

Methodology book for –

- **MSCI World ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI USA ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI EMU ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI Emerging Markets ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI Japan ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI ACWI ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI Europe ESG Universal Low Carbon Select 5% Issuer Capped Index**
- **MSCI China ESG Universal Low Carbon Select 5% Issuer Capped Index**

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Contents	1	Introduction	3
	2	MSCI ESG Research	4
	2.1	MSCI ESG Ratings.....	4
	2.2	MSCI Climate Change Metrics.....	4
	2.3	MSCI ESG Controversies.....	5
	2.4	MSCI ESG Business Involvement Screening Research	5
	3	Index Construction Methodology	6
	3.1	Applicable Universe	6
	3.2	Eligible Universe.....	6
	3.3	Low Carbon Universe.....	7
	3.4	Determination of Combined ESG Score.....	7
	3.5	Weighting Scheme.....	9
	4	Maintaining the Indexes	10
	4.1	Semi Annual Index Reviews	10
	4.2	Quarterly Index Reviews	10
	4.3	Ongoing Event Related Changes	11
		Appendix I: Business Involvement Screening Criteria.....	13

1 Introduction

The MSCI World ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI USA ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI EMU ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI Emerging Markets ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI Japan ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI ACWI ESG Universal Low Carbon Select 5% Issuer Capped Index, MSCI Europe ESG Universal Low Carbon Select 5% Issuer Capped Index and MSCI China ESG Universal Low Carbon Select 5% Issuer Capped Index (“The Indexes”) aim to represent the performance of an investment strategy that by re-weighting free-float market cap weights based upon certain ESG metrics seeks to increase exposure to those companies demonstrating both a robust ESG profile as well as a positive trend in improving that profile, while excluding companies based on various ESG and climate change criteria.

The Indexes are constructed in following steps. First, we exclude the stocks based on certain ESG and climate change criteria from an MSCI Index (the ‘Parent Index’). Second, we define an ESG re-weighting factor that reflects an assessment of both the current ESG profile (based on the current MSCI ESG Rating – see section 3.4.1) as well as the trend in that profile (based on the MSCI ESG Rating Trend – see section 3.4.2). Finally, we re-weight securities from the free-float market cap weights of the Parent Index using this combined ESG score to construct the Indexes.

2 MSCI ESG Research

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

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 RATINGS

MSCI ESG Ratings provides research, data, 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, as well as underlying data and metrics used to compile the scores and ratings.

For more details on MSCI ESG Ratings, please refer to <https://www.msci.com/esg-ratings>.

2.2 MSCI CLIMATE CHANGE METRICS

MSCI Climate Change Metrics provides climate data & tools to support investors integrating climate risk & opportunities into their investment strategy and processes. It supports investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, align 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-solutions>.

2.3 MSCI ESG CONTROVERSIES

MSCI ESG Controversies 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, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf.

2.4 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 Index Construction Methodology

3.1 APPLICABLE UNIVERSE

The applicable universe includes all the existing constituents of the corresponding free float adjusted market capitalization weighted index as shown in the table below ("Parent Index"). This approach aims to provide an opportunity set with sufficient liquidity and investment capacity.

Index Name	Parent Index
MSCI World ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI World Index
MSCI USA ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI USA Index
MSCI EMU ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI EMU Index
MSCI Emerging Markets ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI Emerging Markets Index
MSCI Japan ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI Japan Index
MSCI ACWI ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI ACWI
MSCI Europe ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI Europe Index
MSCI China ESG Universal Low Carbon Select 5% Issuer Capped Index	MSCI China Index

3.2 ELIGIBLE UNIVERSE

The Eligible Universe is constructed from the Applicable Universe by excluding companies that are involved in the following businesses and meet the business involvement exclusion criteria as detailed in Appendix 1:

- Controversial Weapons
- Conventional Weapons
- Nuclear Weapons
- Civilian Firearms
- Tobacco

- Fossil Fuel Extraction
- Thermal Coal Power

Additionally, companies are required to have an MSCI ESG Controversies Score of 1 or above and an MSCI ESG Rating of 'B' or above to be eligible for inclusion.

3.3 LOW CARBON UNIVERSE

The Low Carbon Universe is constructed from the Eligible Universe by excluding companies with high Scope 1+2 Carbon Emissions Intensity and Potential Carbon Emissions.

To select companies with low exposure to carbon emissions, the Parent Index constituents are ranked by the carbon emission intensity, and the top 5% of securities, by number, are excluded from the Low Carbon Universe. The cumulative weight of securities excluded from any sector is less than 30% of the weight of the sector in the Parent Index. In case this limit is reached for any sector, no further securities from that sector are excluded.

To select companies with low exposure to fossil fuel reserves, the Parent Index constituents are ranked by the potential carbon emissions per dollar of the market capitalization of the company. Securities are excluded from the Low Carbon Universe until the cumulative potential carbon emission of the excluded securities reaches 50% of the sum of the potential carbon emission of the constituents of the Parent Index. The two screens mentioned above are applied independently.

3.4 DETERMINATION OF COMBINED ESG SCORE

Each company in the Low Carbon Universe is assigned a Combined ESG score, which is calculated by taking into account a company's MSCI ESG Rating and its MSCI ESG Rating Trend.

3.4.1. ESG RATING SCORE

Using the MSCI ESG Rating, we group companies so as to assign an ESG Rating score to each company in the eligible universe as illustrated in the table below

Rating Group	ESG Rating	ESG Category	ESG Rating Score
1	AAA	Leaders	1.5
2	AA		

3	A	Neutral	1
4	BBB		
5	BB		
6	B	Laggards	0.5

3.4.2. ESG RATING TREND SCORE

MSCI ESG Rating Trend shows the ESG rating change from prior to current: it is expressed as the number of levels between the current rating and the previous rating. The rating trend is positive for a ratings upgrade (for example, the company's ESG rating changed from BBB to AAA), negative for ratings downgrade (for example company's ESG rating changed from AA to A) and zero for no change in the rating.

An 'ESG Rating Trend Score' is assigned to each company based on its ESG Rating Trend as per the following table:

Trend group	ESG Rating Trend*	ESG Rating Trend Score
1	Upgrade	1.2
2	Neutral	1
3	Downgrade	0.8

* ESG Rating Trend

- Upgrade – Company's latest ESG Rating has increased by at least one level compared to previous assessment.
- Neutral – Company's latest ESG Rating has stayed the same as its ESG Rating from previous assessment or MSCI ESG Research has initiated coverage on the company.
- Downgrade – Company's latest ESG Rating has decreased by at least one level compared to its previous assessment.

3.4.3. COMBINED ESG SCORE

The Combined ESG Score is calculated for each company as follows:

$$\text{Combined ESG Score} = \text{ESG Rating Score} * \text{ESG Trend Score}$$

In order to reduce reverse turnover in the index, the Combined ESG Score of a security is capped between the ESG Rating Scores corresponding to MSCI ESG Rating of 'AAA' (best rating) and 'B' (worst rating). Thus, as per the ESG Rating Scores defined in Section 3.4.1, the Combined ESG Score is capped between 1.5 and 0.5 respectively.

3.5 WEIGHTING SCHEME

At each rebalancing, all the securities from the eligible universe are weighted by the product of their market capitalization weight in the Parent Index and the Combined ESG Score.

$$\begin{aligned} \text{Security Weight} \\ &= \text{Combined ESG Score} \\ &\quad * \text{Market Capitalization Weight in the Parent Index} \end{aligned}$$

The above weights are then normalized to 100%.

Additionally, constituent weights are capped at the issuer level to mitigate concentration risk. Issuers in the Indexes will be capped at 5%.

Note that the capping of the issuer weight is done for the pro forma index as of the effective date, based on the closing prices as of the index review announcement date. In cases where the issuer weight breaches the cap as a result of market price movements or corporate events between the announcement date and the effective date, the capping is not applied again. Similarly, even if any issuer weight breaches the cap as a result of market price movements or corporate events between two Semi-Annual Index Reviews, no capping is applied.

4 Maintaining the Indexes

4.1 SEMI ANNUAL INDEX REVIEWS

The Indexes are rebalanced on a semi-annual basis, as of the close of the last business day of May and November, coinciding with the May and November semi-annual Index Review of the MSCI Global Investable Market Indexes. The pro forma Indexes are in general announced nine business days before the effective date.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Climate Change Metrics, 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 MSCI ESG Universal Low Carbon Select 5% Issuer Capped 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 MSCI ESG Universal Low Carbon Select 5% Issuer Capped Indexes. This approach aims to capture timely updates to ESG Ratings of the constituents and coincides with the rebalancing of the relevant MSCI Parent Indexes.

4.2 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, as of the close of the last business day of February and August. At quarterly reviews, the indexes are not re-constituted, but existing constituents will be deleted from the Indexes if they are ineligible for selection in the Index as per the exclusion criteria detailed in Section 3.2 – Eligible Universe and Section 3.3 – Low Carbon Universe of the methodology.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Climate Change Metrics, 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 MSCI ESG Universal Low Carbon Select 5% Issuer Capped 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 MSCI ESG Universal Low Carbon Select 5% Issuer Capped Indexes.

4.3 ONGOING EVENT RELATED CHANGES

The general treatment of corporate events in the 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 Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the Index.

The following section briefly describes the treatment of common corporate events within the Index.

No new securities will be added (except where noted below) to the Index 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 I: Business Involvement Screening Criteria

- **Controversial Weapons**
 - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, nondetectable 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>.
- **Conventional Weapons**
 - All companies deriving 5% or more revenue from the production of conventional weapons and components
 - All companies deriving 10% or more aggregate revenue from the production of nuclear, biological, chemical, and conventional weapons and weapons systems, components, and support systems and services
- **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 tobacco-related products

- **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.

The following sections have been modified effective September 17, 2021 -

Section 3.1 – Added the MSCI China ESG Universal Low Carbon Select 5% Issuer Capped Index with the Parent Index as MSCI China

The following sections have been modified effective March 01, 2022 -

Section 3.2 – Updated to include the enhancements to the controversial business involvement criteria

Appendix I – Updated to include the definitions of the enhancements to the controversial business involvement criteria

The following sections have been modified effective June 30, 2022 -

Appendix I – Updated to clarify the nuclear weapons business involvement criteria

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