

MSCI ESG Screened Indexes Methodology

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1 Introduction

The MSCI ESG Screened Indexes ("the Indexes") aim to represent the performance of a free float-adjusted market capitalization weighted investment strategy that excludes companies:

- that are associated with controversial, civilian and nuclear weapons as well as tobacco, palm oil and arctic oil & gas or
- that derive revenues from thermal coal power and extraction of select fossil fuels or
- that are not in compliance with the United Nations Global Compact principles or
- that are involved in very severe controversies and/or in certain biodiversity-related controversies

In addition, the Indexes target a minimum 30% reduction in carbon emission intensity relative to the underlying parent indexes ("Parent Indexes").



1 MSCI ESG Research

The MSCI ESG Screened Indexes use company ratings and research provided by MSCI ESG Research. In particular, the Indexes use the following MSCI ESG Research products: MSCI ESG Controversies, MSCI Business Involvement Screening Research and MSCI Climate Change Metrics.

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

2.1 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.

For more details on MSCI ESG Controversies, please refer to: https://www.msci.com/esg-and-climate-methodologies.

2.2 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 http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf.

2.3 MSCI Climate Change Metrics

MSCI Climate Change Metrics provide climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, alignment with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.

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



2 Constructing the MSCI ESG Screened Indexes

Constructing the Indexes involves the following steps

- Defining the Eligible Universe
- Applying the Greenhouse Gas (GHG) Intensity Reduction

3.1 Eligible Universe

The Eligible Universe for the Indexes is defined by applying the following exclusions from the Parent Index:

- Controversial Weapons
- Nuclear Weapons
- Civilian Firearms
- Tobacco
- Fossil Fuel Extraction
- Thermal Coal Power
- Arctic Oil & Gas
- Palm Oil

In addition to the above, companies are also excluded from the Indexes if they exhibit any of the following characteristics:

- MSCI ESG Controversies Score of 0
- MSCI ESG Controversies: Environment Land Use and Biodiversity Score of 1
- MSCI ESG Controversies: Environment Supply Chain Management Score of 1
- Missing MSCI ESG Controversies Score Companies not assessed by MSCI ESG Research on MSCI ESG Controversies
- Failure to comply with the United Nations Global Compact Principles.

Please refer to Appendix 1 for details on these criteria.

3.2 GHG Intensity Reduction

After excluding companies as per section 3.1, the GHG intensity relative to the Parent Index is assessed. If the GHG intensity¹ is not at least 30% lower than the Parent Index, additional securities are excluded from the Eligible Universe to achieve a reduction of 30% GHG intensity relative to the Parent Index. The following iterative process is applied:

¹ Please refer to Appendix 2 for details of the calculation of GHG Intensity.



- 1. Securities are ranked in descending order of GHG intensity.
- 2. The security with the highest GHG intensity is excluded and the resulting index is compared to the Parent Index, to determine if a 30% reduction in GHG intensity has been achieved.
- 3. If the reduction has been achieved, no further securities are excluded. If the reduction has not been achieved, further securities are excluded as per steps 1 and 2 until the 30% reduction is achieved.

3.3 Weighting Scheme

The remaining securities, after the exclusions based on sections 3.1 and 3.2, are weighted in proportion of their free float-adjusted market capitalization.



2 Maintaining the MSCI ESG Screened Indexes

2.1 Quarterly Index Reviews

The Indexes are reviewed on a quarterly basis to coincide with the regular 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.

In general, MSCI uses MSCI ESG Research data (including 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 Index. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available, for the rebalancing of the Index.

The pro forma Indexes are in general announced nine business days before the effective date.

2.2 Monthly Review of Controversies

Index constituents are reviewed on a monthly basis for the involvement in ESG controversies and for compliance with the United Nations Global Compact Principles. Existing constituents will be deleted if they face controversies as defined as defined by MSCI ESG Controversy Score of 0 ('Red flag' companies), or if they fail comply with the UN Global Compact Principles.

MSCI uses MSCI ESG Controversies data as of the end of the month preceding the review (e.g., end of June data for the end of July monthly review). For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the review. For such securities, MSCI will use ESG data published after the end of month, when available, for the monthly review of the Index.

The pro forma Indexes are generally announced nine business days before the first business day of the month.

2.3 Ongoing Event-Related Maintenance

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

No new securities will be added (except where noted below) to the Indexes 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.

There are no deletions from the Indexes outside of the Quarterly Index Reviews and monthly review of controversies on account of a security becoming ineligible



because of a change in business involvement and/or failure to comply with the UN Global Compact Principles and/or decrease in MSCI ESG Controversies Score.

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 not be added to the MSCI ESG Screened Indexes at the time of event implementation. Reevaluation for addition in the Indexes will occur at the subsequent Index Review.
Merger/Acquisition	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.



Appendix 1 - ESG Exclusions Criteria

MSCI ESG Research has developed a framework designed to define significant involvement in controversial activities. According to this framework, there are four levels of restrictiveness: Most Restrictive, Highly Restrictive, Moderately Restrictive and Least Restrictive.

Each controversial activity screened by the MSCI ESG Screened Indexes (except Fossil Fuel Extraction, Thermal Coal Power and Global Norms) is assigned to one of these restrictiveness levels:

"Most Restrictive" screen applied

- 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.

"Highly Restrictive" screen applied

- Nuclear Weapons
 - All companies that manufacture nuclear warheads and/or whole nuclear missiles.
 - All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles).
 - All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons.
 - All companies that provide auxiliary services related to nuclear weapons.
 - All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles) but can be used in nuclear weapons.
 - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons but have the capability to deliver nuclear weapons.



All companies that manufacture components for nuclear-exclusive delivery platforms.

Civilian Firearms

- All companies classified as "Producer" of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets.
- All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.

Tobacco

- All companies classified as a "Producer".
- All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobaccorelated products.

No specific restrictiveness level applied

Fossil Fuel Extraction

- All companies deriving 5% or more aggregate revenue (either reported or estimated) from thermal coal mining and unconventional oil and gas extraction.
 - Thermal Coal Mining: Revenue from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It does not cover revenue 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
 - Unconventional Oil & Gas Extraction: Revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas and coal bed methane. It does not cover all types of conventional oil and gas production including Arctic onshore/offshore, deep water, shallow water and other onshore/offshore.

Thermal Coal Power

 All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation.

Arctic Oil & Gas:

 All companies deriving 5% or more revenue from arctic oil and arctic gas production. The definition of Arctic is geographical and includes production activities north of the 66.5 latitude. This includes offshore or onshore oil and gas production.



• Palm Oil

- All companies deriving 5% or more aggregate revenue from the production of Palm Oil.
- Global Norms United Nations Global Compact Compliance
 - All companies that fail to comply with the United Nations Global Compact principles.



Appendix 2 – Calculation of GHG Intensity

The security level and index level GHG Intensity are calculated as per below formula:

$$Security \ Level \ GHG \ Intensity = \frac{Carbon \ Emissions \ Scope \ 1 + 2 + 3}{Enterprise \ Value \ + \ Cash \ (in \ M\$)}$$

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Index \ Level \ GHG \ Intensity \\ = \frac{sum \ of \ (Constituent \ weight \ * \ Security \ Level \ GHG \ Intensity)}{sum \ of \ constituent \ weight \ with \ Carbon \ emissions \ and \ EVIC \ data \ available}
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Securities with missing Carbon Emissions and/or Enterprise Value + Cash are not considered for potential exclusion under section 3.2.



Appendix 3 – Tracked Changes

The following sections have been updated as of May 2019:

Appendix 1: ESG Exclusions Criteria

Clarified the screening criteria for companies involved in 'Tobacco'

The following sections have been updated as of November 2019:

Appendix 1: ESG Exclusions Criteria

Clarified the screening criteria for companies involved in 'Civilian Firearms'

The following sections have been updated as of May 2022:

Section 3.2: ESG Exclusions

- Added 'Fossil Fuel Extraction' and 'Thermal Coal Power'
- Removed 'Thermal Coal' and 'Oil Sands'

Section 4.2: Ongoing Event-Related Maintenance

Clarified the maintenance rules

Appendix 1: ESG Exclusions Criteria

- Added screens for 'Fossil Fuel Extraction' and 'Thermal Coal Power'
- Removed screens for 'Thermal Coal' and 'Oil Sands'

The following sections have been updated as of August 2022:

Section 3.2: ESG Exclusions

- Removed footnote for MSCI ESG Controversies Score
- Added reference to companies with missing MSCI ESG Controversies Score

The following sections have been updated as of February 2023:

Section 3.1: Eligible Universe

- · Added screens for 'Arctic Oil & Gas' and 'Palm Oil'
- Added references to 'Environment Land Use & Biodiversity Score' and 'Environment – Supply Chain Management Score'



Section 3.2: GHG Intensity Reduction

• New section

Section 4.2: Monthly Review of Controversies

• New section

Appendix 1: ESG Exclusions Criteria

• Added screens for 'Palm Oil' and 'Arctic Oil & Gas'

Appendix 2: Calculation of GHG Intensity

• New appendix



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