

MSCI ESG LEADERS INDEXES METHODOLOGY

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1 INTRODUCTION

The MSCI ESG Leaders Indexes are free float-adjusted market capitalization weighted indexes designed to represent the performance of companies that have high Environmental, Social and Governance (ESG) ratings relative to their sector peers, to ensure the inclusion of the best-in-class companies from an ESG perspective. The MSCI ESG Leaders Indexes aim to target sector weights that reflect the relative sector weights of the underlying MSCI Global Investable Market Indexes to limit the systematic risk introduced by the ESG selection process. Overall the MSCI ESG Leaders Indexes target coverage of 50% of the underlying MSCI parent index (“Parent Index”).

Currently MSCI constructs the MSCI ESG Leaders Indexes for the Standard size-segment in all Developed and Emerging Markets and the Small Cap size-segment in the USA.

2 MSCI ESG RESEARCH

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

For details on MSCI ESG Research’s full suite of ESG products, please refer to:
<https://www.msci.com/esg-integration>

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

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (formerly 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

3 CONSTRUCTING THE MSCI ESG LEADERS INDEXES

3.1 UNDERLYING UNIVERSE

The selection universe for the MSCI ESG Leaders Indexes is defined by the constituents of the MSCI Global Investable Market Indexes (GIMI).

3.2 ELIGIBILITY CRITERIA

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

3.2.1 ESG RATINGS ELIGIBILITY

The MSCI ESG Leaders Indexes use MSCI ESG Ratings to identify companies that have demonstrated an ability to manage their ESG risks and opportunities. Existing constituents of the MSCI ESG Leaders Indexes are required to have an MSCI ESG rating above CCC to remain in the index, while companies that are currently not constituents of the MSCI ESG Leaders Indexes are required to have an MSCI ESG rating above B to be considered eligible for addition.

3.2.2 ESG CONTROVERSIES SCORE ELIGIBILITY

The MSCI ESG Leaders Indexes use MSCI ESG Controversies Scores to identify those companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. Existing constituents of the MSCI ESG Leaders Indexes are required to have an MSCI ESG Controversies Score above 0 to remain in the index, while companies that are currently not constituents of the MSCI ESG Leaders Indexes are required to have an MSCI ESG Controversies Score above 2 to be considered eligible for addition.

3.2.3 CONTROVERSIAL BUSINESS INVOLVEMENT CRITERIA

The MSCI ESG Leaders Indexes use MSCI ESG Business Involvement Screening Research to identify companies that are involved in the following business activities. Companies that meet the business involvement criteria are excluded from the MSCI ESG Leaders Indexes. Please refer to Appendix 2 for details on these criteria.

- Alcohol
- Gambling
- Tobacco

- Nuclear Power
- Conventional and Controversial Weapons
- Civilian Firearms

3.3 INDEX CONSTRUCTION

Currently MSCI constructs MSCI ESG Leaders Indexes for:

- The Standard size-segment in all Developed and Emerging Markets; and
- The Small Cap size-segment in the USA.

The MSCI ESG Leaders Indexes for the Standard size-segment are constructed at a regional level, with the exception of North America which is built separately for Canada and the USA. Each regional ESG Leaders index targets 50% of the free float-adjusted market capitalization within each Global Industry Classification Standard (GICS®) sector of the underlying Parent Index.

The following regional ESG Leaders Indexes are aggregated to construct the MSCI World ESG Leaders Index.

MSCI Regional ESG Leaders Index	Region	Parent Index
MSCI Pacific ESG Leaders Index	Developed Asia Pacific	MSCI Pacific Index
MSCI Europe & Middle East ESG Leaders Index	Developed Europe & Middle East	MSCI Europe & Middle East Index
MSCI Canada ESG Leaders Index	Canada	MSCI Canada Index
MSCI USA ESG Leaders Index	USA	MSCI USA Index

The following regional ESG Leaders Indexes are aggregated to construct the MSCI EM ESG Leaders Index.

MSCI Regional ESG Leaders Index	Region	Parent Index
MSCI Emerging Markets Asia ESG Leaders Index	Emerging Asia	MSCI Emerging Markets Asia Index
MSCI Emerging Markets Europe, Middle East & Africa ESG Leaders Index	Emerging Europe, Middle East & Africa	MSCI Emerging Markets Europe, Middle East & Africa Index
MSCI Emerging Markets Latin America ESG Leaders Index	Emerging Latin America	MSCI Emerging Markets Latin America Index

The MSCI USA Small Cap ESG Leaders Index is constructed by targeting 50% of the free float-adjusted market capitalization within each sector of the MSCI USA Small Cap Index. The MSCI USA IMI ESG Leaders Index is created by aggregating the MSCI USA ESG Leaders Index and the MSCI USA Small Cap ESG Leaders Index.

The MSCI World ESG Leaders Index and the MSCI EM ESG Leaders Index are aggregated to construct the MSCI ACWI ESG Leaders Index.

The Large Cap and Mid Cap size-segments of the MSCI ESG Leaders Indexes are derived from the Standard size-segment.

The MSCI ESG Leaders Indexes for other regions and countries are determined by including securities from the particular region/country from the MSCI ACWI ESG Leaders Index and weighting them according to their free-float adjusted market capitalization. For example, the MSCI EAFE ESG Leaders Index and the MSCI China ESG Leaders Index are constructed by including those securities from the MSCI ACWI ESG Leaders Index which are a part of the MSCI EAFE Index and the MSCI China Index respectively and weighting them in the proportion of their free float-adjusted market capitalization.

4 MAINTAINING THE MSCI ESG LEADERS INDEXES

4.1 ANNUAL INDEX REVIEW

The MSCI ESG Leaders Indexes are reconstituted on an annual basis in May to coincide with the May Semi-Annual Index Review of the Parent Index, and the changes are implemented at the end of May. In general, the pro forma indexes are announced nine business days before the effective date.

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 the rebalancing of the MSCI ESG Leaders Indexes. 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 MSCI ESG Leaders Indexes.

4.1.1 ANNUAL INDEX RECONSTITUTION: RANKING AND SELECTION

At each annual index review, the composition of the index is reassessed in order to target 50% free float-adjusted cumulative market capitalization of each sector of the Parent Index.

4.1.1.1 RANKING

For each sector, eligible companies of the regional Parent Index as described in Section 3.2 are ranked based on the following criteria:

- ESG rating
- Current index membership (existing constituents above non-constituents)
- Industry adjusted ESG scores
- Decreasing free float adjusted market capitalization

4.1.1.2 SELECTION

Constituents for the regional MSCI ESG Leaders Index are then selected from the ranked universe in the following order until 50% coverage by cumulative free-float adjusted market capitalization target is reached:

- Securities in the top 35%
- 'AAA' and 'AA' rated securities in the top 50%

- Current index constituents in the top 65%
- Remaining securities in the eligible universe

Please see Appendix 1 for additional details on the ranking and selection rules.

4.2 QUARTERLY INDEX REVIEWS

The MSCI ESG Leaders Indexes are also reviewed on a quarterly basis to coincide with the regular Index Reviews of the Parent Indexes. The changes are implemented at the end of February, August and November. The pro forma indexes are in general announced nine business days before the effective date.

For the Quarterly Index Reviews, MSCI ESG Ratings, MSCI ESG Controversies Score assessments and MSCI BISR data are taken as of the end of the month preceding the Index Reviews, i.e., January, July and October. For some securities, this 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 MSCI ESG Leaders Indexes.

At the Quarterly Index Reviews, existing constituents are deleted from the MSCI ESG Leaders Indexes if they do not meet the eligibility criteria described in Section 3.2. Existing constituents that meet the eligibility criteria are retained in the index.

Additions, from the eligible securities as per section 3.2, are made only to those sectors where the current market capitalization coverage is less than 45%, until the 50% target is reached.

Market price movements may cause small deviations in the sector coverage between two Index Reviews. Therefore, in order to minimize turnover, a buffer of 10% is used on the target coverage of 50% to define under-representation.

4.3 ONGOING EVENT-RELATED MAINTENANCE

The MSCI Corporate Events Methodology is applied for the maintenance of the MSCI ESG Leaders Indexes between Index Reviews.

IPOS AND OTHER EARLY INCLUSIONS

IPOs and other newly listed securities that are added to the Parent Index as well as securities added to the Parent Index following a migration from a different size-segment, are considered for inclusion to the MSCI ESG Leaders Indexes at the time of their inclusion in the Parent Index. These securities are added to the MSCI ESG Leaders Indexes only if they meet

the eligibility criteria described in Section 3.2 and the market capitalization coverage of the sector to which the security belongs is less than 45%.

ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS

Deletions from the Parent Index following a corporate event will be simultaneously deleted from the MSCI ESG Leaders Indexes. Additions to the Parent Index following corporate events related to existing constituents (such as spin-offs) will not be automatically added to the MSCI ESG Leaders Indexes. These Parent Index additions will be considered for addition at the next index review according to the rules outlined in sections 4.1 or 4.2.

There are no deletions from the MSCI ESG Leaders Indexes between index reviews on account of a security becoming ineligible because of MSCI ESG Rating downgrade and/or decrease in MSCI ESG Controversies Score and/or change in business involvement.

APPENDIX 1: GUIDELINES ON ACHIEVING THE TARGET SECTOR COVERAGE OF 50%

The MSCI ESG Leaders Indexes target 50% of the free-float adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the Parent Index. The underlying principle in the construction of the index is to achieve sector coverage closest to 50%, while aiming to maintain index stability.

The following guidelines are used in achieving the target sector coverage of 50%:

- For each sector, the eligible constituents of the Parent Index are first ranked based on the company level ESG Rating and then by decreasing free float adjusted market capitalization.
- In case of two companies with the same ESG Rating, an existing index constituent is given preference to maintain index stability. Between two existing constituents with the same ESG Rating, the company with the higher industry adjusted ESG Score is given preference. For two existing index constituents with the same ESG score, the larger company by free-float adjusted market capitalization is given preference.
- The cumulative sector coverage at each rank is calculated.
- In each sector, companies are selected as per the rules mentioned in section 4.1.1.2 until the cumulative sector coverage of the selected securities crosses 50% or there are no eligible securities left to be selected.
- MSCI defines the company that increases the cumulative sector coverage above 50% as the 'marginal company'.
- If the marginal company is a current ESG Leaders Index constituent, then it is retained in the ESG Leaders Index even though it may result in a cumulative sector coverage significantly higher compared to the 50% target. This is aimed at ensuring better index stability and lower turnover.
- If the marginal company is a non-index constituent, then the marginal company will be included in the ESG Leaders Index only if the absolute difference between the resulting coverage of including the marginal company and the 50% target is lower than the absolute difference between the resulting coverage of not including the marginal company and the 50% target.
- The minimum cumulative sector coverage is set to 45%.
- The marginal company will be added to the ESG Leaders Index if its non-inclusion would result in cumulative sector coverage of less than 45%.

- Securities which are ineligible as per section 3.2 will not be added to increase the sector coverage to 50%

APPENDIX 2: CONTROVERSIAL BUSINESS SCREENING CRITERIA

Companies that are involved in certain controversial business activities are excluded from the MSCI ESG Leaders Indexes:

- **Alcohol**
 - All companies classified as a “Producer” that earn either 50% or more revenue or more than \$1 billion in revenue from alcohol-related products
- **Gambling**
 - All companies classified as involved in “Operations” and “Support” that earn 50% or more in revenue, or more than \$1 billion in revenue, from gambling-related products
- **Tobacco**
 - All companies classified as a “Producer” that earn either 50% or more revenue or more than \$1 billion in revenue from tobacco-related products
- **Nuclear Power**
 - All companies with 6000 MW or more of installed capacity attributed to nuclear sources or with 50% or more of installed capacity attributed to nuclear sources
 - All companies involved in nuclear fuel enrichment for nuclear power generation
 - All companies involved in uranium mining for nuclear power generation
 - All companies involved in nuclear reactor design or construction for nuclear power generation
- **Conventional Weapons**
 - All companies that manufacture conventional weapons components or conventional weapons and weapons systems and earn 50% or more in revenue, or \$3 billion or more in revenue from these activities
- **Controversial Weapons**
 - Cluster munitions manufacturers
 - Landmines manufacturers
 - Depleted Uranium Weapons manufacturers

- All companies involved in manufacturing of nuclear weapon components or nuclear weapon systems
- All companies involved in manufacturing of bio-chemical weapon components or bio-chemical weapon systems
- **Civilian Firearms**
 - All companies classified as a “Producer” that earn either 50% or more revenue or more than \$100 million in revenue from civilian firearms

APPENDIX 3: METHODOLOGY TRANSITION

May 2013

Prior to the May 2013 Index Review, the MSCI ESG Leaders Indexes were constructed using Global Socrates ESG Ratings. Effective May 2013 Index Review, MSCI ESG Leaders Indexes transitioned to MSCI ESG IVA Ratings. Any company that had an ESG rating of ‘CCC’ or lower was not eligible for inclusion in the MSCI ESG Leaders Indexes. The MSCI ESG Leaders Indexes were constructed by targeting 50% of the free float adjusted market capitalization of each Global Industry Classification Standard (GICS) sector of the underlying MSCI regional ESG Leaders Index.

June 2016

Effective May 2016 Index Review, the MSCI ESG Leaders Indexes transitioned to the methodology described in the methodology book, following enhancements to the MSCI ESG Controversies (formerly known as MSCI Impact Monitor). The details of the changes are as given below.

The changes to MSCI ESG Controversies included adjusting the scoring model to align the scores with individual controversy case levels, including the introduction of an Orange flag, and the removal of specific controversial business involvement (CBI) criteria from the model to refocus the ESG Controversies scores on event-driven controversies.

MSCI implemented the following changes to the MSCI ESG Leaders Indexes methodology effective June 1, 2016 to maintain consistency with the existing index construction objectives:

1 - As per the old MSCI ESG Impact Monitor methodology, securities which had an Impact Monitor score of 0 and 1 had a Red controversy flag. Under the new methodology, only securities with an ESG controversies score of 0 have a Red controversy flag. For indexes where constituents were ineligible to be included in the index if their Impact Monitor score was 0 or 1 (current Red controversy flag), the exclusion criteria was changed to ESG Controversies score = 0 in order to continue to only exclude securities with Red controversy flag in the MSCI ESG Leaders Indexes.

2 - MSCI Impact Monitor earlier incorporated exclusion rules based on controversial business involvement criteria related to alcohol, tobacco, gambling, nuclear power, conventional weapons and controversial weapons. Therefore, additional exclusion rules based on the controversial business involvement criteria related to alcohol, tobacco,

gambling, nuclear power, conventional weapons and controversial weapons that were incorporated in the old MSCI Impact Monitor scores were introduced as part of the methodology of the MSCI ESG Leaders Indexes. The details of the exclusion rules are mentioned in Appendix 2.

APPENDIX 4: MSCI COUNTRY AND REGION ESG LEADERS INDEXES

The MSCI Country and Region ESG Leaders Indexes are constructed with an aim to represent the performance of companies that have high Environmental, Social and Governance (ESG) performance.

The MSCI Country ESG Leaders Indexes aim to target sector weights that reflect the relative sector weights of the underlying country Index to limit the systematic risk and country specific risk introduced by the ESG selection process. Currently the MSCI Country ESG Leaders Indexes can be constructed for the Standard size-segment in any Developed and Emerging Markets.

The MSCI Region ESG Leaders Indexes can be constructed for regions different than those used in the construction of the MSCI ESG Leaders Indexes and aim to target sector weights that reflect the relative sector weights of the underlying regional Index. Currently the MSCI Region ESG Leaders Indexes can be constructed for the Standard size-segment in any regions in Developed and Emerging Markets.

The MSCI Country and Region ESG Leaders Indexes are constructed by applying the index construction rules detailed in section 3 at the level of the respective country or region covered by the index, instead of the specific regional level used in the construction of MSCI ESG Leaders Indexes.

The MSCI Country and Region ESG Leaders Indexes target 50% of the free float-adjusted market capitalization of each GICS® sector of the Parent Country or Region Index. The MSCI Country and Region ESG Leaders Indexes follows the same index review cycle, maintenance rules and corporate events treatment as the MSCI ESG Leaders Indexes as described in section 4.

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE JUNE 2013:

Section 2: MSCI ESG Research and Section 3: Constructing the MSCI ESG Leaders Indexes

- Clarification of MSCI ESG Leaders Index construction rules

Section 4: Maintaining the MSCI ESG Leaders Indexes

- Enhancement of treatment of corporate events

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE NOVEMBER 2014:

Section 2: MSCI ESG Research

- Updated to include the impact of the change in the MSCI ESG Controversies Scores methodology on MSCI ESG Leaders Indexes methodology

Section 3: Constructing the MSCI ESG Leaders Indexes

- Changed section 3 to update the eligibility criteria for inclusion in MSCI ESG Leaders Indexes and to include clarification on the construction of regional and country level ESG Leaders Indexes

Section 4: Maintaining the MSCI ESG Leaders Indexes

- Updated to clarify the treatment of ESG Rating downgrade or decrease in ESG Controversies scores between index reviews

Appendix 1: Guidelines on achieving the target sector coverage of 50%

- Added a clarification to specify that non-eligible securities would not be included to increase the sector coverage to 50%

Appendix 2: Controversial Business Screening Criteria

- Added details of controversial business screening criteria applicable effective June 2016

Appendix 3: Methodology Transition

- Added details which highlight the changes to the MSCI ESG Leaders Indexes effective June 2016

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE MAY 2016:

Section 3.2.3: Controversial Business Involvement Criteria

- Updated to include civilian firearms to the list of controversial businesses

Appendix 2: Controversial Business Screening Criteria

- Updated the controversial business screening criteria pertaining to Tobacco
- Addition of the controversial business screening criteria pertaining to Civilian Firearms

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE JUNE 2016:

Appendix 4: MSCI Country ESG Leaders Index

- Added details for construction of Country ESG Leaders Indexes

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE NOVEMBER 2016:

Section 4: Maintaining the MSCI ESG Leaders 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 SINCE MAY 2017:

- Methodology book updated to reflect the change in name of MSCI Global Sustainability Index to MSCI ESG Leaders Indexes

THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE JUNE 2017:

Appendix 4: MSCI Country and Region ESG Leaders Indexes

- Updated to include MSCI Region ESG Leaders Indexes

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