

MSCI Minimum Volatility Select ESG Low Carbon Target Indexes Methodology

May 2024

Contents

1	Introduction	4
2	Index Construction Methodology	5
2.1	Defining the Parent Index.....	5
2.2	Eligible Universe.....	5
2.3	Defining the Exclusion Criteria.....	5
2.3.1	Controversy-Based Exclusion Criteria	5
2.3.2	Business Exclusion Criteria.....	6
2.3.3	Other Exclusion Criteria	6
2.4	Defining the Security Level Carbon Exposure	6
2.4.1	Greenhouse Gas Emissions	6
2.5	Defining the Optimization Setup.....	6
2.5.1	Optimization Constraints	7
2.6	Determining the Optimized Index	8
3	Maintaining the Index.....	9
3.1	Semi-Annual Index Reviews.....	9
3.2	Ongoing Event Related Changes	9
4	MSCI ESG Research	11
4.1	MSCI ESG Controversies.....	11
4.2	MSCI ESG Business Involvement Screening Research	11
4.3	MSCI Climate Change Metrics.....	11
	Appendix I: The Parent Index and the Base Currency for Optimization	13
	Appendix II: Business Exclusion Criteria	14
	Appendix III: Handling Infeasible Optimizations	16
	Appendix IV: Calculation of Carbon Exposure Metrics	17

Appendix V: New release of Barra® Equity Model or Barra®
Optimizer

Appendix VI: Methodology Set.....

18

19

1 Introduction

The MSCI Minimum Volatility Select ESG Low Carbon Target Indexes (herein, ‘the Indexes’) are designed to represent the performance of a strategy that seeks systematic integration of environmental, social and governance (ESG) norms along with the minimum volatility factor.

The Indexes are constructed by selecting constituents of a market capitalization weighted index (the ‘Parent Index’¹) and applying an optimization process that aims to minimize the total risk, reduce the carbon-equivalent exposure to CO₂ and other Green House Gases (GHG) by thirty percent (30%) and improve the weighted-average industry-adjusted ESG score of the index with respect to their respective underlying Parent Indexes using certain constraints described below.²

¹ Please refer to Appendix I for more details.

² The Index is governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. The Methodology Set for the Index can be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’.

The Methodology Set includes a document ‘ESG Factors in Methodology’ that contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion). Please refer to Appendix VI for more details.

2 Index Construction Methodology

The Indexes use company ratings and research provided by MSCI ESG Research³ for the Index construction.

Constructing the Indexes involve the following steps:

- Defining the Parent Index
- Defining the Eligible Universe
- Defining the exclusion criteria
- Defining the security level carbon exposure
- Defining the optimization setup
- Determining the optimized index

The steps mentioned above are defined in detail in the subsequent sections.

2.1 Defining the Parent Index

Construction of the Indexes begin with identifying the Parent Index and the Eligible Universe for optimization. The Parent Index serves as the universe of eligible securities for optimization. Please refer to Appendix I for more details.

2.2 Eligible Universe

The Eligible Universe is constructed by excluding securities from the Parent Index based on the exclusion criteria as described below in Section 2.3.

2.3 Defining the Exclusion Criteria

2.3.1 Controversy-Based Exclusion Criteria

Securities of companies involved in “Very Severe” business controversies as defined by the MSCI ESG Controversies Methodology are not eligible for inclusion in the Indexes. This is implemented by excluding constituents of the Parent Index with ESG Controversy Score = 0 (‘Red Flag’ companies).

³ Please refer to Section 4 for further information regarding the ESG and climate data used in the Index / Indexes that MSCI Limited sources from MSCI ESG Research LLC, a separate subsidiary of MSCI Inc. MSCI ESG Research is solely responsible for the creation, determination, and management of such data. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes.

2.3.2 Business Exclusion Criteria

Companies that are involved in specific businesses which have high potential for negative social and/or environmental impact are ineligible for inclusion in the Indexes.

- Controversial Weapons
- Nuclear Weapons
- Tobacco
- Weapons
- Thermal Coal
- Unconventional Oil and Gas
- Arctic Oil and Gas

Please refer to Appendix II for more details on these criteria.

2.3.3 Other Exclusion Criteria

Missing Controversy Score – Companies not assessed by MSCI ESG Research's MSCI ESG Controversy Scores are excluded from the Indexes.

2.4 Defining the Security Level Carbon Exposure

The carbon exposure of a security is measured in terms of its greenhouse gas emissions. The Indexes uses MSCI Climate Change Metrics data from MSCI ESG Research.

2.4.1 Greenhouse Gas Emissions

MSCI ESG Research collects company-specific direct (Scope 1) and indirect (Scope 2) greenhouse gas (GHG) emissions data from company public documents and/or the Carbon Disclosure Project. If a company does not report GHG emissions, then MSCI ESG Research uses its proprietary methodology to estimate Scope 1 and Scope 2 GHG emissions.

MSCI ESG Research estimates company-specific indirect (Scope 3) GHG emissions from the Scope 3 Carbon Emissions Estimation Model. The data is generally updated on an annual basis.

2.5 Defining the Optimization Setup

The optimization objective is to perform total risk minimizing optimization. The Common Factor Risk Aversion and Specific Risk Aversion factors in the optimization is set to 0.0075 and 0.075 respectively.

The optimization is performed from a base currency perspective and does not allow short selling of securities. The default currency is the US Dollar.

Please refer to Appendix I for more details.

2.5.1 Optimization Constraints

At each semi-annual Index Review, the following optimization constraints are employed, which aim to ensure replicability and investability:

- The maximum weight of an index constituent will be restricted to the lower of 1.5% and 20 times the weight of the security in the Parent Index. The minimum weight of an index constituent will be restricted to 0.05%.
- The sector weights of Index will not deviate more than +/-5% from the sector weights of the Parent Index.
- For countries with weight greater than 2.5% in the Parent Index, the weight in the Index will not deviate more than +/-5% from the country weight in the Parent Index.
- For countries with weight less than 2.5% in the Parent Index, the weight in the Index will be capped at 3 times their weight in the Parent Index.
- The above country weight constraint will also apply on China A Stock Connect listings as a group separately in addition to the usual country weight constraint on China.
- Exposure to all GEMLT style factors except Beta and Residual Volatility will be restricted to +/-0.25 standard deviations relative to the Parent Index.
- The weighted-average industry-adjusted ESG score of the Index will be at least 10% more than the weighted-average industry-adjusted ESG score of the Parent Index at the time of rebalancing.
- The minimum reduction in the Weighted Average Carbon Emission Intensity⁴ relative to the Parent Index will be 30%.
- The one-way turnover of the Index is constrained to a maximum of 10% at each Index Review.

The Weighted Average Carbon Intensity is calculated using the formulae defined in Appendix IV.

⁴ Carbon Intensity = Scope 1+2 & 3 Emission / Enterprise Value Including Cash (EVIC). Prior to the May 2020 Index Review of the Indexes, the Weighted Average Carbon Emissions Intensity relative to EVIC has been calculated based on Scope 1+2 Emissions.

2.6 Determining the Optimized Index

The Indexes are constructed using the Barra Open Optimizer in combination with the relevant Barra Equity Model⁵. The optimization uses the Eligible Universe as the universe of eligible securities and the specified optimization objective and constraints to determine the Index. Infeasible optimizations are handled as explained in Appendix III.

⁵ Please refer to Appendix V for the detailed information on model usage

3 Maintaining the Index

3.1 Semi-Annual Index Reviews

The Indexes are rebalanced on a semi-annual basis, usually as of the close of the last business day of May and November, coinciding with the May and November Index Reviews of the MSCI Global Investable Market Indexes. The Barra Equity Model data as of the day before the rebalancing day is used.

In general, MSCI uses MSCI ESG Research data⁶ (including MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics) as of the end of the month preceding the Index Reviews for the rebalancing of the Index. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available, for the rebalancing of the Index.

The pro forma Indexes are in general announced nine business days before the effective date.

3.2 Ongoing Event Related Changes

The general treatment of corporate events in the Index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor's participation in an event based on relevant deal terms and pre-event weighting of the index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

The following section briefly describes the treatment of common corporate events within the Indexes.

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously in the Index.

⁶ See section 4 for details of data sourced from MSCI ESG Research used in the Indexes.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the Parent Index (such as IPO and other early inclusion) will not be added to the Index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	<p>For Mergers and Acquisitions, the acquirer's post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index.</p> <p>If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.</p>
Changes in Security Characteristics	A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.). Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted indexes.

The MSCI Corporate Events methodology book is available at:
<https://www.msci.com/index/methodology/latest/CE>

4 MSCI ESG Research

The Indexes are products of MSCI Inc. that utilize information such as company ratings and research produced and provided by MSCI ESG Research LLC (MSCI ESG Research), a subsidiary of MSCI Inc. In particular, the Indexes use the following MSCI ESG Research products: MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited.

4.1 MSCI ESG CONTROVERSIES

MSCI ESG Controversies provide assessments of controversies concerning the potential negative environmental, social, and/or governance impact of company operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with “0” being the most severe controversy.

The MSCI ESG Controversies methodology can be found in:

<https://www.msci.com/esg-and-climate-methodologies>

4.2 MSCI ESG BUSINESS INVOLVEMENT SCREENING RESEARCH

MSCI ESG Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

For more details on MSCI ESG Business Involvement Screening Research, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf

4.3 MSCI CLIMATE CHANGE METRICS

MSCI Climate Change Metrics provide climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, alignment with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.



For more details on MSCI Climate Change Metrics, please refer to <https://www.msci.com/climate-change-solutions>

Appendix I: The Parent Index and the Base Currency for Optimization

Minimum Volatility Select ESG Low Carbon Target Index	Parent Index	Base Currency for Optimization
MSCI World Minimum Volatility Select ESG Low Carbon Target Index	MSCI World Index	USD

Appendix II: Business Exclusion Criteria

- **Controversial Weapons**

- All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes available at <https://www.msci.com/index/methodology/latest/XCW>.

- **Nuclear Weapons**

- All companies that manufacture nuclear warheads and/or whole nuclear missiles.
- All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles).
- All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons.
- All companies that provide auxiliary services related to nuclear weapons.
- All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles).
- All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons.
- All companies that manufacture components for nuclear-exclusive delivery platforms.

- **Tobacco**

- All companies classified as a “Producer”.
- All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products.

- **Weapons**

- All companies deriving 10% or more aggregate revenue from weapons systems, components, and support systems and services.

- **Thermal Coal**

- All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes : revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case

of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading.

- All companies deriving 5% or more revenue (either reported or estimated) from the thermal coal-based power generation.
- All companies generating 50% or more power from thermal coal.
- All companies that own thermal coal reserves.

- **Unconventional Oil & Gas Extraction**

- All companies deriving 5% or more revenues from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal-seam gas, coal-bed methane as well as Arctic onshore/offshore reserves.

- **Arctic Oil & Gas**

- All companies deriving 5% or more revenue from Arctic Oil.
- All companies deriving 5% or more revenue from Arctic Gas.

Appendix III: Handling Infeasible Optimizations

During Index Review, in the event that there is no optimal solution that satisfies all the optimization constraints defined in Section 2.5, the following constraints are relaxed, until an optimal solution is found:

- Relax the turnover constraint in steps of 5%, up to a maximum of 30%.
- After exhausting all the relaxation steps of the turnover constraint, relax the minimum asset weight constraint in steps of 0.01% from 0.05% till 0.01%.

In the event that no optimal solution is found after all the above constraints have been relaxed, the Index will not be rebalanced for that semi-annual Index Review.

Appendix IV: Calculation of Carbon Exposure Metrics

Calculation of GHG Intensity relative to EVIC

Carbon emissions of a company are normalized for size by dividing annual carbon emissions by Enterprise Value including Cash (EVIC). The Carbon Emissions Intensity is calculated using the latest Scope 1+2 carbon emissions, Scope 3 carbon emissions and EVIC of a company.

Security Level GHG Intensity (Scope 1+2+3) relative to EVIC =

$$\text{Security Level GHG Intensity (Scope 1 + 2) relative to EVIC} \\ + \text{Security Level GHG Intensity (Scope 3) relative to EVIC}$$

Security Level GHG Intensity (Scope 1+2) relative to EVIC =

$$\frac{\text{Scope 1 + 2 Carbon Emissions}}{\text{Enterprise Value + Cash(in M\$)}}$$

If Scope 1+2 carbon emissions and/or EVIC are not available, the average Scope 1+2 intensity of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the security belongs is used. In case there are still some constituents with missing Scope 1+2 Emission Intensity is not available, the average Scope 1+2 intensity of all the constituents of the MSCI ACWI in the same GICS Sector in which the security belongs is used.

Security Level GHG Intensity (Scope 3) relative to EVIC =

$$\frac{\text{Scope 3 Carbon Emissions}}{\text{Enterprise Value + Cash(in M\$)}}$$

If Scope 3 carbon emissions and/or EVIC are not available, the average Scope 3 intensity of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the security belongs is used. In case there are still some constituents with missing Scope 3 Emission Intensity is not available, the average Scope 3 intensity of all the constituents of the MSCI ACWI in the same GICS Sector in which the security belongs is used.

Weighted Average GHG Intensity relative to EVIC of the Parent Index =

$$\sum (\text{Weight in Parent Index} * \text{Security Level GHG Intensity relative to EVIC})$$

Weighted Average GHG Intensity relative to EVIC of the Optimized Index =

$$\sum (\text{Index Weight} * \text{Security Level GHG Intensity relative to EVIC})$$

Appendix V: New release of Barra® Equity Model or Barra® Optimizer

The methodology presently uses MSCI Barra Global Equity Model for Long-Term Investors (“GEMTL”) for the optimization. A new release of the relevant Barra Equity Model or Barra Optimizer may replace the former version within a suitable timeframe.

Appendix VI: Methodology Set

The Index is governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document as mentioned below:

- Description of methodology set – www.msci.com/index/methodology/latest/ReadMe
- MSCI Corporate Events Methodology – www.msci.com/index/methodology/latest/CE
- MSCI Fundamental Data Methodology – www.msci.com/index/methodology/latest/FundData
- MSCI Index Calculation Methodology – www.msci.com/index/methodology/latest/IndexCalc
- MSCI Index Glossary of Terms – www.msci.com/index/methodology/latest/IndexGlossary
- MSCI Index Policies – www.msci.com/index/methodology/latest/IndexPolicy
- MSCI Global Industry Classification Standard (GICS) Methodology – www.msci.com/index/methodology/latest/GICS
- MSCI Global Investable Market Indexes Methodology – www.msci.com/index/methodology/latest/GIMI
- MSCI Global ex Controversial Weapons Indexes Methodology – <http://www.msci.com/index/methodology/latest/XCW>
- ESG Factors in Methodology*

The Methodology Set for the Indexes can also be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’.

* ‘ESG Factors in Methodology’ contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion). It can be accessed in the Methodology Set as described above.

Contact us

[msci.com/contact-us](https://www.msci.com/contact-us)

AMERICAS

United States	+ 1 888 588 4567 *
Canada	+ 1 416 687 6270
Brazil	+ 55 11 4040 7830
Mexico	+ 52 81 1253 4020

EUROPE, MIDDLE EAST & AFRICA

South Africa	+ 27 21 673 0103
Germany	+ 49 69 133 859 00
Switzerland	+ 41 22 817 9777
United Kingdom	+ 44 20 7618 2222
Italy	+ 39 02 5849 0415
France	+ 33 17 6769 810

ASIA PACIFIC

China	+ 86 21 61326611
Hong Kong	+ 852 2844 9333
India	+ 91 22 6784 9160
Malaysia	1800818185 *
South Korea	+ 82 70 4769 4231
Singapore	+ 65 67011177
Australia	+ 612 9033 9333
Taiwan	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Japan	+ 81 3 4579 0333

* toll-free

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: <https://www.msci.com/index-regulation>.

Notice and disclaimer

This document is research for informational purposes only and is intended for institutional professionals with the analytical resources and tools necessary to interpret any performance information. Nothing herein is intended to promote or recommend any product, tool or service.

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or disseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information may include "Signals," defined as quantitative attributes or the product of methods or formulas that describe or are derived from calculations using historical data. Neither these Signals nor any description of historical data are intended to provide investment advice or a recommendation to make (or refrain from making) any investment decision or asset allocation and should not be relied upon as such. Signals are inherently backward-looking because of their use of historical data, and they are not intended to predict the future. The relevance, correlations and accuracy of Signals frequently will change materially.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. The calculation of indexes and index returns may deviate from the stated methodology. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company filings on the Investor Relations section of [msci.com](http://www.msci.com).

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such, provided that applicable products or services from MSCI ESG Research may constitute investment advice. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body. MSCI ESG and climate ratings, research and data are produced by MSCI ESG Research LLC, a subsidiary of MSCI Inc. MSCI ESG Indexes, Analytics and Real Estate are products of MSCI Inc. that utilize information from MSCI ESG Research LLC. MSCI Indexes are administered by MSCI Limited (UK) and MSCI Deutschland GmbH.

Please note that the issuers mentioned in MSCI ESG Research materials sometimes have commercial relationships with MSCI ESG Research and/or MSCI Inc. (collectively, "MSCI") and that these relationships create potential conflicts of interest. In some cases, the issuers or their affiliates purchase research or other products or services from one or more MSCI affiliates. In other cases, MSCI ESG Research rates financial products such as mutual funds or ETFs that are managed by MSCI's clients or their affiliates, or are based on MSCI Inc. Indexes. In addition, constituents in MSCI Inc. equity indexes include companies that subscribe to MSCI products or services. In some cases, MSCI clients pay fees based in whole or part on the assets they manage. MSCI ESG Research has taken a number of steps to mitigate potential conflicts of interest and safeguard the integrity and independence of its research and ratings. More information about these conflict mitigation measures is available in our Form ADV, available at <https://adviserinfo.sec.gov/firm/summary/169222>.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P Global Market Intelligence. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Global Market Intelligence.

MIFID2/MIFIR notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data.

Privacy notice: For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at <https://www.msci.com/privacy-pledge>.