions Intensity (E)

5.3.1 Carbon Emissions Intensity is defined as the latest annual CO2 equivalent greenhouse gas (GHG) emissions in metric tons scaled by enterprise value including cash (in USD). CO2 equivalent GHG emissions data is defined as GHG Protocol Scope 1 and 2 and Scope 3 emissions. Enterprise Value data is sourced from Worldscope. The data cut-off date for the availability of Carbon Emissions Intensity is the close of business on the last business day of the month prior to the review month.

5.4 Potential Emissions: Fossil Fuel Reserve Intensity (R)

5.4.1 Fossil Fuel Reserve Intensity is defined as the estimated CO2 equivalent GHG emissions in metric tons generated by the combustion of a company’s fossil fuel reserves, divided by its full company market capitalisation (in USD). The data cut-off date for the availability of Fossil Fuel Reserve Intensity is the close of business on the last business day of the month prior to the review month.

5.5 Z-Scores and Missing Data Treatment for Z-Scores

5.5.1 Z-scores are calculated for Green Revenue, Scope 1 and 2 Carbon Emissions Intensity (ES1&2), Scope 3 Carbon Emissions Intensity (ES3), Fossil Fuel Reserve Intensity (R) and TPI Management Quality (MQ).

5.5.2 Individual stock quantities are normalised cross-sectionally to create Z-Scores within each underlying universe according to:

$$Z_{F,i} = \frac{F_i - \mu_F}{\sigma_F} \quad \text{where} \quad F \in \{\text{Log}(GR), ES1\&2, ES3, \text{Log}(R), MQ\} \quad (1)$$

where F_i is the F -quantity of the i^{th} stock and μ_F and σ_F are its cross-sectional factor mean and standard deviation respectively.

Z-Scores that are greater (less) than three (minus three) are truncated to a value of three (minus three). Post-truncation, individual Z-Scores are renormalised by the re-application of equation (1).

All Z-Scores, including truncated ones are included in this re-application. This process is repeated until all Z-Scores lie in a range between plus and minus three. Companies with missing data are excluded from this process.

5.5.3 Companies with no Green Revenue are assigned a Z-Score of -3 for their Green Revenue at the end of the process described in Rule 5.5.2.

5.5.4 Companies with missing fossil fuel reserve data are identified and treated on a peer group basis:

- Companies in the ICB sub-sector Coal (60101040) which do not have Fossil Fuel Reserve data available are assigned the average Z-score of companies in the Coal sub-sector. If there are no companies in the Coal sub-sector with reserve data, the Z-score of 0 is assigned.
- Companies in the following ICB sub-sectors which do not have Fossil Fuel Reserve data available are assigned the average Z-score of all companies in this group of sub-sectors. If there are no companies in this group of sub-sectors with reserve data, a Z-score of 0 is assigned.
 - Integrated Oil and Gas (ICB: 60101000)
 - Oil: Crude Producers (ICB: 60101010)
 - Offshore Drilling and Other Services (ICB: 60101015)
 - Oil Refining and Marketing (ICB: 60101020)
 - Oil Equipment and Services (ICB: 60101030)
 - Pipelines (ICB: 60101035)

For all companies outside the ICB sectors specified above, if no Fossil Fuel Reserve data is available the company is assigned a Z-Score of -3 for their Fossil Fuel Reserves.

5.5.5 Stocks with missing Carbon Emissions Intensities (for Scope 1 and 2 and for Scope 3) are assigned the average Z-Score of their ICB sector. The average is taken across non missing Z-Scores of Carbon Emissions Intensities in the sector at the process described in Rule 5.5.1. A Z-Score of zero is assigned when there are less than three stocks with Z-Scores in the ICB sector.

5.5.6 Stocks with missing TPI Management Quality (MQ) scores are assigned the average Z-Score of their country. The average is taken across non missing Z-Scores of MQ scores in the country in the process described in Rule 5.5.1. A Z-Score of zero is assigned when there are less than three stocks with Z-Scores in the country.

Section 6

Eligible Securities

6. Eligible Securities

6.1 The eligible securities of each Climate index are the constituents of the corresponding underlying index shown in Table 1.

6.1.1 Securities that are members of the applicable exclusion list (see Appendix A) are not eligible for membership of the relevant index.

6.2 Multiple Lines

All lines of the same company that are eligible securities are eligible for inclusion in the index.

6.3 FTSE EU Climate Benchmarks Index Series

The FTSE EU Climate Benchmarks Index Series consists of the following indices.

Table 1: Paris-aligned Benchmark (PAB) Indices

Index Name	Underlying Index	Exclusion List
FTSE Developed Paris-aligned (PAB) Index	FTSE Developed Index	
FTSE All-share Paris-aligned (PAB) Index	FTSE All-share ex Investment Trust Index	
FTSE All World Paris-aligned (PAB) Index	FTSE All World Index	
FTSE Emerging Paris-aligned (PAB) Index	FTSE Emerging Index	EU PAB Exclusion List (See Appendix A)
FTSE Developed ex Korea ex Poland Paris-aligned (PAB) Index	FTSE Developed ex Korea ex Poland Index	
FTSE Emerging with Korea and Poland Paris-aligned (PAB) Index	FTSE Emerging with Korea and Poland Index	

Table 2: Climate Transition Benchmark (CTB) Indices

Index Name	Underlying Index	Exclusion List
FTSE Developed Climate Transition (CTB) Index	FTSE Developed Index	
FTSE All-share Climate Transition (CTB) Index	FTSE All-share ex Investment Trust Index	EU CTB Exclusion List (See Appendix A)
FTSE All World Climate Transition (CTB) Index	FTSE All World Index	
FTSE Emerging Climate Transition (CTB) Index	FTSE Emerging Index	

Index Name	Underlying Index	Exclusion List
FTSE Developed ex Korea ex Poland Climate Transition (CTB) Index	FTSE Developed ex Korea ex Poland Index	
FTSE Emerging with Korea and Poland Climate Transition (CTB) Index	FTSE Emerging with Korea and Poland Index	
FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index	FTSE Global Core Infrastructure 50/50 Index	EU CTB Exclusion List + Additional Exclusions (See Appendix A)

Section 7

Periodic review of constituent companies

7. Periodic review of constituent companies

7.1 Review dates

7.1.1 The FTSE EU Climate Benchmarks Index Series are reviewed annually in September.⁷

FTSE Indices	Review Months
FTSE Developed Paris-aligned (PAB) Index	September
FTSE Developed Climate Transition (CTB) Index	September
FTSE All-share Paris-aligned (PAB) Index	September
FTSE All-share Climate Transition (CTB) Index	September
FTSE All World Paris-aligned (PAB) Index	September
FTSE All World Climate Transition (CTB) Index	September
FTSE Emerging Paris-aligned (PAB) Index	September
FTSE Emerging Climate Transition (CTB) Index	September
FTSE Developed ex Korea ex Poland Paris-aligned (PAB) Index	September
FTSE Developed ex Korea ex Poland Climate Transition (CTB) Index	September
FTSE Emerging with Korea and Poland Paris-aligned (PAB) Index	September
FTSE Emerging with Korea and Poland Climate Transition (CTB) Index	September
FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index	September

7.1.2 Index reviews will use stock prices available as at the close of business on the Wednesday before the first Friday of the review month (price cut-off date), except for the FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index which will use prices available as at close of business on the first Friday.

7.1.3 The review will be implemented after the close of business on the third Friday of the review month.

7.1.4 Index reviews will incorporate constituent changes associated with reviews of the underlying eligible universe as of the review effective date. Any changes to the status of “Excluded Companies” as defined in Appendix A are applied using data as at the close of business on the last business day August.

⁷ The 2022 review was postponed to February 2023. For more information, please see [Index Announcements | FTSE Russell](#)

7.1.5 The data cut-off dates for ESG data inputs are detailed in the [guide-to-ftse-and-third-party-sustainable-investment-data-used-in-ftse-russell-indices.pdf](#)

Index reviews will use climate indicators as of the close of business on the last business day of the month prior to the review month. The calculations described in Appendix B will be recalculated at the annual review using this data cut-off date.

Section 8

Weighting methodology

8. Weighting methodology

8.1 Index Weights

8.1.1 Constituent weightings in the FTSE EU Climate Benchmarks Index Series are set to meet the Paris-aligned (PAB) and Climate Transition (CTB) index objectives set out in the EU Benchmark Regulation and UK Benchmark Regulation. The FTSE Paris-Aligned benchmark (PAB) indices are set to meet EU Paris-Aligned benchmark (EU PAB) Minimum Requirements and the FTSE Climate Transition Benchmark (CTB) indices are set to meet the EU Climate Transition Benchmark (CTB) Minimum Requirements. Both FTSE EU Climate benchmark indices are set to meet the Additional Objectives.

Paris-aligned (PAB) Minimum Requirements	Index Targets ⁸
Minimum carbon emissions reduction relative to underlying Index (see 8.1.2 and Appendix B)	50% – Scope 1 and 2 Emissions ≥50% – Scope 3 Emissions
Minimum average (geometric) annual carbon emissions reduction relative to the index base year (see Appendix B)	7% – Scope 1 and 2 Emissions ≥7% – Scope 3 Emissions (applies after base year)
Active weight in High Climate Impact Sector relative to underlying index in aggregate (see Appendix C)	0
Climate Transition (CTB) Minimum Requirements	Index Targets
Minimum average (geometric) carbon emissions reduction relative to underlying Index (see 8.1.2 and Appendix B)	30% – Scope 1 and 2 Emissions ≥30% – Scope 3 Emissions
Minimum average (geometric) annual carbon emissions reduction relative to the index base year (see Appendix B)	7% – Scope 1 and 2 Emissions ≥7% – Scope 3 Emissions (applies after base year)
Active weight in High Climate Impact Sector relative to underlying index in aggregate (see Appendix C)	0
Additional Objectives	Index Targets
Minimum potential emissions reduction relative to underlying Index (see 8.1.2 and Appendix B)	PAB: ≥50% – Potential Emissions CTB: ≥30% – Potential Emissions *
Corporate Target Setting: TPI MQ score improvement	0.2σ **
Corporate Target Setting: TPI Carbon Performance tilt	1 tilt ***, ****

⁸ Definitions in Appendix B

Additional Objectives	Index Targets
Corporate Target Setting: TPI Carbon Performance Not Aligned companies emission reduction relative to underlying Index	PAB: 0 weight CTB: ≥60% Scope 1 and 2 Emissions reduction
Green Revenue improvement	>100%

* The FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index applies a 100% Potential Emissions reduction. This removes companies with Fossil Fuel Reserves (greater than or equal to 50% ownership) in the FTSE Carbon Reserves data model.

** σ is the weighted standard deviation of the score in the underlying universe.

*** TPI Carbon Performance fixed tilt detailed in 5.2.3.

**** The FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index applies a 0.5 tilt strength on carbon performance.

8.1.2 Minimum carbon emissions reduction relative to underlying Index and minimum average carbon emissions reduction relative to the index base year apply a 0.5% buffer to allow drift between targeted and realised emission targets (see Appendix B).

8.1.3 FTSE EU Climate Benchmarks Index Series employs a base year of 2020 for the application of the minimum average carbon emissions reduction relative to the index base year.

The first assessment period to meet the Paris-aligned benchmark (PAB) and Climate transition benchmark (CTB) index minimum requirements will be measured on an annual basis starting from the first index review in the calendar year following the launch of the index.

Should a significant change in the calculation methodology of GHG intensity or absolute GHG emissions occur, a new base year may be selected.

8.1.4 FTSE EU Climate Benchmarks Index Series also applies below constraints:

Index	Beta Banding	Country	Industry	Max Company Weight (%)	Min Company Weight (b.p.)	Max Capacity Ratio*	Min EffN*
FTSE Developed Paris-aligned (PAB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Developed Climate Transition (CTB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE All-share Paris-aligned (PAB) Index	0.7 – 1.3	NA	+/-5%	5	0.5	20	≥25%
FTSE All-share Climate Transition (CTB) Index	0.7 – 1.3	NA	+/-5%	5	0.5	20	≥25%
FTSE All World Paris-Aligned (PAB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE All World Climate Transition (CTB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Emerging Paris-Aligned (PAB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Emerging Climate Transition (CTB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Developed ex Korea ex Poland Paris-Aligned (PAB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Developed ex Korea ex Poland Climate Transition (CTB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Emerging with Korea and Poland Paris-Aligned (PAB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%
FTSE Emerging with Korea and Poland Climate Transition (CTB) Index	0.7 – 1.3	+/-5%	+/-5%	5	0.5	20	≥25%

Index	Beta Banding	Country	Industry	Max Company Weight (%)	Min Company Weight (b.p.)	Max Capacity Ratio*	Min EffN*
FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index	0.7 – 1.3	+/-10%	+/-10%	5	0.5	20	≥25%

*see FTSE Global Factor Index Series Ground Rules for details

8.1.4.1 In addition to the above parameters, the FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index also applies a +/- 3% stock active weight constraint.

8.1.5 Constituent weightings in the FTSE EU Climate Benchmarks Index Series are determined using FTSE Target Exposure methodology. The weight of the constituent is determined as:

$$w_i = \frac{v_i}{\sum_j v_j}$$

where $v_i = w'_i \times S_{GR,i}^a \times S_{ES1\&2,i}^{b1\&2} \times S_{ES3,i}^{b3} \times S_{R,i}^c \times S_{MQ,i}^d \times CP_i \times C_i \times I_i \times \Phi_i$

where

- w'_i is the market capitalisation weight of stock i in the underlying eligible universe.
- $S_{GR,i}, S_{ES1\&2,i}, S_{ES3,i}, S_{R,i}, S_{MQ,i}$ are natural exponents of the corresponding Z-scores detailed in Rule 5.5.
- $a, b1\&2, b3, c$ and d are tilt-strength determined at index weighting.
- CP_i is the TPI carbon performance fixed tilt detailed in 5.2.3.
- C_i and I_i are Country and Industrial ICB tilt respectively.
- Φ_i is the maximum stock capacity/maximum weight tilt.

For details of FTSE Target Exposure methodology, please see the FTSE Global Factor Index Series.

8.1.6 At each index review, constraints and targets may be relaxed if delivering all constraints and targets are not achievable. Industry and Country constraints are relaxed first at 1% interval till a maximum +/-20% band. If there is no feasible solution at +/- 20% industry and country banding, other constraints and targets are relaxed. Details for the relaxation can be found in FTSE Global Factor Ground Rules. Paris-aligned (PAB) or Climate Transition (CTB) minimum requirements will not be relaxed.

8.1.7 If there is no feasible solution after Rule 8.1.6, Paris-aligned (PAB) or Climate Transition (CTB) minimum emission requirements are reduced by 2.5% of their original value and the weighting process detailed in Rules 8.1.5 and 8.1.6 is re-attempted. This process is repeated until a valid solution is achieved.

8.1.8 In the event of Paris-aligned (PAB) or Climate Transition (CTB) minimum requirements being relaxed during the index review, the Paris-aligned (PAB) or Climate Transition (CTB) adjustments and targets would be applied at the next index review. Additional details are provided in Appendix B.

8.1.9 FTSE Developed Paris-Aligned (PAB) Index, FTSE Developed Climate Transition (CTB) Index, FTSE All-share Paris-Aligned (PAB) Index and FTSE All-share Climate Transition (CTB) Index will apply an adjustment in December 2021 to ensure Scope 3 emissions reductions are applied to the Energy and Mining Sectors (see Appendix B for details).

8.2 Index Back-Histories

8.2.1 Company carbon emissions data is lagged, for one year, before the end of April 2022.

8.2.2 TPI data as of September 2018 is used in the index review process prior to 2018.

Section 9

Changes to constituent companies

9. Changes to constituent companies

9.1 Intra-review Additions

9.1.1 Additions to the underlying index will be considered for inclusion at the next annual review.

9.2 Intra-review Deletions

9.2.1 A constituent will be removed from the FTSE EU Climate Benchmarks Index Series if it is removed from the underlying universe. For both FTSE and Russell derived FTSE EU Climate Benchmarks Index Series, a minimum of 2 days' notice will be provided. The weight of the removed constituent will be distributed pro-rata amongst the remaining constituents in the relevant index.

9.3 Intra-review Changes to Exclusion Lists

9.3.1 A constituent will be removed from the FTSE EU Climate Benchmarks Index Series if it is added to a relevant exclusion list. The deletion will be concurrent with its addition to the exclusion list.

9.3.2 A stock that is removed from a relevant exclusion list will be considered for inclusion at the next annual review.

Section 10

Corporate actions and events

10. Corporate actions and events

10.1 If a constituent has a stock split, stock consolidation, rights issue, bonus issue, a change in the number of shares in issue or a change in free-float, the constituent's weighting in the FTSE EU Climate Benchmarks Index Series remains unchanged pre and post such an event.

10.2 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices using the following link:

[Corporate Actions and Events Guide for Non Market Cap Weighted Indices.pdf](#)

A Corporate 'Action' is an action on shareholders with a prescribed ex date. The share price will be subject to an adjustment on the ex date. These include the following:

- Capital Repayments
- Rights Issues/Entitlement Offers
- Stock Conversion
- Splits (sub-division)/Reverse splits (consolidation)
- Scrip issues (Capitalisation or Bonus Issue)

A Corporate 'Event' is a reaction to company news (event) that may impact the index depending on the index rules. For example, a company announces a strategic shareholder is offering to sell their shares (secondary share offer) – this could result in a free float weighting change in the index. Where an index adjustment is required, FTSE Russell will provide notice advising of the timing of the change.

10.3 Suspension of Dealing

Suspension of Dealing rules can be found within the Corporate Actions and Events Guide for Non-Market Capitalisation Weighted Indices.

10.4 Takeovers, Mergers and Demergers

The treatment of takeovers, mergers and demergers can be found within the Corporate Actions and Events Guide for Non-Market Capitalisation Weighted Indices.

Section 11

Treatment of dividends

11. Treatment of dividends

11.1.1 Declared dividends are used to calculate the Standard Total Return Index of the FTSE EU Climate Benchmarks Index Series. All dividends are applied as at the ex-div date.

11.1.2 Net of tax Total Return Indices are also calculated based on dividends received following deduction of withholding tax at the rates applicable to a UK pension fund that benefits from double-taxation treaties.

Withholding tax rates used in the net-of-tax indices can be accessed using the following link:

[Withholding Tax Service](#)

Please also refer to the FTSE Russell Withholding Tax Guide which can be accessed using the following link:

[FTSE Russell Withholding Tax Guide.pdf](#)

Section 12

Industry Classification Benchmark (ICB)

12. Industry Classification Benchmark (ICB)⁹

12.1 Classification Structure

- 12.1.1 The FTSE EU Climate Benchmarks Index Series constituents are classified into Industries, Supersectors, Sectors and Subsectors, as defined by the Industry Classification Benchmark (ICB).
- 12.1.2 Details of the Industry Classification Benchmark are available from FTSE Russell and published on the FTSE Russell website (www.lseg.com/en/ftse-russell/) and can be accessed using the following link:
[Industry Classification Benchmark](#)

⁹ Russell indices migrated to the new ICB classification system in September 2020 and FTSE indices migrated in March 2021

Section 13

Indices algorithm and calculation method

13. Indices algorithm and calculation method

13.1 Prices

13.1.1 The FTSE EU Climate Benchmarks Index Series uses actual closing mid-market or last trade prices, where available, for securities with local market quotations. Further details can be accessed using the following link:

[Closing Prices Used For Index Calculation.pdf](#)

13.2 Calculation Frequency

13.2.1 The FTSE EU Climate Benchmarks Index Series will be calculated on an end of day basis and displayed to eight decimal points.

13.3 Index Calculation

The FTSE EU Climate Benchmarks Index Series are calculated using the algorithm described below:

$$\sum_{i=1}^N \frac{(p_i \times e_i \times s_i \times f_i \times c_i)}{d}$$

Where,

- $i=1,2,\dots,N$
- N is the number of securities in the index.
- p_i is the latest trade price of the component security (or the price at the close of the index on the previous day).
- e_i is the exchange rate required to convert the security's currency into the index's base currency.
- s_i is the number of shares in issue used by FTSE Russell for the security, as defined in these Ground Rules.
- f_i is the Investability Weighting Factor to be applied to a security to allow amendments to its weighting, expressed as a number between 0 and 1, where 1 represents a 100% free float. This factor is published by FTSE Russell for each security in the underlying index.
- c_i is the Weight Adjustment Factor (WAF) to be applied to a security to correctly weight that security in the index. This factor maps the investable market capitalisation of each stock to a notional market capitalisation for inclusion in the index.
- d is the divisor, a figure that represents the total issued share capital of the Index at the base date. The divisor can be adjusted to allow changes in the issued share capital of individual securities to be made without distorting the index.

Appendix A

Paris-aligned benchmark (PAB) exclusions, Climate Transition benchmark (CTB) and index specific exclusions

Product Involvement Exclusions for PAB and CTB Indices

At each index review date, companies with the business activities listed in the table below are excluded from the eligible universe.

Exclusions lists are reviewed on a quarterly basis in March, June, September and December.

Paris-Aligned (PAB) Minimum Standards	FTSE Paris-Aligned (PAB) Index Exclusions	
Exclusions category	Definition	Involvement threshold for exclusion
Controversial Weapons BMR minimum requirement	Biological & Chemical weapons: Companies producing chemical or biological weapons and their components, including all precursors, munitions, devices or equipment specifically designed for, and used directly in connection with, these weapons. Secondary products and services to chemical & biological weapons that are specific to chemical & biological weapons.	Greater than 0% of revenues
	Cluster Munitions: Companies producing cluster munitions as defined in the Convention on Cluster Munitions and their components, including all precursors, munitions, devices or equipment specifically designed for, and used directly in connection with, these weapons. - Secondary products and services to cluster munitions that are specific to cluster munitions.	Greater than 0% of revenues
	Anti-Personnel Landmines: Companies that produce anti-personnel mines as defined in the "1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction" ("Ottawa Convention"). Secondary products and services to anti-personnel mines that are specific to anti-personnel mines.	Greater than 0% of revenues
Tobacco BMR minimum requirement	Tobacco products including cigarettes, roll your own tobacco, pipe tobacco, cigars, cigarillos, bidis, gutka, smokeless tobacco, and heated tobacco products (HTPs). Electronic cigarettes (or 'e-cigarettes') and electronic nicotine delivery systems.	Greater than 0% of revenues
	This includes: <ul style="list-style-type: none"> all companies that are classified in the ICB Subsector Tobacco 45103010 and Cannabis Producers 20103020 	Not applicable

Paris-Aligned (PAB) Minimum Standards	FTSE Paris-Aligned (PAB) Index Exclusions	
	<ul style="list-style-type: none"> companies that are not classified in ICB Subsector Tobacco 45103010 and Cannabis Producers 20103020, but that are identified as having any activity in this Subsector 	
<p>Coal: 1 % or more of revenues from exploration, mining, extraction, distribution or refining of hard coal & lignite</p> <p>BMR minimum requirement</p>	<p>Thermal Coal Reserves Companies with proved or probable reserves in coal</p> <p>Thermal Coal Extraction The company extracts thermal coal.</p> <p>Thermal Coal Supporting Services The company provides tailor-made products & services that support thermal coal extraction. This includes companies that provide storage & transportation, mining, and coal refining services</p>	<p>Greater than or equal to 50% ownership</p> <p>Greater than 0% of revenues</p>
<p>Oil & Gas:</p> <ul style="list-style-type: none"> 10 % or more of revenues from the exploration, extraction, distribution or refining oil fuels; 50 % or more of revenues from the exploration, extraction, manufacturing or distribution of hydrocarbons, hydrogen and carbon monoxide mixtures present in gaseous state; <p>BMR minimum requirement</p>	<p>Oil & Gas Production Companies involved in oil and gas (including Oil Sands) exploration, production, refining, transportation and/or storage.</p> <p>Oil & Gas Supporting Products & Services Companies providing tailor-made products and services that support oil and gas (including Oil Sands) exploration, production, refining, transportation, and storage.</p>	<p>Greater than or equal to 10% of revenues</p>
<p>Electricity producers: carbon intensity of lifecycle GHG emissions > 100 gCO₂e/kWh (50%+ revenues)</p> <p>BMR minimum requirement</p>	<p>Oil & Gas Generation</p> <p>Thermal Coal Power Generation Companies generating electricity from oil and/or gas, and/or thermal coal.</p>	<p>Greater than or equal to 50% of revenues</p>
<p>Additional exclusions</p>	<p>Oil Sands Extraction The company extracts oil sands.</p>	<p>Greater than or equal to 50% of revenues</p>

Climate Transition (CTB) Minimum Standards	FTSE Climate Transition (CTB) Index Exclusions	
Exclusions category	Definition	Involvement threshold for exclusion
<p>Controversial Weapons</p> <p>BMR minimum requirement</p>	<p>Biological & Chemical weapons: Companies producing chemical or biological weapons and their components, including all precursors, munitions, devices or equipment specifically designed for, and used directly in connection with, these weapons. Secondary products and services to chemical & biological weapons that are specific to chemical & biological weapons.</p> <p>Cluster Munitions: Companies producing cluster munitions as defined in the Convention on Cluster Munitions and their components, including all precursors, munitions, devices or equipment specifically designed for, and used directly in connection with, these weapons. - Secondary products and services to cluster munitions that are specific to cluster munitions.</p> <p>Anti-personnel mines: Companies that produce anti-personnel mines as defined in the "1997 Convention on the Prohibition of the Use, Stockpiling,</p>	<p>Greater than 0% of revenues</p> <p>Greater than 0% of revenues</p> <p>Greater than 0% of revenues</p>

Climate Transition (CTB) Minimum Standards	FTSE Climate Transition (CTB) Index Exclusions	
	<p>Production and Transfer of Anti-Personnel Mines and on their Destruction” (“Ottawa Convention”).</p> <p>Secondary products and services to anti-personnel mines that are specific to anti-personnel mines.</p>	
Tobacco	Tobacco products including cigarettes, roll your own tobacco, pipe tobacco, cigars, cigarillos, bidis, gutka, smokeless tobacco, and heated tobacco products (HTPs). Electronic cigarettes (or ‘e-cigarettes’) and electronic nicotine delivery systems.	Greater than 0% of revenues
BMR minimum requirement	<p>This includes:</p> <ul style="list-style-type: none"> all companies that are classified in the ICB Subsector Tobacco 45103010 and Cannabis Producers 20103020 companies that are not classified in ICB Subsector Tobacco 45103010 and Cannabis Producers 20103020, but that are identified as having any activity in this Subsector 	Not applicable
Additional Exclusions	<p>Thermal Coal Companies that extract thermal coal or generate electricity from thermal coal</p> <p>Oil Sands extraction</p> <ul style="list-style-type: none"> Companies that extract oil sands 	Greater than or equal to 50% of revenues

Conduct Related Exclusions ¹⁰ – applied to all indices in the FTSE EU Climate Benchmarks Index Series

Paris-aligned (PAB) and Climate Transition (CTB) Minimum Standards	FTSE EU Climate Benchmarks Index Series exclusions	
Exclusion	Definition	Threshold applied
Controversies* BMR minimum requirement	<p>Human Rights Controversies related to Principles 1 and 2 of the UN Global Compact, which is derived from the Universal Declaration of Human Rights.</p> <p>Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.</p> <p>Labour Controversies related to Principles 3, 4, 5, and 6 of the UN Global Compact, which is derived from the International Labour Organization’s Declaration on Fundamental Principles and Rights at Work.</p> <p>Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.</p> <p>Environment Controversies related to Principles 7, 8, and 9 of the UN Global Compact, which is derived from the Rio Declaration on Environment and Development.</p> <p>Principle 7: Businesses should support a precautionary approach to environmental challenges; Principle 8: undertake initiatives to promote greater environmental</p>	<p>For large and mid-cap size: - Companies assigned non-compliant status</p> <p>For small-cap size: - Companies assigned watchlist or non-compliant status</p>

¹⁰ Conduct-Related Exclusions regarding controversies utilize data sourced from Sustainalytics’ Global Standards Screening (GSS) dataset, FTSE Russell and RepRisk. Please refer to the [Guide to FTSE and Third Party ESG Data used in FTSE Indices](#) for further details.

Paris-aligned (PAB) and Climate Transition (CTB) Minimum Standards	FTSE EU Climate Benchmarks Index Series exclusions	
	responsibility; and Principle 9: encourage the development and diffusion of environmentally friendly technologies.	
	Anti-corruption Controversies related to Principle 10 of the UN Global Compact, which is derived from the United Nations Convention Against Corruption.	
	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	
Do No Significant Harm	Companies at risk of contributing to severe or systemic and/or systematic violations of international norms and standards relating to UNGC principles 7, 8, 9	All companies assigned Watchlist status
BMR minimum requirement		

* For companies excluded, if their Sustainalytics GSS assessment changes, the companies will be considered for removal from the exclusion list according to Rule 7.3.2 in the Guide to the Construction and Maintenance of FTSE Exclusion Lists, which can be accessed using the following link:

[Guide to the Construction and Maintenance of FTSE Exclusion Lists.pdf](#)

For further details on FTSE Russell and/or Sustainalytics data, please refer to Section 4. Companies not covered by FTSE Russell and/or Sustainalytics are excluded from the FTSE Paris-aligned (PAB) and FTSE Climate Transition (CTB) indices.

Additional Product Involvement Exclusions applied to the FTSE Global Core Infrastructure 50/50 Climate Transition (CTB) Index

	Product involvement categories	Involvement threshold for exclusion
Non-renewable energy	Thermal Coal – Production	
	The company produces or owns reserves of coal	Equal to or greater than 0% of revenues.
Vice products	Tobacco	
	Companies providing inputs into tobacco products/manufacturing, but does not include retail.	Greater than 0% of revenues.
Weapons.	Nuclear weapons	
	Companies that produce nuclear weapons or their components (e.g. casings). This includes companies that provide delivery system (e.g. ballistic missile submarines) or critical services (e.g. maintenance or IT) that are directly related to and specifically designed for nuclear weapons	Greater than 0% of revenues.
	Firearms	
	Companies producing firearms for sale to the public.	Greater than 0% of revenues.

Appendix B

Carbon emissions

GHG emissions

The FTSE EU Climate Benchmarks Index Series uses Scope 1 and 2 carbon emission intensity, Scope 3 carbon emissions intensity and potential carbon emissions from fossil fuel reserve ownership.

Carbon emission reduction is measured as the reduction of carbon emissions intensity.

Potential carbon emission reduction is measured as the reduction of potential carbon emissions intensity.

Scope 1 and 2, and Scope 3 carbon emissions intensity is defined as:

Company total carbon emissions (Scope 1 and 2 or Scope 3) in metric tonnes CO2 scaled by enterprise value including (EVIC) cash (USD).

Potential carbon emissions intensity is defined as:

Company total CO2 equivalent of the fossil fuel reserve in metric tonnes CO2 scaled by full company market capitalisation (USD).

Average annual GHG emissions reduction relative to base year of the index

The FTSE EU Climate Benchmarks Index Series requires an average annual GHG intensity reduction relative to base year of the index.

The average carbon emissions reduction relative to base year of the index is calculated¹¹ as the weighted average emission intensity (WA_EM) over the previous year's level, adjusted for inflation by the universe average enterprise value including cash (AVG_EVIC). That is:

$$1 - \left(\frac{WA_EM_t}{WA_EM_{t_0}} \div \frac{AVG_EVIC_{t_0}}{AVG_EVIC_t} \right)^{\frac{1}{t-t_0}}$$

where t_0 is the base year and t is current review year.

The average annual potential carbon emissions reduction relative to base year of the index is calculated as the weighted average potential emission intensity (WA_PEM) compared to the base year's level:

$$1 - \left(\frac{WA_PEM_t}{WA_PEM_{t_0}} \right)^{\frac{1}{t-t_0}}$$

¹¹ Scope 3 emissions reduction are calculated separately from Scopes 1 and 2

Index GHG emissions targets

At review, the index emission intensity targets are set as the lower of (1) Emission Reduction Relative to Benchmark and (2) Emission Trajectory Target, where:

$$\text{Emission Reduction Relative to Benchmark} = (1 - r - b) \times \text{Benchmark Emission}$$

$$\text{Emission Trajectory Target} = [(1 - 7\%)^{t-t_0} - b] \times WA_{EM_{t_0}} \div \frac{AVG_{EVIC_t}}{AVG_{EVIC_{t_0}}}$$

where $b = 0.5\%$ is the buffer to allow for drift between targeted and realised targets and r is the minimum carbon emission intensity reduction relative to underlying Index as set out in Section 8.

2021 Phased approach to Scope 3 Emission Data

The following indices were launched prior to the incorporation of Scope 3 GHG Emission data:

- FTSE Developed Paris-Aligned (PAB) Index*
- FTSE Developed Climate Transition (CTB) Index*
- FTSE All-share Paris-Aligned (PAB) Index*
- FTSE All-share Climate Transition (CTB) Index*
- FTSE All World Paris-Aligned (PAB) Index
- FTSE All World Climate Transition (CTB) Index
- FTSE Emerging Paris-aligned (PAB) Index
- FTSE Emerging Climate Transition (CTB) Index
- FTSE Developed ex Korea ex Poland Paris-aligned (PAB) Index
- FTSE Developed ex Korea ex Poland Climate Transition (CTB) Index
- FTSE Emerging with Korea and Poland Paris-aligned (PAB) Index
- FTSE Emerging with Korea and Climate Transition (CTB) Index

As a proxy for Scope 3 Emissions targets, these indices incorporated a Potential Trajectory Target from inception up to and including the 2021 rebalance. The Potential Emission target was set as the lower of (1) Potential Emission Reduction Relative to Benchmark and (2) Potential Emission Trajectory Target, where:

$$\text{Potential Emission Reduction Relative to Benchmark} = (1 - r - b) \times \text{Benchmark Potential Emission}$$

$$\text{Potential Emission Trajectory Target} = [(1 - 7\%)^{t-t_0} - b] \times WA_{PEM_{t_0}}$$

Partial Scope 3 data was introduced in 2021. The Scope 3 emission targets were set such that the relevant sectors achieved the same reduction as the emission targets for Scope 1 and 2 emissions. Scope 3 emission data used in 2021 covered the estimated Use of Sold Products for the Energy and Mining sectors.

The calculations for Scope 3 Emission will follow price cut-off date and implementation date as detailed in Rule 7.1.2 and 7.1.3.

* For these indices, partial Scope 3 data was implemented at an extraordinary review in December 2021.

The adjustment was applied as below:

$$w_i = \frac{v_i}{\sum_j v_j}$$

where $v_i = w_i \times S_{E3,i}^g$

where

- w_i is the index weight of stock i before Scope 3 emission adjustment
- $S_{E3,i}$ is natural exponent for the Scope 3 emission Z-score calculated the same way as Scope 1 and 2 emissions as detailed in Rule 5.5
- g is the tilt-strength that is required to adjust the index to meet Scope 3 emission requirement

Scope 3 Emission Data for non-Financials

From February 2023, the FTSE EU Climate Benchmarks Index Series incorporates Scope 1 and 2, and Scope 3 targets for full coverage (apart from Financials (ICB sector 30)) and will not incorporate a Potential Emission Trajectory Target. Scope 1 and 2, and Scope 3 emissions targets are calculated as covered above. This applies to any indices that are added to this index series after December 2022. As this represents a significant change of the GHG emissions calculation methodology in line with Article 8 of the Commission Delegated Regulation (EU) 2020/1818¹² of 17 July 2020, all indices launched before December 2022 updated the base year levels to accommodate the expansion in coverage of Scope 3 data.

Scope 3 Emission Data for Financials

Prior to September 2024, due to low and unreliable coverage, the FTSE Scope 3 emissions model data used in the FTSE EU Climate Benchmarks Index Series did not include Financials (ICB 30). Instead, for the purposes of tilting, all Financials were assigned a Z-score of 3 (equivalent to the 'worst' tilt for Scope 3 carbon emissions) to reflect their significant but under-estimated emissions.

In accordance with Article 5 of the Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020, the FTSE EU Climate Benchmarks Index Series incorporates Scope 3 coverage for Financials (ICB 30) in the calculation of the Scope 3 intensity target from the September 2024 review. The Scope 3 emissions intensity target is calculated as above. Any indices that are added to this index series after September 2024 will include coverage of Financials from inception.

As this is considered a significant change in the GHG emissions calculation methodology in line with Article 8 of the Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020, all indices launched before September 2024 will update the base year levels used to calculate the decarbonisation trajectory¹³. The updated base year levels are calculated using the new Scope 3 data from the base year of 2020 and recalculated index weights using the index methodology as at September 2024.

¹² The European Benchmark Regulation is retained EU law in the UK under The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019 (the UK Benchmark Regulation).

¹³ This is in line with the objective of the FTSE EU Climate Benchmark Index Series and the regulation to track decarbonisation efforts whilst recognising the new Scope 3 data available.

Appendix C

High climate impact sector

FTSE EU Climate Benchmarks Index Series will maintain equal active weight in 'High Climate Impact' and 'Low Climate Impact' sectors, relative to the underlying index. As per the delegated acts for EU climate benchmarks (A19a-A19d of the consolidated European Benchmarks Regulation), securities in NACE sector codes A, B, C, D, E, F, G, H, L are classified as "High Climate Impact", whereas securities in NACE sector codes I, J, K, M, N O, P, Q, R, S, T are classified as "Low Climate Impact".

FTSE Russell has mapped NACE classes to ICB according to the following steps:

- The NACE exposure of each ICB 4 subsector is determined.
- ICB company classifications are then cross-referenced with the Refinitiv Worldscope Fundamentals database providing the NACE sector of segmental revenues, in order to map the percentage of company revenues of each ICB Level 4 subsector aligning to a NACE Level 1 sector
- In the cases where ICB level 4 subsector revenues are split between one or more NACE sectors, the NACE & ICB definitions are used to determine the appropriate NACE mapping

The list of ICB 4 subsectors that are mapped to NACE sector codes A, B, C, D, E, F, G, H, L, classified as "High Climate Impact", is provided below:

ICB Level 4 subsector	Description	Defined NACE
10102010	Semiconductors	C
10102015	Electronic Components	C
10102020	Production Technology Equipment	C
10102030	Computer Hardware	C
10102035	Electronic Office Equipment	C
15101010	Telecommunications Equipment	C
20102010	Medical Equipment	C
20102015	Medical Supplies	C
20103015	Pharmaceuticals	C
20103020	Marijuana Producers	C
35101010	Real Estate Holding and Development	L
35101015	Real Estate Services	L
35102000	Diversified REITs	L
35102010	Health Care REITs	L
35102015	Hotel and Lodging REITs	L

ICB Level 4 subsector	Description	Defined NACE
35102020	Industrial REITs	L
35102025	Infrastructure REITs	L
35102030	Office REITs	L
35102040	Residential REITs	L
35102045	Retail REITs	L
35102050	Storage REITs	L
35102060	Timber REITs	A
35102070	Other Specialty REITs	L
40101010	Auto Services	G
40101015	Tires	C
40101020	Automobiles	C
40101025	Auto Parts	C
40201050	Storage Facilities	L
40201070	Consumer Services: Misc.	G
40202010	Home Construction	F
40202015	Household Furnishings	C
40202020	Household Appliance	C
40202025	Household Equipment and Products	C
40203010	Consumer Electronics	C
40203040	Electronic Entertainment	C
40203045	Toys	C
40203050	Recreational Products	C
40203055	Recreational Vehicles and Boats	C
40203060	Photography	C
40204020	Clothing and Accessories	C
40204025	Footwear	C
40204030	Luxury Items	C
40204035	Cosmetics	C
40401010	Diversified Retailers	G
40401020	Apparel Retailers	G
40401025	Home Improvement Retailers	G
40401030	Specialty Retailers	G
40501010	Airlines	H
40501015	Travel and Tourism	H

ICB Level 4 subsector	Description	Defined NACE
45101010	Brewers	C
45101015	Distillers and Vintners	C
45101020	Soft Drinks	C
45102010	Farming, Fishing, Ranching and Plantations	A
45102020	Food Products	C
45102030	Fruit and Grain Processing	C
45102035	Sugar	C
45103010	Tobacco	C
45201010	Food Retailers and Wholesalers	G
45201015	Drug Retailers	G
45201020	Personal Products	C
45201030	Nondurable Household Products	C
45201040	Miscellaneous Consumer Staple Goods	G
50101010	Construction	F
50101015	Engineering and Contracting Services	F
50101020	Building, Roofing/Wallboard and Plumbing	C
50101025	Building: Climate Control	C
50101030	Cement	C
50101035	Building Materials: Other	C
50201010	Aerospace	C
50201020	Defence	C
50202010	Electrical Components	C
50202020	Electronic Equipment: Control and Filter	C
50202025	Electronic Equipment: Gauges and Meters	C
50202030	Electronic Equipment: Pollution Control	C
50202040	Electronic Equipment: Other	C
50203000	Diversified Industrials	C
50203010	Paints and Coatings	C
50203015	Plastics	C
50203020	Glass	C
50203030	Containers and Packaging	C
50204000	Machinery: Industrial	C
50204010	Machinery: Agricultural	C
50204020	Machinery: Construction and Handling	C

ICB Level 4 subsector	Description	Defined NACE
50204030	Machinery: Engines	C
50204040	Machinery: Tools	C
50204050	Machinery: Specialty	C
50205010	Industrial Suppliers	G
50205030	Forms and Bulk Printing Services	C
50206010	Trucking	H
50206015	Commercial Vehicles and Parts	C
50206020	Railroads	H
50206025	Railroad Equipment	C
50206030	Marine Transportation	H
50206040	Delivery Services	H
50206060	Transportation Services	H
55101000	Diversified Materials	C
55101010	Forestry	A
55101015	Paper	C
55101020	Textile Products	C
55102000	General Mining	B
55102010	Iron and Steel	C
55102015	Metal Fabricating	C
55102035	Aluminum	C
55102040	Copper	B
55102050	Nonferrous Metals	B
55103020	Diamonds and Gemstones	B
55103025	Gold Mining	B
55103030	Platinum and Precious Metals	B
55201000	Chemicals: Diversified	C
55201010	Chemicals and Synthetic Fibres	C
55201015	Fertilisers	C
55201020	Specialty Chemicals	C
60101000	Integrated Oil and Gas	C
60101010	Oil: Crude Producers	B
60101015	Offshore Drilling and Other Services	B
60101020	Oil Refining and Marketing	B
60101030	Oil Equipment and Services	B

ICB Level 4 subsector	Description	Defined NACE
60101035	Pipelines	H
60101040	Coal	B
60102010	Alternative Fuels	C
60102020	Renewable Energy Equipment	C
65101010	Alternative Electricity	D
65101015	Conventional Electricity	D
65102000	Multi-Utilities	D
65102020	Gas Distribution	D
65102030	Water	E
65103035	Waste and Disposal Services	E

All other ICB 4 subsectors are mapped to NACE sector codes I, J, K, M, N O, P, Q, R, S, T and are classified as “Low Climate Impact”.

Appendix D

Further information

A Glossary of Terms used in FTSE Russell's Ground Rule documents can be found using the following link

[Glossary.pdf](#)

The FTSE Russell ESG Metrics website can be found using the following link: [ESG Metrics](#)

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