

FTSE Infrastructure Index Series

v4.0

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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 Infrastructure Index Series. Copies of the Ground Rules are available from FTSE International Limited ("FTSE").
- 1.2 The FTSE Infrastructure Index Series is a comprehensive set of indices, diversified across six FTSE-defined infrastructure sectors, to reflect the performance of infrastructure and infrastructure-related listed securities worldwide. The series is based on the FTSE Global All Cap Index Series which is part of the FTSE Global Equity Index Series and both developed markets and emerging markets are included.¹
- 1.3 The FTSE Infrastructure Index Series does not take account of ESG factors in its index design.
- 1.4 The base currency of the index series is US Dollars (USD). Indices may also be published in other currencies.

1.5 FTSE Infrastructure Index Series

The FTSE Infrastructure Index Series is made up of the following indices:

- FTSE Global Infrastructure Index
- FTSE Developed Infrastructure Index
- FTSE Emerging Infrastructure Index
- FTSE Global Infrastructure Opportunities Index
- FTSE Developed Infrastructure Opportunities Index
- FTSE Emerging Infrastructure Opportunities Index
- FTSE Global Core Infrastructure Index
- FTSE Developed Core Infrastructure Index
- FTSE Emerging Core Infrastructure Index

Capped versions of the infrastructure indices are also available that adjust the exposure of certain infrastructure subsectors.

- FTSE Global Core Infrastructure 50/50 Index
- FTSE Global Core Infrastructure 50/50 ex China ex Hong Kong Index
- FTSE Developed Core Infrastructure 50/50 Index
- FTSE Developed Core Infrastructure 50/50 Index ex Pipelines
- FTSE Developed Europe Core Infrastructure Capped Index
- FTSE USA Core Infrastructure Capped Index

¹ Please see Appendix B for details of Country Classification and eligibility of securities.

Additional variants can be calculated on request including but not limited to indices with industry, country and sector exclusions. Selected indices are calculated and disseminated on a real time basis.

- 1.6 FTSE's definition of infrastructure is the starting point for the design of the FTSE Infrastructure Index Series. FTSE defines infrastructure as: Companies that own, manage or operate structures or networks, which are used for the processing or movement of goods, services, information/data, people, energy and necessities from one location to another.

FTSE's definition also includes the businesses that provide the means of conveyance and the conveyance itself, not the goods or services that are carried by the conveyance. This includes both the network (e.g. roads, bridges, tunnels, pipelines, wires, wireless, depots, ports, airports, etc.) and the actual "rolling stock" that conveys the goods, services, information/data, people, energy and necessities.

- 1.7 The FTSE Infrastructure Index Series weights its constituents according to their investable market capitalisation (after the application of free float and foreign ownership restrictions) in the index calculation.
- 1.8 Price and Total Return Indices are published in their calculated currencies at the end of each business day. The Total Return Indices are based on ex-dividend adjustments. Currencies provided for all indices will include US Dollar, Euro, UK Pound Sterling, Japanese Yen and Australian Dollar on an end of day basis.
- 1.9 Net of tax Total Return Indices are also calculated for the 50/50 indices and the capped indices based on the maximum withholding tax rates applicable to dividends received by institutional investors who are not resident in the same country as the remitting company and who do not benefit from double taxation treaties. The underlying tax rate information is available from FTSE.

- 1.10 Unless specifically detailed in this document, the methodology and management of the FTSE Infrastructure Index Series is based on the FTSE Global Equity Index Series Ground Rules. The FTSE Infrastructure Index Series methodology should therefore be read in conjunction with these Ground Rules, which are available on FTSE Russell's website (www.lseg.com/en/ftse-russell/).

1.11 FTSE Russell

- 1.11.1 FTSE Russell is a trading name of FTSE International Limited, Frank Russell Company, FTSE Global Debt Capital Markets Limited (and its subsidiary FTSE Global Debt Capital Markets Inc.), FTSE Fixed Income LLC, FTSE (Beijing) Consulting Limited.
- 1.11.2 FTSE Russell hereby notifies users 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 index series to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index series.
- 1.11.3 Index users who choose to follow this index or to buy products that claim to follow this index should assess the merits of the index's 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 or any constituent data.

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited

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 FTSE Infrastructure Index Series 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 index 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 indices.

2.2 Status of These Ground Rules

2.2.1 These Ground Rules set out the methodology and provide information about the publication of the FTSE Infrastructure Index Series.

2.3 Amendments to these Ground Rules

2.3.1 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 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

- 3.1.1 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide using the following link:

[Corporate Actions and Events Guide.pdf](#)

3.2 Queries and Complaints

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

[Benchmark Determination Complaints Handling Policy.pdf](#)

3.3 Index Policy for Trading Halts and Market Closures

- 3.3.1 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](#)

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

- 3.4.1 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](#)

3.5 Recalculation Policy and Guidelines

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 Infrastructure 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](#)

3.6 Policy for Benchmark Methodology Changes

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

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

3.7 FTSE Russell Governance Framework

- 3.7.1 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 European benchmark regulation⁴ and the UK benchmark regulation⁵. The FTSE Russell Governance Framework can be accessed using the following link:

[FTSE Russell Governance Framework.pdf](#)

3.8 Real Time Status Definitions

- 3.8.1 Please refer to the following guide for details of real time status definitions for indices which are calculated in real time.

[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

Eligible securities

4. Eligible securities

4.1 The eligible universe is comprised of the current constituents of the FTSE Global All Cap Index Series.

4.2 The Index Series will obtain its constituents from the following Industry Classification Benchmark (ICB) Subsector classifications. Please refer to Appendix A for further information on Included and Excluded Businesses.

ICB Code	ICB Subsector Name	Description
The following ICB Subsectors are eligible for inclusion in the FTSE Global, Developed and Emerging Core Infrastructure Indices.		
Utilities		
65101010	Alternative Electricity	Companies generating and distributing electricity from a renewable source. Includes companies that produce solar, water, wind and geothermal electricity
65101015	Conventional Electricity	Companies generating and distributing electricity through the burning of fossil fuels such as coal, petroleum and natural gas, and through nuclear energy.
65102020	Gas Distribution	Distributors of gas to end users. Excludes providers of natural gas as a commodity, which are classified under the Oil and Gas industry.
65102000	Multi-Utilities	Companies that engage in multiple utilities that have no particular dominance over one another.
65102030	Water	Companies providing water to end users, including water treatment plants.
Transportation		
50101010	Construction	Companies that provide construction and infrastructure development services to private and/or public sector clients.
50206020	Railroads	Companies that operate railway systems for transporting goods and mass public rail services.
50206060	Transportation Services	Companies providing services to the Industrial Transportation sector, including companies that manage airports, train depots, roads, bridges, tunnels, ports, and providers of logistic services to shippers of goods. Includes companies that provide aircraft and vehicle maintenance services.
40501015	Travel and Tourism	Companies providing travel and tourism related services, including travel agents, online travel reservation services, and companies that provide passenger transportation for leisure are included, such as tour buses, leisure cruisers and railways, and taxis. Excludes mass public transportation services which are classified under Industrial Transportation Sector.
Others		
35102025	Infrastructure REITs	REITs that primarily invest in infrastructure assets including roads, bridges, tunnels, airports, power generation, fuels, pipelines, water and waste management, and communication assets
60101035	Pipelines	Operators of pipelines carrying oil, gas or other forms of fuel. Excludes pipeline operators that derive the majority of their revenues from direct sales to end users, which are classified under Gas Distribution.

ICB Code	ICB Subsector Name	Description
15101010	Telecommunications Equipment	Makers and distributors of high-technology communication products, including mobile telephones, fibers optics, switching devices, local and wide-area networks, teleconferencing equipment and connectivity devices for computers, including hubs and routers.
15102015	Telecommunications Services	Providers of mobile and fixed-line telephone services, paging services, and VOIP providers. Including companies that own and operate telecommunication assets. Telecommunication Services companies can also provide supplemental services such as direct internet access, VPN services, colocation services and transit services.

ICB Code	ICB Subsector Name	Description
The FTSE Global, Developed and Emerging Infrastructure Opportunities Indices will be made of all the Core Subsectors plus the Infrastructure-related Subsectors mentioned below.		
50201010	Aerospace	Manufacturers, assemblers and distributors of aircraft and aircraft parts primarily used in commercial or private air transport. Excludes manufacturers of communications satellites, which are classified under Telecommunications Equipment Subsector.
40501010	Airlines	Companies providing primarily passenger air transport. Excludes airports, which are classified under Transportation Services Sector.
55102035	Aluminium	Companies that mine or process bauxite or manufacture and distribute aluminum bars, rods and other products for use by other industries. Excludes manufacturers of finished aluminum products, such as siding, which are categorized according to the type of end product.
50101035	Building Materials: Others	Companies that provide materials to the building and construction industry, excluding air-conditioning, cement, heating, plumbing, roofing, and wall boards.
50101030	Cement	Companies primarily engaged in manufacturing and distributing cement and cement-derived products.
10101010	Computer Services	Companies that provide consulting or integration services to other businesses relating to information technology. Includes providers of computer-system design, systems integration, network and systems operations, cloud computing, distributed ledger technology (DLT) consulting and integration, data management and storage, repair services and technical support.
10101020	Consumer Digital Services	Companies involved in digital platforms that primarily generate revenue from advertising, content delivery and other virtual products for consumers. To a lesser extent they generate subscription fee revenue through related services offered by the platform and/or by the advertisers to utilize data content and customer insight.
50206040	Delivery Services	Operators of mail and package delivery services for commercial and consumer use. Includes courier and logistic services primarily involving air transportation.
55101000	Diversified Materials	Companies involved in manufacturing a diversified range of materials (e.g., bauxite, abrasive materials and composite material).
50101015	Engineering and Contracting Services	Companies that provide capital project planning and solutions. Includes engineering contracts, infrastructure development, bid preparation, interior enhancement designs and architects.
55102010	Iron and Steel	Companies that mine for iron ore and companies that produce, process, and distribute steel products. This can include welding consumables, strip steel, rods, bars, wires, piping, tubing, rails, and structural products as well as sheets and coils.
50206030	Marine Transportation	Providers of on-water transportation for commercial markets, such as container shipping. Excludes ports, which are classified under Transportation Services, and shipbuilders.
50205020	Professional Business Support Services	Companies that provide outsourced business operation services. This includes consulting services, corporate taxes, and business decision tools such as credit monitoring and KYC database service. Credit Agencies and Rating firms are classified under the Financial Data Providers Subsector.

ICB Code	ICB Subsector Name	Description
35102070	Specialty REITs	REITs that primarily invest in any single type of facility or property not specifically defined within another REITs industry
50206010	Trucking	Companies that provide commercial trucking or mass public bus services. Excludes road and tunnel operators, which are classified under Transportation Services Subsector.

- 4.3 Starting with the constituents of the FTSE Global All Cap Index Series, LPX Group will first apply the list of ICB Subsectors, above, to determine which companies are eligible for inclusion in each core infrastructure and infrastructure-related sector. LPX Group will then use the list of “included” and “excluded” business lines to filter the list of companies further. Please refer to Appendix A for further details. The resulting companies will form the list of eligible constituents for each sector.

LPX Group will conduct research to determine the percentage of a company’s revenue derived from core or related infrastructure activities (as detailed below). These revenue percentages will determine whether a company will be included in the core infrastructure index or the infrastructure opportunities index (see Section 5).

- 4.4 Infrastructure core activities are defined as the development, ownership, operation, management and/or maintenance of:

A. Transportation Infrastructure

- Roads, bridges and tunnels
- Ports
- Airports
- Railways (including regional, commuter and light rail)
- Terminals and depots
- Inland Waterways

B. Energy Infrastructure

- Electricity generation, distribution and transmission (regulated utilities)
- Water supply projects
- Pipelines

C. Telecommunications Infrastructure

- Fixed line (i.e. coaxial, copper, fibre optic or otherwise) telephony and data networks
- Transmission lines or towers (or, who lease them to others)
- Wireless transmission towers (or, who lease them to others)
- Transmission satellites (or, who lease them to others)

- 4.5 Infrastructure-related activities are defined as the ownership, operation, management or maintenance of:

A. Infrastructure-Related Conveyance Services

- Companies that own, manage or operate:
- Passenger or freight rail services
- Passenger or freight airlines
- Bus services
- Sightseeing or recreational ferries
- Passenger or bulk container shipping

- Trucking or delivery services

B. Infrastructure-Related Materials & Engineering

Companies that provide support services and materials to builders of infrastructure facilities (i.e. ports, roads, bridges, tunnels, etc.)

- Surveying and engineering
- Aluminium
- Iron & steel
- Cement and asphalt
- Transportation planning, environmental management, etc.
- Advanced Materials (e.g. titanium, ceramics, alloys, etc)

C. Infrastructure-Related Communication Services

Includes companies that provide:

- Fixed and mobile telecommunication and related services
- Sales of land-line and mobile telephones and accessories
- Cellular, paging, long distance, data, and internet services
- Pre-paid calling cards, text messaging, mobile office access for business customers
- Companies offering unlimited wireless voice and data services to the mass market
- Companies offering data center services

Section 5

Index qualification criteria

5. Index qualification criteria

5.1 The FTSE Infrastructure Index Series universe will consist of the companies that pass the selection criteria from the relevant ICB Subsectors in the FTSE Global All Cap Index Series (see Rules 4.2 and 3.3).

5.2 The Index series will be made up of the following indices:

- **FTSE Global Core Infrastructure Index**

This index comprises all companies that meet the stated eligibility requirements in Rule 4.4 within the 3 core infrastructure sectors (i.e. transportation, energy and telecommunications). For companies to be included in the Index, at least 65% of their revenues must be attributable to businesses/activities within Rule 4.4.

- **FTSE Global Core Infrastructure 50/50 Index**

This index comprises constituents of the FTSE Global Core Infrastructure Index which are capped to limit the exposure of particular infrastructure subsectors. See Rule 6.5 for further details of the capping process.

- **FTSE Global Core Infrastructure 50/50 ex China ex Hong Kong Index**

This index is derived from the FTSE Global Core Infrastructure 50/50 Index by excluding companies from China and Hong Kong. It follows the same weighting and capping methodology as the FTSE Global Core Infrastructure 50/50 Index. See Rule 6.5.5 for further details of the capping process.

- **FTSE Developed Core Infrastructure Index**

This index comprises constituents of the FTSE Global Core Infrastructure Index from developed countries.

- **FTSE Developed Core Infrastructure 50/50 Index**

This index comprises constituents of the FTSE Developed Core Infrastructure Index which are capped to limit the exposure of particular infrastructure subsectors. See Rule 6.5.5 for further details of the capping process.

- **FTSE Developed Core Infrastructure 50/50 Index ex Pipelines**

This index comprises constituents of the FTSE Developed Core Infrastructure Index which are capped to limit the exposure of particular infrastructure subsectors excluding operators of pipelines carrying oil, gas or other forms of fuel and pipeline operators that derive the majority of their revenues from direct sales to end users. See Rule 6.5.5 for further details of the capping process.

- **FTSE Emerging Core Infrastructure Index**

This index comprises constituents of the FTSE Global Core Infrastructure Index from emerging countries.

- **FTSE Developed Europe Core Infrastructure Capped Index**

This index comprises the European constituents of the FTSE Developed Core Infrastructure Index which are capped to limit the exposure of particular infrastructure subsectors. See Rule 6.5.5 for further details of the capping process.

- **FTSE USA Core Infrastructure Capped Index**

This index comprises the US constituents of the FTSE Developed Core Infrastructure Index which are capped to limit the exposure of particular infrastructure subsectors. See Rule 6.5.5 for further details of the capping process.

- **FTSE Global Infrastructure Opportunities Index**

This index comprises companies from the core infrastructure sectors and from the infrastructure-related sectors that meet the stated eligibility requirements in Rules 4.4 and 4.5. For companies to be included in the Index, at least 20% of their revenues must be attributable to businesses/activities within Rules 4.4 and 4.5.

- **FTSE Developed Infrastructure Opportunities Index**

This index comprises constituents of the FTSE Global Infrastructure Opportunities Index from developed countries.

- **FTSE Emerging Infrastructure Opportunities Index**

This index comprises constituents of the FTSE Global Infrastructure Opportunities Index from emerging countries.

- **FTSE Global Infrastructure Index**

This index comprises constituents from the FTSE Global Infrastructure Opportunities Index. Additionally, constituents from infrastructure-related sectors (see Rule 4.5) will be adjusted to 10% of their investable market capitalisation's (i.e. after the application of any investability weightings). All companies in the core infrastructure sectors will remain at their investable market capitalisations.

- **FTSE Developed Infrastructure Index**

This index comprises constituents of the FTSE Global Infrastructure Index from developed countries. Additionally, the constituents from the infrastructure-related sectors (see Rule 4.5) will be adjusted to 10% of their investable market capitalisation's (i.e. after the application of any investability weightings). All companies in the core infrastructure sector will remain at their investable market capitalisations.

- **FTSE Emerging Infrastructure Index**

This index comprises constituents from emerging countries of the FTSE Global Infrastructure Index. Additionally, the constituents from the infrastructure-related sectors (see Rule 4.5) will be adjusted to 10% of their investable market capitalisation's (i.e. after the application of any investability weightings). All companies in the core infrastructure sector will remain at their investable market capitalisations.

Section 6

Periodic review of constituent companies

6. Periodic review of constituent companies

6.1 Review dates

- 6.1.1 The FTSE Infrastructure Index Series will be reviewed on a semi-annual basis in March and September, as part of the semi-annual reviews of the FTSE Global All Cap Index Series. The Index constituents will be reviewed using data available after the close of business on the Monday 4 weeks prior to the review effective date.
- 6.1.2 LPX Group will determine semi-annually, after the close of business on the Monday 4 weeks prior to the review effective date, the proportion of company revenue deriving from infrastructure core or related activities.
- 6.1.3 Changes to the index will be implemented after the close of business on the third Friday (i.e. effective the following Monday) of March and September.
- 6.1.4 FTSE will be responsible for publishing the outcome of the periodic review.

6.2 Steps for conducting a review of the FTSE Core Infrastructure Indices

- 6.2.1 The underlying universe for the FTSE Core Infrastructure Indices is the current constituents of the FTSE Global All Cap Index Series.
- 6.2.2 ICB Subsectors will be used to screen the constituents of the FTSE Global All Cap Index Series to determine the starting universe of listed equities in all the infrastructure sectors as defined in Rule 4.2.
- 6.2.3 In order to ascertain whether a company is considered a core infrastructure company for the purpose of inclusion in the core index, analysis is carried out by LPX Group in line with the periodic reviews for each of the prospective companies.
- 6.2.4 A company will be considered a core infrastructure index company if at least 65% of its revenue is attributable to businesses/activities within Rule 4.4.
- 6.2.5 Buffers will be implemented at review to reduce turnover and costs.
 - A. Additions at the periodic review:

A company will be included in the FTSE Core Infrastructure Indices if at least 65% of its revenue is attributable to business activity in core sectors.
 - B. Deletions at the periodic review:
- 6.2.6 A company will be excluded from the FTSE Core Infrastructure Indices if its revenue falls below 55% of that attributable to business activity in core sectors.

6.3 Constituents are weighted by their investable market capitalisation.

6.3.1 Steps for Conducting a Review of the FTSE Infrastructure Opportunities Indices

6.3.2 The underlying universe for the FTSE Infrastructure Opportunities Indices is the current constituents of the FTSE Global All Cap Index Series.

6.3.3 ICB subsectors will be used to screen the constituents of the FTSE Global All Cap Index Series to determine the starting universe of listed equities in all the infrastructure sectors as defined in Rule 4.2.

6.3.4 In order to ascertain whether a company is considered an infrastructure opportunities company for the purpose of inclusion in the opportunities index, analysis is carried out by LPX Group in line with the periodic reviews for each of the prospective companies.

6.3.5 FTSE will apply a minimum revenue threshold of 20% to all constituents from both the core infrastructure and infrastructure-related sectors. Thus, all companies in the infrastructure opportunities index will have a single minimum revenue requirement.

6.3.6 Constituents are weighted by their investable market capitalisation.

6.4 Steps for conducting a review of the FTSE Infrastructure Index Series

6.4.1 The FTSE Global Infrastructure Index Series will comprise constituents of the FTSE Global Infrastructure Opportunities Index.

6.4.2 The constituents from the infrastructure-related sectors (see Rule 4.5) will be adjusted to 10% of their investable market capitalisation's.

6.4.3 All companies in the core infrastructure sectors will remain at their investable market capitalisation.

6.4.4 Constituents are weighted by their investable market capitalisation.

6.5 Capping of the FTSE Core Infrastructure 50/50 Index and Capped Indices

6.5.1 The FTSE Core Infrastructure 50/50 and the FTSE Core Infrastructure Capped Indices will be capped as part of the semi-annual review of the FTSE Infrastructure Index Series in March and September.

6.5.2 The calculation of the constituent capping factors (c) will be based on prices at close on the first Friday of the review month using shares in issue and investability weights as designated to take effect after close on the third Friday of the review month (i.e. taking effect on the review effective date).

6.5.3 The calculation will take into account any corporate actions/events that take effect after close on the first Friday of the review month up to and including the review effective date if they have been announced and confirmed by the first Friday of the review month.

6.5.4 Corporate actions/events announced after the first Friday of the review month that become effective up and including the review effective date will not result in any further adjustment.

6.5.5 At review the following capping process is applied for each 50/50 index.

1. Company uncapped index weights within the ICB subsectors highlighted in Table One will be combined into three groups – Utilities, Transportation and Others.
2. The weights of companies in the Utilities group will be adjusted to 50% of the index weight; the weights of companies in the Transportation group will be adjusted to 30% of the index weight, and the weights of companies in the Others group will be adjusted to 20% of the index weight. Company weights within each group are adjusted in proportion to their investable market capitalisation.
3. Within the Transportation group the combined index weights of the ICB subsectors Railroads and Travel & Tourism will be adjusted to 12.5% of the index weight. The ICB subsectors Construction and Transportation Services will be adjusted to 17.5% of the index weight. Company weights within each group are adjusted in proportion to their investable market capitalisation.
4. Any company whose index weight is greater than 5% is capped at 5%. The index weights of all uncapped companies are increased in proportion to their investable market capitalisations.

5. Steps 2 to 4 are repeated until all target weights have been reached.
6. Where the target weights cannot be reached the company capping limit (step 4) is relaxed in steps of 0.5% until all target weights have been reached. Each time the capping limit is relaxed the capping process is restarted and steps 1 to 5 are repeated.

New ICB Subsector	New Subsector Name
Utilities	
65101010	Alternative Electricity
65101015	Conventional Electricity
65102020	Gas Distribution
65102000	Multi-Utilities
65102030	Water
Transportation	
50101010	Construction
50206020	Railroads
50206060	Transportation Services
40501015	Travel and Tourism
Others	
35102025	Infrastructure REITs
60101035	Pipelines
15101010	Telecommunications Equipment
15102015	Telecommunications Services

6.5.6 At review the following capping process is applied for the FTSE Developed Europe Core Infrastructure Capped and FTSE USA Core Infrastructure Capped Indices.

1. Company uncapped index weights within the ICB subsectors highlighted in Table One will be combined into three groups – Utilities, Transportation and Others.
2. Any group whose index weight is greater than 50% is capped at 50%. The index weights of all uncapped groups are increased in proportion to their investable market capitalisations.
3. Any company whose index weight is greater than 10% is capped at 10%. The index weights of all uncapped companies are increased in proportion to their investable market capitalisations.
4. Steps 2 to 3 are repeated until all target weights have been reached.
5. Where the target weights cannot be reached the company capping limit (step 3) is relaxed in steps of 0.5% until all target weights have been reached. Each time the capping limit is relaxed the capping process is restarted and steps 1 to 4 are repeated.

Section 7

Changes to constituent companies

7. Changes to constituent companies

7.1 New issues

7.1.1 The FTSE Infrastructure Index Series will not have intra-review additions.

7.2 Deletions

7.2.1 If a constituent ceases to be a constituent of the FTSE Global All Cap Index Series it will be removed from the FTSE Infrastructure Index Series. The removal will be concurrent with its removal from the FTSE Global All Cap Index Series.

Section 8

Corporate actions and events

8. Corporate actions and events

- 8.1 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide using the following link:

[Corporate Actions and Events Guide.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 will provide advance notice advising of the timing of the change.

8.2 Shares in issue

Changes to the number of shares in issue for constituent securities are covered in the Corporate Actions and Events Guide.

8.3 Suspension of dealing

Suspension of dealing rules can be found within the Corporate Actions and Events Guide.

8.4 Takeovers, mergers and demergers

The treatment of takeovers, mergers and demergers can be found within the Corporate Actions and Events Guide.

- 8.4.1 If a non-constituent acquires an index constituent it will be considered for inclusion in the FTSE Infrastructure Index Series at the next semi-annual review.
- 8.4.2 If a constituent company is split and forms two or more companies by issuing new equity to existing shareholders, the resulting companies will be eligible to continue as constituents in the index provided they remain constituents of the underlying FTSE Global All Cap Index Series.
- 8.4.3 If a company changes nationality intra-review and thereby becomes eligible for inclusion in the FTSE Developed Europe Core Infrastructure Capped or FTSE USA Core Infrastructure Capped Indices, the company will not be included and its eligibility determined at the next periodic review.

Section 9

Industry Classification Benchmark (ICB)

9. Industry Classification Benchmark (ICB)⁶

9.1 Classification structure

- 9.1.1 The FTSE Infrastructure Index Series constituents are classified into Industries, Supersectors, Sectors and Subsectors, as defined by the Industry Classification Benchmark (ICB).
- 9.1.2 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:
[ICB](#)
- 9.1.3 Changes to the classification of a company in the FTSE Core Infrastructure 50/50 and Capped Indices will not impact index eligibility until the next periodic review unless the constituent ceases to be a member of the FTSE Global All Cap Index Series.

⁶ FTSE indices migrated to the new ICB classification system in March 2021.

Section 10

Index calculation

10. Index calculation

10.1 Prices

The FTSE Infrastructure Index Series uses actual trade prices for securities with local stock exchange quotations. Refinitiv real-time spot currency rates are used in the index calculation.

10.2 Index calculation

10.2.1 The FTSE Infrastructure Index Series will be displayed to eight decimal points.

10.2.2 The FTSE Infrastructure Core and Opportunities Indices calculations use the same methodology as the FTSE Global Equity Index Series.

10.2.3 In addition the FTSE Infrastructure Indices use a FTSE adjustment factor c_i to reduce the weight of related sector/subsector constituents.

10.2.4 The FTSE Infrastructure Index Series is calculated using the following formula:

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

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 Weighting Factor to be applied to a security to correctly weight that security in the index. This factor is published by FTSE Russell for each security 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

Included and excluded businesses

Core infrastructure sectors

Transportation Core Infrastructure

Companies that own, manage or operate roads, bridges, tunnels, railway lines, waterways, ports, airports, terminals.

Includes	Excludes
<ul style="list-style-type: none"> Local rail and commuter lines as well as urban mass transit lines, regional light rail and monorail systems. These companies often provide services on a long-term concession. Heavy construction, to the extent that these companies are responsible for bridge and tunnel plaza operations, roadway maintenance, capital infrastructure improvements and toll collection, etc. and are providing these services based on a long-term concession. In certain instances, the company may be allowed to effect increases in the facility's tolls. Companies with concessions to operate urban, suburban and/or exurban mass transit or local commuter rail, bus and (water) ferry lines or at least part of whose business includes the exclusive right to collect fares and/or undertake commercial development of such commuter lines and routes. Companies that operate or maintain railways, light rail, monorail systems, roads and highways. Companies that own, manage or operate airports which derive revenues from passenger charges, airline take-off/landing charges, parking charges, and rental charges from tenants of airport services. 	<ul style="list-style-type: none"> Providers of logistic services to shippers of goods and companies that provide aircraft and vehicle maintenance services. Strictly tourism-related and/or sightseeing companies. Airport revenues directly received from retail sales to passengers such as duty free, food and beverage.

Energy Core Infrastructure

Companies that own, manage or operate oil, gas or water pipelines or electricity transmission/distribution networks.

Includes	Excludes
<ul style="list-style-type: none"> Companies engaged in electricity generation through any method, including but not limited to the burning of fossil fuels such as coal, petroleum, and natural gas, as well as through nuclear energy or renewable sources like wind, solar, and hydroelectric power. These companies must be regulated utilities, which possess the ability to pass through cost increases to consumers. Companies that distribute or transmit electricity. Companies that own or operate utility operating companies, especially systems providing electricity to homes and businesses that are included in this ICB category and not mentioned in the bullets above. Companies involved in the operation of pipelines that transport energy-related commodities, including but not limited to oil and gas across various distances including storage, as well as companies 	<ul style="list-style-type: none"> Water treatment plants. Trade associations for companies in this sector.

that distribute oil and gas directly to homes and businesses via a distribution pipeline network.

- Companies that transport treated water to homes, businesses, and industries through a network of pipes, pumps, and reservoirs.

Telecommunications Core Infrastructure

Companies that own, manage or operate or lease to others wired or wireless data and communication transmission networks, towers and satellites.

Includes	Excludes
<ul style="list-style-type: none"> – Companies that own, manage or operate wireless transmission towers or which lease them to others. – Companies that own, manage or operate transmission satellites or which lease them to others. – Companies that own, manage or operate infrastructure communication networks, including but not limited to copper based cable, undersea cable, microwave transmission and fibre optic networks 	<ul style="list-style-type: none"> – Companies that manufacture and distribute equipment used in the creation of wired, wireless or satellite networks. – Companies that provide data, information or content (media). – Internet service providers.

Infrastructure-related sectors

Infrastructure-Related Conveyance Services

Companies that own, manage or operate passenger or freight rail services, passenger or freight airlines, bus services, sightseeing or recreational ferries, passenger or bulk container shipping, trucking or delivery services.

Includes	Excludes
<ul style="list-style-type: none"> – Companies that primarily provide passenger transportation, such as buses, taxis, and passenger rail and ferry companies. 	<ul style="list-style-type: none"> – Operators, or those with long-term concessions to manage urban mass transit or local commuter rail and bus lines, as such companies would be part of the core infrastructure sectors.

Infrastructure-related Materials & Engineering

Companies that provide support services and materials to builders of infrastructure facilities (i.e. ports, roads, bridges, tunnels, etc.). Such services and products would include surveying and engineering, cement, asphalt, steel, aluminium, etc. Such companies are included to the extent that they sell their products or services for use in infrastructure facilities.

Includes	Excludes
<ul style="list-style-type: none"> – Companies that provide services to companies involved in constructing infrastructure facilities, such as surveying and engineering consulting. – Companies that manufacture and distribute aluminium bars, rods and similar products for use in infrastructure facilities. – Companies that manufacture and distribute iron and steel products, such as pipes, sheets, bars, I-beams and similar products for use in infrastructure facilities. – Companies that produce materials used in the construction of infrastructure facilities, such as cement and asphalt. – Companies that provide long-term engineering support to builders of infrastructure. – Companies that provide road/highway engineering, transportation planning, waste and environmental management, water supply and treatment, etc. 	<ul style="list-style-type: none"> – Companies that provide building materials such as building fixtures, paint and glass. – Trade associations for companies in the road/highway engineering, transportation planning, waste and environmental management, water supply and treatment businesses.

- Companies that produce advanced materials (e.g. titanium, ceramics, alloys, etc.) used in the construction of infrastructure facilities.

Infrastructure-related Communications Services

Companies that provide fixed and mobile telecommunication and related services.

Includes	Excludes
<ul style="list-style-type: none">- Companies selling land-line and mobile telephones and accessories, cellular, paging, long distance, data, and internet services, pre-paid calling cards, text messaging, mobile office access for business customers, companies offering unlimited wireless voice and data services to the mass market, companies offering data center services.	<ul style="list-style-type: none">- Companies that own, manage or operate land-based, tower-and-wire transmission data and/or communications networks.- Companies that own/operate wired transmission towers and lease them to other service providers.- Companies that own, manage or operate mobile or satellite data and/or communications networks.- Companies that own/operate wireless transmission towers and lease them to other service providers.- Companies owning/operating transmission satellites.

Appendix B

Country classification

For a list of countries classified as developed or emerging please use the following link:

[FTSE Country Classification Paper.pdf](#)

Saudi Arabia was assigned Secondary Emerging market status in March 2019. Securities will be eligible for inclusion in the FTSE Infrastructure Index Series from September 2019.

China A Shares (available under the Northbound China Stock Connect Scheme) were assigned Secondary Emerging market status beginning in June 2019. Securities will be eligible for inclusion in the FTSE Infrastructure Index Series from September 2019.

Appendix C

Calculation schedule

Normal schedule

The Index Series is calculated every weekday, when one or more of the constituent markets are open, however on 1 January, the indices will not be calculated. Selected indices within the series are calculated on a real time basis, see below.

Real time indices

Refinitiv real time cross exchange rates are used in all calculations during the calculation period, other than for the closing value for each index. The WM/Refinitiv Closing Spot Rates™ are used in calculating the closing value for each of these indices. Corporate actions for these indices are based on the price and exchange rates as applied within the FTSE Global Equity Index Series.

Index	Calculation Times*
FTSE USA Core Infrastructure Capped Net Tax Index in USD	14:30 to 21:10
FTSE Developed Europe Core Infrastructure Capped Net Tax Index in EUR	08:00 to 16:30

*Note: Timings are UK hours. Indices that disseminate until 21:10 will have the closing value disseminated at 21:30.

Appendix D

Status of indices

The FTSE Infrastructure Index Series may be calculated in real time.

For further details of real time definitions please refer to the following guide:

[Real Time Status Definitions.pdf](#)

The official opening and closing hours of selected Indices are set out in Appendix C. Variations to the official hours of the Indices will be published by FTSE Russell.

The FTSE Infrastructure Index Series is calculated on public holidays whenever at least one market is trading. The index series will not be calculated on 1 January.

Appendix E

Further information

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

[Glossary.pdf](#)

Further information on the FTSE Infrastructure Index Series is available from the FTSE Russell.

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

FTSE Russell website: www.lseg.com/en/ftse-russell/

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