Index Overview

FTSE Global Climate Index Series

Integrating climate change measures into benchmarks

Overview

Climate change is expected to have profound impacts on the prospects and performance of companies across a variety of industrial sectors. Many investors now regard climate change as an investment issue. In portfolio design investors increasingly want to hedge climate risks and gain exposure to upsides that climate change may bring to companies.

The FTSE Global Climate Index Series goes beyond traditional low carbon indexes by considering green revenues alongside carbon emissions and fossil fuel reserves. The index series methodology is designed to reflect the performance of a global and diversified basket of securities where their weights are varied to account for risks and opportunities associated with climate change.

Benefits

- Utilizes FTSE Russell's Green Revenues data model which is a market leading dataset of company exposure to green product and service-related revenues
- Minimizes industry bias through sector neutral application of carbon emissions adjustment
- Follows FTSE Russell's leading 'Tilt-Tilt' methodology for multi-factor index construction – delivers greater exposure to climate adjustments, in a more controlled manner, than alternative methods

The FTSE Global Climate Index Series consists of the following indexes:

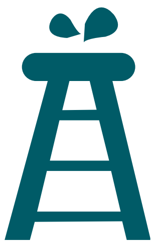
FTSE Global Climate Index Series	Review month
FTSE All-World ex CW[1] Climate Index	September
FTSE All-World ex CW[1] ex UN Controversies Climate Index	September
Russell 1000® Climate Index	June

[1] Controversial weapons

Features

- Constituent weights are adjusted based on three climate change-related measures:
  - Fossil Fuel Reserves
  - Carbon Emissions
  - Green Revenues
- FTSE Russell's Green Revenues data model can be used to incorporate potential upside from expected rise in demand for green products
- Follows FTSE Global Factor Index Series methodology to address concerns about liquidity, capacity, diversification and turnover
- A transparent, rules-based construction process

Climate change measures and definitions

Measure	Objective	Definition	Mechanism
Fossil Fuel Reserves[2] 	Most carbon risk is associated with what is frequently termed "stranded assets"; these are fossil fuels reserves. To achieve the targets agreed by governments at the COP21 Summit a significant proportion of these reserves may never be usable. The objective is to underweight companies with fossil fuel reserves.	Carbon Reserve Intensity is defined as the estimated CO_2 equivalent greenhouse gas (GHG) emissions in metric tons through the use and combustion of the recoverable coal, oil and gas reserves scaled by full market capitalization (in USD).	• Exclude Pure Coal Miners • Coal Owners: Weight adjustment of 0.25 • Oil & Gas Producers and Oil Equipment, Services & Distribution: Weight adjustment of 0.75 • Oil & Gas Producers: Tilted to lower carbon intensity reserves per dollar of equity
Operational Carbon Emissions[2] 	Companies with higher levels of emissions per unit revenue (i.e. are less carbon efficient) will face greater costs assuming costs associated with GHG emissions rise. The objective is to over or underweight companies according to their GHG emissions.	The annual Operational Carbon Emissions of CO_2 equivalent GHG emissions in metric tons scaled by annual sales in excess of the ICB® sector average.	• Tilt to low operational carbon emissions (relative to Sector average) • Sector neutral adjustment
Green Revenues 	The objective is to overweight companies providing solutions to environmental challenges, that are part of the transition to a green economy.	Green Revenues as a percentage of total revenues	• 1+ Minimum Proportion of Green Revenues • Companies with no Green Revenues have a neutral adjustment of 1

[2] Fossil Fuel Reserves and Operational Carbon Emissions data is sourced from Trucost

Index Construction Process

Starting universe

Start with market capitalization weighted index:
- FTSE All-World Index
- Russell 1000 Index

Step 1

Exclude companies

For the FTSE All-World ex CW Climate Index, exclude companies that produce 'controversial weapons': Cluster Munitions, Anti-Personnel Mines, chemical or biological weapons.

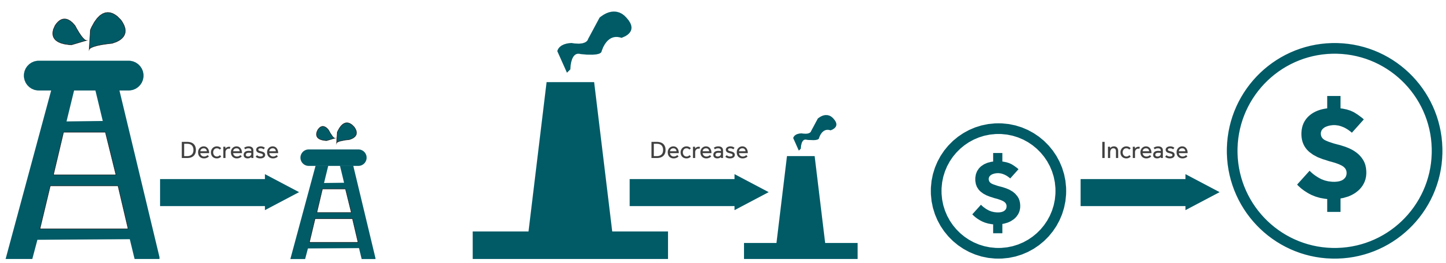
For the FTSE All-World ex CW ex UN Controversies Climate Index, apply a product-based exclusion to remove companies involved with controversial weapons and a conduct-based exclusion based on the United Nations Global Compact principles.

The exclusion step only applies to the FTSE All-World ex CW Climate Index and the FTSE All-World ex CW ex UN Controversies Climate Index, as exclusions do not apply to all indexes in the series.

Step 1 Step 2

Translate scores into index weights

Decrease the weight of constituents based on their exposure to fossil fuels or carbon emissions and increase weight of constituents with Green Revenues.



Step 1 Step 2 Step 3

Narrow index and constrain final weights

Remove stocks which do not contribute to the overall factor objective, whilst ensuring that diversification constraints are not breached.

The following constraints are applied during this process:
- Country and Industry weight constraints
- Maximum stock level capacity ratio
- Minimum stock weight

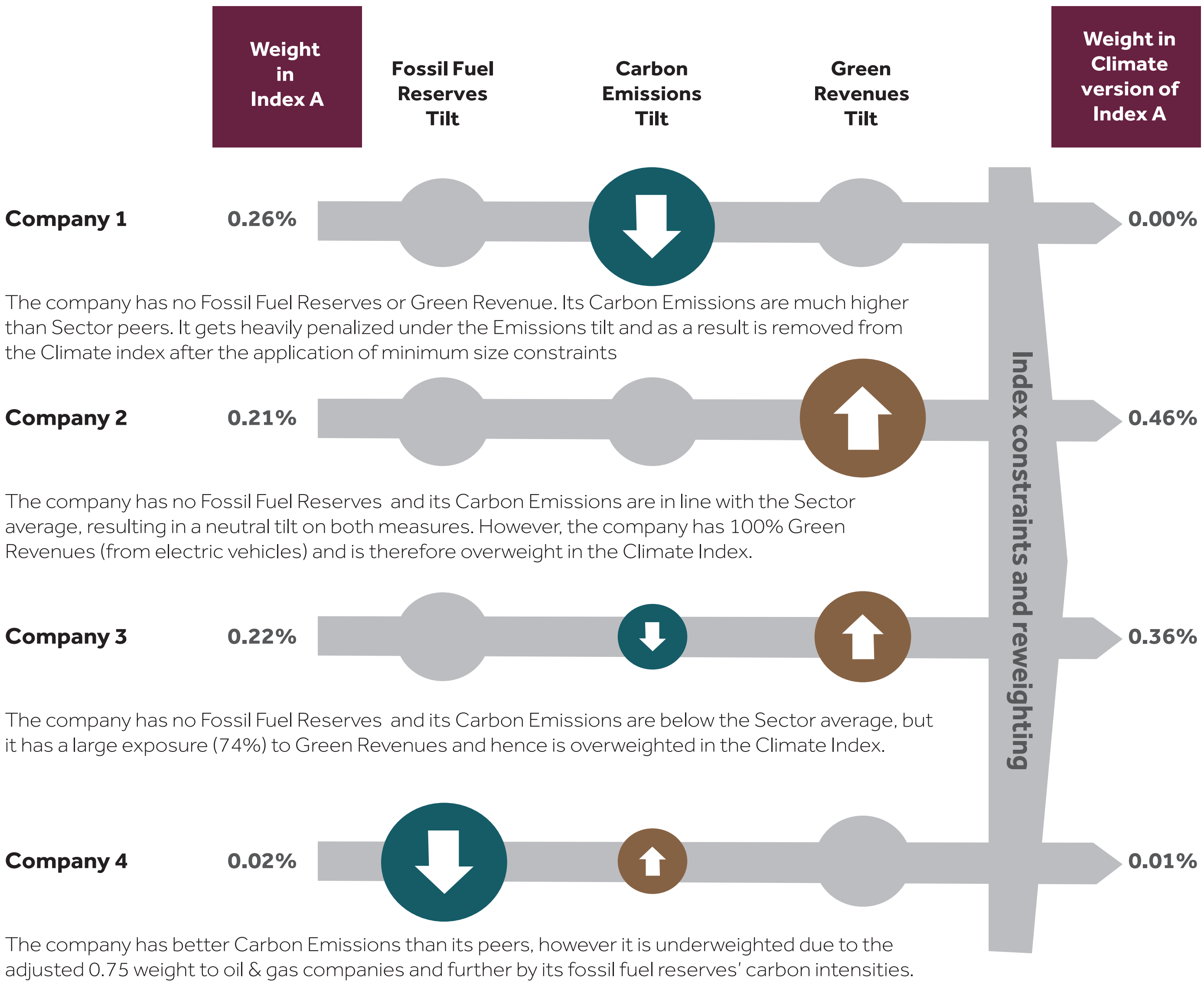
Step 1 Step 2 Step 3 Step 4

Publish and Review Index

The indexes are reviewed annually to update for newly eligible stocks, changes in exposure to fossil fuels, carbon emissions and green revenues.

A case study: Tilt-tilt methodology

Constituent weights are derived using FTSE Russell's 'Tilt-Tilt' methodology. Factor scores are combined with the underlying market capitalization weight (or other starting universe) to create a factor weight for each constituent. The weight is rescaled (to sum to 100%), the index can be narrowed, and constraints are applied to arrive at the final weight in the factor index.



Source: FTSE Russell. For illustrative purposes only.

For more information about our indexes, please visit ftserussell.com.

About FTSE Russell

FTSE Russell is a leading global index provider creating and managing a wide range of indexes, data and analytic solutions to meet client needs across asset classes, style and strategies. Covering 98% of the investable market, FTSE Russell indexes offer a true picture of global markets, combined with the specialist knowledge gained from developing local benchmarks around the world.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create investment funds, ETFs, structured products and index-based derivatives. FTSE Russell indexes also provide clients with tools for asset allocation, investment strategy analysis and risk management.

A core set of universal principles guides FTSE Russell index design and management: a transparent rules-based methodology is informed by independent committees of leading market participants. FTSE Russell is focused on index innovation and customer partnership applying the highest industry standards and embracing the IOSCO Principles. FTSE Russell is wholly owned by London Stock Exchange Group.

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