

MSCI ACWI Select Climate 500 Index and Sub-Indexes

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Contents

1	Introduction	3
2	Index Construction Methodology	4
2.1	Applicable Universe	4
2.2	Eligible Universe.....	4
2.3	Optimization Constraints	5
2.4	Determining the Optimized Index	6
2.5	Treatment Of Unrated Companies	6
3	Maintaining the Indexes.....	7
3.1	Semi-Annual Index Reviews.....	7
3.2	Ongoing Event Related Changes	7
4	MSCI ESG Research	9
4.1	MSCI ESG Controversies.....	9
4.2	MSCI ESG Business Involvement Screening Research	9
4.3	MSCI Climate Change Metrics.....	9
	Appendix I: Sub-Indexes	11
	Appendix II: Values- and Climate Change-Based Exclusion Criteria	14
	Appendix III: Calculation of Target Metrics and Self- Decarbonization Trajectory of Greenhouse Gas (GHG) Emissions Intensity.....	16
	Appendix IV: Barra Equity Model Used in The Optimization.....	18
	Appendix V: New release of Barra® Equity Model or Barra® Optimizer	19
	Appendix VI: Methodology Set.....	20

1 Introduction

The MSCI ACWI Select Climate 500 Index (the ‘Index’¹) is designed to support investors seeking to reduce their exposure to the greenhouse gas emissions and increase exposure to companies with their emission reduction targets approved by Science Based Targets initiative (SBTi).

The MSCI ACWI ex Select Countries Index (“Parent Index”) has been constructed to exclude the following countries from MSCI ACWI²: Finland, Qatar, UAE, Saudi Arabia, Kuwait and Indonesia. The Index is constructed by selecting the constituents from the Parent Index, which is a market capitalization weighted index, through an optimization process that aims to:

- Reduce the weighted average greenhouse gas emissions (Scope 1 and 2) intensity relative to EVIC by 7% on an annualized basis
- Reduce the weighted average greenhouse gas emissions (Scope 1 and 2) intensity relative to Sales by 10% on an annualized basis
- Increase the weight in companies with one or more greenhouse gas emissions reduction targets³ approved by Science Based Targets initiative (SBTi) by 20%

The Index uses research provided by MSCI ESG Research⁴ for the Index construction.

The subset Indexes 1-16 have been further constructed from the MSCI ACWI Select Climate 500 Index based on the methodology specified in Appendix I.

¹ The Index and its subset Indexes are governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. Please refer to Appendix VI for more details.

² The constituents countries of the Parent Index are available in the Index Country Membership Tool on MSCI’s website : <https://www.msci.com/index-country-membership-tool>.

³ Company level emission reduction targets which have been approved by Science Based Targets initiative (SBTi). More details on SBT are available at <https://sciencebasedtargets.org/companies-taking-action>.

⁴ See section 4 for further information regarding ESG and climate data used in the Indexes that MSCI Limited and MSCI Deutschland GmbH source from MSCI ESG Research LLC, a separate subsidiary of MSCI Inc. MSCI ESG Research is solely responsible for the creation, determination and management of such data as a provider to MSCI Limited and MSCI Deutschland GmbH. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes..

2 Index Construction Methodology

2.1 APPLICABLE UNIVERSE

The Applicable Universe includes all the constituents of the Parent Index. The Parent Index has been constructed to exclude the following countries from the MSCI ACWI Index: Finland, Qatar, UAE, Saudi Arabia, Kuwait, and Indonesia.

2.2 ELIGIBLE UNIVERSE

The Eligible Universe is constructed from the Applicable Universe by excluding securities of companies based on the exclusion criteria⁵ below:

1. **ESG Controversies:** All companies assessed as having involvement in ESG controversies that are classified as Red Flags (MSCI ESG Controversy Score of 0). A Red Flag indicates an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.
2. **Controversial Business Involvement Criteria:** The Index uses MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics to identify companies that are involved in the following business activities. Companies that meet the business involvement criteria are excluded from the Index. Please refer to Appendix II for details on these criteria.
 - Controversial Weapons
 - Nuclear Weapons
 - Tobacco
 - Thermal Coal Mining
 - Thermal Coal Power
 - Fossil Fuel Power Generation

⁵ See section 4 for further information regarding ESG and climate data used in the Indexes that MSCI Limited and MSCI Deutschland GmbH source from MSCI ESG Research LLC, a separate subsidiary of MSCI Inc. MSCI ESG Research is solely responsible for the creation, determination and management of such data as a provider to MSCI Limited and MSCI Deutschland GmbH. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes..

2.3 OPTIMIZATION CONSTRAINTS

At each Semi-Annual Index Review, the Index is constructed using an optimization process that aims to achieve replicability and investability as well as minimize ex-ante tracking error relative to the Parent Index subject to the following constraints:

Table 1: Constraints imposed on MSCI ACWI SELECT CLIMATE 500 Index

No.	Constraints	MSCI ACWI Select Climate 500 Index
1	Number of constituents	500
2	Minimum average reduction (per annum) in GHG Emissions Intensity ⁶ (Scope 1+2 / EVIC) relative to the GHG Emissions Intensity (Scope 1+2 / EVIC) at the Base Date ⁷ (applied from Nov 2020 Index Review)	7%
3	Minimum average reduction (per annum) in GHG Emissions Intensity ⁸ (Scope 1+2 / Sales) relative to the GHG Emissions Intensity (Scope 1+2 / Sales) at the Base Date (applied from Nov 2020 Index Review)	10%
4	Minimum increase in aggregate weight of companies with one or more active carbon emissions reduction target(s) approved by the Science Based Targets initiative (SBTi) relative to the aggregate weight of such companies in the Parent Index (applied from Nov 2021 Index Review)	20%
5	Active Sector weights relative to Parent Index	+/- 3%
6	Active Country Weights ⁹	+/- 5%

⁶ Please refer to Appendix III for details on the decarbonisation pathway for GHG Emissions Intensity relative to EVIC.

⁷ Base date used to calculate the initial weighted average GHG Emissions Intensity by EVIC as well as the initial weighted average GHG Emissions Intensity by Sales is from May 2020 Index Review

⁸ Please refer to Appendix III for details on the decarbonisation pathway for GHG Emissions Intensity relative to Sales.

⁹ In case there are countries in the Parent Index which weigh less than or equal to 2.5% then for such countries the active country upper bound of +5% is not applicable. When a country weighs less than or equal to 2.5% in Parent Index then the upper bound of country weight in the Index is set at three times of the country's weight in Parent Index.

No.	Constraints	MSCI ACWI Select Climate 500 Index
7	Maximum Constituent Weight	Min (Parent weight + 2%, 20x Parent weight)
8	Minimum Constituent Active Weight	-2% w.r.t Parent Index
9	Minimum Absolute Weight in a Constituent	0.01%
10	Maximum One-Way Turnover at each rebalance	10%
11	Specific Risk Aversion	0.075
12	Common Factor Risk Aversion	0.0075
13	Optimization Base Currency	USD

During the Semi-Annual Index Review, in the event that there is no optimal solution that satisfies all the optimization constraints, the following constraints will be relaxed, until an optimal solution is found:

- Relax the one-way index turnover constraint in steps of 2.5% up to 15%
- Relax the active sector weight constraint in steps of 1% down/up to +/-5%

The one-way index turnover constraint and the active sector weight constraints are alternately relaxed until a feasible solution is achieved.

In the event that no optimal solution is found after the above constraint relaxations are exhausted, the relevant Index will not be rebalanced for that Semi-Annual Index Review.

2.4 DETERMINING THE OPTIMIZED INDEX

The Index is constructed using the Barra Open Optimizer¹⁰ in combination with the relevant Barra Equity Model. The optimization uses universe of eligible securities and the specified optimization objectives and constraints to determine the constituents of the Index.

2.5 TREATMENT OF UNRATED COMPANIES

Companies not assessed by MSCI ESG Research on data for any of the following MSCI ESG Research products are not eligible for inclusion in the Indexes:

- MSCI ESG Controversies

¹⁰ Please refer to Appendix IV and V for more details.

3 Maintaining the Index

3.1 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 Index Reviews 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 Climate Change Metrics, MSCI ESG Sustainable Impact Metrics, MSCI ESG Controversies and MSCI Business Involvement Screening Research) as of the end of the month preceding the Index Reviews for the rebalancing of the Indexes.

3.2 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.

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 in the Index.

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>.

4 MSCI ESG Research

The Indexes are products of MSCI Inc. that utilize information such as company ratings and research produced and provided by MSCI ESG Research LLC (MSCI ESG Research), a subsidiary of MSCI Inc. In particular, the Indexes use the following MSCI ESG Research products: MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited and MSCI Deutschland GmbH.

4.1 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.

The MSCI ESG Controversies methodology can be found at:
<https://www.msci.com/legal/disclosures/esg-disclosures>

4.2 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.

4.3 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>.

Appendix I: Sub-Indexes

Sub-Index 1: MSCI ACWI Select Climate 500 Index – Energy Subset

This Index only includes constituents of the Energy GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	10	Energy

Sub-Index 2: MSCI ACWI Select Climate 500 Index – Materials Subset

This Index only includes constituents of the Materials GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	15	Materials

Sub-Index 3: MSCI ACWI Select Climate 500 Index – Industrials Subset

This Index only includes constituents of the Industrials GICS Sector which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	20	Industrials

Sub-Index 4: MSCI ACWI Select Climate 500 Index – Consumer Discretionary Subset

This Index only includes constituents of the Consumer Discretionary GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	25	Consumer Discretionary

Sub-Index 5: MSCI ACWI Select Climate 500 Index – Consumer Staples Subset

This Index only includes constituents of the Consumer Staples GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	30	Consumer Staples

Sub-Index 6: MSCI ACWI Select Climate 500 Index – Health Care Subset
 This Index only includes constituents of the Health Care GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	35	Health Care

Sub-Index 7: MSCI ACWI Select Climate 500 Index – Financials Subset
 This Index only includes constituents of the Financials GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	40	Financials

Sub-Index 8: MSCI ACWI Select Climate 500 Index – Information Technology Subset
 This Index only includes constituents of the Information Technology GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	45	Information Technology

Sub-Index 9: MSCI ACWI Select Climate 500 Index – Communication Services Subset
 This Index only includes constituents of the Communication Services GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	50	Communication Services

Sub-Index 10: MSCI ACWI Select Climate 500 Index – Utilities Subset
 This Index only includes constituents of the Utilities GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	55	Utilities

Sub-Index 11: MSCI ACWI Select Climate 500 Index – Real Estate Subset

This Index only includes constituents of the Real Estate GICS Sector, which are part of MSCI ACWI Select Climate 500 Index.

Addition or Exclusion of Component

Include Do not include	GICS Code	Component Name
Include	60	Real Estate

Sub-Index 12: MSCI ACWI Select Climate 500 Index – Pacific Subset

This Index only includes constituents of the MSCI Pacific Index, which are part of MSCI ACWI Select Climate 500 Index

Sub-Index 13: MSCI ACWI Select Climate 500 Index – Europe & Middle East Subset

This Index only includes constituents of the MSCI Europe & Middle East Index, which are part of MSCI ACWI Select Climate 500 Index.

Sub-Index 14: MSCI ACWI Select Climate 500 Index – Emerging Markets Subset

This Index only includes constituents of the MSCI EM (Emerging Markets) Index, which are part of MSCI ACWI Select Climate 500 Index.

Sub-Index 15: MSCI ACWI Select Climate 500 Index – Europe Subset

This Index only includes constituents of the MSCI Europe Index, which are part of MSCI ACWI Select Climate 500 Index.

Sub-Index 16: MSCI ACWI Select Climate 500 Index – Japan Subset

This Index only includes constituents of the MSCI Japan Index, which are part of MSCI ACWI Select Climate 500 Index.

For the Sub-Indexes 1 to 16, the deletions and additions of constituents from and to the MSCI ACWI Select Climate 500 Index will be reflected simultaneously in the relevant sub-index.

For the Sub-Indexes 1 to 16, the weights of the constituents in the sub-index will be proportional to their weights in the MSCI ACWI Select Climate 500 Index.

Appendix II: Values- and Climate Change-Based Exclusion Criteria

The Eligible Universe is constructed from the constituents of the Parent Index by excluding securities based on the exclusion criteria listed below:

- **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) according to MSCI Ex-Controversial Weapons Indexes.
- **Nuclear Weapons:** Companies, whose activities meet the following criteria, as determined by MSCI ESG Research:
 - 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.
- **Tobacco:**
 - All companies classified as a “Producer” or derive any revenue from tobacco production.

- All companies deriving 5% or more aggregate revenue from the distribution, retail and supply of tobacco-related products.
- **Thermal Coal Mining:**
 - All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes revenue from metallurgical coal, coal mined for internal power generation (e.g. in the case of vertically integrated power producers), intracompany sales of mined thermal coal, and revenue from coal trading (either reported or estimated).
- **Thermal Coal Power:**
 - All companies deriving 10% or more revenue from thermal coal-based power generation
 - All companies that have 10% or more capacity attributed to thermal coal-based power generation
 - All companies that are generating 10% or more power from thermal coal
- **Fossil Fuel Power Generation:**
 - All companies deriving 50% or more power from thermal coal, liquid fuel or natural gas

Appendix III: Calculation of Target Metrics and Self-Decarbonization Trajectory of Greenhouse Gas (GHG) Emissions Intensity

MSCI ESG Research collects company-specific direct (Scope 1) and indirect (Scope 2) greenhouse gas emissions (GHG) data from company public documents and/or the Carbon Disclosure Project. If a company does not report GHG emissions, then MSCI ESG Research estimates Scope 1 and Scope 2 GHG emissions.

- Security Level GHG Emissions Intensity relative to EVIC**

GHG emissions of a company are normalized by dividing annual carbon emissions by Enterprise Value including Cash (EVIC). The GHG Emissions Intensity is calculated using the latest Scope 1+2 carbon emissions and EVIC of a company.

Security Level GHG Emissions Intensity relative to EVIC =

$$\frac{\text{Scope 1 + 2 GHG Emissions} * (1 + EVIAF)}{\text{Enterprise Value} + \text{Cash (in M\$\text{)}}}$$

Enterprise Value Inflation Adjustment Factor (EVIAF) =

$$EVIAF = \left(\frac{\text{Average(Enterprise Value} + \text{Cash)}}{\text{Previous (Average(Enterprise Value} + \text{Cash))}} \right) - 1$$

- Security Level GHG Emissions Intensity relative to Sales**

GHG emissions of a company are normalized by dividing annual carbon emissions by Sales. The GHG Emissions Intensity is calculated using the latest Scope 1+2 carbon emissions and Sales of a company.

Security Level GHG Emissions Intensity relative to Sales =

$$\frac{\text{Scope 1 + 2 GHG Emissions}}{\text{Sales (in M\$\text{)}}}$$

- Index Level GHG Emissions Intensities relative to EVIC and relative to Sales**

Weighted Average GHG Emissions Intensity of Derived Index =

$$\sum (\text{Index Weight} * \text{Security Level GHG Emissions Intensity})$$

Missing Data Treatment

If Scope 1+2 carbon emissions and/or EVIC and/or Sales are not available, the average Scope 1+2 intensity of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the security belongs is used.

- **Calculation of Target Decarbonization using GHG Emissions Intensity relative to EVIC**

On average, the Indexes follow a 7% decarbonization trajectory since the Base Date (May 2020 Index Review). The Weighted Average GHG Emissions Intensity on the Base Date (W_0) is used to compute the target Weighted Average GHG Emissions Intensity at any given Semi-Annual Index Review (W_t) as per the below formula.

$$W_t = W_0 * 0.93^{\frac{(t-1)}{2}}$$

Where 't' is the number of Semi-Annual Index Reviews since the Base Date. For example, for the 3rd Semi-Annual Index Review since the Base Date (t=3), the target Weighted Average GHG Emissions Intensity relative to EVIC will be $W_0 * 0.93$

- **Calculation of Target Decarbonization using GHG Emissions Intensity relative to Sales**

On average, the Indexes follow a 10% decarbonization trajectory since the Base Date (May 2020 Index Review). The Weighted Average GHG Emissions Intensity on the Base Date (W_0) is used to compute the target Weighted Average GHG Emissions Intensity at any given Semi-Annual Index Review (W_t) as per the below formula.

$$W_t = W_0 * 0.90^{\frac{(t-1)}{2}}$$

Where 't' is the number of Semi-Annual Index Reviews since the Base Date. For example, for the 3rd Semi-Annual Index Review since the Base Date (t=3), the target Weighted Average GHG Emissions Intensity relative to Sales will be $W_0 * 0.90$

Appendix IV: Barra Equity Model Used in The Optimization

The MSCI ACWI Select Climate 500 Index currently uses an optimization setup using the MSCI Barra Global Equity Model for Long-Term Investors (GEMTL).

Appendix V: New release of Barra® Equity Model or Barra® Optimizer

A major new release of the relevant Barra Equity Model or Barra Optimizer may replace the former version within a suitable timeframe.

Appendix VI: Methodology Set

The Indexes are governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document as mentioned below:

Description of methodology set –

<https://www.msci.com/index/methodology/latest/ReadMe>

MSCI Corporate Events Methodology –

<https://www.msci.com/index/methodology/latest/CE>

MSCI Fundamental Data Methodology –

<https://www.msci.com/index/methodology/latest/FundData>

MSCI Index Calculation Methodology –

<https://www.msci.com/index/methodology/latest/IndexCalc>

MSCI Index Glossary of Terms – <https://www.msci.com/index/methodology/latest/IndexGlossary>

MSCI Index Policies – <https://www.msci.com/index/methodology/latest/IndexPolicy>

MSCI Global Industry Classification Standard (GICS) Methodology –

<https://www.msci.com/index/methodology/latest/GICS>

MSCI Global Investable Market Indexes Methodology –

<https://www.msci.com/index/methodology/latest/GIMI>

MSCI Global ex Controversial Weapons Indexes Methodology –

<https://www.msci.com/index/methodology/latest/XCW>

MSCI Global ex Tobacco Involvement Index – <https://www.msci.com/index/methodology/latest/ExTobacco>

ESG Factors In Methodology¹¹

The Methodology Set for the Indexes can also be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’.

¹¹ ‘ESG Factors in Methodology’ contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion). It can be accessed in the Methodology Set as described above.”

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The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: <https://www.msci.com/index-regulation>.

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