

FTSE Canada Ex Fossil Fuels Bond Index Series

v1.4



**FTSE
RUSSELL**

An LSEG Business

Contents

Section 1 Introduction	3
Section 2 Management responsibilities	6
Section 3 FTSE Russell index policies	7
Section 4 Eligibility criteria	8
Section 5 Price sources	10
Section 6 ESG data inputs.....	11
Section 7 Index rebalancing.....	12
Appendix A Index family structure	14
Appendix B Definition of additional exclusions	16
Appendix C Fossil fuel exclusions description.....	17
Appendix D Index calculations.....	19
Appendix E Further information	20

Section 1

Introduction

1. Introduction

1.1 FTSE Canada Ex Fossil Fuels Bond Index Series

- 1.1.1 The FTSE Canada Ex Fossil Fuels Bond Index Series is designed to represent the performance of securities in FTSE Canada Universe Bond Index after the exclusion of issuers that have exposure to fossil fuel sector through business sector, direct involvement, and company ownership.
- 1.1.2 The FTSE Canada Ex Fossil Fuels Bond Index Series comprise of a series of benchmarks which are designed to track the performance of the bonds denominated in Canadian Dollars (CAD).
- 1.1.3 The Index Series consists of the following:
- FTSE Canada Universe Ex Fossil Fuels Enhanced Bond Index
 - FTSE Canada Universe Ex Fossil Fuels Sector Bond Index
- 1.2 The FTSE Canada Ex Fossil Fuels Bond Index Series takes account of ESG factors in its index design.
- 1.3 FTSE hereby notifies users of the indices that it is possible that circumstances, including external events beyond the control of FTSE, may necessitate changes to, or the cessation of, the indices and therefore, any financial contracts or other financial instruments that reference the indices or investment funds which use the indices to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the indices.
- 1.4 Index users who choose to follow these indices or to buy products that claim to follow these indices should assess the merits of the indices' 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 nor its subsidiary undertakings (or any person concerned with the preparation or publication of these Ground Rules) 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 Indices or any constituent data.
- ### 1.5 These Ground Rules
- 1.5.1 This document sets out the Ground Rules for the construction and management of the FTSE Canada Ex Fossil Fuels Bond Index Series.
- ### 1.6 FTSE Russell
- 1.6.1 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.

1.7 Index objectives

1.7.1 The indices are designed to be a broad measure of the Canadian investment-grade fixed income market after the exclusion of issuers that have exposure to fossil fuel sector through direct involvement and company ownership. They are transparent indices and are designed to be replicable with individual security holdings and prices disclosed electronically each day.

The index returns are calculated daily, and are weighted by market capitalisation, so that the return on a bond influences the return on the index in proportion to its market value.

1.8 Major sub-indices

1.8.1 A sub-index will be created if a sufficient number of eligible constituents for that sub-index exist. All indices have the following three maturity sub-indices:

- Short (5 years and under)
- Mid (5 – 10 years)
- Long (over 10 years)

1.8.2 The indices may also be split into sub-indices based on the issuer classification of each bond. The government segment (which also includes bonds that are not explicitly guaranteed by the government where majority of funding is provided by the government), for example, is divided into Federal, Provincial and Municipal sectors. The Corporate segment is divided into sub-sectors based on major industry groups: Communication, Energy, Financial, Industrial, Infrastructure, Real Estate, and Securitisation. The full classification schema is detailed in Appendix A.

1.8.3 The corporate sub-indices are further broken down into rating categories, as defined in Rule 4.4:

- AAA/AA
- A
- BBB

1.9 Capital Index (also known as the Price Index or the Clean Price Index)

1.9.1 The capital index tracks the notional weighted average change in the prices of the index constituents and is calculated every business day.

1.10 Total Return Index (also known as the Performance Index)

1.10.1 A total return index is calculated for all the indices. A total return index takes into account the price changes and interest accrual and payments of each index constituent.

1.11 Index analytics

1.11.1 In addition to the capital index and total return index, the following index analytics are also calculated:

- Average Coupon
- Average Yield to Maturity
- Average Time to Maturity
- Value of 01
- Average Macaulay Duration
- Average Modified Duration
- Average Convexity
- The sum of the nominal value of all bonds in each index
- The number of bonds in each Index, and
- The weight of the index in relation to its relevant aggregated index (when applicable).

The formulae to calculate the capital and total return indices, and the index analytics are available in Appendix B.

1.12 The base currency of the benchmark is Canadian Dollars (CAD).

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index series.¹

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

- maintain records of all the constituents;
- be responsible for the addition and deletion of bonds and changes of nominal amounts, in accordance with the Ground Rules.

2.1.3 These Ground Rules set out the methodology and provide information about the publication of the FTSE Canada Ex Fossil Fuels Bond Index Series.

2.2 FTSE Canada Fixed Income Advisory Committee

2.2.1 The FTSE Canada Fixed Income Advisory Committee is established by FTSE Russell.

2.2.2 The purpose of the Committee is to provide a forum for FTSE Russell to interact with index users and other stakeholders with a view to enhancing the underlying methodologies of FTSE Russell indices.

2.2.3 The Terms of Reference of the FTSE Canada Fixed Income Advisory Committee are set out on the FTSE Russell website and can be accessed using the following link:

[FTSE Canada Fixed Income Advisory Committee.pdf](#)

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.

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

¹ 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).

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 Queries and Complaints

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

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

3.2 Statement of Principles for FTSE Fixed Income Indices (the Statement of Principles)

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

The Statement of Principles for Fixed Income Indices can be accessed using the following link:

[Statement of Principles Fixed Income Indices.pdf](#)

3.3 Recalculation Policy and Guidelines

The Recalculation Policy and Guidelines for Fixed Income Indices document is available from the FTSE Russell website using the link below or by contacting fi.index@lseq.com.

[Fixed Income Recalculation Policy and Guidelines.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 Policy for Benchmark Methodology Changes

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

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

Section 4

Eligibility criteria

4. Eligibility criteria

4.1 Eligible bonds

4.1.1 The FTSE Canada Ex Fossil Fuels Bond Index Series constituents are selected from the constituents of the FTSE Fixed Income indices listed in Figure 1, screened in accordance with the exclusions defined in Appendix.

Figure 1. Base Index of FTSE Canada Ex Fossil Fuels Bond Indices

Index	Base Index
FTSE Canada Universe Ex Fossil Fuels Enhanced Bond Index	FTSE Canada Universe Bond Index
FTSE Canada Universe Ex Fossil Fuels Sector Bond Index	FTSE Canada Universe Bond Index

4.1.2 In order to be eligible for the FTSE Canada Ex Fossil Fuels Bond Index Series, bonds must meet the index eligibility criteria of the corresponding Base Index.

4.2 Exclusions for FTSE Canada Universe Ex Fossil Fuels Enhanced Bond Index

- 4.2.1 Fossil Fuels exclusions: There are three screening approaches being implemented to identify fossil fuel issuers: FTSE Canada Sector Classification, the Refinitiv Business Classification (TRBC), and product involvement data. Data for product involvement research is sourced from Sustainalytics and TRBC. If a company is present in at least one of the three sources it will be excluded. See Section 5 and Appendix C for more details.
- 4.2.2 Other additional product involvement and controversial conduct exclusions: For controversial conduct exclusions, issuers who are non-compliant with UN Global Compact (UNGC) Principles will be excluded. For product involvement exclusions, issuers generating revenues from Tobacco or Controversial Weapons will be excluded. See Appendix B for more details.
- 4.2.3 In the event that Sustainalytics provides product involvement data coverage for a parent entity, but not a subsidiary entity, the data pertaining to the parent entity is applied to the subsidiary. FTSE Russell will determine index inclusion based on the application of the parent entity data to the subsidiary.
- 4.2.4 Corporate issuers that are not covered by product involvement data will be excluded from the index, with issuer classification following the schema detailed in Appendix A.
- 4.2.5 Non-Corporate issuers such as governments, agencies, and supranational issuers are not excluded unless specified, with issuer classification following the schema detailed in Appendix A.

4.3 Exclusions for FTSE Canada Universe Ex Fossil Fuels Sector Bond Index

- 4.3.1 Fossil Fuels exclusions: The screening approach being implemented to capture fossil fuel issuers is the FTSE Canada Sector Classification Exclusion. See Section 5 and Appendix C for more details.
- 4.3.2 In addition to fossil fuel exclusions, there are other additional product involvement and controversial conduct exclusions. For controversial conduct exclusions, issuers who are non-compliant with UN Global Compact (UNGC) will be excluded. For product involvement, issuers generating revenues from Tobacco, Controversial Weapons, or Thermal Coal Extraction will be excluded. See Appendix B for more details.
- 4.3.3 Corporate issuers that are not covered by product involvement data for the additional exclusions, as specified in Appendix B, will be excluded from the index, with issuer classification following the schema detailed in Appendix A.
- 4.3.4 Non-Corporate issuers such as governments, agencies, and supranational issuers are not excluded unless specified, with issuer classification following the schema detailed in Appendix A.

Section 5

Price sources

5. Price sources

5.1 Price sources

- 5.1.1 Constituent prices are provided by CanDeal Data and Analytics ("CanDeal DNA") in accordance with its Composite pricing methodology.²
- 5.1.2 Prices in the FTSE Canada Bond Index Series represent a mid-side price as of 4:00pm (Toronto time), unless otherwise stated in published index methodologies.

5.2 Verification and price challenges

- 5.2.1 Statistical techniques are used to identify pricing anomalies based on day-over-day changes and comparisons across peer groups by maturity, asset type, etc.
- 5.2.2 Any price challenges from index users and possible outliers from the verification process are reviewed with our third-party pricing provider.
- 5.2.3 In the event that an issue is not able to be resolved in a timely manner, FTSE Russell may exercise expert judgement and roll prices from the previous day. Any exercise of expert judgement is recorded.

² The change from the use of the FTSE Canada Multi Dealer Pricing Methodology to use the CanDeal DNA composite pricing methodology was announced on 22 January 2022 and effective from 17 May 2022.

Section 6

ESG data inputs

6. ESG data inputs

6.1.1 The following ESG datasets are used in the construction of the indices.

ESG data inputs	Details	Used for selection, weighting or exclusion ³
Industry classification- FTSE Canada Sector Classification	The FTSE Russell sector classification scheme for all bonds tracked by FTSE Canada Fixed Income Indices.	Exclusion
Industry Classification - TRBC	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. More information can be found here: www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/trbc-business-classification-methodology.pdf	Exclusion
Product related data - Sustainalytics	Sustainalytics Product Involvement data identifies the nature and extent of a company's involvement in a range of product and business activities. More information can be found here: https://www.sustainalytics.com/investor-solutions/esg-research/esg-screening/esg-criteria	Exclusion
Conduct-related data - Sustainalytics	Sustainalytics Global Standards Screening (GSS) assess companies' impact on stakeholders and the extent to which a company causes, contributes or is linked to violations of international norms and standards. More information can be found: www.sustainalytics.com/investor-solutions/esg-research/esg-screening/global-compact-norms-based-screening	Exclusion
Minimum Set of Exclusions for ESG Indices	The minimum set of exclusions apply to this Index Series. Details of the minimum exclusions can be found in Section 8 of the Guide to the Construction and Maintenance of FTSE Exclusion Lists.pdf .	Exclusion

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

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

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

³ Definitions

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

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

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

Section 7

Index rebalancing

7. Index rebalancing

7.1 Rebalancing the Indices

- 7.1.1 The indices are rebalanced on a daily basis, with reconstitution on the last business day of each month for product involvement research update.
- 7.1.2 On the last business day of each month, bonds issued by new corporate issuers who are eligible will enter the index, existing constituents that are no longer eligible due to a change in product involvement research will exit the index.
- 7.1.3 TRBC and Sustainalytics data are refreshed on a monthly basis, with the review cut-off date being (T-7) business days from the last business day of the month. FTSE Canada Sector Classification is refreshed on a daily basis.

7.2 Addition of constituents

- 7.2.1 A new issue enters the index when all eligibility criteria are verified. A new corporate issue will enter the index on the same day as it enters the Base Index only if its issuer had been researched for product involvement in history. A new government issue will enter the index on the same day as it enters the Base Index.
- 7.2.2 New corporate issuers will enter the index on the last business day of the month in which its product involvement research is completed.
- 7.2.3 Any change in the FTSE Canada bond classification will be reflected daily. If a bond gets reclassified from one of the sectors specified in Appendix C, it will enter the index on the same day it gets reclassified, assuming all other eligibility criteria are met.
- 7.2.4 Any change in product involvement identified by TRBC or Sustainalytics product involvement research is reflected on the last business day of each month. If a bond is identified to be no longer involved in fossil fuel related categories specified in Appendix C, it will enter the index on the last business day of the month, assuming all other eligibility criteria are met.
- 7.2.5 The bond is included in the calculation of index risk statistics such as duration on the day of entry, though it does not affect the return on the index until the following business day. The cut-off time for index entry is 3:00pm EST.

7.3 Removal of constituents

- 7.3.1 A bond is removed from the index on the same day it exits from the Base Index. Realised coupon and redemption income, is reinvested daily across all bonds in the index in proportion to their market values.
- 7.3.2 Any change in the FTSE Canada bond classification will be reflected daily. If a bond gets reclassified into one of the sectors specified in Appendix C, it will exit the index on the same day it gets reclassified.
- 7.3.3 Any change in product involvement identified by TRBC or Sustainalytics product involvement research is reflected at the last business day of each month. If a bond is identified to be involved in fossil fuel related categories specified in Appendix C, it will exit the index on the last business day of the month.

7.4 Alteration of constituents

7.4.1 The following events are implemented on their effective date:

- Unscheduled redemptions or repurchases, including puts or calls
- Coupons which step up or down, for example rating driven bonds
- Bonds which funge into an existing bond

7.5 Index history

7.5.1 The Sustainalytics data as of December 2020 is applied to the history prior to December 2020.

Appendix A

Index family structure

The table below describes the schema used to classify the index constituents and for the derivation of sub-indices:

Level 1	Level 2	Level 3
Corporate	Communication	Media
		Telecommunication
	Energy	Distribution
		Exploration
		Generation
		Integrated
		Pipelines
	Financial	Auto Finance
		Bank
		Insurance
		Financial Services
	Industrial	Consumer
		Diversified
		Manufacturing
		Resources
		Services
	Infrastructure	Transportation
		Health
		Transportation
		Utility
	Real Estate	Education
		NonREIT
	Securitisation	REIT
		ABS
Government	Federal	CMBS
		Non-Agency
		Agency
	Municipal	Supranational
		-
	Provincial	Alberta

Level 1	Level 2	Level 3
		British Columbia
		Manitoba
		New Brunswick
		Newfoundland
		Nova Scotia
		Ontario
		PEI
		Saskatchewan Quebec
		Yukon

Appendix B

Definition of additional exclusions

Exclusions	Threshold
Controversial Weapons (Anti-personnel mines, cluster weapons, biological and chemical weapons, depleted uranium, and white phosphorus munitions)	
Companies involved in the core weapon system that are considered tailor made and essential for the lethal use of the weapons.	Greater than 0% of revenues
Tobacco	
Companies manufacturing tobacco products	Greater than 0% of revenues
Companies that derive revenue from the distribution and/or retail sale of tobacco products.	Equal to or greater than 10% of revenues
UN Global Compact Controversies	
Companies involved in controversies related to the UNGC principles. The principles are classified into four categories: Human Rights, Labor, Environment and Anti-corruption.	All companies deemed to be non-compliant
Thermal Coal	
Extraction: involvement in the extraction of thermal coal.	Equal to or greater than 50% of revenues

Appendix C

Fossil fuel exclusions description

FTSE Canada Sector Classification Exclusion (see Appendix A for full schema)

Level 1	Level 2	Level 3
Corporate	Energy	Distribution
		Exploration
		Integrated
		Pipelines

	Exclusions	Threshold
Sustainalytics Product Involvement	Oil & Gas	
	Production: involvement in exploration, production, refining, transportation and storage of oil and/or gas. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Supporting Products/Services: involvement in exploration, production, refining, transportation and storage of oil and/or gas. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Generation: involvement in exploration, production, refining, transportation and storage of oil and/or gas. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Oil Sands	
	Extraction: involvement in extraction of oil sands. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Arctic Oil & Gas Exploration	
	Extraction: involvement in oil and gas exploration in Arctic regions. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Shale Energy	
	Extraction: involvement in extraction of shale energy exploration and/or production. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Thermal Coal	
	Extraction: involvement in the extraction of thermal coal. Direct involvement and ownership of 10% and above	Greater than 0% of revenues
	Power Generation: involvement in the generation of electricity from thermal coal. Direct involvement and ownership of 10% and above	Greater than 0% of revenues

Refinitiv Business Classification	TRBC	TRBC Classification Hierarchy	TRBC Hierarchical ID
	Coal	Industry Group	501010
	Oil & Gas	Industry Group	501020
	Oil & Gas Refining and Marketing	Industry Group	501030
	Fossil Fuel Electric Utilities	Activity	5910101012
	Fossil Fuel IPPs	Activity	5910102011

Appendix D

Index calculations

For further details on the index and bond level calculations, please see the Guide to Calculation Methods for the FTSE Fixed Income Indices which can be accessed using the following link:

[FTSE Fixed Income Index Guide to Calculation.pdf](#)

The following notation is used in the following calculations:

- $P_{i,t}$ clean price of a constituent bond i on valuation day t
- $A_{i,t}$ accrued interest of a constituent bond i as of valuation day t
- $N_{i,t}$ nominal value of a constituent bond i on valuation day t
- $C_{i,t}$ value of any coupon payment received from the bond i for the assumed settlement date at time t . If none the value = 0

Clean Price Index (Capital Index)

The clean price (PI) or capital index is given by

$$PI_{i,0}=100$$

$$PI_{i,t}=PI_{i,t-1} \times \frac{\sum [P_{i,t} \times N_{i,t-1}]}{\sum [P_{i,t-1} \times N_{i,t-1}]}$$

Total Return Index

The total return index (TRI) is given by

$$TRI_{i,0}=100$$

$$TRI_{i,t}=TRI_{i,t-1} \times \frac{\sum [(P_{i,t} + A_{i,t} + C_{i,t}) \times N_{i,t-1}]}{\sum [(P_{i,t-1} + A_{i,t-1}) \times N_{i,t-1}]}$$

Appendix E

Further information

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

[Fixed Income Glossary of Terms.pdf](#)

For further information on the FTSE Canada Ex Fossil Fuels Bond Indices please visit www.lseg.com/en/ftse-russell/ or e-mail fi.index@lseg.com. Contact details can also be found on this website.

Disclaimer

© 2024 London Stock Exchange Group plc and its applicable group undertakings ("LSEG"). LSEG includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE Global Debt Capital Markets Inc. and FTSE Global Debt Capital Markets Limited (together, "FTSE Canada"), (4) FTSE Fixed Income Europe Limited ("FTSE FI Europe"), (5) FTSE Fixed Income LLC ("FTSE FI"), (6) FTSE (Beijing) Consulting Limited ("WOFE"), (7) Refinitiv Benchmark Services (UK) Limited ("RBSL"), (8) Refinitiv Limited ("RL") and (9) Beyond Ratings S.A.S. ("BR"). All rights reserved.

The FTSE Canada ex Fossil Fuels Bond Index Series is calculated by or on behalf of FTSE International Limited or its affiliate, agent or partner. FTSE International Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator. Refinitiv Benchmark Services (UK) Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator.

FTSE Russell® is a trading name of FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, WOFE, RBSL, RL and BR. "FTSE®", "Russell®", "FTSE Russell®", "FTSE4Good®", "ICB®", "WMR™", "FR™", "Beyond Ratings®" and all other trademarks and service marks used herein (whether registered or unregistered) are trade marks and/or service marks owned or licensed by the applicable member of LSEG or their respective licensors and are owned, or used under licence, by FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, WOFE, RBSL, RL or BR.

All information is provided for information purposes only. All information and data contained in this publication is obtained by LSEG, from sources believed by it to be accurate and reliable. Because of the possibility of human and mechanical inaccuracy as well as other factors, however, such information and data is provided "as is" without warranty of any kind. No member of LSEG nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the accuracy, timeliness, completeness, merchantability of any information or LSEG Products, or of results to be obtained from the use of LSEG products, including but not limited to indices, rates, data and analytics, or the fitness or suitability of the LSEG products for any particular purpose to which they might be put. The user of the information assumes the entire risk of any use it may make or permit to be made of the information.

No responsibility or liability can be accepted by any member of LSEG nor their respective directors, officers, employees, partners or licensors for (a) any loss or damage in whole or in part caused by, resulting from, or relating to any inaccuracy (negligent or otherwise) or other circumstance involved in procuring, collecting, compiling, interpreting, analysing, editing, transcribing, transmitting, communicating or delivering any such information or data or from use of this document or links to this document or (b) any direct, indirect, special, consequential or incidental damages whatsoever, even if any member of LSEG is advised in advance of the possibility of such damages, resulting from the use of, or inability to use, such information.

No member of LSEG nor their respective directors, officers, employees, partners or licensors provide investment advice and nothing in this document should be taken as constituting financial or investment advice. No member of LSEG nor their respective directors, officers, employees, partners, or licensors make any representation regarding the advisability of investing in any asset or whether such investment creates any legal or compliance risks for the investor. A decision to invest in any such asset should not be made in reliance on any information herein. Indices and rates cannot be invested in directly. Inclusion of an asset in an index or rate is not a recommendation to buy, sell or hold that asset nor confirmation that any particular investor may lawfully buy, sell or hold the asset or an index or rate containing the asset. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of LSEG. Use and distribution of LSEG data requires a licence from LSEG and/or its licensors.

