

METHODOLOGY BOOK FOR:

- **MSCI WORLD CUSTOM ESG INDEX***
- **MSCI EMERGING MARKETS CUSTOM ESG INDEX***
- **MSCI EUROPE CUSTOM ESG INDEX***
- **MSCI NORTH AMERICA CUSTOM ESG INDEX***
- **MSCI AC ASIA EX JAPAN CUSTOM ESG INDEX***
- **MSCI PACIFIC CUSTOM ESG INDEX***

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

August 2019

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1 Introduction

The MSCI World Custom ESG Index, MSCI Emerging Markets (EM) Custom ESG Index, MSCI Europe Custom ESG Index, MSCI North America Custom ESG Index, MSCI AC Asia ex Japan Custom ESG Index and MSCI Pacific Custom ESG Index 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, 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. 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.

Index	Parent Index	ESG Criteria Applied	Governance Screen Applied
MSCI World Custom ESG Index	MSCI World Index	Yes	No
MSCI Emerging Markets Custom ESG Index	MSCI Emerging Markets Index	Yes	Yes
MSCI Europe Custom ESG Index	MSCI Europe Index	Yes	No
MSCI North America Custom ESG Index	MSCI North America Index	Yes	No
MSCI AC Asia ex Japan Custom ESG Index	MSCI AC Asia ex Japan Index	Yes	Yes ¹
MSCI Pacific Custom ESG Index	MSCI Pacific Index	Yes	No

¹ Only applicable to companies in the EM region within the MSCI AC Asia ex Japan Index

2 MSCI ESG Research

The Index uses company research provided by MSCI ESG Research. In particular, this index uses the MSCI Business Involvement Screening Research and MSCI Climate Change Metrics products.

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

2.1 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

2.2 MSCI CLIMATE CHANGE METRICS

MSCI Climate Change Metrics is designed to support investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, and factoring climate change research into their risk management processes. It provides Carbon Emissions, Fossil Fuel exposure, environmental impact (i.e., clean technology) data and screens, as well as climate-related risk exposure and management assessment on companies.

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

3 Screening Criteria

MSCI ESG Research evaluates companies for exclusion from the MSCI Custom ESG Indexes based on following ESG criteria:

- Compliance with UN Global Compact Principles
- Tobacco
- Nuclear Weapons
- Controversial Weapons
- Civilian Firearms



- Conventional Weapons
- Thermal Coal

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

Please refer to Appendix 1 for more details on the implementation of these criteria.

4 Constructing the MSCI Custom ESG Indexes

4.1 UNDERLYING UNIVERSE

The selection universe for the MSCI Custom ESG Indexes is the respective MSCI Parent Index, as shown in the table in section 1.

4.2 EXCLUSION CRITERIA

Companies that are involved in activities that violate the customized ESG screening criteria described in Section 2 are excluded from the MSCI Custom ESG Indexes.

5 Maintaining the MSCI Custom ESG Indexes

5.1 INDEX REVIEWS

The MSCI Custom ESG Indexes are reviewed on a quarterly basis to coincide with the regular Semi-Annual and Quarterly 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 data 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 MSCI Custom ESG Indexes.

At the index reviews, all companies in the underlying universe are reviewed and eligible companies are added to the MSCI Custom ESG Indexes. Existing constituents are deleted from the MSCI Custom ESG Index if they have been added to the exclusion list. In addition, any constituent that is deleted from the underlying index as a result of an index review is also deleted from the MSCI Custom ESG Index.

5.2 ONGOING EVENT-RELATED CHANGES

The MSCI Corporate Events Methodology is applied for the maintenance of the MSCI Custom ESG Indexes between index reviews.

Companies deleted from the underlying index between index reviews are simultaneously deleted from the MSCI Custom ESG Indexes.

There will be no additions to the Index in between Index Reviews, except the cases noted below:

- Any new security added to the parent index (such as IPO and other early inclusions) will be added to the index, if it meets the eligibility criteria.
- Any security 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.
- 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.



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Further details relating to the handling of specific corporate event types can be found in the MSCI Corporate Events Methodology book available at: <https://www.msci.com/index-methodology>.

Appendix 1 – Screening Criteria

MSCI ESG Research creates the list of excluded securities for the MSCI Custom ESG Indexes by identifying companies within its coverage universe based on the following sets of ratings criteria: Compliance with UN Global Compact Principles, Tobacco, and Controversial Weapons; and Governance in case of MSCI EM Custom ESG Index and the Emerging Markets region within the MSCI AC Asia ex Japan Custom ESG Index.

COMPLIANCE WITH UN GLOBAL COMPACT PRINCIPLES

Definition: Companies that are involved in controversies classified as “very severe” in the areas of Environment, Human Rights & Community, Labor Rights & Supply Chain, or Governance will be excluded. The following areas are evaluated as part of this screen:

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 derive any revenue from the production of tobacco, or 5% or more revenue from the distribution of, supply of key products for, or retail of tobacco, as further defined below, will be excluded.

TOBACCO PRODUCERS

Companies that manufacture tobacco products, such as cigars, blunts, cigarettes, beedis, kreteks, smokeless tobacco, snuff, snus, and chewing tobacco. This also includes companies that grow or process raw tobacco leaves.

TOBACCO DISTRIBUTORS

Companies that derive 5% or more of total annual revenues from the independent wholesale of tobacco products to retailers and other distributors.

TOBACCO RETAILERS

Companies that derive 5% or more of total annual revenues from the retail of tobacco products.

TOBACCO SUPPLIERS

Companies that derive 5% or more of total annual revenues from the manufacture and supply of key products necessary for the production of tobacco products, such as tobacco flavoring, cigarette filters (acetate tow), tobacco roll paper, cigarette manufacturing machines, and tobacco packaging - specifically cigarette cartons, films, and aluminum foil.

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 Ex-Controversial Weapons Indexes available at <https://www.msci.com/index-methodology>.

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.

CONVENTIONAL 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

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

Additionally, companies will be excluded from the index if they meet the following criteria:

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

THERMAL COAL

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

THERMAL COAL MINING AND EXTRACTION

Companies which meet the following Thermal Coal Criteria are excluded from the indexes:

- 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 excludes: 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 30% or more of their total annual revenues (either reported or estimated) from thermal coal based power generation are excluded from the indexes.

The following sections have been modified since 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 1

Governance section – update to the description

The following sections have been modified since September 2015:

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

The following sections have been modified since December 2015:

Appendix 1

Governance section – clarification for the exclusions description

The following sections have been modified since 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 since May 2017:

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

The following sections have been modified since 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 1

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

The following sections have been modified since November 2017:

Appendix 1: Updated the controversial business screening criteria pertaining to Controversial Weapons.

The following sections have been modified since 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 since 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 since January 2019:

Screening Criteria

Update to include screens for Civilian Firearms and Conventional Weapons.

Appendix 1: Update to include the definitions of the screens used for Civilian Firearms and Conventional Weapons.

The following sections have been modified since 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 1: Update to include the definitions of the screens used for Thermal Coal Mining and Extraction and Thermal Coal based Power Generation.

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