Index Methodology

MSCI

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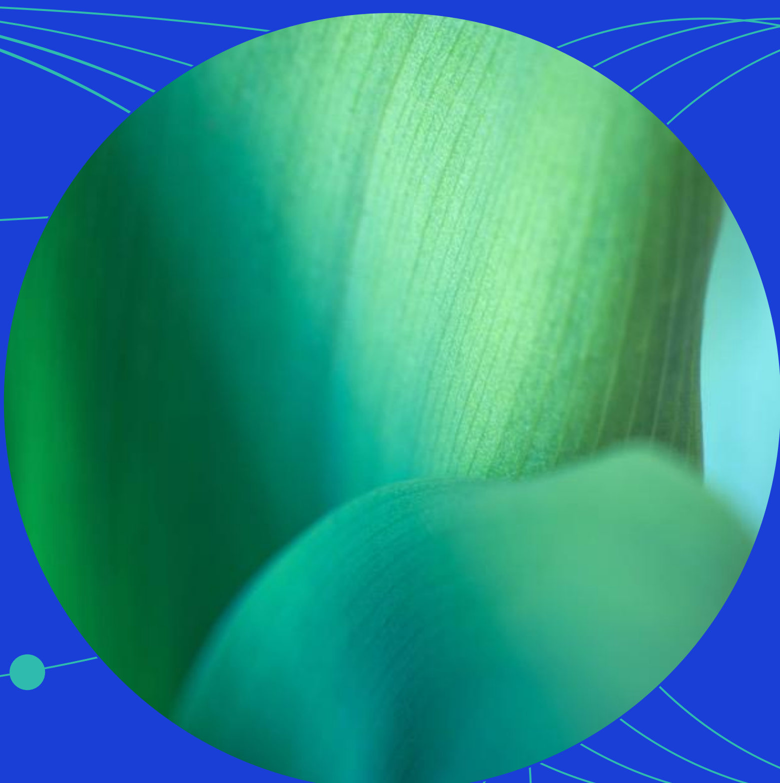
MSCI Climate Paris Aligned Benchmark Select PAB Indexes Methodology



Contents

1 Introduction

The MSCI Climate Paris Aligned Benchmark Select PAB Indexes[1] ("the Indexes") are designed to support investors seeking to reduce their exposure to risks arising from the transition to a lower-carbon economy while aligning with the minimum requirements of the EU Paris Aligned Benchmark (PAB)[2].

The Indexes are constructed through an optimization process that aims to minimize tracking error relative to their corresponding market capitalization weighted indexes ("the Parent Indexes") while meeting the minimum requirements of EU PAB and applying additional screens and constraints that are described in detail below:

- Apply a set of exclusions based on the minimum requirements of EU PAB.

The optimization process applies the minimum technical requirements laid out in Commission Delegated Regulation (EU) 2020/1818[3], which are detailed as follows:

- Reduce the weighted average greenhouse gas intensity by 50.5% compared to the Parent Index.
- Reduce the weighted average greenhouse gas (GHG) intensity by 7% on an annualized basis, compared to the GHG Intensity of the Index at the Base Date[4].
- Ensure a minimum active weight of 0.25% in High Climate Impact sectors relative to the Parent Index.

[1] The Indexes are governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document. Please refer to Appendix V for more details.

[2] The corresponding minimum requirements are defined in Commission Delegated Regulation (EU) 2020/1818, available under https://eur-lex.europa.eu/eli/reg_del/2020/1818/oj. MSCI's approach to meeting these requirements is described in the MSCI EU CTB/PAB Index Framework, available under https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework. In case changes to the Index methodology are required to maintain compliance with the regulatory CTB/PAB labels, MSCI will issue an announcement prior to implementing the changes in the methodology. MSCI will not conduct a formal consultation for such an update.

[3] Same as footnote 2.

[4] The Base Date is defined in https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework.
For more details on the Base Date please refer to Appendix I.

2 Constructing the Indexes

The Indexes use company ratings and research provided by MSCI Solutions LLC ("MSCI Solutions")[5] to determine eligibility for index inclusion.

2.1 Applicable Universe

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

2.2 Eligible Universe

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

1. **Controversial Weapons**: All companies involved in Controversial Weapons as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes available at https://www.msci.com/index/methodology/latest/XCW
2. **Controversies**: All companies assessed as having involvement in controversies that are classified as Red Flags (MSCI Controversy Score of 0). A Red Flag indicates an ongoing, Very Severe controversy implicating a company directly through its actions, products, or operations. Companies with a Red Flag are also assessed as failing to comply with UN Global Compact[6] principles and excluded under both the Controversies and Global Norms screens.
3. **Global Norms – United Nations Global Compact Compliance**

   All companies that fail to comply with the United Nations Global Compact principles (UN Global Compact Alignment value of "Fail").
4. **Tobacco**: All companies classified as a "Producer"
5. **Environmental Harm**: All 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).
   - A Red Flag indicates an ongoing, Very Severe controversy implicating a company directly through its actions, products, or operations.

[5] See Section 4 for further information regarding sustainability and climate data used in the Indexes that MSCI Limited and MSCI Deutschland GmbH source from MSCI Solutions LLC ("MSCI Solutions"), a separate subsidiary of MSCI Inc. MSCI Solutions 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.

[6] A company receives a "Fail" designation under a specific Global Norms screen if it is alleged to be involved in one or more Red Flag controversy cases related to alignment with the following global norms: Organization for Economic Co-operation and Development, United Nations Global Compact, United Nations Guiding Principles on Business & Human Rights Alignment, International Labor Organization - Fundamental Principles and Rights at Work (with & without Health & Safety). For more details on Controversies or Global Norms, please refer to the MSCI Controversies and Global Norms Methodology.

- An Orange Flag indicates an ongoing Severe controversy implicating a company directly, or a Very Severe controversy that is either partially resolved or indirectly attributed to the company's actions, products, or operations.

6. **Thermal Coal**

- **Thermal Coal Mining**: All companies that derive 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 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 (either reported or estimated).
- **Thermal Coal Distribution**: All companies with evidence of thermal coal distribution or transport involvement. This includes transport of thermal coal by road, rail, shipping or air, and physical trading of thermal coal. It does not include involvement in storage of thermal coal, or involvement in metallurgical coal-related activities.

7. **Oil & Gas**

- **Oil Activities**: All companies deriving 10% or more aggregate revenue (either reported or estimated) from oil-related activities, including:
  i. Extraction and production of oil and natural gas liquids
  ii. Refining of oil fuels
  iii. Oil and oil products pipelines or natural gas liquids pipelines
  iv. Transportation of oil and oil products
  v. Distribution of oil and related products
  vi. Exploration as a service to the oil and natural gas industries.[7]
  vii. Drilling wells as a service to the exploration and production of oil and natural gas.[8]
- **Gas Activities:** All companies deriving 50% or more aggregate revenue (either reported or estimated) from gas-related activities, including:
  i. Extraction and production of natural gas
  ii. Processing of natural gas fuels
  iii. Natural gas pipelines
  iv. Transportation of natural gas

[7] The combined oil & gas screen is applied for companies where the disaggregated oil/gas revenue data underlying the separate oil and gas screens is not available or is not consistent. The combined oil & gas screen excludes all companies deriving 10% or more aggregate revenue from oil and gas related activities, including distribution / retail, equipment and services, extraction and production, pipelines and transportation and refining but excluding biofuel production and sales and trading activities. For further details, please refer to Appendix II of the MSCI EU CTB/PAB Index Framework at: https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework.

[8] As noted in footnote 7

v. Distribution of gas and related products

vi. Exploration as a service to the oil and natural gas industries.[9]

vii. Drilling wells as a service to the exploration and production of oil and natural gas.[10]

- **Oil, Gas Retail & Services:**

  i. All companies that derive 10% or more aggregate revenue from the retailing of oil and oil products. This data point includes revenue from crude and petroleum products, gasoline and fuel oil retail stations.

  ii. All companies that derive 50% or more aggregate revenue from gas retail sales and liquefied petroleum gas (bottled gas) dealers.

  iii. All companies that derive 50% or more aggregate revenue from equipment and services related to the oil and natural gas value chain. It includes:

    - Revenues from oil and gas equipment and services that play an important role in the oil and gas value chain including construction of refineries, pipelines, ship building and provision of other heavy construction services for oil and gas operations.
    - Leasing of land for oil and gas operations, rent and/or transportation of equipment for oil and gas operations.
    - Other solutions like provision of raw materials for the oil and gas related supply chain, providing water and waste solutions, communication services, fabrication services and transportation services for oil and gas.

  This does not include exploration and wells drilling for oil and gas.

8. **Power Generation**: All companies that derive 50% or more aggregate revenue from thermal coal-based power generation, liquid fuel-based power generation and natural gas-based power generation[11].

2.3 Optimization Constraints

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

1. Transition risk objectives – constraints detailed in Table 1

[9] As noted in footnote 7

[10] As noted in footnote 7.

[11] As per https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter7.pdf, thermal coal based power generation, liquid fuel based power generation and natural gas based power generation have median lifecycle emissions exceeding 100gCO2/kWh

2. Diversification objectives – constraints detailed in Table 2

Screened Parent

The Screened Parent is constructed by excluding securities from the Parent Index based on the exclusion criteria as defined in Section 2.2. The security weights are then normalized to 100%. The Screened Parent constitutes the optimization portfolio used to construct the Indexes at each Index Review.

Table 1: Constraints imposed to meet transition risk objectives

No.	Transition Risk Objective	Target Value
1.	Minimum reduction in Greenhouse Gas (GHG) Intensity (Scope 1+2+3)[12] relative to the Parent Indexes	50.5%
2.	Minimum average reduction (per annum) in GHG Intensity relative to GHG Intensity at the Base Date[13]	7%[14]
3.	Minimum active weight in High Climate Impact Sector[15]relative to the Parent Indexes	0.25%

Table 2: Constraints imposed to meet diversification objectives

No.	Diversification Objective	Target Value
4.	Asset Lower Bound	Maximum (Minimum constituent weight in the Screened Parent, 0.25 * Security Weight in the Screened Parent, Security Weight in the Screened Parent – 2%)
5.	Asset Upper Bound	Minimum (5 * Security Weight in the Screened Parent, Security Weight in the Screened Parent +2%)
6.	Active Sector Weights (the Energy GICS[16] Sector is not constrained)	+/- 5%

[12] Prior to the May 2020 Semi-Annual Index Review (SAIR) of the Indexes, the Weighted Average Carbon Emissions Intensity has been calculated based on Scope 1+2 Emissions.

[13] Prior to the May 2020 Semi-Annual Index Review (SAIR) of the Indexes, the average reduction in WACI has been calculated using Scope 1+2 Emissions since Inception.

[14] The 7% Minimum Average Reduction in GHG Intensity relative to the GHG Intensity at the Base Date is applied since the new decarbonization start date (December 1, 2022). Additionally, a 2% buffer is applied to the decarbonization trajectory as specified in Appendix I.

[15] For further details on how MSCI assigns companies to either the high or low climate impact sectors, please refer to the MSCI EU CTB/PAB Index Framework available on https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework.

[16] The Global Industry Classification Standard (GICS®) jointly developed by MSCI Inc. and S&P Dow Jones Indices.

No.	Diversification Objective	Target Value
7.	Active Country Weights[17]	+/- 5%
8.	One Way Turnover[18]	5%
9.	Common Factor Risk Aversion[19]	7.5
10.	Specific Risk Aversion[20]	0.75

The Weighted Average GHG Intensity on the Base Date and the base dates for the respective indexes are described in Appendix I.

The definitions of the target metrics for the optimization are detailed in Appendix II.

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 alternately relaxed, until an optimal solution is found:

- Relax the one-way index turnover constraint in steps of 1% up to 20%
- Relax the active sector weight constraint in steps of 1% up to +/-20%

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 Portfolio

The Indexes are constructed using the Barra Open Optimizer[21] 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 Indexes.

2.5 Treatment of Unrated Companies

Companies not assessed by MSCI Solutions on data for any of the following MSCI sustainability and climate products are not eligible for inclusion in the Indexes:

- MSCI Controversies

[17] In case there are countries in the Parent Index which weigh less than 2.5% in the Parent Index then for such countries the active country upper bound of +5% is not applicable. When a country weighs less than 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.

[18] At the May 2026 Index Review, the one-way turnover constraint was relaxed to 20% for the MSCI World Climate Paris Aligned Benchmark Select PAB Index and to 10% for the MSCI Europe Climate Paris Aligned Benchmark Select PAB Index and MSCI EMU Climate Paris Aligned Benchmark Select PAB Index.

[19] The Common Factor Risk Aversion penalizes systematic risk during the optimization process.

[20] The Specific Risk Aversion penalizes idiosyncratic (asset-specific) risk during the optimization process.

[21] Please refer to Appendix III for general details.

- MSCI Climate Change Metrics
- MSCI Business Involvement Screening Research (BISR)

For the treatment of unrated companies in the calculation of target metrics for the optimization, please refer to Appendix II.

3 Maintaining the Indexes

3.1 Semi-Annual Index Reviews

The Indexes are reviewed 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 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 Solutions LLC ("MSCI Solutions") data (including MSCI Climate Change Metrics, MSCI Climate Value-at-Risk, MSCI 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 Monthly Index Reviews

Index constituents are reviewed on a monthly basis for the involvement in controversies, compliance with the United Nations Global Compact Principles, tobacco producers and any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons).

Existing constituents will be deleted if they are assessed as having involvement in controversies that are classified as Red Flags[22] (MSCI Controversies Score of 0) or if they fail to comply with the UN Global Compact Principles (UN Global Compact Alignment value of "Fail") or if they are flagged under the Tobacco Producers or Controversial Weapons screens.

MSCI uses MSCI 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 Solutions by the end of the month preceding the review. For such securities, MSCI will use 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.

3.3 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.

[22] A Red Flag indicates an ongoing, Very Severe controversy implicating a company directly through its actions, products, or operations

Additionally, if the frequency of Index Reviews in the Parent Indexes is greater than the frequency of Index Reviews in the Index, the changes made to the Parent Indexes 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 if the spin-off security is also added to the Parent Index. 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/latest/CE.

4 MSCI Solutions

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

4.1 MSCI Controversies

MSCI 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 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 Controversies Score falls on a 0-10 scale, with "0" being the most severe controversy.

The MSCI Controversies methodology can be found at:
https://www.msci.com/legal/sustainability-and-climate-resources-and-disclosures

4.2 MSCI Business Involvement Screening Research

MSCI Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

The MSCI Business Involvement Screening Research methodology can be found at:
https://www.msci.com/legal/sustainability-and-climate-resources-and-disclosures

4.3 MSCI Climate Change Metrics

MSCI Climate Change Metrics provides climate data and tools to support institutional investors seeking to integrate climate risk and 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/legal/sustainability-and-climate-resources-and-disclosures

4.3.1 Fossil Fuels and Power Generation Metrics

MSCI Solutions identifies companies involved in fossil fuel-related assets and activities including fossil fuel reserves, resource extraction, power generation and generation capacity, revenue from such assets and activities and capital investments in such assets and activities. The metrics are based on disclosed activities, disclosed revenue and estimates of revenue that are extrapolated from company disclosures and eligible third-party sources (such as NGOs).

4.3.2 Greenhouse Gas (GHG) Emissions

MSCI Solutions collects reported emissions and uses proprietary estimation methodologies that follows the GHG Protocol in including carbon dioxide (CO2) and the five other principal GHGs: hydrofluorocarbons (HFCs), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). Emissions of these other gases are accounted for in terms of the quantity of CO2 that has an equivalent global warming potential.

Appendix I: Decarbonization Trajectory of Indexes

The Weighted Average GHG Intensity on the Base Date (W_{t_b}) is used to compute the target Weighted Average GHG Intensity (W_t) at any given Semi-Annual Index Review. applying a 7% year-on-year reduction as per the below formula:

$$W_t = W_{t_b} * \ 0.93^{\frac{(t-t_b)}{2}} * (1 - decarb\ buffer)$$

Where '$t - t_b$' is the number of Semi-Annual Index Reviews since (not including) the Base Date and 'decarb buffer' equals 2%. The table below shows the Weighted Average GHG Intensity on the Base Date (W_{t_b}) for each of the regions where the Indexes are constructed, starting from the May 2026 Index Review:

Index	Parent Index	Base Date	W_{tb}(tCO2/M$ Enterprise Value + Cash)
MSCI World Climate Paris Aligned Benchmark Select PAB Index	MSCI World Index	December 01, 2022	209.822
MSCI Europe Climate Paris Aligned Benchmark Select PAB Index	MSCI Europe Index	December 01, 2022	291.106
MSCI EMU Climate Paris Aligned Benchmark Select PAB Index	MSCI EMU Index	December 01, 2022	275.916

The calculation of the targeted decarbonization trajectory is specified in section 4 of the MSCI EU CTB/PAB Index Framework[23].

Decarbonization Trajectory for the MSCI Climate Paris Aligned Benchmark Select PAB Indexes, as adjusted at the May 2026 Index Review

New Base Date and Decarbonization Start Date

At the May 2026 Index Review, a new Base Date was set for the Indexes in accordance with Article 8 of Commission Delegated Regulation (EU) 2020/1818 and Section 5.1: Changes in Base Dates, of the MSCI EU CTB/PAB Index Framework, in response to significant changes to the calculation methodology of the GHG intensity:

- Changes to the estimation methodology for scope 3 emissions, which were implemented by MSCI Solutions between June 2020 and May 2026.
- Switch of the calculation of the GHG intensity from using latest emissions and latest enterprise value, to using emissions and enterprise value from the same reporting year, resulting in a conceptual change to the interpretation of the GHG intensity.

[23] For further details on the MSCI EU CTB/PAB Index Framework, please refer to: https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework

These changes were assessed to result in a fundamental, conceptual difference in the GHG intensity calculation, in line with section 5.1.b. of the MSCI EU CTB/PAB Index Framework.

At the May 2026 Index Review, a customized approach to adjust the decarbonization trajectory of the Indexes was used (compared to the default approach described in the MSCI EU CTB/PAB Index Framework). Under this customized approach, both the Base Date and the Decarbonization Start Date (i.e. the applicable starting point for the decarbonization trajectory of the Indexes) were changed from June 1, 2020 to December 1, 2022.

Details of the Calculation

At the May 2026 Index Review, the updated Weighted Average GHG Intensity on the Base Date W_{t_b} was recalculated, using the updated GHG intensity methodology applied to the underlying data as of the updated Base Date (t_b = December 1, 2022, i.e. for the November 2022 Index Review).

Starting from the May 2026 Index Review, the decarbonization constraints applied to the Indexes are hence consistent with the Indexes decarbonizing since December 1, 2022, under the updated GHG intensity calculation methodology as described above.

More precisely, the updated decarbonization trajectory of the Indexes was determined as follows:

a) $W_{t_b,parent}^{recalculated}$ was determined as the GHG intensity of each Parent Index (see section 2.1), as of the November 2022 Index Review, recalculated utilizing the latest scope 3 emissions model and combining the emissions with the EVIC from the same year, based on the availability of underlying data as of the November 2022 Index Review.

b) The updated Weighted Average GHG Intensity on the Base Date (W_{t_b}) of each Index was obtained by applying the initial decarbonization percentage of 50.5% to the GHG intensity of the Parent Index at the November 2022 Index Review, recalculated with the latest emissions model as per item a) above, i.e. $W_{t_b} = W_{t_b,parent}^{recalculated} * (1 - 0.5)$

c) The start date for the calculation of the Enterprise Value Inflation Adjustment Factor (EVIAF) was set to December 1, 2022.

Appendix II: Calculation of Target Metrics

Greenhouse Gas (GHG) Emissions Intensity

MSCI Solutions 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 Solutions estimates Scope 1 and Scope 2 GHG emissions.

MSCI Solutions estimates company-specific indirect (Scope 3) GHG emissions from the Scope 3 Carbon Emissions Estimation Model. The data is generally updated on an annual basis.

Calculation of GHG Intensity

Carbon emissions of a company are normalized for size by dividing annual carbon emissions by Enterprise Value including Cash (EVIC) from the same reporting year, based on the availability of underlying data. The Carbon Emissions Intensity is calculated using the latest Scope 1+2 carbon emissions, Scope 3 carbon emissions and EVIC of a company.

Security Level GHG Intensity (Scope 1+2+3) =

*(Unadjusted Security Level GHG Intensity (Scope 1+2) + Unadjusted Security Level GHG Intensity (Scope 3)) * (1 + EVIAF)*

Unadjusted Security Level GHG Intensity (Scope 1+2) =

$$\frac{(Scope\ 1+2\ Carbon\ Emissions)}{EVIC\ (in\ M\$)}$$

Missing Data Treatment

If Scope 1+2 carbon emissions and/or EVIC 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.

Unadjusted Security Level GHG Intensity (Scope 3) =

$$\frac{(Scope\ 3\ Carbon\ Emissions)}{EVIC\ (in\ M\$)}$$

Missing Data Treatment

If Scope 3 carbon emissions and/or EVIC are not available, the average Scope 3 intensity of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the security belongs is used.

Enterprise Value Inflation Adjustment Factor (EVIAF) =

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

The EVIC data used for the EVIAF calculation is as of the same reporting year as the company's emissions.

Weighted Average GHG Intensity of Parent Index =

$$\sum(Weight\ in\ Parent\ Index * \ Security\ Level\ GHG\ Intensity)$$

Weighted Average GHG Intensity of Derived Index =

$$\sum(Index\ Weight * \ Security\ Level\ GHG\ Intensity)$$

Appendix III: Company-Level Sustainable Exposure Calculation of Index SE%

A company qualifies as having company-level sustainable exposure if it meets all the following conditions:

1. MSCI ESG Rating of "BB" or above[24]
2. MSCI Controversies Score of 2 or above[25]
3. At least one of the following conditions is met:
   a. Derives 20% or more aggregate revenue from any of the thirteen social and environmental impact categories of Sustainable Impact Metrics (including nutrition, sanitation, major diseases treatment, SME finance, education, connectivity, affordable real estate, alternative energy, energy efficiency, green building, pollution prevention, sustainable agriculture and sustainable water)
   b. Has one or more active carbon emissions reduction target(s) approved by the Science Based Targets initiative (SBTi)
4. Not flagged by the following business involvement criteria:
   a. Has any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), in line with the methodology of the MSCI Ex-Controversial Weapons Indexes available at https://www.msci.com/index-methodology
   b. Derives 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
   c. Manufactures tobacco products, such as cigars, blunts, cigarettes, e-cigarettes, inhalers, beedis, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco
   d. Derives 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products

The index-level sustainable exposure is calculated as the sum of the weight of companies in the index that qualify as having company-level sustainable exposure.

[24] The condition is not met if the MSCI ESG Rating is missing for the company.

[25] The condition is not met if the MSCI Controversies Score is missing for the company.

Appendix IV: New Release of Barra® Equity Model or Barra® Optimizer

The Indexes currently uses an optimization setup using the MSCI Barra Global Equity Model for Long-Term Investors (GEMLTL).

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

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/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
- MSCI EU CTB/PAB Index Framework – https://www.msci.com/index/methodology/latest/EUCTBPABIndexFramework
- 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 updated as of November 2022:

- Introduction: Updated to reflect the new requirement on index-level sustainable exposure
- Section 3.3: Updated Optimization Constraints to reflect the optimization constraints on index-level sustainable exposure
- Appendix 3: Introduced to reflect the criteria used to determine the company-level sustainable exposure qualification and the calculation of index-level sustainable exposure

The following sections have been updated as of May 2023:

Section 1: Introduction

- Updated the description of the MSCI Climate Paris Aligned Benchmark Select Indexes and added footnote on the Methodology Set

Section 2: Index Construction

- The reference to the Climate Paris Aligned Indexes methodology for the companies setting target constraint was removed
- The language for Controversies and Environmental Controversies were modified using the latest product descriptions from MSCI Solutions

Section 3: Maintaining the Index

- The reference to the MSCI Global Investable Market Indexes (GIMI) Indexes was updated due the change towards the Quarterly Comprehensive Index Reviews.

Section 4: MSCI Solutions

- Moved the section after Section 3 (Maintaining the Indexes)
- Updated the descriptions of MSCI sustainability and climate products.

Appendix

- Updated the weighted average carbon emissions for the Indexes.
- Added further details for the companies setting target constraint.

The following sections have been updated as of November 2023:

Section 2.3

- The definition of companies setting target was enhanced in Table 1 to reflect the enhancement of the methodology at November 2023 Index Review.

Section 2.4

- The treatment of companies with ratings and research not available from MSCI Solutions was added.

Appendix IV and V

- The MSCI Value-at-Risk section and the Calculation of Target Metrics section was added.
- The Climate Value-at-Risk models were updated in Appendix II and III.

The following sections have been updated as of May 2024

Section 2.1 Eligible Universe:

- Clarify description for Thermal Coal Mining screen.

Appendix VI: MSCI Low Carbon Transition Risk Assessment

- Added new Appendix for the Low Carbon Transition Risk Assessment.

Appendix VII and VIII:

- Added details on Barra Open Optimizer and Barra Equity Model

Appendix X: Methodology Set

- Added details on the Methodology Set for the Indexes

The following sections have been updated as of November 2024

Section 2.1 Eligible Universe:

- Added exclusion criteria for Weapons.

Section 2.2 : Optimization constraints

- Updated thresholds for selected optimization constraints.

Section 2.4: Treatment of Unrated Companies

- Added the treatment of companies when data on Business Involvement Screening Research or Climate Change Metrics research is not available from MSCI Solutions

The following section has been modified as of December 2024

Section 4.1: MSCI Climate Change Metrics

- Added sub-sections under Climate Change Metrics to provide additional details on Fossil Fuels related activities, Greenhouse Gas Emissions, Low-Carbon Transition, Climate Value-at-Risk.

The following sections have been modified as of May 2025

Section 1: Introduction

- Updated footnote with reference to the MSCI EU CTB/PAB Index Framework.

Section 2.1: Eligible Universe

- Updated exclusion criteria of Thermal Coal to add thermal coal distribution screen.

Section 2.2: Optimization Constraints, Appendix V: Calculation of Target Metrics

- Added references to the MSCI EU CTB/PAB Index Framework for the definition of climate impact sectors and calculation of decarbonization trajectory.

Appendix I: Decarbonization Trajectory of Indexes

- Added reference to the MSCI EU CTB/PAB Index Framework for the calculation of the decarbonization trajectory.

Appendix X: Methodology Set

- Added reference to MSCI EU CTB/PAB Index Framework.

The following section has been modified as of December 2025

- The methodology and Index names were updated. As of December 3, 2025, the MSCI Climate Paris Aligned Benchmark Select Indexes have been renamed to MSCI Climate Paris Aligned Benchmark Select PAB Indexes.

The following sections have been modified as of May 2026

Section 1: Introduction

- Updated the introduction to reflect the changes to the climate objectives

Section 2.2: Eligible Universe

- The conventional weapons, nuclear weapons, civilian firearms and oil sands screens were removed.
- Tobacco and oil & gas screens were modified.
- Oil, gas retail & services screen was added.

Section 2.3: Optimization Constraints

- The year-on-year decarbonization target was updated to 7%
- Introduction of a 2% buffer applied to the decarbonization trajectory
- The constraints on Potential Emissions, Companies Setting Targets, Green to Fossil Fuel Revenues, Low Carbon Transition (LCT) Score, Climate Value-at-Risk, and Green Revenue were removed.
- The thresholds for selected optimization constraints were updated.

Section 3.2: Monthly Reviews

- Updated section to incorporate the monthly review for companies flagged under the Tobacco Producers or Controversial Weapons screens

Section 4.3: Climate Metrics

- Sections 4.3.3: Low-Carbon Transition (LCT) Risk Assessment and 4.3.4 Climate Value-at-Risk (VaR) were removed.

Appendix I: Decarbonization Trajectory of the Indexes

- The year-on-year decarbonization target was updated to 7% with a 2% buffer.
- Updated Base Date for all Indexes to December 1, 2022.
- Added a new subsection describing the decarbonization trajectory applicable to MSCI Climate Paris Aligned Benchmark Select PAB Indexes.
- Clarified description of the Base Date reset process and updated the formatting of equations and tables for clarity.
- Added cross-references to the MSCI EU CTB/PAB Index Framework Book to clarify the basis for the Base Date resets and decarbonization trajectory adjustment.
- Added a new table summarizing Base Dates, Decarbonization Start Dates, and Weighted Average GHG Intensities at the Base Date (W_{t_b}) for all relevant Indexes.
- Updated Base Date and Decarbonization Start Date for all Indexes to December 1, 2022.

Appendix II: Calculation of Target Metrics

- The calculation of Green House Gas (GHG) intensity and average decarbonization descriptions were updated.
- The companies setting targets, calculation of green revenue to fossil fuels-based revenue multiple and potential emissions were removed.

The following Appendixes have been removed:

- Appendix II: Additional ESG Exclusions Criteria
- Appendix III: Company Level Sustainable Exposure Calculation of Index SE%
- Appendix IV: MSCI Climate Value-at-Risk
- Appendix VI: MSCI Low Carbon Transition Risk Assessment
- Appendix VIII: Barra Equity Model Used in the Optimizer

The following section have been modified as of August 2026

Section 1: Introduction

- Clarified that the minimum active weight for High Climate Impact sectors is +0.25% relative to the Parent Index

Appendix I: Decarbonization Trajectory of Indexes

- The Weighted Average GHG Intensity on the Base Date was corrected.

Appendix III: Company-Level Sustainable Exposure Calculation of Index SE%

- The details of the Index SE% calculation have been reintroduced, as the SI% constraint remains applicable.

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