# Guide to FTSE and Third Party ESG Data used in FTSE Indices

v1.6

**FTSE RUSSELL**

An LSEG Business

# Contents

# Section 1
# Introduction

## 1. Introduction

1.1    This document provides details of the ESG data sets used in the construction and maintenance of FTSE Russell ESG indices.

1.1.1    The Guide includes information about both data provided by FTSE Russell and third parties.

**1.2    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.

1.3    No liability whether as a result of negligence or otherwise is accepted by FTSE Russell (or any person concerned with the preparation or publication of this Guide) for any losses, damages, claims and expenses suffered by any person as a result of:

– any reliance on this Guide, and/or

– any inaccuracies in this Guide, and/or

– any non-application or misapplication of the policies or procedures described in this Guide.

Summary of FTSE Russell ESG data sets:

| ESG data sets | Details | Are the data reported and/or modelled? | Verification and quality of the data | Reference standards used |
|---|---|---|---|---|
| **FTSE ESG Scores** | FTSE Russell's ESG Scores and data model allows investors to understand a company's exposure to, and management of, ESG issues in multiple dimensions. More information can be found here: https://www.lseg.com/en/ftse-russell/esg-scores and Appendix A of this document | Reported | See Appendix A | See Appendix B |
| **FTSE Green Revenues** | 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. More information can be found here: https://www.lseg.com/content/dam/ftse-russell/en_us/documents/policy-documents/ftse-green-revenues-classification-system.pdf | Reported and modelled | See Section 3 | See Section 3 |
| **Transition Pathway** | FTSE Russell's TPI Management Quality (MQ) data evaluates and tracks the quality of | Reported | See Appendix A | See Appendix B |

| ESG data sets | Details | Are the data reported and/or modelled? | Verification and quality of the data | Reference standards used |
|---|---|---|---|---|
| **Initiative (TPI) Management Quality (MQ)** | 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: https://www.transitionpathwayinitiative.org/methodology | | | |
| **FTSE Carbon Reserves** | 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 in Section 4. | Reported and modelled | See Section 4 | See Section 4 |
| **FTSE Carbon Emissions** | 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 in Section 5. | Reported and modelled | See Section 5 | See Section 5 |
| **FTSE product related data** | 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 (ftserussell.com). | Reported | See Guide to the Construction and Maintenance of Exclusion Lists used in FTSE Russell Indices | See Guide to the Construction and Maintenance of Exclusion Lists used in FTSE Russell Indices |
| **FTSE conduct related data** | FTSE exclusion lists on the activities of companies that are directly or indirectly linked to controversial conduct and/or diversity. More information can be found: Section 7 of the Guide to the Construction and Maintenance of Exclusion Lists used in FTSE Russell Indices. | Reported | See Guide to the Construction and Maintenance of Exclusion Lists used in FTSE Russell Indices | See Guide to the Construction and Maintenance of Exclusion Lists used in FTSE Russell Indices |

### Third-party ESG data sets

Details regarding third-party data sources are in Section 6. This includes vendor management and data quality measures.

The list of international data standards used is in Section 8.

**Data cut-off dates for ESG data sets used in FTSE indices**

The data cut-off date for each ESG data set is shown below. The data cut-off date is defined as the date that data is received for data quality checks ahead of the index review.

| ESG data set | Cut-off date |
| --- | --- |
| FTSE Carbon Emissions | Scope 1 and 2 data: 2nd Friday of the month prior to the review month<br><br>Scope 3 data: 1st Friday of the month prior to the September review |
| FTSE Carbon Reserves | 2nd Friday of the month prior to the review month |
| FTSE ESG Scores | 2nd Friday of the month prior to the June and December reviews<br><br>FTSE ESG scores are based on the Annual Report and Corporate Sustainability Report (CSR), or Integrated report, published by the last business day of March (for the June review) and September (for the December Review. All reports need to be published with the same fiscal year to feed into ESG data ahead of an index review. If a company reports to CDP, this report also needs to be available for FTSE Russell to access by the last business day of March or September |
| FTSE conduct related data | Last business day of the month, two months prior to the review month |
| FTSE product related data | Last business day of the month, two months prior to the review month |
| FTSE Green Revenues | 1st Friday of the month prior to the review month |
| GeoPhy | Last business day of the month prior to the review month |
| Measurabl data | Last business day of the month prior to the review month |
| Refinitiv ESG data | Last business day of the month prior to the review month |
| Sustainalytics conduct related (Global Standards Screening (GSS)), product related (Product Involvement (PI)) data, Controversial Weapons Radar (CWR) data | Last business day of the month, two months prior to the review month |
| SDI | 1st business day of the quarter (March, June, September and December) |
| TPI Management Quality (MQ) | 1st Friday of the month prior to the September review |
| TPI CP data | Last business day of the month prior to the September review. |

For all other ESG data sets, the data cut-off date is the last business day of the month prior to the review month.

Individual Ground Rules include the index review cut-off date, which is the date that data feeds into index reviews.

Section 2

# Transition Pathway Initiative Management Quality score

## 2. Transition Pathway Initiative Management Quality score

2.1    FTSE Russell uses the methodology developed by the Grantham Institute at the London School of Economics to calculate Management Quality (MQ) Scores used by the Transition Pathway Initiative (TPI).

2.2    The TPI MQ methodology assesses the quality of companies' management of their greenhouse gas emissions and of risks and opportunities related to the low-carbon transition. The methodology is published: https://www.transitionpathwayinitiative.org/methodology

These scores use datapoints incorporated within the FTSE ESG Scores Model and as such the same quality control processes apply in their calculation.

2.3    Further information can be found here:

https://www.transitionpathwayinitiative.org/

Section 3

# FTSE Russell Green Revenues data model

## 3. The FTSE Green Revenues data model

3.1 The FTSE Green Revenues data model helps investors understand the global industrial transition to a green and low carbon economy with consistent, transparent data and indices.

Companies are analysed and categorised using the unique Green Revenues Classification System (GRCS) on green products and services that covers 10 sectors, 64 subsectors and 133 micro sectors. The tiering system under the GRCS identifies the level of "greenness", or net environmental benefits of companies' business activities and revenues. Each micro sector is allocated to a tier (tier 1, 2 or 3) based on its overall environmental impacts.

For each company with green products or services identified, the Model provides data points on company green revenue percentages (including minimum, maximum and point estimate) and micro sector green revenue percentages for each green product or service offered by the company.

The FTSE Green Revenues data model does not currently utilise international standards in its construction but can be used to determine the degree to which companies are exposed to ESG activities.

**3.2 FTSE Green Revenues Dataset Construction**

Information is collected from publicly available reports by FTSE Russell analysts. Companies are also invited to provide more detailed information where the subsegmental revenue breakdown in their annual reports is not granular enough to facilitate the assessment of green revenues.

**3.3 FTSE Green Revenues Ratio Construction**

The FTSE Green Revenues ratio for a company is:

The ratio of green revenues as classified by the FTSE Green Revenues Classification System to total revenue;

Where an index utilises a variant of the Green Revenues ratio in their construction, this will be described in that Index's Ground Rules. In general, green revenues from Tier 3 micro sectors are excluded for index construction.

All constituent securities are assigned an FTSE Green Revenues ratio value. The FTSE Green Revenues ratio can be:

Zero if a constituent company has no exposure to the Green Economy;

A non-zero value, when exact Green Revenues were disclosed by a constituent company;

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;

The company-specific estimate of the Green Revenues, when a company discloses insufficient information for a precise determination of the FTSE Green Revenues ratio and estimation methodology is used to produce a point estimate for the company.

## 3.4 Collection method and delivery

The data is collected by an analyst who will typically manually extract (e.g. copy and paste) the wording from the data source and apply tags.

## 3.5 Quality measures

## 3.6 Quality measures occur in four stages

A. Stage 1 Analyst Level Quality Controls – an automated quality check using rules in the system that immediately can be used by the analyst on the data entry screen;

B. Stage 2 Advanced Quality Controls (conducted during research cycle) – more experienced quality control analyst carries out a further review which includes checking for accuracy of data assessed, and consistency in comparison with companies in the same ICB subsector; this check can also include checks on previous stage 1 checks undertaken;

C. Stage 3 Company Review of research – all companies are contacted and given the opportunity to comment on the accuracy and completeness of the company's data. Where companies identify pertinent information (i.e. information relevant to its assessment), such as revenues or product-specific attributes which was not included in the assessment, then the analyst incorporates the applicable company changes and the assessment is updated. FTSE contact every company and allow them to respond within a four-week timeframe;

D. Stage 4 FTSE Quality Monitoring of research (conducted bi-annually during research cycle) – FTSE Russell Sustainability experts conduct quality monitoring checks on quantitative data consistency regarding units, green activity and or revenue gaps, outliers and peer comparisons;

E. All data is looked over, defended or remedied before being delivered for market consumption.

Data Analysis has been introduced as systematic check to identify suspects at macro level, by specific logic(s) for all companies. Logics include, but not limited to, year-on-year revenue % changes and changes in subsegment classification. Data Analysis can be performed at distinct stages of assessment, such as at pre-Quality Control stage and/or before final approval stage as a governance check to ensure that published data are accurate.

## 3.7 FTSE Green Revenues and International Standards

The FTSE Green Revenues Data Model measures the "greenness" of products based on product-based international standards that align to each of the micro sector and subsector classifications.

Certifications are considered if the certification is issued by an independent third party and the environmental performance of the product is better than incumbent products' efforts to adapt, mitigate and/or remediate: environmental erosion, resource depletion and/or climate change.

These standards include, but are not limited to:

– **LEED (full suite)**
– **BREEAM**
– **EnergyStar**
– **RSPO**
– **Marine Stewardship Council**
– **Forest Stewardship Council**
– **Organic**
– **FairTrade**
– **Life Cycle Assessment**

– **Sustainable Forestry Initiative**
– **EcoLabel**
– **Green Seal**
– **Nuclear Grade Certifications (i.e. ASME, QSC-597, QSD-665)**
– **BOMA 360**
– **BOMA BEST**
– **CASBEE**
– **DGNB**
– **GPR Gebouw**

- **Green Globes**
- **Green Mark**
- **Green Star**
- **Green Star NZ**

- **Green Star SA**
- **HQE**
- **Miljöbyggnad**
- **SKA Rating**

# Section 4

# FTSE Carbon Reserves data model

## 4. The FTSE Carbon Reserves data model

4.1 The FTSE Global Carbon Reserves data model provides granular coverage of fossil fuel reserve ownership among publicly listed companies in developed markets and emerging economies. High levels of reserves and associated future emissions indicate potential 'stranded assets' on the balance sheets of fossil fuel companies, a key component of climate transition risk.

The dataset includes not only company-level data of oil, gas, and coal reserves, but also projections of potential GHG emissions released, if these reserves are extracted and combusted. Fossil fuel potential emissions are calculated by applying standardised emissions factors to each reserve type to adjust for non-energy uses of reserves, to capture carbon emissions from combustion, and to calculate additional operation emissions, such as from leakage and flaring.

The primary goal is to capture companies that own a majority stake in fossil fuel reserves. Only those reserves in which the company owns at least a 50% stake are captured.

**4.2 FTSE Carbon Reserves Dataset Construction**

Information is collected from publicly available reports by FTSE Russell analysts. The collection methodology captures both Proved (1P) and Proved and Probable (2P) reserves, which reflect the probability of economic extraction. Revenues, production and sales figures, and reserves quantities are captured with no minimum threshold. The raw data can be utilised to create custom and flexible models to suit individual needs.

**4.3 Collection method and delivery**

The data is collected by an analyst who will typically manually extract (e.g. copy and paste) the wording from the data source and apply tags. This process usually takes roughly 5 hours for each company depending on the type of data that is being reviewed, and 1 year for the universe of companies on which data is being collected.

**4.4 Quality measures**

To ensure data quality new assessments are reviewed by senior analysts and automated checks are applied.

**4.5 Quality measures occur in three stages**

A. Stage 1 Analyst Level Quality Controls – an automated quality check using rules in the system that immediately can be used by the analyst on the data entry screen.

B. Stage 2 Advanced Quality Controls (conducted during research cycle) – more experienced quality control analyst carries out a further review which includes checking for accuracy of data assessed, and consistency in comparison with companies in the same subsector; this check can also include checks on previous stage 1 checks undertaken.

C. Stage 3 FTSE Quality Monitoring of research (conducted bi-annually during research cycle) – FTSE Russell Sustainability experts conduct quality monitoring checks on quantitative data consistency regarding units, green activity and or revenue gaps, outliers and peer comparisons.

All data is looked over, defended or remedied before being delivered for market consumption.

**4.6 FTSE Carbon Reserves and International Standards**

The FTSE Carbon Reserves model does not make use of any international standards.

# Section 5
# FTSE Carbon Emissions data model

## 5. The FTSE Carbon Emissions data model

**5.1     FTSE Carbon Emissions Dataset Construction**

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).

5.1.1     Coverage and Universe

A. Scope 1 and Scope 2: The coverage for Scope 1 and Scope 2 extends from 2015 through present day, with reported emissions data covering the majority of global market capitalisation as represented by the FTSE Global All Cap with estimated and extrapolated data filling in gaps in company disclosure.

B. Scope 3: The coverage for Scope 3 extends from 2015 through present day, with reported emissions data covering the majority of global market capitalisation as represented by the FTSE Global All Cap with estimated and extrapolated data filling in gaps in company disclosure. However, due to poor Scope 3 disclosure rates in the sector, companies in ICB Financials (ICB sector 302010) are automatically assigned null Scope 3 emissions values[1].

**5.2     FTSE Carbon Emissions Dataset Construction**

Disclosed corporate carbon emissions data is collected from publicly available reports by Sustainable Finance & Investment (SFI) analysts. Additional Scope 1, Scope 2, and Scope 3 carbon emissions data from CDP (Carbon Disclosure Project) are also used in the dataset construction.

5.2.1     Disclosed Corporate Carbon Emissions Data Quality Checks

Rigorous data quality checks are performed on the disclosed corporate carbon emissions data.

A. Materiality Checks – A company must disclose the Scope 3 emissions for all categories material to its industry for both upstream and downstream activities, for the disclosure to be rated as valid. If this materiality check is failed, Scope 3 emissions disclosure is excluded and emissions for the this firm will be estimated in its place.

B. Extreme Value Checks – Checks are performed on disclosed data for each individual emissions scope. It mitigates extreme carbon intensities by replacing outliers with respective quantiles (e.g., the 95th percentile) of the carbon intensities distribution within respective peer group. The extreme data are replaced with more 'plausible values' from the distribution.

FTSE Russell does not currently check if disclosed data has been independently verified as in line with global or European standards due to the low levels of data currently reported in line with said standards.

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[1]   For a discussion around the state of corporate carbon disclosure, please refer to Mind the gaps: Clarifying corporate carbon. This paper will be followed by one focusing specifically on scope 3 carbon emissions disclosures.

## 5.3 FTSE Carbon Emissions Estimation Models

To fill in the gaps left by reported data, we have designed models for Scope 1 and 2, and Scope 3. A few models are common between all the scopes, while others are specific to scopes (explained below). The emissions for all scopes are estimated using a hierarchical framework which estimates emissions if disclosed data is unavailable, defaulting to high-accuracy Specialty Strategies before relying on General Strategies.

**Hierarchical model**
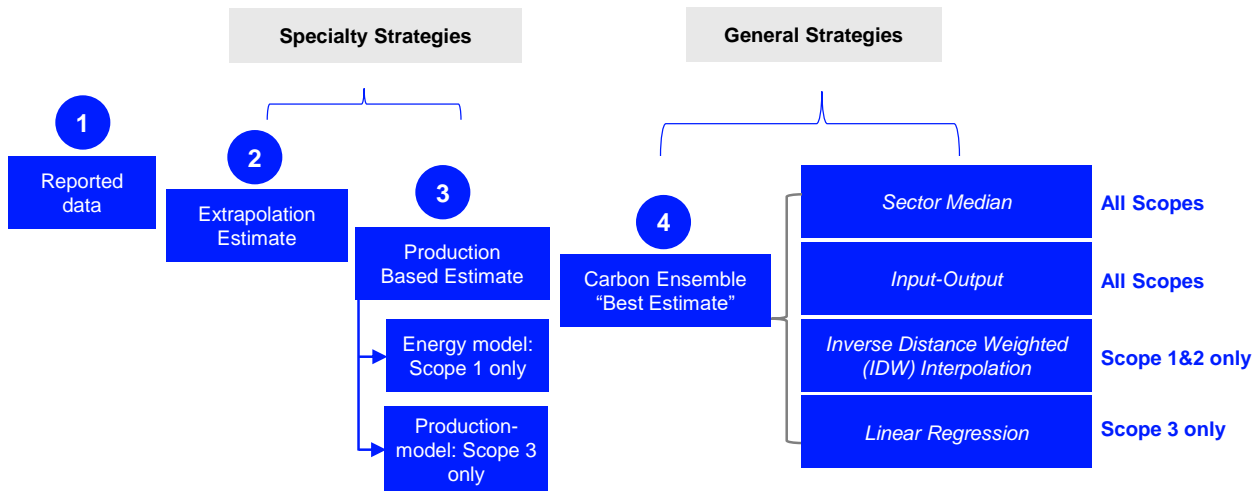


### 5.3.1 Estimation Models Common to all emissions Scopes:

Extrapolation

– Fills in missing data points where a company has reported carbon emissions in earlier years. The strategy assigns carbon intensity based on the most recent reported value of intensity by the company.

Sector Median Estimation

– Assigns each company to a single sector and region. Takes the median carbon intensity of all companies reporting carbon emissions for each sector. If enough companies disclose, our implementation utilises a higher resolution (e.g., Waste Management companies in North America).

– The strategy is employed on Scope 1 and Scope 2 as well as separately on upstream and downstream Scope 3.

Input/Output (IO) Estimation

– Uses Environmentally Extended Input Output Models to determine the carbon intensity of multiple economic activities a company is involved in. Offers an economy-wide perspective accounting for production flows within and between sectors and countries, independent of disclosed emissions. Generates more nuanced estimates of carbon emissions for complex firms with multiple business lines.

– The strategy is employed on Scope 1 and Scope 2 as well as upstream Scope 3.

### 5.3.2 Scope 1 and Scope 2 Specific Estimation Strategies

Inverse Distance Weight Interpolation (IDWI) Estimation

– Estimates carbon intensity for each economic activity based on all the companies reporting carbon emissions for each activity, with a weighting towards pure play companies. This approach uses company-level emissions disclosures to estimate the emissions intensity on an activity level. Since a typical company is involved in multiple activities, companies which specialise in a single activity represent the best estimate of that activity's carbon intensity.

Energy

– Estimates carbon emissions based reported power generation by fuel type (coal, gas, solar etc.) for power utilities.

### 5.3.3 Scope 3 Specific Estimation Strategies

We model upstream and downstream Scope 3 emissions separately to increase precision and robustness.

Regression

– Calculates carbon intensity based on linear regression prediction using ICB classification and region as regressors;

– This model is applied separately on upstream and downstream Scope 3.

Fossil Fuel Production

– Estimates downstream carbon emissions and intensity utilising reported fossil fuel production data. Company-disclosed annual production figures are multiplied against their respective emission factor (i.e., emissions per unit volume or weight combusted);

– The strategy is employed only on downstream Scope 3.

### 5.3.4 Aggregating Scope 3 Carbon Estimation Strategies

Scope 3 emissions are split between the upstream and downstream emissions as each category has their own idiosyncrasies that need to be considered. For upstream emissions, the final estimated value is computed by way of weighted average of the results from the Input/Output, the Regression, and the Sector Median strategy. For downstream emissions, the final estimated value is either the value based on production (if it exists) or the mean of the results of regression and the median strategies.

### 5.3.5 Aggregating Scope 1 and Scope 2 Carbon Estimates

Scope 1 and Scope 2 emissions estimates are calculated through the median of the Sector Median, Inverse Distance Weight Interpolation, and Input/Output estimates, for any given year of interest.

## 5.4 Collection method and delivery

The data is collected by an analyst who manually extract data from the data source and apply tags.

## 5.5 Quality measures

FTSE Russell applies several layers of quality control throughout the data collection and calculation process to ensure data accuracy. These checks are aligned to other FTSE Russell data models and are in four stages:

A. Stage 1 Analyst Level Quality Controls – an automated quality check using rules in the system that immediately can be used by the analyst on the data entry screen;

B. Stage 2 Advanced Quality Controls (conducted during research cycle) – more experienced quality control analyst carries out a further review which includes checking for accuracy of data assessed, and consistency in comparison with companies in the same ICB subsector; this check can also include checks on previous stage 1 checks undertaken;

C. Stage 3 FTSE Quality Monitoring of research –  quality monitoring checks are conducted .

To control for extreme numbers while training carbon estimation models, outliers are automatically truncated at a percentile cut off carbon intensity, relative to each ICB Supersector.

## 5.6 FTSE Carbon Emissions and International Standards

FTSE Russell uses the GHG Protocol definition of Scope 1, Scope 2, and Scope 3, i.e:

– Scope 1: Direct GHG emissions;

– Scope 2: Indirect GHG emissions associated with purchased electricity, heat, and cooling;

– Scope 3: Other indirect emissions related to the upstream and downstream value chain.

For Scope 3 emissions, the GHG Protocol establishes comprehensive global standardised frameworks for measuring greenhouse gas emissions. Scope 3 emissions are divided into 15 categories as follows:

| Scope 3 emissions | Category |
|---|---|
| Upstream | 1. Purchased goods and services |
| | 2. Capital goods |
| | 3. Fuel and energy-related activities (not included in scope 1 or scope 2) |
| | 4. Upstream transportation and distribution |
| | 5. Waste generated in operations |
| | 6. Business travel |
| | 7. Employee commuting |
| | 8. Upstream leased assets |
| Downstream | 9. Downstream transportation and distribution |
| | 10. Processing of sold products |
| | 11. Use of sold products |
| | 12. End-of-life treatment of sold products |
| | 13. Downstream leased assets |
| | 14. Franchises |
| | 15. Investments |

# Section 6
# Third party data and data suppliers

## 6. Third party data and data suppliers

**6.1    Third party data: assessing vendor quality**

FTSE Russell has a robust onboarding and due diligence process for our data vendors aligned to Group Data Policy which follows best practices around the management of data. FTSE Russell has Market Data team to support initial due diligence, and a Data Operations team to manage ongoing data due diligence.

The due diligence check undertaken on data vendors include:

i.    Quality and reliability of vendor corporate and identifier data;

ii.   Quality and reliability of vendor proprietary data;

iii.  Monitoring and investigating data fluctuations including root cause assessments.

FTSE Russell adheres to the Principles of the LSEG Data Governance Program which are aimed at the following:

–   To ensure appropriate use of, and adequate security for, Group Data and information;

–   To cultivate a workplace where staff are rewarded for good Data stewardship and responsible use of Group Data Assets;

–   To facilitate informed and actionable decision-making;

–   To enable an integrated view of Data across Group organisational boundaries;

–   To promote the efficient use of resources to meet the Data and information needs of the Group community;

–   To support transparency and accountability for internal and external stakeholders by ensuring appropriate access to and authorised use of relevant information.

FTSE Russell uses a combination of automated and manual controls to ensure data quality to the best of its ability.

**6.2    Third party data suppliers**

6.2.1   Vendor Data Management

Data delivery

Each data supplier has an agreed upon format, delivery location and timeframe for the data delivery as outlined in the contract. Data deliveries are considered to be certified by the data vendor for quality assurance upon each data delivery.

Data quality

FTSE Russell performs quality checks on the data after receipt from data vendors. Automated checks are utilised seeking irregularities, historical error types and patterns found in the data and manual checks are utilised seeking trends, both in raw data and visually, to guarantee holistic data quality.

These checks include:

i. Arrival check – determining that files are as specified in the contract and in the product file specifications sheets;

ii. Alignment to Reference data and Data Dictionary – determining that the files can be read and processed;

iii. Pricing checks – identifies changes over time (i.e. month-over-month, quarter-over-quarter, etc) and validated for accuracy (with no thresholds);

iv. Logic validations – determining consistency, trends and expected values within and/or between sources and fields as necessary.

Completeness measurement

FTSE Russell seeks to minimise the actual error rates over the course of the current term of its contract with its data vendors especially ensuring ensure that systematic errors are not present (e.g. 0% repeated errors).

### 6.2.2 List of FTSE Russell third party data vendors

The Vendors listed in this document are subject to the details laid out in Section 4 of this document to the best of FTSE Russell's ability.

### 6.3 Transition Pathway Initiative (TPI)

TPI Carbon Performance (CP) Scenario Alignment

TPI CP scenario alignment scores are provided by the TPI Global Climate Transition Centre, which is based at the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science.

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.

Companies that receive an assessment are categorised  based on the alignment of their individually modelled carbon emission pathway with different scenarios.

For companies in Pulp and Paper:

– Below 2°C aligned:  A company's carbon emissions pathway is aligned with limiting global warming to below 2°C above pre-industrial levels.

– 2°C aligned:  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

– Not aligned: A company's carbon emissions pathway is not aligned with limiting global warming to 2°C above pre-industrial levels

– Insufficient disclosure: A company provides insufficient disclosures to enable an assessment

– Not assessed: 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 aligned: 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 aligned:  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

- Not aligned: A company's carbon emissions pathway is not aligned with limiting global warming to 2°C above pre-industrial levels

- Insufficient disclosure: A company provides insufficient disclosures to enable an assessment

- Not assessed: A company has not yet been assessed for its Carbon Performance

More information can be found here: [www.transitionpathwayinitiative.org/methodology](www.transitionpathwayinitiative.org/methodology)

## 6.4 CDP

### 6.4.1 Carbon Emissions Data

FTSE Russell licenses carbon emissions data (Scopes 1, 2, and 3) from the Carbon Disclosure Project (CDP). This data is reported by companies themselves using a survey developed by the CDP. CDP encourages companies to report data that has been verified by third party providers according to international internationally-recognised standards, including relevant ISO or ISAE standards. The survey is collected annually by the CDP followed by an internal quality exercise and additional derived data analysis.

CDP publishes reporting guidance under [https://www.cdp.net/en/guidanceScoring_2023_-_short_explainer.pdf (cdp.net).](https://www.cdp.net/en/guidanceScoring_2023_-_short_explainer.pdf)

### 6.4.2 Data use

CDP data is used as an input to FTSE data sets:

A. Inputs into the FTSE ESG data model. In this instance, the CDP datapoints are subject to the quality control procedures outlined in section 4.3;

B. Inputs into the FTSE Carbon Emissions data model. Data is checked for issues with respect to identifiers, as well as screened for volatility and outliers.

## 6.5 GeoPhy

### 6.5.1 ESG/Green modelled data for REITs

GeoPhy provides FTSE Russell with specific sustainability metrics for Real Estate companies. The sustainability metrics include green certificate data, energy & carbon performance of individual assets, and proportional sustainability metrics in REIT/property company portfolios. This is modelled data.

**6.6        Refinitiv**

**6.6.1      Worldscope**

FTSE Russell is a Licensee of Worldscope data from Refinitiv. This document details the specific use of Refinitiv as a data vendor for ESG indices and does not detail the larger use by the London Stock Exchange Group.

Worldscope data is used for informational purposes to highlight index constituents that may be involved in key ESG investment areas (i.e. solar, water, defense, vice products). Such companies are subject to further investigation by FTSE Russell analysts. Worldscope financial data be used as an input to carbon emissions intensity calculations.

**6.6.2      Refinitiv ESG Scores**

FTSE Russell is a Licensee of ESG Scores and data from Refinitiv.

Refinitiv ESG scores measure a company's ESG performance based on publicly reported data. More information can be found: https://www.refinitiv.com/en/sustainable-finance/esg-scores#methodology

**6.6.3      TRBC Sector Classification**

FTSE Russell is a Licensee of TRBC Sector Classification. The Refinitiv Business Classification (TRBC) is a sector and industry classification used to identify the activities of companies with exposure to specific products or services.

6.6.4      Information is available here: https://www.refinitiv.cn/content/dam/marketing/en_us/documents/methodology/trbc-business-classifcation-methodology.pdf

**6.6.5      Refinitiv ESG bond data**

FTSE Russell is a Licensee of the Refinitiv ESG bond data.

Refinitiv ESG Bond data covers the four main classification types of Green, Social, Sustainability and Sustainability-Linked Bonds.

**6.7        Sustainalytics**

**6.7.1      Product Involvement Dataset**

FTSE Russell is a Licensee of Sustainalytics product involvement data.

Sustainalytics Product Involvement data identifies the nature and extent of a company's involvement in a range of product and business activities.

More information is available here: www.sustainalytics.com/investor-solutions/esg-research/esg-screening/esg-criteria

6.7.2      FTSE Russell is a Licensee of Sustainalytics Controversial Weapons Radar data. More information is available here: www.sustainalytics.com/investor-solutions/esg-research/esg-screening/controversial-weapons-arms-trade.

**6.7.3      Controversial Conduct - Global Standard Screening (GSS) Dataset**

FTSE Russell is a Licensee of Sustainalytics GSS data.

Sustainalytics 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.

**6.8     RepRisk AG**

**6.8.1     Conduct-related screening**

FTSE Russell is a licensee of RepRisk's online data platform. The platform provides users with company-level scores assessing the level of business conduct risk and reflecting any risk incidents related to a company.

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.

RepRisk data is used as an input to FTSE processes:

As a quality control check for the FTSE UN Global Compact exclusions list.

–   As an input to the Controversies Monitor process used within the FTSE4Good Index Series.

In using the RepRisk data, FTSE Russell conducts quality controls including:

–   Conducting trend analysis checks to identify outliers in the dataset

–   Referring to source documents where large changes could impact index inclusion

More information is available: https://www.reprisk.com/news-research/resources/methodology

**6.9     Beyond Ratings**

6.9.1     FTSE Russell uses country ESG and climate data from Beyond Ratings.

**6.9.2     Beyond Ratings SDG Factor-In 2.0**

SDG Factor-In 2.0 (The Sovereign SDG assessment) aims to measure to what extent a country is achieving Sustainable Development Goals. More information can be found in relevant ground rules.

**6.9.3     Beyond Ratings Sovereign Risk Monitor (SRM)**

The Sovereign Risk Monitor (SRM) is designed to measure the material financial risk from ESG factors for sovereign issuers. More information can be found:  https://www.lseg.com/content/dam/ftse-russell/en_us/documents/other/ftse-sustainable-sovereign-risk-assessment-methodology-2023.pdf

**6.9.4     Beyond Ratings Climate KPIs**

Beyond Ratings Climate KPIs consist in various indicators aiming to offer a broad assessment of sovereign climate risks across carbon intensity, transition, and physical risk metrics.

Further information about Beyond Ratings' methodologies can be found here: Beyond Ratings Data | LSEG

**6.10     Climate Bonds Initiative (CBI) dataset**

6.10.1     FTSE Russell is a Licensee of CBI data. FTSE Russell uses the green bond tag from CBI and green bond data via Refinitiv distribution.

6.10.2     CBI provides independent analysis on green bond use of proceeds and provides opinions on the green credential of the intended proceeds allocation. CBI assesses each labelled green bond against its Climate Bonds Taxonomy based on its issuer's public disclosure, to understand if the bond use of proceeds is in line with the CBI eligible categories. More information can be found: https://www.climatebonds.net/files/files/cbi-gb-methodology-061020.pdf

**6.11     Freedom House Data**

6.11.1     Freedom House measures the level of democratic governance in countries through its annual Nations in Transit report. Freedom House assesses countries as part of its annual 'Freedom of the World' report as either "Free", "Partially Free" or "Not Free".

6.11.2    Further information can be found here: https://freedomhouse.org/reports/freedom-world/freedom-world-research-methodology and https://freedomhouse.org/countries/nations-transit/scores?sort=asc&order=Total%20Score%20and%20Status

**6.12     World Bank Indicators**

6.12.1    Country ESG performance data

FTSE Russell uses data from the World Bank Worldwide Governance Indicators (WGI) and World Development Indicators (WDI) databases.

The World Bank Worldwide Governance Indicators (WGI) report on six broad dimensions of governance for countries. More information can be found: https://info.worldbank.org/governance/wgi/Home/Documents#wgiAggMethodology

The World Bank World Development Indicators (WDI) provides cross-country comparable data on development. More information can be found**:** https://datatopics.worldbank.org/world-development-indicators/sources-and-methods.html

**6.13     Trucost**

6.13.1    Carbon Data

FTSE Russell licenses carbon emissions and carbon reserves data from Trucost. This data contains information about a company's environmental impact using a mix of disclosed and, where gaps are present, modelled data.

Trucost environmental data measures environmental impact including greenhouse gas emissions and fossil fuel reserves. More information can be found: https://www.marketplace.spglobal.com/en/datasets/trucost-environmental-(46) and https://www.support.marketplace.spglobal.com/en/datasets/alternative/trucost_environmental/trucost_environmental_data_methodology_guide.pdf

**6.14     Ping An ESG scores**

FTSE Russell uses ESG scores for China A share companies from Ping An Technology.

Ping An CN- ESG scores evaluate Chinese companies' ESG practices. More information can be found: https://group.pingan.com/resource/pingan/esg/reports/pingan-cn-esg-methodology-nov-2022-grbook.pdf

Ping An's CN-ESG framework covers three main indicator types: general indicators applying to all companies; industry-specific indicators, and news sentiment indicators. All three indicator types are combined in the final score.

**6.15     Sustainable Development Investments (SDI) Asset Owner Platform SDG revenue data**

FTSE Russell licences SDI SDG revenue data from STOXX Ltd. More information on the data methodology is available https://www.sdi-aop.org/sdi-classification/ and sdi-aop-taxonomy-and-guidance-september-2023.pdf.

# Section 7
# Third party data: resource augmentation suppliers

## 7. Third party data: resource augmentation suppliers

### 7.1 Evaluserve

7.1.1 ESG Company Assessments & Research Support – Background

The data collection team is supplemented with an outsourced research company, Evaluserve. Together, these teams deliver the ESG data that are the inputs into FTSE Russell's ESG Scores. FTSE Russell has complete control over the research process and software for data entry, and retains full ownership/accountability. In addition, all of the underlying data which is collected, as well as the derived scores, are FTSE Russell's intellectual property. Together, these teams deliver the ESG data that are the inputs into the FTSE ESG Scores.

The company, Evaluserve, was selected following a comprehensive due diligence process.

7.1.2 Collection method and delivery

The data collected by Evaluserve is collected annually by an analyst from company reported documents (i.e. annual filings, policy documents, sustainability reports) where the wording is extracted from the source and tags are applied to the data. The collected data is stored in an in-house tool which links the underlying extracted data back to the source document.

7.1.3 Quality measures

Quality measures are implemented throughout the data lifecycle including before data is delivered to index. Quality measures occur in four stages:

C. Stage 1 Analyst Level Quality Controls – an automated quality check using rules in the system that immediately can be used by the analyst on the data entry screen;

D. Stage 2 Advanced Quality Controls (conducted during research cycle) – more experienced quality control analyst carries out a further review which includes checking for accuracy of data assessed, and consistency in comparison with companies in the same subsector; this check can also include checks on previous stage 1 checks undertaken;

E. Stage 3 Company Review of research – all companies are contacted and given the opportunity to comment on the accuracy and completeness of the company's data. Where companies identify pertinent information (i.e. information relevant to its assessment), such as revenues or product specific attributes which was not included in the assessment, then the analyst incorporates the applicable company changes and the assessment is updated. FTSE contact every company and allow them to respond within a four-week timeframe;

F. Stage 4 FTSE Quality Monitoring of research (conducted bi-annually during research cycle) – FTSE Russell Sustainability experts conduct quality monitoring checks on quantitative data consistency regarding units, green activity and or revenue gaps, outliers and peer comparisons.

7.1.4 All data is looked over, defended or remedied before being delivered for market consumption.

Section 8

# Third party data: international standards

## 8. Third party data: international standards

8.1.1 Certifications are considered if the certification is issued by an independent third party and the environmental performance of the product is better than incumbent products' efforts to adapt, mitigate and/or remediate: environmental erosion, resource depletion and/or climate change.

These standards include, but are not limited to:

- **LEED (full suite)**
- **BREEAM**
- **EnergyStar**
- **Green Seal**
- **BOMA 360**
- **BOMA BESt**
- **CASBEE**
- **DGNB**
- **GPR Gebouw**
- **Green Globes**
- **Green Mark**
- **Green Star**
- **Green Star NZ**
- **Green Star SA**
- **HQE**
- **Miljöbyggnad**
- **SKA Rating**

# Appendix A
# FTSE ESG scores

## 1. Overview

The FTSE Russell ESG Data Model aims to assess corporate 'ESG exposure and performance', both in terms of measuring the impact of the scored entity on the external environment (e.g. through theme and pillar Exposures) and measuring the scored entity's risk exposure or resilience to ESG-related risks (e.g. through pillar and theme Scores).

FTSE Russell's ESG Scores and data model allows investors to understand a company's exposure to, and management of, ESG issues in multiple dimensions. The ESG Scores are comprised of an overall Score that breaks down into underlying Pillar and Theme Exposures and Scores. The Pillars and Themes are built on over 300 individual indicator assessments that are applied to each company's unique circumstances.

## 2. Key features

**Materiality: Exposure relative scoring at Theme level:** It is important that companies that are more exposed to particular Themes such as Climate Change, Corporate Governance, and Labor Standards are doing more to address them. Therefore, higher exposure companies are assessed using higher thresholds than lower exposure companies.

**Materiality: Exposure relative scoring at Pillar and Overall level**: The Pillar Score is calculated as a weighted average of the Theme Scores. Each Theme Score is weighted by its Exposure Level; Low Exposure has a weight of 1, Medium Exposure a weight of 2, and High Exposure a weight of 3. This principle is also applied to calculate the overall FTSE ESG Score where the weight for each Pillar is based on the average Exposure Level of the Themes within it.

**Industry Relative ESG Scores**: In addition to the "absolute" Scores described above, peer relative Scores and ESG Scores are also provided. These are calculated by comparing a company's ESG Score to others within the same FTSE Industry Classification Benchmark (ICB) Supersector. The overall FTSE ESG Score is represented as a percentile where a "1" indicates that a company is in the bottom 1% and "100" indicates a company is in the top 1%.

### Methodology Review

FTSE Russell data model methodologies are subject to regular review to ensure that they continue to meet the current and future requirements of investors and other index users.

Changes to a methodology may originate as a result of recommendations from internal governance bodies, feedback from external advisory committees and clients, or in response to changes in user expectations or relevant legislation.

Methodology changes are subject to the FTSE Russell Policy for Benchmark Methodology Changes: Ground Rules (lseg.com).

**Assessment process and timing**

Data used to calculate FTSE Russell ESG scores is gathered from publicly available sources at the entity level, including corporate reports, websites and press releases. Such data sources are generally backward-looking, focused on the most recent financial year for the company, but can include forward-looking elements including climate transition plans and targets for the management of ESG issues.

Companies are assessed once a year within each research cycle, which runs from June to the following March.
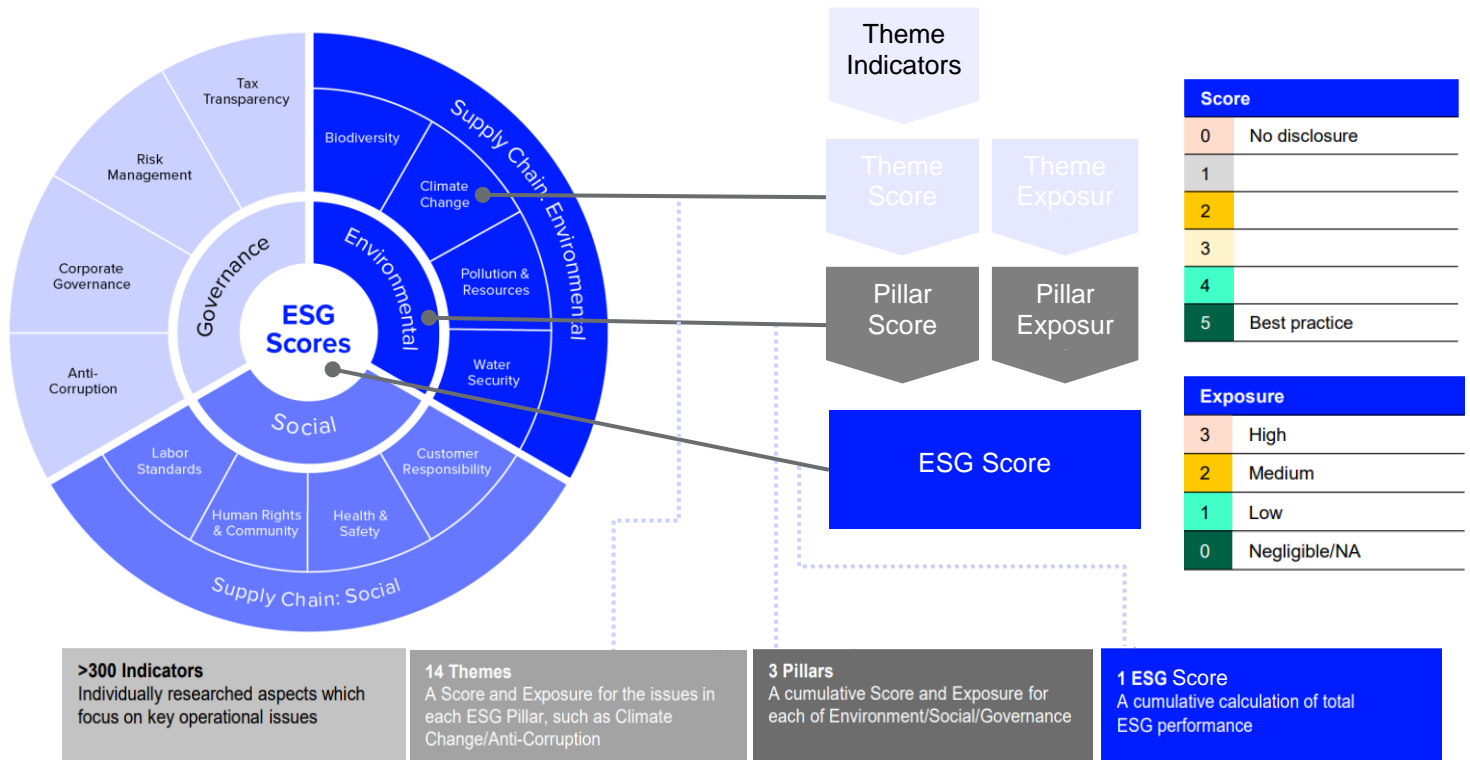
FTSE ESG scores are based on the Annual Report and Corporate Sustainability Report (CSR), or Integrated report, published by the last business day of March (for the June review) and September (for the December Review). All reports need to be published with the same fiscal year to feed into ESG data ahead of an index review. If a company reports to CDP, this report also needs to be available for FTSE Russell to access by the last business day of March or September.

Queries on FTSE ESG Scores can be sent to info@ftserussell.com.

More information can be found in the FAQ on the FTSE ESG score communication process: https://www.lseg.com/content/dam/ftse-russell/en_us/documents/policy-documents/ftse-faq-document-ftse-russell-esg-scores-and-indices.pdf.

## 3. FTSE ESG Scores Model

The FTSE ESG Scores use a company's Theme Exposure and Theme Score assessment to calculate a range of assessments that allow investors to understand a company's ESG practices in multiple dimensions.

## 4. ESG data model

| Hierarchy | Description | Methodology | Output |
|---|---|---|---|
| **ESG Score (1)** | Measure of the overall quality of a company's management of ESG issues | Calculated as the Pillar Exposure-weighted average of all three Pillar Scores | 0-5 to 1 decimal point (where 5 is highest Score) |
| | | | ICB Supersector relative Score: 1-100 percentile (where 100 is highest percentile) |
| **Pillars (3)**<br>Environmental<br>Social<br>Governance | **Scores.** Measure of the quality of a company's respective management of ESG issues | Calculated as the Theme Exposure-weighted average of all applicable Theme Scores | 0-5 to 1 decimal point (where 5 is highest Score) |
| | | | ICB Supersector relative score: 1-10 decile (where 10 is highest decile) |
| | **Exposure.** Measure of the relevance for a company of respective ESG issues | Calculated by averaging the Exposure for all applicable Themes within that Pillar | 1-3 to 1 decimal point (where 3 is highest Exposure, i.e. relevance) |
| **Themes (14)**<br>5 Environmental<br>5 Social<br>4 Governance | **Scores.** Measure of the quality of a company's management of the issues related to each Theme | Calculated based on the percentage of total available Indicator Points that a company has "met" in each Theme, except for the Climate Change Theme which uses TPI MQ Score (see Section 5). | 0-5 as an integer (where 5 is highest Score) |
| | **Exposure.** Measure of the relevance for a company of each Theme | Determined largely on industrial activity and operational presence | 0-3 as an integer (where 3 is highest Exposure, i.e. relevance, and 0 indicates that the Theme is not relevant) |
| **Indicators (+300)** | Over 300 Indicators in the model with each Theme containing 10 to 35. An average of 125 Indicators are applied per company | (i) qualitative Indicators assessing quality of management and approach;<br><br>(ii) quantitative Indicators measuring corporate data disclosure;<br><br>(iii) sector specific Indicators tailored for different industrial sectors;<br><br>(iv) geography specific Indicators tailored for different countries;<br><br>(v) performance Indicators that use the quantitative data to make performance judgements | Points are assigned and are generally 0, 1, or 2 per Indicator. However, for highly significant Indicators, the scoring can be greater |

For further details on the calculation approach and a case study, this is in Annex B.

## 5. FTSE ESG Scores Quality Control

To construct the FTSE ESG Dataset, FTSE Russell analysts collect publicly available data from sources including corporate reports, websites and press releases.

Throughout the data collection and calculation process FTSE Russell applies several layers of quality control to ensure data accuracy. These checks are applied at the company level and at the overall dataset level.

**6. Quality Measures**

**Quality measures occur in four stages**

A.  Stage 1 Analyst Level quality controls – Preliminary data analysis for logics such as document check and targeted indicator check is run for analysts to address errors.

B.  Stage 2 Advanced quality controls - This is conducted after an assessment is complete. More experienced quality control analyst carries out further review which includes checking for accuracy of data assessed, guidance interpretation and year-on-year inconsistency.

C.  Stage 3 Company Review of research - FTSE contacts every company and allows them to review the data and respond within a four-week timeframe. All companies are given the opportunity to comment on the accuracy and completeness of the company's data within the review period. Where companies identify pertinent information (i.e., information relevant to specific indicator) which was not included in the assessment. After the review period ends, the analyst reviews each company comment and incorporates the relevant changes to the assessment if it meets the guidance criteria. Feedback incorporation on the database is also reviewed and verified by quality control analyst.

D.  Stage 4 Data Analysis is conducted exclusively at the end of each review period in the research cycle, I.e., October-November for December review companies and April-May for June Review companies. FTSE Russell quality team conducts quality monitoring checks on qualitative and quantitative data, as well as overall score change exercise to identify big gaps in score.

E.  All data is looked over, defended or remedied before being delivered for scoring at the end of the review period.

**7. Delivery**

For new entrants to underlying universes used in FTSE ESG indices, these entities will be assessed for an ESG score within one year.

Appendix B

# Further information on the FTSE Russell ESG scores calculation and data sources

## 1. Calculation Step 1: Determining Theme Exposures

For each Theme a company's Exposure is identified as High, Medium, Low, or Negligible/Not Applicable (N/A).

The Exposure identification is carried out for each company in each applicable Theme applying a rules-based methodology that uses certain aspects tailored to that Theme.[2] These aspects include:

– *Subsector*: The FTSE Industry Classification Benchmark (ICB) Subsector definitions are used to identify the relevance of a Theme for a company.[3] Note that a company will be identified for multiple Subsectors if it has a significant operations in more than one; hence there is "one to many" Subsector mapping. Subsectors are categorised as Primary, Secondary, or Tertiary Impact according to the relevance of the Theme to companies in the Subsector. For companies involved in multiple Subsectors, the Subsector with the highest relevance (e.g. Primary Impact Subsector) will be used for Theme Exposure assessments[4];

  – *Primary, Secondary, or Tertiary Impact Subsectors:* Subsectors are categorised as Primary, Second, or Tertiary Impact according to the relevance of the Theme to the Subsector;

– *Geography*: This assesses whether the company has operations in countries that are defined as being most relevant to the Theme and hence where the associated impacts are considered greatest[5];

  – *Primary Impact Countries*: those countries where associated impacts are greatest, according to a rules-based methodology which uses publicly available data;

– *Multinational*: This assesses whether a company has over 30% of its revenues derived from outside their domestic region[6];

– *Other Theme Exposures:* For the Risk Management Theme consideration is given to the company's cumulative Exposures in the other 13 Themes.

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[2] The methodology for the Exposure classification methodology is developed in consultation with external experts and the relevant FTSE Russell Advisory Committee.

[3] The Industry Classification Benchmark (ICB) is a definitive system categorising over 70,000 companies and 75,000 securities worldwide. A company is allocated to the Subsector of ICB whose definition most closely fits the business that accounts for the primary source of the company's revenue. *See the Appendix* and industry-classification-benchmark-icb.

[4] ICB Subsector 2791 Business Support Services: this Subsector is divided into micro-sectors for the purposes of this methodology: Consultancy Services/White-Collar Activities; On-site services; Security Systems Services; Help Supply Services; Cleaning Services.

[5] A wide range of publicly available databases, statistics, indices, listings and scores are used depending on the issue.

[6] This draws from the FTSE Multinationals Index Series definition. Multinationals are defined as companies that derive 30% or more of their revenue from outside of the domestic region in which they are incorporated.
multinationals

**Tailored for each company in each Theme:** Exposure Classification is applied in a unique manner for each company in each Theme as summarised below:

| Theme | Exposure measures* | Subsector | Geography | Other |
|---|---|---|---|---|
| Biodiversity | H/M | ✓ | ✓ | Subsector filter |
| Climate Change | H/M/L | ✓ | | |
| Pollution & Resources | H/M | ✓ | | |
| Supply Chain: Environmental | H | ✓ | | Subsector filter |
| Water Security | H/M | ✓ | ✓ | Subsector filter |
| Customer Responsibility | H | ✓ | | Subsector filter |
| Health & Safety | H/M | ✓ | ✓ | |
| Human Rights & Community | H/M/L | ✓ | ✓ | |
| Labor Standards | H/M/L | ✓ | ✓ | |
| Supply Chain: Social | H | ✓ | | Subsector filter |
| Anti-corruption | H/M | ✓ | ✓ | Multinational |
| Corporate Governance | M | All | | |
| Risk Management | H | ✓ | | Other Theme Exposures |
| Tax Transparency | M | | ✓ | Multinational |

*High (H), Medium (M), Low (L)

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**Case Study Example Company X**

In each step, to demonstrate the methodology, we build on a case study example.

Company X is an automobile company that designs, builds and sells cars, trucks and automobile parts globally. In addition to the products it sells to its dealers for consumer retail sales, it also sells cars and trucks to fleet customers, including daily rental car companies, commercial fleet customers, leasing companies and governments. Based in the US, it has operations in more than 40 Primary Impact countries. It is categorised in ICB Subsector 3353 Automobiles and is mapped to ICB Subsector 3355 Auto Parts.

**Case Study Example Company X**

| Theme | Legend | Theme exposure (H/M/L) | Rationale |
|---|---|---|---|
| Biodiversity | EBD | N/A | The company does not operate in any Subsector that is applicable to this Theme. |
| Climate Change | ECC | Medium | ICB 3353 Automobiles is categorised as Secondary Impact for this Theme, and some sector specific indicators apply. |
| Pollution & Resources | EPR | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme. |
| Supply Chain: Environmental | ESC | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme, and the subsector filter confirms it sources physical inputs from third parties that form part of a final product. |
| Water Security | EWT | Medium | ICB 3353 Automobiles is categorised as Secondary Impact for this Theme, the subsector filter confirms that the company uses water in its industrial processes, and it operates in Primary Impact countries such as India. |
| Customer Responsibility | SCR | N/A | The company does not operate in any Subsector that is applicable to this Theme. |
| Health & Safety | SHS | Medium | ICB 3353 Automobiles is categorised as Secondary Impact for this Theme. |
| Human rights & Community | SHR | Medium | ICB 3353 Automobiles is categorised as Secondary Impact for this Theme, and the company operates in Primary Impact Countries such as China. |
| Labor Standards | SLS | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme, and the company operates in Primary Impact Countries e.g. Brazil, China, Colombia, Mexico. |
| Supply Chain: Social | SSC | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme, and the subsector filter confirms it sources physical inputs from third parties that form part of a final product |
| Anti-corruption | GAC | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme, and the company operates in Primary Impact Countries such as China, Haiti and Egypt, and is classified as a Multinational. |
| Corporate Governance | GCG | Medium | ICB 3353 Automobiles is categorised as Secondary Impact for this Theme. |
| Risk Management | GRM | High | ICB 3353 Automobiles is categorised as Primary Impact for this Theme. |
| Tax Transparency | GTX | Medium | The company is operating in Primary Impact Countries such as the Cayman Islands and Switzerland, and is classified as a Multinational. |

## 1.2  Calculation Step 2: Indicator Assessment & Scoring

Once the Exposure has been set for each Theme the Theme Indicators are assessed and scored. Companies with higher Exposure are assessed using higher standards than those with lower Exposure, for example by being assessed against more Indicators as part of the Theme scoring.

Here is a summary of the way Indicators are assessed and scored.

**Indicator Points:** Points are awarded for each Indicator met in a particular Theme.

**Indicator Weights:** In addition to the Points awarded for each Indicator, each Indicator has a weight. Some Indicators, such as sector-specific and performance Indicators, are given additional weight.

**Percentage of Total Indicator Points:** The total number of Points awarded is divided by the maximum number of Points possible to give a percentage. This is done for all Themes.

**Case Study Example Company X**

| Theme | Legend | Theme exposure (H/M/L) | % indicator points scored |
|---|---|---|---|
| Biodiversity | EBD | N/A | N/A |
| Climate Change | ECC | Medium | NAP[7] |
| Pollution & Resources | EPR | High | 37% |
| Supply Chain: Environmental | ESC | High | 28% |
| Water Security | EWT | Medium | 56% |
| Customer Responsibility | SCR | N/A | N/A |
| Health & Safety | SHS | Medium | 7% |
| Human Rights & Community | SHR | Medium | 23% |
| Labor Standards | SLS | High | 10% |
| Supply Chain: Social | SSC | High | 33% |
| Anti-corruption | GAC | High | 13% |
| Corporate Governance | GCG | Medium | 89% |
| Risk Management | GRM | High | 30% |
| Tax Transparency | GTX | Medium | 7% |

## 1.3 Calculation Step 3: Calculating Theme Scores

To determine a company's Score in any Theme:

The Exposure and the percentage of Indicator Points scored in that Theme is required to determine a Theme score.

For each Theme the number of Indicator "Points" a company meets is calculated as a percentage of total applicable Points and a Theme Score is given based on threshold bands. The threshold bands are higher for companies with a High Exposure than the bands for a company with Low Exposure.

The percentage of Points awarded is applied to the framework below to assign a Theme Score from 0-5, with 5 being the highest. This is repeated for all applicable Themes.

| | | Theme exposure | | |
|---|---|---|---|---|
| | | Low | Medium | High |
| Theme score | 0 | N/A | 0% | 0% |
| | 1 | 0–5% | 1–5% | 1–10% |
| | 2 | 6–10% | 6–20% | 11–30% |
| | 3 | 11–30% | 21–40% | 31–50% |
| | 4 | 31–50% | 41–60% | 51–70% |
| | 5 | 51–100% | 61–100% | 71–100% |

Percentage of Indicator Points scored

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[7]  The Climate Change Theme Score is derived from a combination of the TPI MQ Score (see Section 5) and carbon emissions relative to peers.
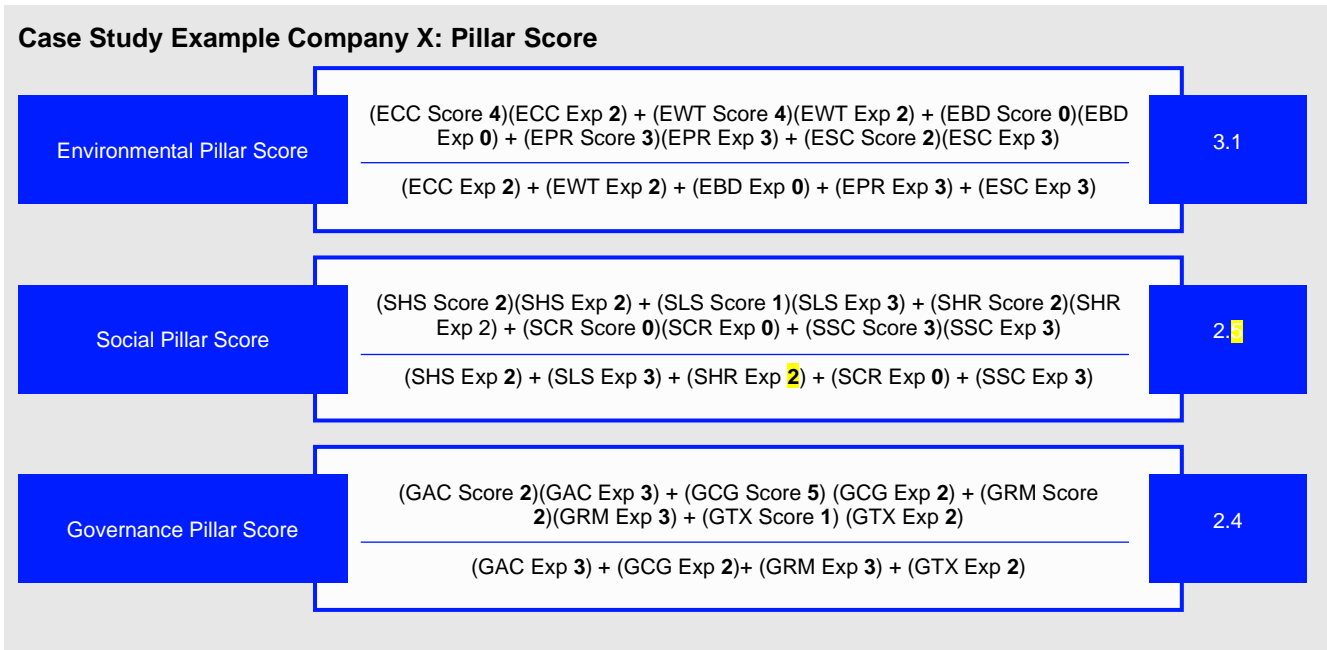
**Case Study Example Company X**

The table below builds on the previous example by converting the percentage of Indicator Points Scores to the Theme Score.

| Theme | Legend | Theme exposure (H/M/L) | % theme indicator points scored | Theme score (0 to 5) |
|---|---|---|---|---|
| Biodiversity | EBD | N/A | N/A | N/A |
| Climate Change | ECC | Medium | NAP[8] | 4 |
| Pollution & Resources | EPR | High | 37% | 3 |
| Supply Chain: Environmental | ESC | High | 28% | 2 |
| Water Security | EWT | Medium | 56% | 4 |
| Customer Responsibility | SCR | N/A | N/A | N/A |
| Health & Safety | SHS | Medium | 7% | 2 |
| Human Rights & Community | SHR | Medium | 23% | 3 |
| Labor Standards | SLS | High | 10% | 1 |
| Supply Chain: Social | SSC | High | 33% | 3 |
| Anti-corruption | GAC | High | 13% | 2 |
| Corporate Governance | GCG | Medium | 89% | 5 |
| Risk Management | GRM | High | 30% | 2 |
| Tax Transparency | GTX | Medium | 5% | 1 |

## 1.4 Calculation Step 4: Calculating Pillar Exposures and Pillar Scores

Once the Theme Exposures and Theme Scores are calculated it is possible to calculate the Pillar Exposures and Pillar Scores.

1.4.1 Pillar Exposure

Pillar Exposure is calculated as a weighted average of the applicable Theme Exposures; Themes that are "High Exposure" have a weight of 3, "Medium Exposure" have a weight of 2, and "Low Exposure" have a weight of 1.

---

[8] The Climate Change Theme Score is derived from a combination of the TPI MQ Score (see Section 5) and carbon emissions relative to peers.

**Case Study Example Company X: Pillar Exposure**

| Environmental Pillar Exposure | $\dfrac{(\text{ECC Exp } 2) + (\text{EWT Exp } 2) + (\text{EBD Exp } 0) + (\text{EPR Exp } 3) + (\text{ESC Exp } 3)}{(\text{Number of applicable Environmental Themes } 4)}$ | 2.5 |
|---|---|---|
| Social Pillar Exposure | $\dfrac{(\text{SHS Exp } 2) + (\text{SLS Exp } 3) + (\text{SHR Exp } 2) + (\text{SCR Exp } 0) + (\text{SSC Exp } 3)}{(\text{Number of applicable Social Themes } 4)}$ | 2.5 |
| Governance Pillar Exposure | $\dfrac{(\text{GAC Exp } 3) + (\text{GCG Exp } 2) + (\text{GRM Exp } 3) + (\text{GTX Exp } 2)}{(\text{Number of applicable Governance Themes } 4)}$ | 2.5 |
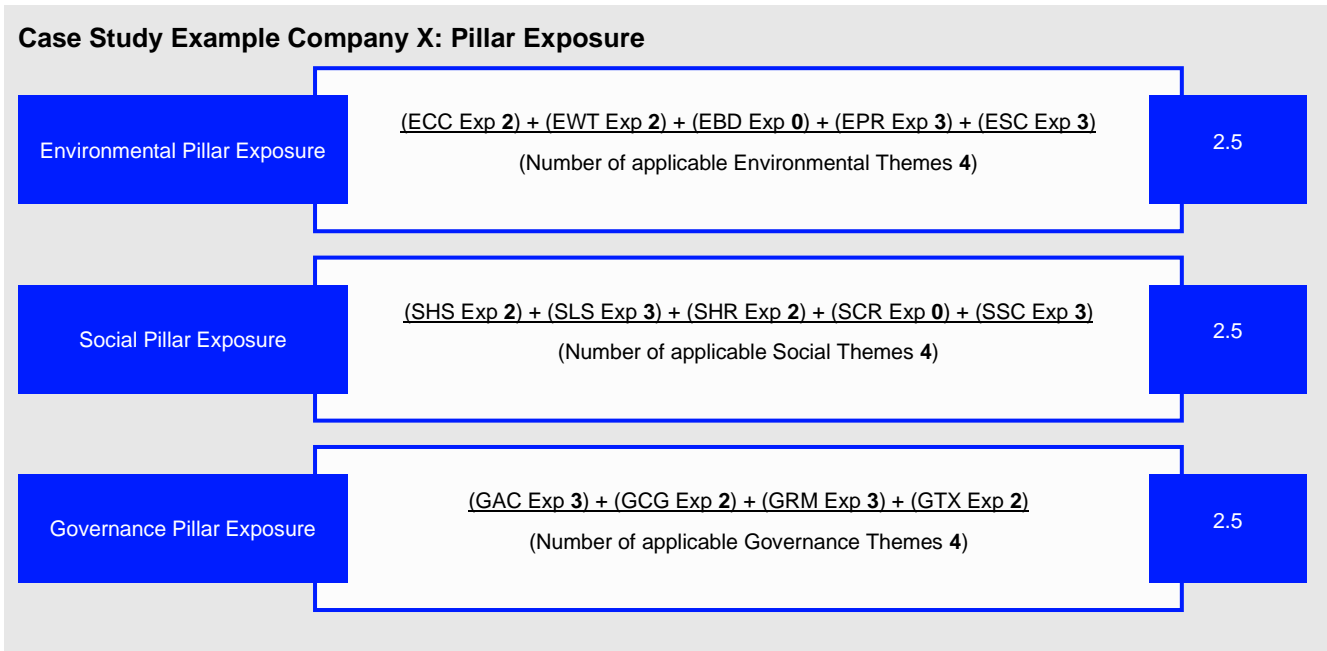
NB: For Company X the Pillar Exposures happen to be equal as a result of the calculation.

1.4.2 Pillar Scores

Pillar Scores are calculated as Exposure weighted averages of the Theme Scores such that the higher Exposure Themes for a particular company have a greater weight. This results in Pillar Scores of 0-5 to one decimal place.

1.4.3 Pillar Supersector Relative Scores

The Pillar Supersector Relative Score is then calculated in deciles (1-10) where 1 equates to the bottom decile of the ESG Scores within the Supersector, and 10 equates to the top decile.

**Case Study Example Company X: Pillar Score**

| Environmental Pillar Score | $\dfrac{(\text{ECC Score } 4)(\text{ECC Exp } 2) + (\text{EWT Score } 4)(\text{EWT Exp } 2) + (\text{EBD Score } 0)(\text{EBD Exp } 0) + (\text{EPR Score } 3)(\text{EPR Exp } 3) + (\text{ESC Score } 2)(\text{ESC Exp } 3)}{(\text{ECC Exp } 2) + (\text{EWT Exp } 2) + (\text{EBD Exp } 0) + (\text{EPR Exp } 3) + (\text{ESC Exp } 3)}$ | 3.1 |
|---|---|---|
| Social Pillar Score | $\dfrac{(\text{SHS Score } 2)(\text{SHS Exp } 2) + (\text{SLS Score } 1)(\text{SLS Exp } 3) + (\text{SHR Score } 2)(\text{SHR Exp } 2) + (\text{SCR Score } 0)(\text{SCR Exp } 0) + (\text{SSC Score } 3)(\text{SSC Exp } 3)}{(\text{SHS Exp } 2) + (\text{SLS Exp } 3) + (\text{SHR Exp } 2) + (\text{SCR Exp } 0) + (\text{SSC Exp } 3)}$ | 2.5 |
| Governance Pillar Score | $\dfrac{(\text{GAC Score } 2)(\text{GAC Exp } 3) + (\text{GCG Score } 5)(\text{GCG Exp } 2) + (\text{GRM Score } 2)(\text{GRM Exp } 3) + (\text{GTX Score } 1)(\text{GTX Exp } 2)}{(\text{GAC Exp } 3) + (\text{GCG Exp } 2) + (\text{GRM Exp } 3) + (\text{GTX Exp } 2)}$ | 2.4 |

**1.5    Calculation Step 5: Calculating the Overall Rating**

**ESG Scores:** The overall ESG Score is calculated as an Exposure-weighted average of the Pillar Scores. These are calculated to one decimal place.

**ESG Score Supersector Relative Score:** The ESG Score Supersector Relative Score is then identified as a percentile, where "1" indicates that a company is in the bottom 1% and "100" indicates a company is in the top 1%.

**Case Study Example Company X**

$$\frac{(\text{Env Exp } \mathbf{2.5})(\text{Env Score } \mathbf{3.1}) + (\text{Soc Exp } \mathbf{2.5})(\text{Soc Score } \mathbf{2.5}) + (\text{Gov Exp } \mathbf{2.5})(\text{Gov Score } \mathbf{2.4})}{(\text{Env Exp } \mathbf{2.5}) + (\text{Soc Exp } \mathbf{2.5}) + (\text{Gov Exp } \mathbf{2.5})} = 2.7$$

**2.0    FTSE ESG Data Sources**

**2.1**    The following is a list of data sources used in the construction of the FTSE ESG Scores and underlying data.

| Source (abbreviation) | Source organisation | Source report/article name | Main pillar/theme |
|---|---|---|---|
| Action Aid | Action Aid | Tax Responsibility and Investor Guide | **GTX** |
| ATMI | ATMI | Access to Medicine Index | **SCR** |
| ATNI | ATNI | Access To Nutrition Index | **SCR** |
| B-BBEE | South African Government | Broad-Based Black Economic Empowerment | **SLS** |
| BBEnv | Bloomberg | Environmental data fields | **EPR** |
| BBRC | Business & Biodiversity Resource Centre | Business & Biodiversity Resource Centre Supporting External Initiatives | **EBD** |
| BITC | Business In The Community | Five Key Principles of Community Investment | **SHR** |
| BITC Mkt Resp | Business In The Community | Marketplace Responsibility Principles | **SCR** |
| BREEAM | Buildings Research Establishment | BREEAM International New Construction Manual | **ECC** |
| CBD | Convention on Biological Diversity | [International] Convention on Biological Diversity | **EBD** |
| CDP | CDP | CDP Information Request Reporting Guidance | **ECC** |
| CDPWater | CDP Research | CDP Global Water Report 2018 | **EWT** |
| CERESWater | CERES | Murky Waters? Corporate Reporting on Water Risk | **EWT** |
| CFA (Consumer Finance Association) | Consumer Finance Association | Consumer Finance Association: Lending Code for Small Cash Advances | **SCR** |
| Children's Rights BP | Unicef, Global Compact, Save the Children | Children's Rights and Business Principles | **SHR** |
| CHRB | Corporate Human Rights Benchmark | 2019 Methodology for the Agricultural Products, Apparel and Extractive industries | **SHR** |
| Christian Aid | Christian Aid | Tax and Sustainability: A framework for businesses and socially responsible investors | **GTX** |
| Cranfield | Cranfield University | Collaboration in the Supply Chain | **SSC** |
| DB Beyond Numbers | Deutsche Bank | Beyond the Numbers – Corporate Governance: Implication for Investors | **GCG** |

| Source (abbreviation) | Source organisation | Source report/article name | Main pillar/theme |
|---|---|---|---|
| DEFRA Green Claims | Dept of Environment, Food and Rural Affairs | Green Claims Guidance | **SCR** |
| EC-HR-Article 10 | European Convention | European Convention on Human Rights – Article 10 | **SHR** |
| Equator Principles | Equator Principles Financial Institutions | The Equator Principles III June 2013 | **SSC, SCR** |
| ETI | Ethical Trading Initiative | ETI Base Code | **SSC, ESC** |
| EU | European Union | Emissions Standards | **ECC** |
| FRC CG | Financial Reporting Council | The UK Corporate Governance Code | **GCG** |
| GRI | Global Reporting Initiative | G4 Sustainability Reporting Guidelines | **E/S/G** |
| GRI FS | Global Reporting Initiative | G4 Sector Disclosures: Financial Services | **E/S/G** |
| GRI | Global Reporting Initiative | G4 Sustainability Reporting Guidelines | **SHR** |
| HM 42 | HM Revenue & Customs | ERSM 140070 Reporting Requirements Form 42 | **GCG** |
| HSE – risks | Health & Safety Executive | Health & Safety Made Simple: Risk assessment (web-site) | **SHS** |
| HSE benchmarking tool | Health & Safety Executive | Health & Safety Benchmarking – Improving Together | **SHS** |
| HSE polity template | Health & Safety Executive | HSE Prepare a health and safety policy | **SHS** |
| IAEA | International Atomic and Energy Agency | Environmental impact assessment for uranium mine, mill and in-situ leach projects | **SHS** |
| IBE | Institute of Business Ethics | Communicating Ethical Standards | **SLS** |
| ICGN | International Corporate Governance Network | ICGN Global Stewardship Principles | **GCG** |
| ICMM | International Council on Mining and Metals | ICMM Sustainable Development Framework 10 Principles | **EBD** |
| IFC | International Finance Corporation | The Risk Management Balancing Act | **GCG** |
| IIA | The Institute of Internal Auditors | The Three Lines of Defense in Effective Risk Management and Control | **GRM** |
| ILO C100 | International Labour Organisation | ILO Equal Remuneration Convention | **SLS** |
| ILO C105 | International Labour Organisation | ILO Abolition of Forced Labor Convention | **SLS** |
| ILO C107 | International Labour Organisation | ILO Indigenous and Tribal Populations Convention 1957 | **SHR** |
| ILO C111 | International Labour Organisation | ILO Convention concerning Discrimination in Respect of Employment and Occupation | **SLS** |
| ILO C131 | International Labour Organisation | ILO Minimum Wage Convention | **SLS** |
| ILO C138 | International Labour Organisation | ILO Minimum Age Convention | **SLS** |
| ILO C169 | International Labour Organisation | ILO Indigenous and Tribal Populations Convention 1991 | **SHR** |
| ILO C173 | International Labour Organisation | ILO Protection of Worker's Claims (Employer's Insolvency) Convention | **SLS** |
| ILO C182 | International Labour Organisation | Worst Forms of Child Labor | **SLS** |
| ILO C29 | International Labour Organisation | ILO Forced Labor Convention | **SLS** |
| ILO C30 | International Labour Organisation | ILO Hours of Work Convention | **SLS** |
| ILO C87 | International Labour Organisation | ILO Freedom of Association and Protection of the Right to Organise Convention | **SLS** |
| ILO C94 | International Labour Organisation | ILO Labor Clauses (Public Contracts) Convention | **SLS** |

| Source (abbreviation) | Source organisation | Source report/article name | Main pillar/theme |
|---|---|---|---|
| ILO C95 | International Labour Organisation | ILO Protection of Wages Convention | **SLS** |
| ILO C98 | International Labour Organisation | ILO Right to Organise and Collective Bargaining Convention | **SLS** |
| ILO-OSH 2001 | International Labour Organisation | ILO-OSH 2001 Guidelines on Occupational Safety and Health Management Systems | **SHS** |
| IoD and HSE | Institute of Directors and the Health and Safety Executive | IoD and HSE Leading Health and Safety at Work | **SHS** |
| IOSCO | International Organisation of Securities Regulators ("IOSCO") | IOSCO Principles for Auditor Oversight | **GCG** |
| IPIECA KPIs | IPIECA the global oil and gas industry association for environmental and social issues | Section 5. Health & Safety Indicators | **SHS** |
| IRM | Institute of Risk Management | Risk Management Standard | **GRM** |
| ISO 14001 | International Organisation for Standardisation | Environmental Management Systems | **EPR** |
| ISO 26000 | International Organisation for Standardisation | International Standard: Guidance on Social Responsibility | **E/S/G** |
| LBG Making a Difference | London Benchmarking Group | Making a Difference: Corporate Community Investment: a whole programme approach to measuring results | **SHR** |
| Nat Step | Natural Step Canada | Towards a Gold-Standard Benchmark for a Sustainable Business | **EPR** |
| Natural Value | Natural Value Initiative | NVI Toolkit – Ecosystem Services Benchmark VI (excel) | **EBD** |
| OECD CG | OECD | OECD Principles of Corporate Governance | **GCG** |
| OSHAS 18001 | British Standards Institute | Occupational health and safety management systems. Requirements | **SHS** |
| PRI | UNEP FI (United Nations Environment Program for Financial Institutions) | Principles for Responsible Investment: The Six Principles | **SSC** |
| PRI-Integ-Analysis | Principles for Responsible Investment | Integrated Analysis: How Investors are Addressing Environmental, Social and Governance Factors in Fundamental Equity Valuation | **SSC** |
| PRI | Principles for Responsible Investment | Engagement Guidance on Corporate Tax Responsibility | **GTX** |
| PSI | UNEP FI (United Nations Environment Program for Financial Institutions | Principles for Sustainable Insurance | **SSC** |
| Salz | Salz Review | Salz Review: An Independent Review of Barclays Business Practices | **GCG** |
| SASB | Sustainability Accounting Standards Board | SASB Standards | **SHR** |
| SEC | Securities Exchange Commission | SEC Rules for Reserves Reporting | **ECG** |
| SEDEX | SEDEX | SEDEX Supplier Workbook | **SSC** |
| Soc Gen | Societe Generale | SRI: Beyond Integration, research note | **E/S/G** |
| SSEI | UN Sustainable Stock Exchange Initiative | 2016 SSE Report on Progress Overview | **SSC** |
| Stoxx/Dr Axel | Dr. Axel Hesse for German Federal Env Ministry | SD-KPI Standard 2010 – 2014 | **E/S/G** |

| Source (abbreviation) | Source organisation | Source report/article name | Main pillar/theme |
|---|---|---|---|
| TEEB | TEEB The Economics of Ecosystems & Biodiversity | Mainstreaming the Economics of Nature | **EBD** |
| TI | Transparency International | Business Principles for Countering Bribery | **GAC** |
| UN Code Enforcement | United Nations | UN Code of Conduct for Law Enforcement Officials | **SHR** |
| UN Force & Firearms | United Nations | UN Basic Principles on the Use of Force and Firearms | **SHR** |
| UN OHCR GP | United Nations High Commission for Human Rights | United Nations High Commission for Human Rights Guiding Principles | **SHR** |
| UNDR Indigenous | United Nations | United Nations Declaration of the Rights of Indigenous Peoples | **SHR** |
| UNEP FI HR Toolkit | UNEP FI (United Nations Environment Program for Financial Institutions | Human Rights Guidance Tool for the Financial Sector | **SHR** |
| UNEP-Translating | UNEP FI (United Nations Environment Program for Financial Institutions | Translating ESG into Sustainable Business Value UNEP FI and WBCSD | **EBD** |
| UNGC | UN Global Compact | UN Global Compact Principle 10 | **GAC** |
| UNGP | UN Guiding Principles | UN Guiding Principles Reporting Framework | **SHR** |
| World Bank | World Bank | Towards Sustainable Decommissioning and Closure of Oil Fields and Mines: A Toolkit to Assist Government Agencies | **SHR** |

## Appendix C
# Further information

A glossary of terms used in FTSE Russell's Ground Rule documents can be found using the following links:

Glossary.pdf

Glossary - ESG

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at info@ftserussell.com.

**Website: https://www.lseg.com/en/ftse-russell/industry-classification-benchmark-icb**

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