

# **MSCI ESG Focus Indexes Methodology**

**May 2019**

**Contents**

- 1 Introduction ..... 3
- 2 ESG Research Framework ..... 4
  - 2.1 MSCI ESG Ratings.....4
  - 2.2 MSCI ESG Controversies.....4
  - 2.3 MSCI ESG Business Involvement Screening Research ..... 5
- 3 Constructing the MSCI ESG Focus Index ..... 6
  - 3.1 Defining the Parent Index.....6
  - 3.2 Defining the Exclusion Criteria.....6
    - 3.2.1 Other Exclusion Criteria.....7
  - 3.3 Defining the Optimization Constraints.....7
  - 3.4 Determining the Optimized Portfolio .....8
- 4 Maintaining the MSCI ESG Focus Index..... 9
  - 4.1 Quarterly Index Reviews.....9
  - 4.2 Ongoing Event-Related Maintenance.....9
- Appendix 1: Tobacco And Controversial Weapons Exclusion  
Criteria ..... 11
- Appendix 2: Optimization Constraints ..... 13
- Appendix 3: Methodology for MSCI Extended ESG Focus Index  
..... 15

## 1 Introduction

The MSCI ESG Focus Indexes (the 'Indexes') are designed to maximize their exposure to positive environmental, social and governance (ESG) factors while exhibiting risk and return characteristics similar to those of the underlying market capitalization weighted index. The Indexes are constructed by selecting constituents of a market capitalization weighted index (the 'Parent Index') through an optimization process that aims to maximize exposure to ESG factors for a target tracking error budget under certain constraints.

The Indexes are sector-diversified and target companies with high ESG ratings in each sector. Tobacco and Controversial Weapons companies are not eligible for inclusion in the Indexes.

## **2 ESG Research Framework**

MSCI ESG Research provides in-depth research, ratings and analysis of the environmental, social and governance-related business practices of thousands of companies worldwide. It consists of an integrated suite of tools and products to efficiently manage research, analysis and compliance tasks across the spectrum of ESG factors.

The MSCI ESG Focus Indexes use company ratings and research provided by MSCI ESG Research. In particular, these indexes use the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies Score, and MSCI ESG Business Involvement Screening Research.

For details on MSCI ESG Research’s full suite of ESG products, please refer to: [http://www.msci.com/products/esg/about\\_msci\\_esg\\_research.html](http://www.msci.com/products/esg/about_msci_esg_research.html)

### **2.1 MSCI ESG RATINGS**

MSCI ESG Ratings provides research, analysis and ratings of how well companies manage environmental, social and governance risks and opportunities.

MSCI ESG Ratings provides an overall company ESG rating - a seven point scale from ‘AAA’ to ‘CCC’. In addition, the product provides scores and percentiles indicating how well a company manages each key issue relative to industry peers.

For more details on MSCI ESG Ratings, please refer to

[https://www.msci.com/documents/1296102/1636401/MSCI\\_ESG\\_Ratings.pdf](https://www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings.pdf)

### **2.2 MSCI ESG CONTROVERSIES**

MSCI ESG Controversies (earlier known as MSCI Impact Monitor) provides assessments of controversies concerning the 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.

For more details on MSCI ESG Controversies Score, please refer to <https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b>

### **2.3 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](http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf)

### 3 Constructing the MSCI ESG Focus Indexes

Constructing the MSCI ESG Focus Indexes involves the following steps:

- Defining the underlying Parent Index
- Defining the exclusion criteria
- Defining the optimization constraints
- Determining the optimized portfolio

#### 3.1 DEFINING THE PARENT INDEX

From the constituents of the Parent Index, securities of companies involved in following businesses are excluded from the Parent Index.

ESG Focus Index	Parent Index	Business Exclusions
MSCI EAFE ESG Focus Index	MSCI EAFE Index	Tobacco and Controversial Weapons Companies
MSCI EM (Emerging Markets) ESG Focus Index	MSCI EM (Emerging Markets) Index	Tobacco and Controversial Weapons Companies
MSCI USA ESG Focus Index	MSCI USA Index	Tobacco and Controversial Weapons Companies
MSCI World ESG Focus Index	MSCI World Index	Tobacco and Controversial Weapons Companies
MSCI Taiwan ESG Focus Index	MSCI Taiwan Index	Tobacco and Controversial Weapons Companies
MSCI ACWI ESG Focus Index	MSCI ACWI Index	Tobacco and Controversial Weapons Companies

Please refer to Appendix 1 for more details on exclusions.

#### 3.2 DEFINING THE EXCLUSION CRITERIA

Securities of companies involved in very severe business controversies are not eligible for inclusion in the MSCI ESG Focus Indexes. This is implemented by excluding constituents of Parent Index with ESG Controversy Score = 0 ('Red Flag' companies).

### 3.2.1 OTHER EXCLUSION CRITERIA

- Missing Controversy Score – Companies not assessed by MSCI ESG Research on ESG Controversies are not eligible for inclusion in the MSCI ESG Focus Indexes.
- Missing ESG Rating or ESG Score – Companies not assessed by MSCI ESG Research on ESG Rating or ESG Score are not eligible for inclusion in the MSCI ESG Focus Indexes.

### 3.3 DEFINING THE OPTIMIZATION CONSTRAINTS

Constituents are selected to maximize exposure to higher ESG scores, subject to maintaining risk and return characteristics similar to the Parent Index. ESG scores are normalized and used in the optimization process. Optimization maximizes the Index's exposure to ESG scores for a given predicted tracking error. The following predicted tracking error targets are used for the construction of MSCI ESG Focus Indexes:

No.	ESG Focus Index	Predicted Tracking Error
1	MSCI EAFE ESG Focus Index	0.5%
2	MSCI EM (Emerging Markets) ESG Focus Index	1.0%
3	MSCI USA ESG Focus Index	0.5%
4	MSCI World ESG Focus Index	0.5%
5	MSCI Taiwan ESG Focus Index	1.0%
6	MSCI ACWI ESG Focus Index	0.5%

Optimization is a quantitative process that considers the market capitalization weights from the Parent Index, ESG scores and additional constraints to select and weight the constituents of the Index.

Normalization of the ESG scores allows the optimization process to assess each score in the context of the overall distribution of the ESG scores.

Please refer to Appendix 2 for the Optimization constraints.

### **3.4 DETERMINING THE OPTIMIZED PORTFOLIO**

The Indexes are constructed using the Barra Open Optimizer in combination with the relevant Barra Equity Model. The optimization uses universe of eligible securities and the specified optimization objective and constraints to determine the constituents of the MSCI ESG Focus Indexes.



## 4 Maintaining the MSCI ESG Focus Indexes

### 4.1 QUARTERLY INDEX REVIEWS

The Indexes are rebalanced on a quarterly basis to coincide with the regular Index Reviews (Semi-Annual Index Reviews in May and November and Quarterly Index Reviews in February and August) of the MSCI Global Investable Market Indexes. The changes are implemented at the end of February, May, August and November. The pro forma indexes are in general announced nine business days before the effective date.

ESG scores used for the Quarterly Index Reviews will be taken as of the end of the month preceding the Index Review, i.e., January, April, July and October.

At each Index Review, the optimization process outlined in Section 3 is implemented. Companies can only be added to the Indexes only at regular Index Reviews.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI ESG Controversies Scores and MSCI Business Involvement Screening Research) as of the end of the month preceding the Index Reviews. 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.

### 4.2 ONGOING EVENT-RELATED MAINTENANCE

The general treatment of corporate events in the MSCI ESG Focus Indexes 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.

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

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

No new securities will be added (except where noted below) to the Indexes between Index Reviews. 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 event weight will account for the proportionate 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 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>

## Appendix 1: Tobacco And Controversial Weapons Exclusion Criteria

- Tobacco Involvement

Companies which meet the following Tobacco involvement criteria are excluded from the Indexes

- All companies classified as “Producer” or “Licensor”
- All companies classified as “Distributor”, “Retailer”, or “Supplier” that earn 15% or more of revenues from tobacco products
- All companies classified as “Ownership by a Tobacco Company” or “Ownership of a Tobacco Company”

- Controversial Weapons Involvement

Companies which meet the following Controversial Weapons criteria are excluded from the Indexes

- Cluster Bombs

MSCI ESG Research’s cluster bomb research identifies public companies that are involved in the production of cluster bombs and munitions, or the essential components of these products.

- Landmines

MSCI ESG Research’s landmines research identifies public companies that are involved in the production of anti-personnel landmines, anti-vehicle landmines, or the essential components of these products.

- Depleted Uranium Weapons

MSCI ESG Research’s depleted uranium weapons research identifies public companies involved in the production of depleted uranium weapons and armor.

- Chemical and Biological Weapons

MSCI ESG Research’s chemical and biological weapons research identifies public companies that are involved in the production of chemical and biological weapons, or the essential components of these products.

- Blinding Laser Weapons

MSCI ESG Research's blinding laser weapons research identifies public companies that are involved in the production of weapons utilizing laser technology to cause permanent blindness.

- Non-Detectable Fragments

MSCI ESG Research's non-detectable fragments research identifies public companies that are involved in the production of weapons that use non-detectable fragments to inflict injury.

- Incendiary Weapons (White Phosphorus)

MSCI ESG Research's incendiary weapons research identifies companies that are involved in the production of weapons using white phosphorus.

Involvement criteria:

- Producers of the weapons

- Producers of key components of the weapons (only applies to cluster bombs, landmines, depleted uranium weapons as well as chemical and biological weapons)

- Ownership of 20% or more of a weapons or components producer

The minimum limit is raised to 50% for financial companies having an ownership in a company that manufactures controversial weapons or key components of controversial weapons

- Owned 50% or more by a company involved in weapons or components production

Revenue limits:

- Any identifiable revenues, i.e., zero tolerance

For details please refer to the MSCI Global ex Controversial Weapons Indexes Methodology at <https://www.msci.com/index-methodology>.

## Appendix 2: Optimization Constraints

At each Quarterly Index Review, the following optimization constraints are used to ensure replicability and investability:

### Optimization Constraints

No.	Parameter	EAFE	EM	USA	WORLD	TAIWAN	ACWI
1	Predicted Tracking Error	0.5%	1.0%	0.5%	0.5%	1.0%	0.5%
2	Min Constituent Weight	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
3	Constituent Active Weight	+/-2%	+/-2%	+/-2%	+/-2%	+/-2%	+/-2%
4	Security Weight as a Multiple of its weight in the Parent Index	20	20	20	20	20	20
5	Active Sector Weights	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
6	Active Country Weights*	+/-5%	+/-5%		+/-5%		+/-5%
7	One Way Turnover during May and November Index Review	10%	10%	10%	10%	10%	10%
8	One Way Turnover during Feb and Aug Index Review	5%	5%	5%	5%	5%	5%
9	Specific Risk Aversion	0.075	0.075	0.075	0.075	0.075	0.075
10	Common Factor Risk Aversion	0.0075	0.0075	0.0075	0.0075	0.0075	0.0075

\* Active Country Weights:

- In case there are countries in the parent index which weigh less than 2.5% in the parent index then for such countries the active country upper bound of +5% is not applicable. When a country weighs less than 2.5% in parent index then the upper bound of country weight in the ESG Focus Index is set at three times of the country's weight in parent index.

- In case the upper bound on country weight is less than the minimum constituent weight constraints, then the upper bound of country weight is relaxed till it is above the minimum constituent weight constraint.
- The country weight constraint also applies on China A Stock Connect listings as a group separately in addition to the usual country weight constraint on China.

**Infeasible Solution** - During the Quarterly and Semi-Annual Index Reviews, in the event that there is no optimal solution that satisfies all the optimization constraints, first the turnover constraint will be relaxed up to a maximum turnover of 30% in steps of 1% until an optimal solution is found. If a feasible solution is not found at turnover of 30%, the predicted tracking error is relaxed up to a maximum of 5 times of the original predicted tracking error in steps on 0.1%. In the event that feasible solution is not found for maximum predicted error, the Index will not be rebalanced for that index review.

## Appendix 3: Methodology for MSCI Extended ESG Focus Indexes

The MSCI Extended ESG Focus Indexes methodology is a variant of the MSCI ESG Focus Indexes methodology in respect of the exclusions from the parent index.

From the constituents of the Parent Index, securities of companies involved in following businesses are excluded from the Parent Index.

Extended ESG Focus Index	Parent Index	Business Exclusions
MSCI EAFE Extended ESG Focus Index	MSCI EAFE Index	<ul style="list-style-type: none"> <li>• Tobacco and Controversial Weapons Companies – As explained in Appendix 1.</li> <li>• Producers of or ties with Civilian Firearms (applied from 21st Mar'2018 on USA Small Cap Extended ESG Focus Index)               <ul style="list-style-type: none"> <li>○ All companies classified as a "Producer".</li> <li>○ All companies classified as a "Retailer" that earn 5% or more in revenue or more than \$ 20 million in revenue, from civilian firearms-related products.</li> </ul> </li> </ul>
MSCI EM (Emerging Markets) Extended ESG Focus Index	MSCI EM (Emerging Markets) Index	
MSCI USA Extended ESG Focus Index	MSCI USA Index	
MSCI USA Small Cap Extended ESG Focus Index	MSCI USA Small Cap Index	
MSCI Canada IMI Extended ESG Focus Index	MSCI Canada IMI Index	

At the February 2018 Quarterly Index Review, the turnover constraint of the MSCI EAFE Extended ESG Focus Index, MSCI EM (Emerging Markets) ESG Focus Index and MSCI USA Extended ESG Focus Index is calculated with respect to the constituents of the corresponding ESG Focus Index.

### MSCI USA Small Cap Extended ESG Focus Index

In order that the market cap coverage of the index is higher than would otherwise be the case, the Predicted Tracking Error bound of this index is set to 50bps and the minimum constituent weight is set to 5bps.

### Optimization Constraints

No.	Parameter	USA Small Cap Extended ESG Focus
1	Predicted Tracking Error	0.5%
2	Min Constituent Weight	0.05%
3	Constituent Active Weight	+/-2%
4	Security Weight as a Multiple of its weight in the Parent Index	20
5	Active Sector Weights	+/-5%
6	Active Country Weights	Not Applicable
7	One Way Turnover during May and Nov Index Reviews	10%
8	One Way Turnover during Feb and Aug Index Reviews	5%
9	Specific Risk Aversion	0.075
10	Common Factor Risk Aversion	0.0075



### MSCI Canada IMI Extended ESG Focus Index

In order to achieve an improvement in ESG score while avoiding securities with extremely small weights, the Predicted Tracking Error of this index is set to 100bps and the minimum constituent weight is set to 5bps.

#### Optimization Constraints

No.	Parameter	Canada IMI Extended ESG Focus
1	Predicted Tracking Error	1.0%
2	Min Constituent Weight	0.05%
3	Constituent Active Weight	+/-2%
4	Security Weight as a Multiple of its weight in the Parent Index	20
5	Active Sector Weights	+/-5%
6	Active Country Weights	Not Applicable
7	One Way Turnover during May and Nov Index Reviews	10%
8	One Way Turnover during Feb and Aug Index Reviews	5%
9	Specific Risk Aversion	0.075
10	Common Factor Risk Aversion	0.0075

**The following sections have been modified as of August 2016:**

Section 1: Introduction and other relevant sections

- To implement name change – Index name has been changed from ‘ESG Select’ to ‘ESG Focus’

Section 3.1, 3.3 and Appendix 2:

- Added reference to ‘USA ESG Focus’ Index.

**The following sections have been modified as of June 2017:**

- The details on the Corporate Events treatment are now included in Section 4.2.

**The following sections have been modified as of July 2017:**

Section 3.1, 3.3 and Appendix 2:

- Added reference to ‘MSCI World ESG Focus’ Index and ‘MSCI Taiwan ESG Focus’ Index.

**The following sections have been modified as of September 2017:**

Section 4.1

- 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 January 2018:**

Appendix 3

- Added details on optimization constraints for MSCI USA Small Cap Extended ESG Focus Index.

**The following sections have been modified as of March 2018:**

Appendix 3

- Added details on exclusion of producers and retailers of civilian firearms from the parent index.

**The following sections have been modified as of May 2018:**

Appendix 1

- Controversial Weapons Criteria - Updated to reflect the addition of new screens for blinding lasers, non-detectable fragments and incendiary weapons (white phosphorus)

Appendix 3

- Updated to include reference to MSCI EAFE Extended ESG Focus Index, MSCI EM (Emerging Markets) Extended ESG Focus Index, MSCI USA Extended ESG Focus Index and MSCI USA Small Cap Extended ESG Focus Index
- Added clarification to explain index calculation at the February 2018 Quarterly Index Review.

**The following sections have been modified as of June 2018:**

Section 3.1, 3.3

- Added reference to ACWI ESG Focus Index.

Appendix 2

- Added optimization constraints for ACWI ESG Focus Index.
- Added clarification on Active Country Weights.

**The following sections have been modified as of February 2019:**

- Renamed “IVA Ratings” references to “ESG Ratings”
- Renamed “Impact Monitor Controversy Scores” to “ESG Controversies”

Appendix 3

- Added reference to Canada IMI ESG Extended Focus Index.
- Added optimization constraints for Canada IMI ESG Extended Focus Index.

**The following sections have been modified as of May 2019:**

Appendix 2

- Updated to reflect the additional constraint on China A Stock Connect listings.

## Contact us

clientservice@msci.com

### AMERICAS

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
Sao Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

### EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

### ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Tokyo	+ 81 3 5290 1555

\* = toll free

### ABOUT MSCI

MSCI is a leader provider of critical decision support tools and services for the global investment community. With over 45 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](http://www.msci.com).

## 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.

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 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 investable assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. 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](http://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 [www.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. Except with respect to any applicable products or services from MSCI ESG Research, 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 intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. 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.

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 Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.

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, reports and ratings based on published methodologies and available to clients on a subscription basis. We do not provide custom or one-off ratings or recommendations of securities or other financial instruments upon request.

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