

MSCI FIXED INCOME CLIMATE TRANSITION CORPORATE BOND INDEXES METHODOLOGY

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1 Introduction

The MSCI Fixed Income Climate Transition Corporate Bond Indexes¹ (the “Indexes” are constructed from corresponding MSCI Corporate Bond parent indexes (the “Parent Indexes”) and are designed to represent the performance of an investment strategy that exceeds the minimum standards² of the EU Climate Transition Benchmark (CTB)³. The index applies a heuristics-based approach in order to meet the following objectives:

- Reduce the weighted average absolute greenhouse gas (GHG) emissions by 30% compared to the Parent Index.
- Reduce the weighted average absolute greenhouse gas (GHG) emissions of the Index by 7% on an annualized basis.
- Reduce the weighted average absolute Potential Emissions by 30% compared to the Parent Index.
- At least equivalent ratio of Green Revenue / Fossil fuels-based Revenue relative to the Parent Index.

The Indexes exclude companies involved in Controversial Weapons businesses, Very Severe ESG Controversies, Severe Environmental Controversies, Tobacco Manufacturing and Thermal Coal.

Currently MSCI constructs the Indexes for USD IG, USD HY, EUR IG, GBP IG, and CAD IG Corporate Bonds Indexes.

¹ The Indexes are governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. The Methodology Set for the Indexes can be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’. The Methodology Set includes a document ‘ESG Factors in Methodology’ that contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion).

² The minimum standards of the EU Climate Transition Benchmark are defined in Section 3.2.

³ In case there are changes in the EU delegated acts ([Regulation \(EU\) 2016/1011 as amended by Regulation \(EU\) 2019/2089](#)) and an update to the Index methodology is required, MSCI will issue an announcement prior to implementing the changes in the methodology. MSCI will not conduct a formal consultation for such an update.

2 Constructing the MSCI Fixed Income Climate Transition Corporate Bond Indexes

2.1 Underlying Universe

The Applicable Universe includes all the existing constituents of the Parent Index. This approach aims to provide an opportunity set with sufficient liquidity and capacity.

2.2 Minimum Requirements⁴

The requirements MSCI imposes for the Indexes are detailed in Table 1.

Table 1: Requirements imposed for the Indexes.

Requirements		MSCI Fixed Income Climate Transition Corporate Bond Indexes
a	Minimum reduction in Weighted Average Scope 1+2+3 ⁵ Absolute Carbon Emissions relative to Parent Index	30%
b	Minimum reduction in Weighted Average Absolute Potential Emissions relative to Parent Index	30%
c	Exclusions	Defined in Section 2.3
d	Minimum average reduction (per annum) ⁶ in Weighted Average Absolute Carbon Emissions relative to Weighted Average Absolute Carbon Emissions of the Index at the Base Date ⁷	7%
e	Minimum ratio of Green Revenue/ Fossil fuels-based Revenue relative to Parent Index	At least equivalent
f	Issuer Capping	3% ⁸

⁴ Items a, c and d are the methodology rules that ensure that the minimal EU CTB requirements are met or exceeded.

⁵ The definitions of the target metrics are detailed in Appendix II

⁶ The decarbonization trajectory and base dates of the indexes are defined in Appendix III.

⁷ Prior to the May 2020 Monthly Index Review of the Indexes, the average reduction in Weighted Average Absolute Carbon Emissions has been calculated using Scope 1+2 Emissions since Inception.

⁸ The issuer capping is relaxed in steps of 1% if capping at 3% is infeasible.

2.3 Eligibility Criteria

The Eligible Universe is constructed from the Parent Index by excluding securities of companies based on each of the below eligibility criteria⁹. The Indexes use company ratings and research provided by MSCI ESG Research¹⁰ to determine eligibility for index inclusion.

1. **Controversial Weapons:** All companies involved in Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments, and incendiary weapons), as defined in Appendix I.
2. **ESG Controversies¹¹:** 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.
3. **Tobacco:** All companies classified as a “Producer” or deriving 5% or more aggregate revenue from the production, distribution, retail, supply, and licensing of tobacco-related products are not eligible for inclusion.
4. **Environmental Harm:**
 - Companies assessed as having involvement in environmental controversies that are classified as Red (MSCI Environmental Controversy Score of 0) or Orange Flags (score of 1).
 - i. A Red Flag indicates an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.
 - ii. An Orange Flag indicates an ongoing Severe ESG controversy implicating a company directly, or a Very Severe ESG controversy that is either partially resolved or indirectly attributed to the company’s actions, products, or operations.
 - Securities with missing data are not excluded from the Parent Index.
5. **Thermal Coal Mining:** All companies deriving 1% 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

⁹In relation to minimal EU CTB compliance, items 1-4 are required.

¹⁰ 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.

¹¹ 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. For more details on MSCI ESG Controversies, please refer to www.msci.com/documents/esg-controversies

producers); intra-company sales of mined thermal coal; and revenue from coal trading (either reported or estimated) are not eligible for inclusion.

2.3.1 Iterative Downweighing

The Eligible Universe is assessed against the minimum requirements detailed in Table 1. In case the Eligible Universe is found deficient on any of the minimum requirements, then the weights of the securities in the Eligible Universe are determined through an iterative process as described in Appendix IV.

2.4 Treatment for entities not covered by MSCI ESG Research

All securities that are not excluded by the specified MSCI ESG Business Involvement Screening Research (BISR) or MSCI ESG Controversies criteria are eligible for inclusion in the index i.e., securities not covered by MSCI ESG BISR coverage or MSCI ESG Controversies coverage are also eligible for index inclusion

3 Index Rebalancing & Maintenance

3.1 Monthly Index Review

The composition of the Index is reviewed monthly, with an effective rebalancing impact on the first business day of the month (Rebalancing Date). For clarification, bonds are added to the Index on the closing of last business day of every month, however, the return impact is on the first business day of the month.

In general, change in the Index composition is based on latest data available (including MSCI ESG & Climate data) as of three days prior to the Rebalancing Date, which is defined as the Cut-Off Date. Any inclusion or exclusion criteria satisfied for a given security in the universe, after the Cut-Off Date (T-3), will generally become effective at the following monthly rebalancing; should conditions remain unchanged. In exceptional cases, for instance, cases of input data correction, MSCI can reduce the Cut-Off Date for Index rebalancing from T-3 to T-2, T-1, or T. In such instances, MSCI will notify Index clients of such changes via an announcement.

Any cash that accrues within the index each month is re-invested on a pro-rata basis across the index constituents on the effective date of rebalancing. The opening index portfolio on the Rebalancing Date starts with zero accrued cash balance.

For further information on index total return calculation and corporate events handling please refer to the MSCI Fixed Income Index Calculation Methodology¹². For the holiday calendar used in the index, please refer to the MSCI Fixed Income Data Methodology¹³

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 Ratings, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited.

4.1 MSCI Climate Change Metrics

MSCI Climate Change Metrics provides 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, 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-change-solutions>.

4.2 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/esg-and-climate-methodologies>.

4.3 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.

Appendix I: Controversial Business Screening Criteria

- **Controversial Weapons:**

All companies with any tie to Controversial Weapons as defined below:

- Cluster Bombs
 - MSCI ESG Research’s cluster bomb research identifies public companies that are involved in the production of cluster bombs and munitions, or the essential components of these products.
- Landmines
 - MSCI ESG Research’s landmines research identifies public companies that are involved in the production of anti-personnel landmines, anti-vehicle landmines, or the essential components of these products.
- Depleted Uranium Weapons
 - MSCI ESG Research’s depleted uranium weapons research identifies public companies involved in the production of depleted uranium weapons and armor.
- Chemical and Biological Weapons
 - MSCI ESG Research’s chemical and biological weapons research identifies public companies that are involved in the production of chemical and biological weapons, or the essential components of these products.
- Blinding Laser Weapons
 - MSCI ESG Research’s blinding laser weapons research identifies public companies that are involved in the production of weapons utilizing laser technology to cause permanent blindness.
- Non-Detectable Fragments
 - MSCI ESG Research’s non-detectable fragments research identifies public companies that are involved in the production of weapons that use non-detectable fragments to inflict injury.
- Incendiary Weapons (White Phosphorus)
 - MSCI ESG Research’s incendiary weapons research identifies companies that are involved in the production of weapons using white phosphorus.

Involvement criteria:

- Producers of the weapons
- Producers of key components of the weapons (only applies to cluster bombs, landmines, depleted uranium weapons as well as chemical and biological weapons)
- Ownership of 20% or more of a weapons or components producer. The minimum limit is raised to 50% for financial companies having an ownership in a company that manufactures controversial weapons or key components of controversial weapons.
- Owned 50% or more by a company involved in weapons or components production.

Revenue limits:

- Any identifiable revenues, i.e., zero tolerance

Appendix II: Calculation of Target Metrics

Calculation of Weighted Average Absolute Carbon Emissions

For Parent Index constituents where the Scope 1+2+3 Absolute Carbon Emissions is not available, the average of top quartile Scope 1+2+3 Absolute Carbon Emissions (highest emitters) of all the constituents of the Parent Index, within each Global Industry Classification Standard (GICS®)¹⁴ Industry Group in which the constituent belongs, is used. The average of top quartile Scope 1+2+3 Absolute Carbon Emissions within corresponding GICS Sector is used if all securities within the GICS Industry Group have missing data. The average of top quartile Scope 1+2+3 Absolute Carbon Emissions within the Parent Index is used if all securities in both the corresponding GICS Industry Group and GICS Sector have missing data.

Security Level Absolute Carbon Emissions =

$$\text{Scope 1 + 2 + 3 Absolute Carbon Emissions}$$

Weighted Average Absolute Carbon Emissions of Parent Index =

$$\sum (\text{Weight in Parent Index} * \text{Security Level Absolute Carbon Emissions})$$

Weighted Average Absolute Carbon Emissions of Derived Index =

$$\sum (\text{Weight in Derived Index} * \text{Security Level Absolute Carbon Emissions})$$

Calculation of Absolute Potential Carbon Emissions

For newly added companies to the index where data is not available yet, MSCI uses zero fossil fuel reserves.

Security Level Absolute Potential Carbon Emissions (PCE) = *Security Level PCE*

Weighted Average Absolute Potential Emissions of Parent Index =

$$\sum (\text{Weight in Parent Index} * \text{Security Level PCE})$$

Weighted Average Absolute Potential Emissions of Derived Index =

$$\sum (\text{Weight in Derived Index} * \text{Security Level PCE})$$

Calculation of Average Decarbonization

On average, the Indexes follow a 7% decarbonization trajectory since the Base Date. The Weighted Average Absolute Carbon Emissions at the Base Date (W1) is used to compute the target Weighted

¹⁴ GICS, the global industry classification standard jointly developed by MSCI Inc. and S&P Dow Jones Indices.

Average Absolute Carbon Emissions at any given Monthly Index Review (Wt.) as per the below formula.

$$W_t = W_1 * 0.93^{\frac{(t-1)}{12}}$$

Where 't' is the number of Monthly Index Reviews since the Base Date.

For example, for the 13th Monthly Index Review since the Base Date (t=13), the target Weighted Average Absolute Carbon Emissions will be $W_1 * 0.93$.

Calculation of Green Revenue to Fossil fuels-based Revenue Multiple

Green Revenue

For each constituent in the Parent Index, the Green Revenue% is calculated as the cumulative revenue (%) from the six Cleantech themes which are as follows:

- Alternative Energy – products and services that support the transmission, distribution and generation of renewable energy and alternative fuels to reduce carbon and pollutant emissions in supporting affordable and clean energy to combat climate change.
- Energy Efficiency – products, and services that support the maximization of productivity in labor, transportation, power, and domestic applications with minimal energy consumption to ensure universal access to affordable, reliable, and modern energy services.
- Sustainable Water – products, services, infrastructure projects and technologies that resolve water scarcity and water quality issues, through minimizing and monitoring current water demand, improving the quality and availability of water supply to improve resource management in both domestic and industrial use.
- Green Building – design, construction, redevelopment, retrofitting, or acquisition of green-certified properties to promote mechanisms for raising capacity for effective climate change mitigation and adaptation.
- Pollution Prevention – products, services, infrastructure projects and technologies that reduces volume of waste materials through recycling, minimizes introduction of toxic substances, and offers remediation of existing contaminants such as heavy metals and organic pollutants in various environmental media to significantly address pollution in all levels and its negative effects.
- Sustainable Agriculture - revenues from forest and agricultural products that meet environmental and organic certification requirements to significantly address biodiversity loss, pollution, land disturbance, and water overuse.

The Weighted Average Green Revenue% is calculated as:

$$\sum (Weight\ in\ Index * Green\ Revenue\ \%)$$

Fossil fuels-based Revenue

For each constituent in the Parent Index, the Fossil fuels-based Revenue% is calculated as the cumulative revenue (%) from the following sources:

- 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); intra-company sales of mined thermal coal; and revenue from coal trading (either reported or estimated)
- Revenue% from the extraction, production and refining of Conventional and Unconventional Oil & Gas. Conventional Oil and Gas includes Arctic onshore/offshore, deepwater, shallow water and other onshore/offshore. Unconventional Oil and Gas includes oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane.
- Revenue% from thermal coal-based power generation, liquid fuel-based power generation and natural gas-based power generation.

The Weighted Average Fossil fuels-based Revenue% is calculated as:

$$= \sum (Weight\ in\ Index * Fossil\ fuel - based\ Revenue\ Revenue\%)$$

The Green Revenues to Fossil fuels-based Revenues multiple for either the Parent Index or the Index is calculated as a ratio of the Weighted Average Green Revenue to the Weighted Average Fossil fuels-based Revenue as per the formula below:

$$= \frac{Weighted\ Average\ Green\ Revenue\ \%}{Weighted\ Average\ Fossil\ fuel - based\ Revenue\ Revenue\ \%}$$

Appendix III: Decarbonization Trajectory of Indexes

The Weighted Average Absolute Carbon Emissions on the Base Date (W1) is used to compute the target Weighted Average Absolute Carbon Emissions at any given Monthly Index Review (Wt.) as per the below formula.

$$W_t = W_1 * 0.93^{\frac{(t-1)}{12}}$$

Where ‘t’ is the number of Monthly Index Reviews since the Base Date. The table below shows the Weighted Average Absolute Carbon Emissions on the Base Date(W1) for each of the Parent Indexes on which the Indexes are constructed:

Index	Parent Index	Base Date	W1 (tCO2)
MSCI USD IG Core Climate Transition Corporate Bond Index	MSCI USD IG Core Corporate Bond Index	June 01, 2020	51,203,791.89
MSCI USD IG Climate Transition Corporate Bond Index	MSCI USD IG Corporate Bond Index	June 01, 2020	43,130,936.35
MSCI EUR IG Climate Transition Corporate Bond Index	MSCI EUR IG Corporate Bond Index	June 01, 2020	46,210,362.2
MSCI GBP IG Climate Transition Corporate Bond Index	MSCI GBP IG Corporate Bond Index	June 01, 2020	23,408,429.55
MSCI CAD IG Climate Transition Corporate Bond Index	MSCI CAD IG Corporate Bond Index	June 01, 2020	16,887,378.25
MSCI USD HY Climate Transition Corporate Bond Index	MSCI USD HY Corporate Bond Index	June 01, 2020	16,093,418.44

Appendix IV: Iterative Down Weighting Process

The iterative down weighting process is applied on the securities of the Eligible Universe with the objective of meeting all the minimum requirements detailed in Table 1.

ITERATIVE DOWN WEIGHTING

Starting with the Eligible Universe, an iterative down weighting process is applied to meet with the minimum requirements for the Indexes. The iterative down weighting stops when all the requirements defined in above are met. The steps followed in the iterative down weighting are outlined below:

Step 1. Check whether all targets for the Index are met. If all targets are met, then no down weighting is required.

Step 2. Securities in the Eligible Universe are sorted in increasing order of their Scope 1+2+3 Absolute Carbon Emissions and securities in the top half of the sorted list are identified as "Top Half" securities. Securities in the bottom half of the sorted list are identified as "Bottom Half" securities.

Step 3. If the target based on Minimum reduction in Weighted Average Absolute Carbon Emissions relative to Parent Index and the Minimum average reduction in Weighted Average Absolute Carbon Emissions (per annum) is not being met, the lowest ranked "Bottom Half" security in ascending order of Scope 1+2+3 Absolute Carbon Emissions is selected for down weighting and the weight is reduced by 25% of its weight in the Eligible Universe. If this target is met, but

- a. If the target based on Weighted Average Absolute Potential Emissions relative to Parent Index is not being met, the "Bottom Half" security with highest Absolute Potential Emissions is down weighted.
- b. Otherwise, if the target based on Minimum ratio of Green Revenue/ Fossil fuels-based Revenue relative to Parent Index is not being met, the "Bottom Half" security with largest difference between its Fossil fuels-based Revenue% and its Green Revenue% is down weighted.

Step 4. If the targets are still not met, the security is down weighted in steps of 25% of its weight in the Eligible Universe till a maximum down weighting of 75%.

Step 5. While upweighting securities, the issuer weights of the securities being upweighted is capped at 3%, with the excess weight being distributed among the remaining securities that are being upweighted.

Step 6. If the targets are still not met, the iterative process continues, and Steps 3-5 are repeated.

Step 7. If the targets are not met and all "Bottom Half" securities of the Eligible Universe are down weighted by 75% of the weight in the Eligible Universe, Steps 3-6 are repeated, with a maximum down weighting of 90% in a single down weighting step of 15 percentage points of the weight in the Eligible Universe.

Step 8. If the targets are not met after the maximum down weighting of 90% of all "Bottom Half" securities, then securities are iteratively excluded in the same order as outlined in Step 3.

Step 9. If the targets are not met after excluding all the "Bottom Half" securities, then the index will rebalance using the constituents and weighting of securities as after Step 8.

If the target based on Minimum reduction in Weighted Average Absolute Carbon Emissions relative to Parent Index and the Minimum average reduction in Weighted Average Absolute Carbon Emissions (per annum) is being met but the target on Weighted Average Absolute Potential Emissions relative to Parent Index is not being met, the “Bottom Half” security with the highest Absolute Potential Emissions is selected for down weighting. If the target on Weighted Average Absolute Potential Emissions relative to Parent Index is also met but the target on Minimum ratio of Green Revenue/ Fossil fuels-based Revenue relative to Parent Index is not being met, the “Bottom Half” security with the highest difference in its Fossil fuels-based Revenue% and Green Revenue% is selected for down weighting.

If the targets are not met and all “Bottom Half” securities of the Eligible Universe are down weighted by 75% of the weight in the Eligible Universe, maximum down weighting is relaxed to 90% in a single down weighting step of 15 percentage points of the weight in the Eligible Universe.

If the targets are not met after the maximum down weighting of 90% of all “Bottom Half” securities, then securities are iteratively excluded in the same order.

If the targets are not met after excluding all the “Bottom Half” securities, then the index will rebalance using the constituents and weighting of securities at the final step.

Appendix V: 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/FIInfo>
- MSCI Fixed Income Data Methodology –
<https://www.msci.com/index/methodology/latest/FIDATA>
- MSCI Fixed Income Calculation Methodology –
<https://www.msci.com/index/methodology/latest/FIINDEXCALC>
- MSCI Fixed Income Glossary of Terms –
<https://www.msci.com/index/methodology/latest/FIGLOSS>
- MSCI Fixed Income Index Policies –
<https://www.msci.com/index/methodology/latest/FIINDEXPOLICY>
- MSCI Corporate Bond Indexes Methodology –
<https://www.msci.com/index/methodology/latest/FIIGCORP>
- ESG Factors in Methodology*

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’.

*‘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

Appendix VI: Changes to this Document

The following sections have been modified as of December 2024:

Section 2

- Added details regarding the MSCI ESG Research data used for Index Construction.

Section 2.4

- New Section detailing the treatment of companies with ratings and research not available from MSCI ESG Research.

Appendix V: Methodology Set

- Added details on the Methodology Set for the Index

The following modifications have been updated as of December 2023:

- Section 2 was updated to clarify the eligibility criteria.
- Added Appendix I for Controversial Business Screening Criteria
- Section 3 was updated to clarify the treatment of Cut Off Date for exceptional cases.

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