

MSCI Global NTC Screened Indexes Methodology

* A custom index calculated by MSCI based on ESG criteria selected by Northern Trust

February 2025

Contents

1. Introduction	3
2. Constructing the Indexes	4
2.1 Underlying Universe	4
2.2 Eligibility Criteria	4
2.2.1 ESG Controversies Score Eligibility	4
2.2.2 Controversial Business Involvement Criteria	4
2.3 Treatment of Unrated Companies	5
3. Maintaining the Indexes	6
3.1 Index Reviews	6
3.2 Ongoing Event-Related Changes	6
4. MSCI ESG Research	8
4.1 MSCI ESG Controversies	8
4.2 MSCI ESG Business Involvement Screening Research	8
4.3 MSCI Climate Change Metrics	8
4.3.1 Fossil Fuels and Power Generation Metrics	8
Appendix I: Controversial Business Involvement Criteria	10
Appendix II: Methodology Set	14
Appendix III: Changes to this Document.....	15

1. Introduction

The MSCI World NTC Screened Index, MSCI Emerging Markets (EM) NTC Screened Index, MSCI Europe NTC Screened Index, MSCI North America NTC Screened Index, MSCI AC Asia ex Japan NTC Screened Index and MSCI Pacific NTC Screened Index (the “Indexes”) are custom indexes based on customized ESG screening criteria selected by Northern Trust. These Indexes aim to exclude companies that do not comply with UN Global Compact Principles, are involved in the production or sale of tobacco products, are involved in for profit prisons or are involved in the production of controversial weapons. The Indexes also exclude companies that are involved in the mining and extraction of Thermal Coal or Thermal Coal based power generation or are involved in unconventional oil and gas and Arctic oil. Additionally, companies that are part of the Emerging Markets region of the MSCI AC Asia ex Japan Index and the MSCI EM Index are also screened to exclude majority held companies with a controversial board composition. The Indexes are free float-adjusted market capitalization weighted.¹

Index	Parent Index	ESG Criteria Applied	Governance Screen Applied
MSCI World NTC Screened Index	MSCI World Index	Yes	No
MSCI Emerging Markets NTC Screened Index	MSCI Emerging Markets Index	Yes	Yes
MSCI Europe NTC Screened Index	MSCI Europe Index	Yes	No
MSCI North America NTC Screened Index	MSCI North America Index	Yes	No
MSCI AC Asia ex Japan NTC Screened Index	MSCI AC Asia ex Japan Index	Yes	Yes ²
MSCI Pacific NTC Screened Index	MSCI Pacific Index	Yes	No

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

² Only applicable to companies in the EM region within the MSCI AC Asia ex Japan Index.

2. Constructing the Indexes

2.1 Underlying Universe

The Underlying Universe for the Indexes is defined by the constituents of the respective MSCI Parent Index, as shown in the table in section 1.

2.2 Eligibility Criteria

The Indexes use company ratings and research provided by MSCI ESG Research³ to determine eligibility for index inclusion.

2.2.1 ESG Controversies Score Eligibility

The Indexes use 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 Indexes.

Companies not assessed by MSCI ESG Research on MSCI ESG Controversies are not eligible for inclusion in the Index.

2.2.2 Controversial Business Involvement Criteria

The Indexes use 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 Indexes.

- Compliance with UN Global Compact Principles
- Tobacco
- Nuclear Weapons
- Controversial Weapons
- Civilian Firearms
- Conventional Weapons
- Thermal Coal
- Unconventional Oil and Gas and Arctic Oil
- For Profit Prisons
- Adult Entertainment
- Gambling

³ 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.

Companies are also evaluated on customized governance criteria for the MSCI EM NTC Screened Index and the Emerging Markets region within the MSCI AC Asia ex Japan NTC Screened Index.

Please refer to Appendix I for more details on the implementation of these criteria.

2.3 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 Indexes.

- MSCI ESG Controversies
- MSCI Climate Change Metrics
- MSCI Business Involvement Screening Research (BISR)

3. Maintaining the Indexes

3.1 Index Reviews

The Indexes are reviewed on a quarterly basis to coincide with the Index Reviews of the MSCI Global Investable Market Indexes. The changes are implemented as of the close of the last business day of February, May, August and November. The list of companies to be excluded based on the selected ESG criteria is produced based on MSCI ESG Research data⁴ as of the end of January, April, July and October, respectively. 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 Indexes.

At the index reviews, all companies in the Underlying Universe are reviewed and eligible companies are added to the Indexes. Existing constituents are deleted from the Indexes if they do not meet the eligibility criteria described in Section 2.2. In addition, any constituent that is deleted from a Parent Index as a result of an Index Review is also deleted from the respective Index.

3.2 Ongoing Event-Related Changes

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. 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 be added to the index at an estimated full market capitalization adjustment factor on the date of security inclusion.

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 event weight will account for the proportionate

⁴ 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..

amount 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 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.

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 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.

4.3.1 Fossil Fuels and Power Generation Metrics

MSCI ESG Research identifies companies involved in fossil fuel-related assets and activities including fossil fuel reserves, resource extraction, power generation and generation capacity, revenue from such assets and activities and capital investments in such assets and activities. The metrics are based on disclosed activities, disclosed revenue and estimates of revenue that are extrapolated from company disclosures and eligible third-party sources (such as NGOs).



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

Appendix I: Controversial Business Involvement Criteria

COMPLIANCE WITH UN GLOBAL COMPACT PRINCIPLES

Definition: Companies that are involved in very serious environmental, social, or governance controversies related to their operations and/or products and services. Companies are excluded based on the following criteria:

- Environment Controversies (MSCI Environment Controversy Score of 0)
- Governance Controversies (MSCI Governance Controversy Score of 0)
- Human Rights Controversies (MSCI Human Rights Controversy Score of 0)
- 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.

Environment

Controversies related to a firm's impact on the environment. Factors affecting this evaluation include whether a company is involved in controversies related to land use and biodiversity, toxic spills and releases, energy and climate change, water management, operational non-hazardous waste, environmental impact of products and services, and management of supply chain environmental impact.

Human Rights & Community

Controversies related to a firm's impact on the communities in which it does business. Factors affecting this evaluation include whether a company is involved in controversies related to support for controversial regimes, freedom of expression and censorship, and other human rights abuses and adverse impact on a community.

Labor Rights & Supply Chain

Controversies related to a firm's employee relations and supply chain. Factors affecting this evaluation include whether a company is involved in controversies related to labor-management relations, employee health & safety, collective bargaining & unions, discrimination and workforce diversity, and management of supply chain employee relations standards.

Governance

Controversies related to a firm's governance practices. Factors affecting this evaluation include whether a company is involved in controversies related to bribery, fraud and governance structures.

TOBACCO

Definition: Companies that are involved in tobacco, as further defined below, will be excluded.

Tobacco Producers

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.

Tobacco Distributors

Companies that derive 5% or more revenue from the distribution of tobacco products.

Tobacco Retailers

Companies that derive 5% or more revenue from the retail sales of tobacco products.

Tobacco Suppliers

Companies that derive 5% or more revenue from supplying products essential to the tobacco industry.

NUCLEAR WEAPONS

Definition: Companies that manufacture nuclear weapons or their related components, as further defined below, will be excluded.

Nuclear Weapons Systems Manufacturers

Companies that manufacture nuclear weapons, including nuclear warheads, intercontinental ballistic missiles, and ballistic missile submarines, which are capable of the delivery of nuclear warheads.

Nuclear Weapons Components Manufacturers

Companies that manufacture critical components for nuclear weapons or nuclear weapons delivery systems.

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 Global ex Controversial Weapons Indexes available at <https://www.msci.com/index/methodology/latest/XCW>.

CIVILIAN FIREARMS

Companies that derive 5% or more of their total annual revenues from the manufacture and retail of civilian firearms and ammunition will be excluded from the index.

AGGREGATE WEAPONS

Companies that derive 5% or more of their total annual revenues from weapons systems, components, and support systems and services will be excluded from the index.

GOVERNANCE

The Governance screen is only applied for the MSCI EM NTC Screened Index and for the Emerging Markets region within the MSCI AC Asia ex Japan NTC Screened Index.

Companies are evaluated based on three distinct rules. A company failing in any one of these rules is ineligible for inclusion in the Indexes.

Rule 1 - Companies will be excluded from the index if they meet all of the following four criteria:

- Companies with individual holdings of 30% or more of the voting rights
- Companies with less than half of independence on the board

- Companies which do not have an audit committee or have less than half of independence on their audit committee
- Companies which do not have a remuneration committee or have less than half of independence on their remuneration committee

Rule 2 - Companies without an Unqualified auditors' opinion will be excluded from the index.

Rule 3 - Companies that are state owned entities, with either 85% or more of the voting rights are held by the largest shareholder, or have a MSCI Human Rights Controversy Score of less than 5, and belong to countries⁵ that meet all of the following four criteria, are excluded from the index.

- Countries identified by Freedom House as having weak civil liberties in its Freedom in the World report.
- Countries identified by Freedom House as having weak political rights in its Freedom in the World report.
- Sovereign entities identified by 'Reporters Without Borders' as not good or satisfactory in its World Press Freedom Index.
- Countries on the U.S. Commission on International Religious Freedom's list of Tier 1 Countries of Particular Concern.

THERMAL COAL

Companies that are involved in the mining and extraction of thermal coal or in thermal coal based power generation, as further defined below, will be excluded.

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 based Power Generation

- Companies that derive 10% or more of their total annual revenues (either reported or estimated) from thermal coal-based power generation; or
- 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).

⁵ As defined by MSCI's Country of Classification framework.

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.

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.

Appendix II: Methodology Set

The Indexes are 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 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.

Appendix III: Changes to this Document

The following sections have been modified as of July 2014:

1. Introduction and 2. Screening Criteria

Update to include the index construction parameters for MSCI World Custom ESG Index and MSCI Europe Custom ESG Index

Appendix I

Governance section – update to the description

The following sections have been modified as of September 2015:

Update to include the index construction parameters for MSCI North America Custom ESG Index

The following sections have been modified as of December 2015:

Appendix I

Governance section – clarification for the exclusions description

The following sections have been modified as of May 2017:

Section 4: Maintaining the MSCI Custom ESG Indexes

- Clarification on use of ESG data for securities whose data would be available after the end of the month preceding Index Review.

The following sections have been modified as of May 2017:

Update to include the index construction parameters for MSCI AC Asia ex Japan Custom ESG Index

The following sections have been modified as of June 2017

Section 4: Maintaining the MSCI Custom ESG Indexes

Update to the frequency of application of the Governance Screening Criteria from annual to quarterly. Update to the corporate events treatment rules for the custom indexes.

Appendix I

Governance section – update of existing screens as well as inclusion of a new screen based on auditor reports.

The following sections have been modified as of November 2017:

Appendix I: Updated the controversial business screening criteria pertaining to Controversial Weapons.

The following sections have been modified as of May 2018:

Section 4.2: Ongoing Event-Related Maintenance

Update to modify the treatment of new additions (due to IPO and other early inclusions) to the parent index in between two index reviews.

The following sections have been modified as of September 2018:

Introduction

Update to include the MSCI Pacific Custom ESG Index which would also be governed by this methodology.

The following sections have been modified as of January 2019:

Screening Criteria

Update to include screens for Civilian Firearms and Conventional Weapons.

Appendix I: Update to include the definitions of the screens used for Civilian Firearms and Conventional Weapons.

The following sections have been modified as of February 2019:

Section 2: Added description of MSCI ESG Research used in the Index construction

Section 3: Screening Criteria

Update to include screen for Thermal Coal

Appendix I: Update to include the definitions of the screens used for Thermal Coal Mining and Extraction and Thermal Coal based Power Generation.

The following sections have been modified as of August 2019:

Section 2: Added description of MSCI ESG Controversies used in the Index construction

Section 3: Added section 3.1, ESG Controversies Score Eligibility criteria.

Appendix I: Update to include the definitions of the enhancements in the screens used for Governance.

The following sections have been modified as of December 2021:

Section 1: Introduction updated to reflect the new controversial business criteria.

Section 3.2: Updated to include the enhancements to the controversial business involvement screening criteria

Appendix I: Update to include the definitions of the enhancements in the controversial business involvement screens.

The following sections have been modified as of June 2022:

Appendix I: Update to reflect enhanced screening criteria for Unconventional Oil and Gas and Arctic Oil.

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 3: Clarified the Ongoing Event-Related Maintenance section.

Section 2.2.1: 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: Clarified the exclusion criteria for the following screens: 'Compliance with UN Global Compact Principles', 'Tobacco' and 'Thermal Coal'.

The following sections have been modified as of February 2024:

Appendix I: Controversial Business Involvement Criteria

- Screens descriptions were clarified.

Appendix II: Methodology Set

- Added details on the Methodology Set for the Indexes.

The following sections have been modified as of November 2024

Section 2.2.2 Controversial Business Involvement Criteria

- Added the new screening criteria for Adult Entertainment and Gambling.

Section 2.5: Treatment of Unrated Companies

- Added the treatment of companies when data on Business Involvement Screening Research or Climate Change Metrics research is not available from MSCI ESG Research

Section 4: MSCI ESG Research

- Updated section to add details on Climate Change products

Appendix I: Controversial Business Involvement Criteria

- Modified the threshold for Thermal Coal based Power Generation from 30% to 10%
- Added a new screen for Unconventional Oil & Gas (including Arctic Oil) Extraction
- Added details for new screening criteria for Adult Entertainment and Gambling.
- The Governance description for rule number three has been updated from 'Freedom House' to 'Reporters Without Borders'.

The following section has been modified as of February 2025

- The methodology and Index names were updated. As of March 3, 2025, the MSCI Custom ESG Indexes have been renamed to the MSCI NTC Screened Indexes

Section 4.3: MSCI Climate Change Metrics

- Added a sub-section under Climate Change Metrics to provide additional details on Fossil Fuels related activities

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 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.

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>.