

MSCI World Small Cap Custom ESG Low Carbon Index

November 2024

Contents

1 Introduction	3
2 Constructing the Index	4
2.1 ESG Screened Universe.....	4
2.2 Carbon Screened Universe	5
2.3 Governance Issue Screened Universe	6
2.4 Weighting Scheme	6
2.5 Treatment of Unrated Companies	6
3 Maintaining the Index	7
3.1 Semi-Annual Index Reviews	7
3.2 Ongoing Event-Related Changes.....	7
4 MSCI ESG Research	9
4.1 MSCI ESG Controversies	9
4.2 MSCI ESG Business Involvement Screening Research	9
4.3 MSCI Climate Change Metrics	9
Appendix I: Business Involvement Screening Criteria	10
Appendix II: Governance Key Issues	12
Appendix III: Calculation of Target Metrics	13
Appendix III: Methodology Set	14
Appendix IV: Changes to this Document	15

1 Introduction

The MSCI World Small Cap Custom ESG Low Carbon Index (the “Index”)¹ aims to represent the performance of a strategy that is designed to increase the Index’s exposure to positive environmental, social and governance (ESG) factors as well as exhibit lower carbon exposure than the MSCI World Small Cap Index (the “Parent Index”) by applying exclusions based on various ESG criteria.

¹ The Index is governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. Please refer to Appendix III for more details.

2 Constructing the Index

The Indexes use company ratings and research provided by MSCI ESG Research for the Index construction².

The Index is constructed by applying the following steps to the Parent Index.

- ESG Screening
- Carbon Screening
- Governance Issue Screening
- Weighting

2.1 ESG Screened Universe

The ESG Screened Universe includes all constituents of the Parent Index that meet the below mentioned screening criteria:

2.1.1 ESG Controversies Eligibility

The Index uses MSCI ESG Controversies Scores to identify companies that are involved in very serious environmental, social or governance controversies related to their operations and/or products and services. Companies are required to have an MSCI ESG Controversies Score of 1 or above to be eligible for inclusion in the Index.

In addition, companies are also excluded based on the following criteria:

1. Environment Controversies (MSCI Environment Controversy Score of 0)
2. Governance Controversies (MSCI Governance Controversy Score of 0)
3. Human Rights Controversies (MSCI Human Rights Controversy Score of 0)
4. Labor Rights Controversies (MSCI Labor Rights Controversy Score of 0)

A Score of zero is a 'red flag' controversy, defined as an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.

2.1.2 Controversial Business Involvement Criteria

The Index uses MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics to identify companies that are involved in the following business activities. Companies that meet the business involvement criteria are excluded from the Index. Please refer to Appendix I for more details on the implementation of these criteria.

- Civilian Firearms
- Controversial Weapons

² See section 4 for further information regarding ESG and climate data used in the Index that MSCI Limited and MSCI Deutschland GmbH source 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 as a provider to MSCI Limited and MSCI Deutschland GmbH. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes.

- Conventional Weapons
- Nuclear Weapons
- Tobacco
- Thermal Coal
- For Profit Prisons
- Adult Entertainment
- Gambling

2.2 Carbon Screened Universe

Securities from the ESG Screened Universe that are not excluded as per the below carbon emission exclusion criteria are included in the Carbon Screened Universe.

2.2.1 Carbon Emission Exclusions

1. Exclude securities with any ownership of fossil fuel reserves.
2. Absolute Emission Exclusions are applied using the following steps:
 - a. Compute cumulative Absolute Emissions of securities in the ESG Screened Universe. Absolute Emissions is calculated as Scope 1 + Scope 2 emissions.
 - b. Sort the securities in descending order of Absolute Emissions.
 - c. Exclude securities with the highest Absolute Emissions until the cumulative Absolute Emissions of the remaining securities is less than 50% of the total cumulative Absolute Emissions computed previously
3. Emission Intensity Exclusions are applied using the following steps:
 - a. Compute Total Carbon Emission Intensity³ of securities in the ESG Screened Universe by dividing Total Scope 1+2 Emissions of all securities by Total Sales.
 - b. Compute the exclusion threshold as 50% of the Total Carbon Emission Intensity computed earlier.
 - c. Calculate security level Carbon Emission Intensity as the ratio of Absolute Emissions to Total Sales of each security.
 - d. Sort the securities in the descending order of Carbon Emission Intensity calculated above.
 - e. Exclude the securities with the highest Carbon Emission Intensity, calculated in step c, until the Total Carbon Emission Intensity of the remaining securities, calculated in step a, falls below the 50% threshold set

³ Please refer to Appendix III for more details on the calculation of carbon intensity

- f. Exception – Add back securities with the GICS^{®6} sub-industry Renewable Electricity (GICS code: 55105020)

2.3 Governance Issue Screened Universe

Companies that are identified under the following governance key issues are excluded from the Carbon Screened Universe.

- Qualified Auditor Opinion
- Controlling Shareholder Concerns

Please refer to Appendix II for the details on the governance screens.

2.4 Weighting Scheme

The remaining securities are reweighted to add up to a weight of 100% in proportion of their free float market capitalization weight in the Parent Index.

2.5 Treatment of Unrated Companies

Companies not assessed by MSCI ESG Research on data for any of the following MSCI ESG Research products are not eligible for inclusion in the Index:

- MSCI ESG Controversies
- MSCI Climate Change Metrics
- MSCI Business Involvement Screening Research

⁶ GICS is the global industry classification standard jointly developed by MSCI and S&P Global Market Intelligence.

3 Maintaining the Index

3.1 Semi-Annual Index Reviews

The Index is reviewed on a semi-annual basis, coinciding with the May and November Index Reviews of the Parent Index.

In general, MSCI uses MSCI ESG Research data⁴ (MSCI ESG Controversies, MSCI Climate Change Metrics and MSCI ESG Business Involvement Screening Research) 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 Index is typically announced nine business days before the effective date.

At each Index Review, the Index is rebalanced as described in Section 2.

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.

Additionally, if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the Index.

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

No new securities will be added (except where noted below) to the Index between Index Reviews. For cases where additions are noted below, securities will be added to the Index only if added to the Parent Index.

Parent Index deletions will be reflected simultaneously.

EVENT TYPE

EVENT DETAILS

New additions to the Parent Index

A new security added to the Parent Index (such as IPO and other early inclusions), 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

For Mergers and Acquisitions, the acquirer’s post even weight will account for the proportionate amount

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

of shares involved in deal consideration, while cash proceeds will be invested across the Index.

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.

Changes in Security Characteristics

A security will be removed as 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.

The MSCI Corporate Events methodology book is available at:

<https://www.msci.com/index/methodology/latest/CE>.

4 MSCI ESG Research

The Index is a product of MSCI Inc. that utilizes 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 Index uses the following MSCI ESG Research products: MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited and MSCI Deutschland GmbH.

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 at:

<https://www.msci.com/legal/disclosures/esg-disclosures>.

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

<https://www.msci.com/legal/disclosures/esg-disclosures>.

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/legal/disclosures/climate-disclosures>

Appendix I: Business Involvement Screening Criteria

- **Controversial Weapons**
 - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, nondetectable fragments and incendiary weapons), as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes available at <https://www.msci.com/index/methodology/latest/XCW>.
- **Aggregate Weapons**
 - All companies deriving 5% or more aggregate revenue from weapons systems, components, and support systems and services.
- **Civilian Firearms**
 - All companies deriving 5% or more revenue from the manufacture and retail of civilian firearms and ammunition.
- **Nuclear Weapons**
 - All companies that manufacture key nuclear weapons component.
- **Tobacco**
 - All companies that manufacture tobacco products which include cigars, blunts, cigarettes, e-cigarettes, inhalers, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco. This also includes companies that grow or process raw tobacco leaves.
 - All companies deriving 5% or more revenue from the distribution of tobacco products.
 - All companies deriving 5% or more revenue from the retail sales of tobacco products.
 - All companies deriving 5% or more revenue from supplying products essential to the tobacco industry.
- **Adult Entertainment**
 - All companies deriving 5% or more revenue from the production, distribution or retail of adult entertainment products or services
- **Gambling**
 - All companies deriving 5% or more revenue from gambling operations, including online or mobile gambling, and supporting activities.
- **Thermal Coal Mining and Extraction**
 - Companies that derive 5% or more of their total annual revenues from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It does not screen out: revenues 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.

– **Thermal Coal Power Generation**

- Companies that derive 10% or more of their total annual revenues (either reported or estimated) from the thermal coal-based power generation.
- All companies that meet the below two-step conditional exclusions rule:
 - **Step 1:** Identify all companies deriving 5% or more of their total annual revenues (either reported or estimated) from thermal coal based power generation.
 - **Step 2:** Exclude all companies flagged in Step 1 which either have a Low Carbon Transition (LCT) Management Score of 4 or below, or have a score belonging to the bottom half of the Low Carbon Transition Management Score Quartile (defined as scores 3 or 4)

– **Unconventional Oil & Gas (including Arctic Oil) Extraction**

- Companies that derive 50% or more revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, or derive 50% or more revenue from arctic oil production.
- All companies that meet the below two-step conditional exclusions rule:
 - **Step 1:** Identify all companies deriving 5% or more revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, or 1% or more revenue from arctic oil production.
 - **Step 2:** Exclude all companies flagged in Step 1 and which either have a Low Carbon Transition (LCT) Management Score of 4 or below or have a score belonging to the bottom half of the Low Carbon Transition Management Score Quartile (defined as scores 3 or 4).

– **For Profit Prisons**

- Companies that derive 5% or more of their total annual revenues (either reported or estimated) from activities related to For Profit Prisons.

Appendix II: Governance Key Issues

The Index uses the screening criteria from the MSCI ESG Ratings Methodology: Governance Key Issues by MSCI ESG Research^{5 6}

- **Qualified Auditor Opinion**
 - All companies where the auditor expressed a qualified opinion or questioned the company’s ability to remain a going concern as per the most recently reported period.
- **Controlling Shareholder Concerns**
 - All companies where the ownership structure or governance arrangements indicate special concerns for minority public shareholders.
 - Companies are identified as having a Controlling Shareholder if a shareholder or shareholder bloc control more than 30% of the voting rights or is able to elect more than 50% of the company’s board.

The companies can be flagged by a number of factors or combination of factors, including where:

- Any of the following Key Metrics (KM) are also flagged:
 - No Independent Directors
 - Leadership Concerns
 - Undersized Board
 - Cross Shareholdings
 - Poison Pill
- or any of the following apply:
 - The issuer has issued Golden Shares
 - The issuer is controlled via a stock pyramid
 - The issuer incorporated as a Partnership Limited by Shares
 - The largest shareholder holds more than 75% of the total voting rights.

⁵ See section 4 for further information regarding ESG and climate data used in the Indexes that MSCI Limited and MSCI Deutschland GmbH source 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 as a provider to MSCI Limited and MSCI Deutschland GmbH. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes

⁶ The descriptions of the screening criteria in Appendix II is taken from the MSCI ESG Ratings: Ownership and Control Key Issue Methodology. The methodology document can be found on <https://www.msci.com/esg-and-climate-methodologies>.

Appendix III: Calculation of Target Metrics

Greenhouse Gas (GHG) Emissions Intensity

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

Calculation of GHG Intensity

Carbon emissions of a company are normalized for size by dividing annual carbon emissions by annual sales of the company. The Carbon Emissions Intensity is calculated using the latest Scope 1+2 carbon emissions and Sales of a company.

Security Level GHG Intensity (Scope 1+2) =

$$\frac{(Scope\ 1 + 2\ Carbon\ Emissions)}{Sales\ (in\ M\$)}$$

Estimation of missing Carbon Intensity data

For a security, if Scope 1+2 carbon emissions are not available but Sales are available, MSCI estimates emissions by multiplying the Sales of the security with the average Sales intensity (i.e., Scope 1+2 emissions / Sales) of all constituents of MSCI ACWI in the same GICS Industry Group that have both Scope 1+2 Emissions and Sales available.

If Sales are not available for a security but Scope 1+2 emissions are available, MSCI estimates Sales by dividing the security's Scope 1+2 emissions by the average Sales intensity (i.e., Scope 1+2 emissions / Sales) of all constituents of MSCI ACWI in the same GICS Industry group that have both Scope 1+2 emissions and Sales available.

In case both Scope 1+2 emissions and Sales are not available for a security:

- The Sales are estimated by dividing the security's Issuer market capitalization by the average Issuer market capitalization to Sales ratio of all constituents of MSCI ACWI in the same GICS Industry Group that have Sales available.
- The emissions are estimated by multiplying the estimated Sales of the security by the average Sales intensity (i.e., Scope 1+2 emissions / Sales) of all constituents of MSCI ACWI in the same GICS Industry group that have both Scope 1+2 emissions and Sales available.

In case there are no securities in the GICS Industry Group with relevant data available for the estimation, then the estimation is applied at the level of the corresponding GICS Sector.

For a security, if Sales is zero, the emissions intensity will be set to zero.

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

The Methodology Set for the Index 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.

Appendix V: Changes to this Document

The following sections have been modified as of May 2019:

- Section 2.3: ESG Research Framework

Update to reflect the updated name of MSCI ESG Carbon metrics Data as MSCI Climate Change Metrics

- Section 3.1.2: Business Involvement Screen
Update to include screen for Thermal Coal.
- Section 4.1: Semi Annual Index Reviews
Update to reflect the updated name of MSCI ESG Carbon metrics Data as MSCI Climate Change Metrics
- Appendix 1: Update to include the definitions of the screens used for Thermal Coal.

The following sections have been modified as of August 2019:

- Section 2: ESG Research Framework
Update to reflect the latest MSCI ESG Research LLC website links
- Section 3.1.1: Minimum MSCI ESG Controversies Standards
Update to include a more comprehensive screening criteria with the addition of the MSCI ESG Controversy Score screen

The following sections have been modified as of December 2021:

- Section 3.1.1: Business Involvement Screen
Update to include screen for For Profit Prisons
- Appendix I: Business Involvement Screening Criteria
Update to include the definitions of the screen used for For Profit Prisons.

The following sections have been modified as of August 2023:

- The methodology book was updated to reflect the transition of the MSCI Global Investable Market Indexes (GIMI) to Quarterly Comprehensive Index Reviews. All references to “Semi-Annual Index Reviews” and “Quarterly Index Reviews” of the MSCI GIMI were replaced with “Index Reviews”.
- Section 2.1.1: ESG Controversies Eligibility
Clarified the exclusion criteria for companies involved in ESG Controversies.
- Section 4: MSCI ESG Research
Moved section after the Section 3.
Updated the descriptions of MSCI ESG Research Products.
- Appendix I: Business Involvement Screening Criteria
Clarified the exclusion criteria for the ‘Tobacco’ and ‘Thermal Coal’ screens.

The following sections have been modified as of October 2023:

- Appendix II: Governance Key Issues

Clarified the exclusion criteria for the “Controlling Shareholder Concerns” screen.

The following sections have been modified as of February 2024:

Appendix I: Business Involvement Screening Criteria

- Screens descriptions were clarified.

Appendix III: Methodology Set

- Added details on the Methodology Set for the Index.

The following sections have been modified as of November 2024

Section 2.1.2 Controversial Business Involvement Criteria

- Added new screening criteria for Adult Entertainment and Gambling.

2.5 Treatment of Unrated Companies

- Added the treatment of companies when ESG controversies, business involvement screening research or climate change metrics research not available from MSCI ESG Research

Appendix I: Business Involvement Screening Criteria

- Added details for new screening criteria for Adult Entertainment and Gambling
- Modified the threshold for Thermal Coal Power Generation screen from 30% to 10%.
- Added a new screen for the Unconventional Oil & Gas (including Arctic Oil) Extraction

Appendix III: Calculation of Target Metrics

- New appendix added to provide clarification in the Carbon Emissions Intensity Exclusion Criteria

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 be 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.

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>.