

MSCI SRI Filtered PAB Indexes Methodology

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1 Introduction

The MSCI SRI Filtered PAB Indexes¹ (the “Indexes”) are designed to represent the performance of companies that are selected from their corresponding market capitalization weighted indexes (the ‘Parent Indexes’) based on Environmental, Social and Governance (ESG) criteria and to meet the minimum requirements of the EU Paris Aligned Benchmark (EU PAB)².

These criteria exclude constituents based on involvement in specific business activities, as well as ESG ratings and exposure to ESG controversies. The Indexes are derived from the Parent Indexes and aim to achieve sector weights that reflect the sector weights of the corresponding Parent Indexes. The Index construction targets 25%³ coverage of each Global Industry Classification Standard (GICS®)⁴ sector by selecting constituents primarily based on criteria including the ESG rating, current Index membership⁵ and company’s industry-adjusted ESG score.

The Indexes are also designed to align with the minimum requirements for EU PAB. At the final step, the Indexes are constructed using an optimization-based approach and aim to:

- Exclude companies based on their involvement in Controversial Weapons, ESG Controversies, Environmental Controversies, Tobacco, Thermal Coal, Oil & Gas and Fossil Fuel-based power generation⁶.
- Reduce the weighted average greenhouse gas intensity by 50% compared to the Reference Index⁷.
- Reduce the weighted average greenhouse gas (GHG) intensity by 7% on an annualized basis
- Have an equivalent weight in companies which are categorized as High Climate Impact sector relative to the weight of such companies in the Reference Index.
- Achieve low turnover and seek to minimize tracking error relative to the SRI Filtered Universe, as defined in Section 2.2.

¹ The full list of Indexes is in Section 2 of this document.

² On December 3, 2020, the European Commission has published the delegated acts in the Official Journal (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1818&from=EN>) which contain the minimum technical requirements for the EU Climate Transition Benchmark. In case there are changes in the EU delegated acts 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.

³ The Index construction targets 50% for the MSCI UK IMI SRI Filtered PAB Index.

⁴ GICS, the global industry classification standard jointly developed by MSCI and S&P Global Market Intelligence.

⁵ At certain steps during Index construction, existing constituents are prioritized.

⁶ The Indexes are governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document. Please refer to Appendix 10 for more details.

⁷ The Reference Index is the free float-adjusted market capitalization weighted Index which corresponding to the Parent Index as per the MSCI Global Investible Markets Index methodology. The optimization constraints in Table 3 of Section 2.2.3 are applied relative to the Reference Index.

2 Constructing the Indexes

The Indexes are constructed by first constructing a SRI Filtered Universe, followed by an optimization-based approach to construct the SRI Filtered PAB Universe which aligns with the minimum requirements of EU PAB.

The Indexes and their respective Parent Indexes are listed in the table below.

Index Name	Parent Index
MSCI ACWI SRI Filtered PAB Index	MSCI ACWI
MSCI World SRI Filtered PAB Index	MSCI World Index
MSCI World ex EMU SRI Filtered PAB Index	MSCI World ex EMU Index
MSCI EM (Emerging Markets) SRI Filtered PAB Index	MSCI EM Index
MSCI EM Asia SRI Filtered PAB Index	MSCI EM Asia Index
MSCI USA SRI Filtered PAB Index	MSCI USA Index
MSCI Europe SRI Filtered PAB Index	MSCI Europe Index
MSCI EMU SRI Filtered PAB Index	MSCI EMU Index
MSCI UK IMI SRI Filtered PAB Index	MSCI UK IMI
MSCI Japan SRI Filtered PAB Index	MSCI Japan Index
MSCI Pacific ex Japan SRI Filtered PAB Index	MSCI Pacific ex Japan Index

2.1 Reference Indexes

The Reference Indexes aim to represent the investment universe for the Parent Index. This “Reference Index” is the free float-adjusted market capitalization weighted index corresponding to the Parent Index as per the MSCI Global Investible Markets Index (GIMI) methodology. The constraints in Table 5 of Section 2.3 are applied relative to the Reference Index for this methodology.

2.2 SRI Filtered Universe

The first step in the construction of the SRI Filtered Universe (applied on all Indexes except the MSCI Pacific ex Japan SRI Filtered PAB Index) is described below:

- An issuer cap⁸ of 1.25% is applied on the Parent Index
- This step seeks to align sector weights to the sector weights of the corresponding Parent Indexes, while maintaining the issuer cap.

⁸ An issuer cap of 2.5% is applied for the MSCI UK IMI SRI Filtered PAB index which targets 50% coverage of each GICS sector of the Parent Index.

Please refer to Appendix 6 for the construction steps of the MSCI Pacific ex Japan SRI Filtered PAB Index.

Eligibility Criteria

The Indexes use company ratings and research provided by MSCI ESG Research⁹ for Index construction.

2.2.1.1 Values and Climate Change Based Screening Criteria

The Indexes use 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 SRI Filtered Universe for all Indexes except the MSCI UK IMI SRI Filtered PAB Index. Please refer to Appendix 1 for details on the exclusion criteria.

Values-based Exclusions:

- Tobacco
- Controversial Weapons
- Civilian Firearms
- Nuclear Weapons
- Conventional Weapons
- Alcohol
- Adult Entertainment
- Gambling
- Genetically Modified Organisms
- Nuclear Power

Climate Change-based Exclusions:

- Extraction & Production
 - Thermal Coal Mining
 - Unconventional Oil & Gas Extraction
 - Conventional Oil & Gas Extraction
- Power Generation
 - Thermal Coal-based Power Generation
 - Oil & Gas-based Power Generation

⁹ See section 4 for further information regarding ESG and climate data used in the Indexes that MSCI Limited sources 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. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrator for the MSCI indexes.

- Fossil Fuel Reserves Ownership
 - Fossil Fuel Reserves for Energy Application
 - Thermal Coal Reserves

Please refer to Appendix 4 for details on the ESG screening criteria for the MSCI UK IMI SRI Filtered PAB Index

2.2.1.2 ESG Ratings Eligibility

The Indexes use MSCI ESG Ratings to identify companies that have demonstrated an ability to manage their ESG risks and opportunities.

- Companies are required to have an MSCI ESG Rating of 'A' or above to be eligible for inclusion in the SRI Filtered Universe. This applies for all Indexes except the MSCI UK IMI SRI Filtered PAB Index.
- Specifically, for the MSCI UK IMI SRI Filtered PAB Index, companies are required to have a minimum MSCI ESG Rating of 'BB' or above to maintain the eligibility in the SRI Filtered Universe.

2.2.1.3 ESG Controversies Score Eligibility

The Indexes use MSCI ESG Controversies Scores to identify companies that are involved in very serious controversies associated with the environmental, social, or governance impact of their operations and/or products and services.

- Companies are required to have an MSCI ESG Controversies Score of 4 or above to be eligible for inclusion in the SRI Filtered Universe for all Indexes except the MSCI UK IMI SRI Filtered PAB Index.
- Specifically, for the MSCI UK IMI SRI Filtered PAB Index, companies are required to have an MSCI ESG Controversies Score of 1 or above to be eligible for inclusion in the SRI Filtered Universe

Companies not assessed by MSCI ESG Research on MSCI ESG Controversies are not eligible for inclusion in the Indexes.

Index Construction

The SRI Filtered Universe targets 25% (50% for the UK IMI SRI Filtered PAB Index) coverage of each GICS sector of the underlying Parent Index.

The SRI Filtered Universe is constructed by applying the following methodology to the regional carve-out of the Parent Indexes.

The SRI Filtered Universe for the MSCI World SRI Filtered PAB and MSCI EM (Emerging Markets) SRI Filtered PAB Indexes are constructed by applying the Eligibility Criteria and selection step to the regional carve-outs of their corresponding Parent Indexes and then aggregating them together.

The following regions are used to construct the SRI Filtered Universe for the MSCI World SRI Filtered PAB Index:

Table 1: Regional; carve-out for the MSCI World SRI Filtered PAB Index

Region	Regional Carve-out
Developed Asia Pacific	MSCI Pacific Index
Developed Europe & Middle East	MSCI Europe & Middle East Index
Canada	MSCI Canada Index
USA	MSCI USA Index

The following regions are used to construct the SRI Filtered Universe for the MSCI EM (Emerging Markets) SRI Filtered PAB Index:

Table 2: Regional; carve-out for the MSCI EM SRI Filtered PAB Index

Region	Regional Carve-out
Emerging Asia	MSCI Emerging Markets Asia Index
Emerging Europe, Middle East & Africa	MSCI Emerging Markets Europe, Middle East & Africa Index
Emerging Latin America	MSCI Emerging Markets Latin America Index

The Regional Carve-outs mentioned in Table 1 and Table 2 are used to create the MSCI ACWI SRI Filtered PAB Index.

The following regions are used to construct the SRI Filtered Universe for the MSCI World ex EMU SRI Filtered PAB Index:

Table 3: Regional; carve-out for the MSCI World ex EMU SRI Filtered PAB Index

Region	Regional Carve-out
Developed Asia Pacific	MSCI Pacific Index
Developed Europe & Middle East ex EMU	MSCI Europe & Middle East ex EMU Index
Canada	MSCI Canada Index
USA	MSCI USA Index

The SRI Filtered Universe for the following Indexes are constructed by targeting 25% (50% for UK IMI) coverage of each GICS sector of the Parent Index.

Table 4: Regional Indexes of the SRI Filtered Universe

SRI Filtered Universe	Parent Index
Europe SRI Filtered Universe	MSCI Europe Index
EMU SRI Filtered Universe	MSCI EMU Index
Japan SRI Filtered Universe	MSCI Japan Index
UK IMI SRI Filtered Universe	MSCI UK IMI Index

Security Weighting

Eligible constituents in the SRI Filtered Universe are weighted in proportion of its issuer cap adjusted free float market capitalization.

2.3 SRI Filtered PAB Indexes

The SRI Filtered PAB Indexes are constructed from their corresponding SRI Filtered Universes in the following steps.

Screening of Ineligible Companies

The Eligible Universe is constructed from the SRI Filtered Universe by excluding securities of companies based on the exclusion criteria below:

- Controversial Weapons:** All companies involved in Controversial Weapons as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes¹⁰.
- 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.
- 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 ESG controversy implicating a company directly through its actions, products, or operations.
 - 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.
- Tobacco:** All companies that are involved in the manufacturing of Tobacco products

¹⁰ For more details regarding the MSCI Global Ex-Controversial Weapons Index methodology, please refer to <https://www.msci.com/index/methodology/latest/XCW>.

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 producers), intra-company sales of mined thermal coal, and revenue from coal trading (either reported or estimated)
6. **Oil & Gas**: All companies deriving 10% or more 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.
7. **Power Generation**: All companies deriving 50% or more revenue from thermal coal based power generation, liquid fuel based power generation and natural gas based power generation¹¹.

Security Selection and Weighting

After the screening of ineligible companies as per Section 2.3.1 of this methodology document, securities in the SRI Filtered Universe are selected and weighted following an optimization process below in Section 2.3.3..

2.3.3 Optimization Constraints

At each Annual and Quarterly 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 SRI Filtered Universe subject to the following constraints:

1. Climate objectives – constraints detailed in Table 3
2. Diversification objectives – constraints detailed in Table 4

The definitions of the target metrics for the optimization are detailed in Appendix 3.

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.

Table 5: Constraints imposed to meet climate objectives

No.	Climate Objectives	MSCI SRI Filtered PAB Indexes
1.	Minimum reduction in Greenhouse Gas (GHG) Intensity (Scope 1+2+3 ¹²) relative to the Reference Index	50%
2.	Minimum average reduction (per annum) in GHG Intensity relative to GHG Intensity of the index at the Base Date ¹³	7%
3.	Minimum active weight in High Climate Impact Sector relative to Reference Index as defined in Appendix 3	0%

Table 6: Constraints imposed to meet diversification objectives

No.	Diversification Objective	MSCI SRI Filtered PAB Indexes
4.	Constituent Active Weight relative to the SRI Filtered Universe ¹⁴	+/- 2%
5.	Security Weight as a multiple of its weight in the SRI Filtered Universe	20x
6.	Active Sector Weights (the Energy GICS Sector is not constrained) relative to the SRI Filtered Universe	+/-5%
7.	Active Country Weights relative to the SRI Filtered Universe ¹⁵	+/-5%
8.	Maximum Issuer Weight	5%
9.	One Way Turnover during Annual Index Reviews ¹⁶	15%

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. Additionally, the May 2022 Index review for the MSCI Pacific ex Japan SRI Filtered PAB Index was conducted by applying a base reset. Hence, in this case, constraint 2 mentioned in table 1 was not applied. For subsequent index reviews, the Base Date for MSCI Pacific ex Japan SRI Filtered PAB Index will be as per the May 2022 Index review.

¹⁴ The May 2023 Index Review for MSCI UK IMI SRI Filtered PAB Index was conducted by relaxing the Constituent Active Weight lower bound constraint to -3% in order to achieve a feasible solution during the optimization process.

¹⁵ 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.

¹⁶ The one-way turnover constraint was relaxed at the May 2022 Index Review for MSCI Japan (36%) and Pacific ex Japan (33%) SRI Filtered PAB Indexes in order to achieve a feasible solution during the optimization process.

The one-way turnover constraint was relaxed at the May 2023 Index Review for the MSCI ACWI (30%), EMU (33%), Europe (28%), Japan (45%), Pacific ex Japan (27%), USA (31%), World (30%) and World ex EMU (30%) SRI Filtered PAB Indexes in order to achieve a feasible solution during the optimization process.

The one-way turnover constraint was relaxed at the May 2024 Index Review for the MSCI EMU (22%), Japan (24%), Pacific ex Japan (33%) SRI Filtered PAB Indexes in order to achieve a feasible solution during the optimization process.

No.	Diversification Objective	MSCI SRI Filtered PAB Indexes
10.	One Way Turnover during Quarterly Index Reviews	5%
11.	Common Factor Risk Aversion	0.0075
12.	Specific Risk Aversion	0.075

During the Index Reviews, 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 1% up to 20%
- Relax the active sector weight constraint in steps of 1% up/down to +/-20%
- The one-way index turnover constraint and the active sector weight constraint 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 Index Review.

2.3.4 Determining the Optimized Index

The Indexes are constructed using the Barra Open Optimizer¹⁷ in combination with the relevant Barra Equity Model. The optimization uses the universe of eligible securities and the specified optimization objectives and constraints to determine the constituents of and the weights of constituents in the Indexes.

¹⁷ Please refer to Appendix 4 and 5 for more details.

3 Maintaining the Indexes

3.1 Annual Index Review

The Indexes are reviewed on an annual basis in May to coincide with the May Index Review of the Parent Indexes, and the changes are implemented at the end of May. The pro forma indexes are generally announced nine business days before the effective date.

In general, MSCI uses MSCI ESG Research data¹⁸ (including MSCI ESG Ratings, MSCI ESG Controversies Scores, MSCI Business Involvement Screening Research and MSCI Climate Change Metrics) as of the end of the month preceding the Index Reviews for the rebalancing of the Indexes. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available, for the rebalancing of the Indexes.

At each Annual Index Review, the SRI Filtered Universe is updated, and the composition of the Indexes is reassessed in order to target 25% (50% for the MSCI UK IMI SRI Filtered PAB Index) cumulative coverage of each sector of the Parent Index.

Updating the Eligible Universe

The eligible universe is updated during each Annual Index Review.

Companies that are not existing constituents of the SRI Filtered Universe are evaluated using the same eligibility criteria described in Section 2.2.

Existing constituents of the SRI Filtered Universe are maintained in the eligible universe if they meet all the following conditions:

- MSCI ESG Rating of 'BB' or above
- MSCI ESG Controversies Score of 1 or above
- Not screened by the business involvement criteria described in Section 2.2.1.1

Ranking of Eligible Securities

For each sector, eligible securities of the regional Parent Index are ranked based on the following criteria:

- ESG Rating
- Current index membership (existing constituents above non-constituents)
- Industry adjusted ESG scores
- Decreasing issuer cap adjusted free float market capitalization .

¹⁸ See section 4 for details of data sourced from MSCI ESG Research used in the Indexes.

3.1.3 Selection of Eligible Securities

For each sector, eligible securities of the regional Parent Index are then selected from the ranked universe in the following order until the target 25% (50% for the UK IMI SRI Filtered PAB Index) coverage is reached:

- Securities in the top 17.5% (35% for the UK IMI SRI Filtered PAB Index) cumulative coverage of the ranked universe, including the first security that increases the cumulative coverage above 17.5% (35% for the UK IMI SRI Filtered PAB Index)
- 'AAA' and 'AA' rated securities in the top 25% (50% for the UK IMI SRI Filtered PAB Index) cumulative coverage of the ranked universe, including the first security that increases the cumulative coverage above 25% (50% for the UK IMI SRI Filtered PAB Index)
- Current index constituents in the top 32.5% (65% for the UK IMI SRI Filtered PAB Index) cumulative coverage of the ranked universe, including the first security that increases the cumulative coverage above 32.5% (65% for the UK IMI SRI Filtered PAB Index) if that security is a current index constituent.
- Remaining eligible securities in the ranked universe

Please refer to Appendix 2 for additional details on the ranking and selection rules for all indexes except the MSCI Pacific ex Japan SRI Filtered PAB Index. Please refer to Appendix 7 for additional details on the ranking and selection rules for the MSCI Pacific ex Japan SRI Filtered PAB Index.

3.2 Quarterly Index Reviews

The Indexes are also reviewed on a quarterly basis in February, August and November to coincide with the regular Index Reviews of the Parent Indexes. The changes are implemented at the end of February, August and November. The pro forma indexes are generally announced nine business days before the effective date.

For the Quarterly Index Reviews, MSCI ESG Ratings, MSCI ESG Controversies Score assessments, MSCI BISR data and MSCI Climate Change Metrics data are taken as of the end of the month preceding the Index Reviews, i.e., January, July and October. For some securities, this data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available, for the rebalancing of the Indexes.

At the Quarterly Index Reviews, existing constituents are deleted from the SRI Filtered Universe if they do not meet the eligibility criteria described in Section 3.1.1. Existing constituents that meet the eligibility criteria are retained in the indexes.

Additions from the eligible securities as per Section 2.2 are made only to sectors where the current coverage is less than 22.5% (45% for the MSCI UK IMI SRI Filtered PAB Index), until the 25% (50% for the MSCI UK IMI SRI Filtered PAB Index) target is reached.

Market price movements may cause small deviations in the sector coverage between two Index Reviews. Therefore, to minimize turnover, a buffer of 10% is used on the target coverage of 25% (50% for the MSCI UK IMI SRI Filtered PAB Index) to define under-representation.

3.3 Monthly Review of Controversies

Index constituents are reviewed on a monthly basis for the involvement in ESG and Environmental Controversies¹⁹.

Existing constituents will be deleted if they are assessed as having involvement in ESG controversies that are classified as Red Flags (MSCI ESG Controversies Score of 0) or 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 ESG controversy implicating a company directly through its actions, products, or operations. 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. Existing index constituents with missing MSCI ESG Controversy Scores are not deleted during the Monthly Review of Controversies.

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

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

3.4 Ongoing Event Related Changes

The general treatment of corporate events in the Indexes aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor's participation in an event based on relevant deal terms and pre-event weighting of the Index constituents that are involved. Further, changes in Index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

Additionally, if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the Indexes, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the Indexes.

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

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

Parent Index deletions will be reflected simultaneously.

There are no deletions from the Indexes between Index Reviews because of a security becoming ineligible because of MSCI ESG Rating downgrade and/or decrease in MSCI ESG Controversies Score and/or change in business involvement.

¹⁹ The monthly review of ESG and Environmental Controversies is applied within the Index, starting on July 2023, and is not applicable historically prior to that date.

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

Securities created as a result of the spin-off of an existing Index constituent will not be added to the Index at the time of event implementation. Reevaluation for inclusion in the Indexes 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 Ratings, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research and MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited and MSCI Deutschland GmbH.

4.1 MSCI ESG Ratings

MSCI ESG Ratings aim to measure entities' management of environmental, social and governance risks and opportunities. MSCI ESG Ratings use a weighted average key issue calculation that is normalized by industry to arrive at an industry-adjusted ESG score (0-10), which is then translated to a seven-point scale from 'AAA' to 'CCC', indicating how an entity manages relevant key issues relative to industry peers.

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

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/legal/disclosures/esg-disclosures>.

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.

The MSCI Business Involvement Screening Research methodology can be found at: <https://www.msci.com/legal/disclosures/esg-disclosures>.

4.4 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 1: Values and Climate Change Based Screening Criteria

Companies whose activities meet the following values and climate change-based criteria, as evaluated by MSCI ESG Research, are excluded from the Indexes.

Values-based Exclusions Criteria:

- **Controversial Weapons**
 - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes available at <https://www.msci.com/index/methodology/latest/XCW>
- **Nuclear Weapons**
 - All companies that manufacture nuclear warheads and/or whole nuclear missiles
 - All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles)
 - All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons
 - All companies that provide auxiliary services related to nuclear weapons
 - All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles) but can be used in nuclear weapons
 - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons but have the capability to deliver nuclear weapons
 - All companies that manufacture components for nuclear-exclusive delivery platforms
- **Civilian Firearms**
 - All companies classified as “Producer” of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets.
 - All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.
- **Aggregate Weapons**
 - All companies deriving 5% or more aggregate revenue from conventional, controversial and nuclear weapons based on the following categories:

- Companies involved in the production of conventional weapons, components for such products or support systems and services for such products.
- Companies involved in the production of biological or chemical weapons, components for such products.
- Companies involved in the production of blinding laser, incendiary or non-detectable fragments weapons in its most recently completed fiscal year.
- Companies involved production of nuclear weapons, exclusive and dual-use delivery platform capable to deliver such products, intended and dual-use components of such products, services provided for such products.
- **Tobacco**
 - All companies classified as a “Producer”.
 - All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products.
- **Alcohol**
 - All companies deriving 5% or more revenue from the production of alcohol-related products.
 - All companies deriving 15% or more aggregate revenue from the production, distribution, retail and supply of alcohol-related products.
- **Adult Entertainment**
 - All companies deriving 5% or more revenue from the production of adult entertainment materials.
 - All companies deriving 15% or more aggregate revenue from the production, distribution and retail of adult entertainment materials.
- **Gambling**
 - All companies deriving 5% or more revenue from ownership of operation of gambling-related business activities.
 - All companies deriving 15% or more aggregate revenue from gambling-related business activities.
- **Genetically Modified Organisms (GMO)**
 - All companies deriving 5% or more revenue from activities like genetically modifying plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption
- **Nuclear Power**
 - All companies generating 5% or more of their total electricity from nuclear power in a given year.
 - All companies that have 5% or more of installed capacity attributed to nuclear sources in a given fiscal year.

- All companies deriving 5% or more aggregate revenue from nuclear power activities including revenue from the ownership or operation of nuclear power plants, ownership or operation of active uranium mines, and supply of key nuclear-specific products or services to the nuclear power industry.

Climate Change-based Exclusions Criteria:

• Extraction & Production

○ Thermal Coal Mining

- All companies deriving more than 0% 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

○ Unconventional Oil & Gas Extraction

- All companies deriving more than 0% revenue (either reported or estimated) from unconventional oil and gas production. It covers revenue from the production of oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, as well as revenue from onshore or offshore oil and gas production in the Arctic region. It does not cover revenue from conventional oil and gas production including deep water, shallow water, and other onshore/offshore oil and gas.

○ Conventional Oil & Gas Extraction

- All companies deriving more than 0% revenue (either reported or estimated) from the production of deep water, shallow water, and other onshore/offshore oil and gas. It does not cover revenue from unconventional oil and gas production (oil sands, shale oil, shale gas) and onshore/offshore oil and gas production in the Arctic region.

• Power Generation

○ Thermal Coal-based Power Generation

- All companies generating 50% or more power from thermal coal.
- All companies that have 10% or more of installed capacity attributed to thermal coal in a given year.
- All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation.

○ Oil & Gas-based Power Generation

- All companies generating 30% or more of their total electricity from liquid fuel and natural gas in a given year.

- All companies that have 30% or more of installed capacity attributed to liquid fuel and natural gas in a given year.
- All companies deriving 30% or more revenue (either reported or estimated) from liquid fuel- and natural gas-based power generation.
- **Fossil Fuel Reserves Ownership**
 - **Fossil Fuel Reserves for Energy Application**
 - All companies, regardless of their industries, with evidence of owning fossil fuel reserves used most likely for energy applications. For high intensity industries (Energy, Utilities, Diversified Metals & Mining), this factor flags companies with evidence of fossil fuel reserves (excluding metallurgical coal). For other industries, it flags companies with evidence of fossil fuel reserves (excluding metallurgical coal) and deriving revenue from business segments associated with energy application of fossil fuels such as thermal coal mining, oil & gas exploration & production and downstream activities e.g. refining; distribution & retail; pipeline & transportation; trading and fossil fuel based power generation. Fossil fuel reserves are defined as proved and probable reserves (i.e. 2P) for coal and proved reserves (i.e. 1P) for oil and natural gas. Evidence of owning reserves includes companies providing the exact volume of reserves, and companies making a statement about their ownership of reserves.
 - **Thermal Coal Reserves**
 - All companies that own thermal coal reserves

Appendix 2: Guidelines on Achieving the Target Sector Coverage of 25%

The Indexes target 25% (50% for the MSCI UK IMI SRI Filtered PAB Index) coverage of each GICS sector of the regional Parent Index. The underlying principle in the construction of the Indexes is to achieve cumulative sector coverage closest to 25% (50% for the MSCI UK IMI SRI Filtered PAB Index), while aiming to maintain index stability.

The following guidelines are used in achieving the target cumulative sector coverage of 25%:

- For each sector, the eligible companies of the regional Parent Index are first ranked based on the company level ESG Rating.
- In case of two companies with the same ESG Rating an existing index constituent is given priority to maintain index stability. Between two existing constituents with the same ESG Rating, the company with the higher industry-adjusted ESG Score is given priority. For two existing index constituents with the same industry-adjusted ESG score, the security with the largest issuer cap adjusted free float market capitalization is given priority.
- The cumulative sector coverage at each rank is calculated.
- In each sector, companies are selected as per the rules mentioned in Section 2.2.3 until the cumulative sector coverage crosses 25% (50% for the MSCI UK IMI SRI Filtered PAB Index) or there are no eligible securities left to be selected.
- MSCI defines the company that increases the cumulative sector coverage above 25% (50% for the UK IMI SRI Filtered PAB Index) as the “marginal company”.
 - If the marginal company is a current index constituent, then it is always selected.
 - If the marginal company is not a current index constituent, then it is selected only if the cumulative sector coverage with the marginal company is closer to 25% (50% for the UK IMI SRI Filtered PAB Index) compared to the cumulative sector coverage without the marginal company.
- The minimum cumulative sector coverage is set to 22.5% (45% for the MSCI UK IMI SRI Filtered PAB Index).
 - The marginal company is always selected if this is required to achieve cumulative sector coverage of 22.5% (45% for the MSCI UK IMI SRI Filtered PAB Index).
- Securities which are not eligible as per Section 2.2.1 will not be selected even if the cumulative sector coverage after selection of all eligible securities is below 25% (50% for the MSCI UK IMI SRI Filtered PAB Index).

Appendix 3: Calculation of Target Metrics

Calculation of GHG Intensity

For Parent Index constituents where the Scope 1+2+3 Emissions Intensity is not available, the average Scope 1+2+3 Emissions Intensity of all the constituents of the MSCI ACWI in the same GICS Industry Group in which the constituent belongs is used.

Security Level GHG Intensity =

$$\frac{\text{Scope 1 + 2 + 3 Carbon Emissions} * (1 + EVIAF)}{\text{Enterprise Value} + \text{Cash(in M\$)}}$$

Enterprise Value Inflation Adjustment Factor (EVIAF) =

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

Weighted Average GHG Intensity of Parent Index =

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

Weighted Average GHG Intensity of Derived Index =

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

Climate Impact Sectors

NACE²⁰ is the European Union's classification of economic activities. As per the draft DA, stocks in the NACE Section codes A, B, C, D, E, F, G, H, L are classified as "High Climate Impact" sector and other stocks are classified 'Low Climate Impact' sector. The GICS Sub-Industry code for each security is mapped to the corresponding "Climate Impact Sector" using a mapping. This mapping is constructed in the following steps:

1. MSCI has published a mapping²¹ between the NACE classes and GICS Sub-Industry.
2. For each GICS Sub-Industry, the number of NACE classes which fall under the High Climate Impact Sector (say the number of classes is N_H) and Low Climate Impact Sector (say the number of classes is N_L) is identified
3. If all the NACE classes for a given GICS Sub-Industry are identified in the High Climate Impact Sector ($N_L = 0$), then the GICS Sub-Industry is mapped to the High Climate Impact Sector. Conversely, if all the NACE classes for a given GICS Sub-Industry are identified in the

²⁰ For further details regarding NACE, please refer to https://ec.europa.eu/eurostat/statistics-explained/index.php?title=NACE_background

²¹ This mapping is available in the [Handbook of Climate Transition Benchmarks, Paris-Aligned Benchmark and Benchmarks' ESG Disclosures](#)

Low Climate Impact Sector ($N_H = 0$) then the GICS Sub-Industry is mapped to the Low Climate Impact Sector

4. In case a GICS Sub-Industry is mapped to some NACE classes in the High Climate Impact Sector and the others in the Low Climate Impact Sector, the GICS Industry is mapped to the Climate Impact Sector in the following manner:
 - a. **$N_H \geq N_L$** : If the number of NACE classes in the High Climate Impact Sector is at least equivalent to the number of NACE classes in the Low Climate Impact Sector, the GICS Sub-Industry is mapped to the High Climate Impact Sector
 - b. **$N_H < N_L$** : If the number of NACE classes in the High Climate Impact Sector is less than the number of NACE classes in the Low Climate Impact Sector, the GICS Sub-Industry is mapped to the Low Climate Impact Sector
5. Using the GICS Sub-Industry to Climate Impact Sector mapping created in Step 4, and the security-level GICS Sub-Industry, each security in the Parent Index is classified in either High Climate Impact Sector or Low Climate Impact Sector.

Appendix 4: Exclusion Criteria for the MSCI UK IMI SRI Filtered PAB Index

Values-based Exclusions Criteria:

- **Tobacco**
 - All companies classified as a “Producer”
 - All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products
- **Controversial Weapons**
 - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes available at <https://www.msci.com/index/methodology/latest/XCW>
- **Nuclear Weapons**
 - All companies that manufacture nuclear warheads and/or whole nuclear missiles
 - All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles)
 - All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons
 - All companies that provide auxiliary services related to nuclear weapons
 - All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles) but can be used in nuclear weapons
 - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons but have the capability to deliver nuclear weapons
 - All companies that manufacture components for nuclear-exclusive delivery platforms
- **Civilian Firearms**
 - All companies classified as “Producer” of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets.
 - All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.
- **Aggregate Weapons**
 - All companies deriving 5% or more aggregate revenue from conventional, controversial and nuclear weapons based on the following categories:

- Companies involved in the production of conventional weapons, components for such products or support systems and services for such products.
- Companies involved in the production of biological or chemical weapons, components for such products.
- Companies involved in the production of blinding laser, incendiary or non-detectable fragments weapons in its most recently completed fiscal year.
- Companies involved production of nuclear weapons, exclusive and dual-use delivery platform capable to deliver such products, intended and dual-use components of such products, services provided for such products.

- **Alcohol**

- All companies deriving 5% or more revenue from the production of alcohol-related products
- All companies deriving 15% or more aggregate revenue from the production, distribution, retail and supply of alcohol-related products

- **Adult Entertainment**

- All companies deriving 5% or more revenue from the production of adult entertainment materials
- All companies deriving 15% or more aggregate revenue from the production, distribution and retail of adult entertainment materials

- **Gambling**

- All companies deriving 5% or more revenue from ownership of operation of gambling-related business activities
- All companies deriving 15% or more aggregate revenue from gambling-related business activities

- **Genetically Modified Organisms (GMO)**

All companies deriving 5% or more revenue from activities like genetically modifying plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption.

- **Nuclear Power**

- All companies generating 5% or more of their total electricity from nuclear power in a given year.
- All companies that have 5% or more of installed capacity attributed to nuclear sources in a given fiscal year.
- All companies deriving 15% or more aggregate revenue from nuclear power activities including revenue from the ownership or operation of nuclear power plants, ownership or operation of active uranium mines, and supply of key nuclear-specific products or services to the nuclear power industry.

Climate Change-based Exclusions Criteria:

- **Fossil Fuel Reserves for Energy Application**

- All companies excluded based on Fossil Fuel Reserves for Energy Application as per the MSCI Global Fossil Fuels Exclusion Indexes Methodology²².

- **Thermal Coal**

- All companies deriving more than 0% 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.
- All companies deriving 5% or more revenue (either reported or estimated) from thermal coal based power generation.
- All companies generating 50% or more power from thermal coal.
- All companies that own thermal coal reserves.

- **Oil and Gas**

- **Conventional Oil & Gas Extraction** - All companies deriving more than 0% revenue (either reported or estimated) from conventional oil and gas production. It includes revenue from the production of deepwater shallow water, and other onshore/offshore oil and gas. It excludes revenue from unconventional oil and gas production (oil sands, shale oil, shale gas) and onshore/offshore oil and gas production in the Arctic region.
- **Unconventional Oil & Gas Extraction** - All companies deriving more than 0% revenue (either reported or estimated) from unconventional oil and gas production. It includes revenue from the production of oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, as well as revenue from onshore or offshore oil and gas production in the Arctic region. It excludes revenue from conventional oil and gas production including deepwater, shallow water, and other onshore/offshore oil and gas.
- **Oil and Gas Refining** - All companies deriving more than 5% revenue (either reported or estimated) from refining oil and gas.
- **Oil & Gas-based Power Generation** - All companies generating more than 5% of their total electricity from liquid fuel based power generation.

²² For more details, please refer to the MSCI Global Fossil Fuels Exclusion Indexes methodology at www.msci.com/index-methodology

Appendix 5: Decarbonization Trajectory of Indexes

The Weighted Average GHG Intensity on the Base Date (W_1) is used to compute the target Weighted Average GHG Intensity at any given Quarterly Index Review (W_t) as per the below formula.

$$W_t = W_1 * 0.93^{\frac{(t-1)}{4}}$$

Where 't' is the number of Quarterly Index Reviews since the Base Date. The table below shows the Weighted Average GHG Intensity on the Base Date (W_1) for each of the regions where the Indexes are constructed:

Index Name	Parent Index	Base Date	W_1 (tCO ₂ /M\$ Enterprise Value + Cash)
MSCI ACWI SRI Filtered PAB Index	MSCI ACWI Index	June 1, 2020	242.23
MSCI World SRI Filtered PAB Index	MSCI World Index	March 1, 2022	154.05
MSCI World ex EMU SRI Filtered PAB Index	MSCI World ex EMU Index	March 1, 2022	137.72
MSCI EM (Emerging Markets) SRI Filtered PAB Index	MSCI EM (Emerging Market) Index	March 1, 2022	295.33
MSCI EM Asia SRI Filtered PAB	MSCI EM Asia Index	March 1, 2022	241.03
MSCI USA SRI Filtered PAB Index	MSCI USA Index	March 1, 2022	107.55
MSCI Europe SRI Filtered PAB Index	MSCI Europe Index	March 1, 2022	193.58
MSCI EMU SRI Filtered PAB Index	MSCI EMU Index	March 1, 2022	241.03
MSCI UK IMI SRI Filtered PAB Index	MSCI UK IMI Index	March 1, 2022	276.32
MSCI Japan SRI Filtered PAB Index	MSCI EM Japan Index	March 1, 2022	286.67
MSCI Pacific ex Japan SRI Filtered PAB Index	MSCI Pacific ex Japan Index	June 1, 2022	312.21

Appendix 6: Construction and Maintenance for the MSCI Pacific ex Japan SRI Filtered PAB Index

The MSCI Pacific ex Japan SRI Filtered PAB Index was not transitioned in May 2024 and has following exceptions noted below relative to the other MSCI SRI Filtered PAB Indexes.

- The two initial steps described in Section 2.2 of the methodology book are not applied.
- The SRI Filtered Universe is based on the 25% selection step (which is applied on the regional MSCI Pacific Index) but only includes securities from the MSCI Pacific ex Japan Index by weighting them in the proportion of their free float-adjusted market capitalization.
- The steps for achieving the target sector coverage of 25% includes ESG Ratings Trend. The steps are described in Appendix 7.
- The maximum weight of any issuer in the SRI Filtered Universe is capped at 5% in accordance with the MSCI Capped Indexes methodology. The excess weight of the capped issuers is distributed among the remaining constituents in proportion of their existing weights in the index.

The construction of the SRI Filtered PAB index is according to Section 2.3.

The maintenance of the MSCI Pacific ex Japan SRI Filtered PAB Index according to Section 3 of the methodology book, with one exception.

For each sector, eligible securities of the regional Parent Indexes are ranked based on the following criteria:

- ESG Rating
- ESG Trend (positive ESG Trend preferred to neutral ESG Trend and neutral ESG Trend preferred to negative ESG Trend)²³
- Current index membership (existing constituents above non-constituents)
- Industry adjusted ESG scores
- Decreasing free float-adjusted market capitalization.

²³ Please refer to Appendix 7 for more details.

Appendix 7: Guidelines on Achieving the Target Sector Coverage of 25% for the MSCI Pacific ex Japan SRI Filtered PAB Index

The MSCI Pacific ex Japan SRI Filtered PAB Index targets 25% coverage of the free float-adjusted market capitalization of each GICS sector of the regional Parent Index. The underlying principle in the construction of the indexes is to achieve cumulative sector coverage closest to 25%, while aiming to maintain index stability.

The following guidelines are used in achieving the target cumulative sector coverage of 25%:

- For each sector, the eligible companies of the regional Parent Index are first ranked based on the company level ESG Rating.
- If two companies have the same ESG Rating, the company with better ESG Trend is given priority. ESG Trend is defined as the direction of the change in ESG Rating as of the latest review of the ESG Rating for a company.
 - Positive ESG Trend is given the highest priority. Positive ESG Trend indicates any upgrade in ESG Rating of any scale as of the latest review of the company's ESG Rating.
 - Neutral ESG Trend indicates an unchanged ESG Rating as of the latest review of the company's ESG Rating. Also, companies that receive a re-initiated ESG Rating due to a change in the ESG Ratings Industry are considered to have a neutral ESG Trend.
 - Negative ESG Trend is given the lowest priority. Negative ESG Trend indicates any downgrade in ESG Rating of any scale as of the latest review of the company's ESG Rating.
- In case of two companies with the same ESG Rating and the same ESG Trend, an existing index constituent is given priority to maintain index stability. Between two existing constituents with the same ESG Rating and the same ESG Trend, the company with the higher industry-adjusted ESG Score is given priority. For two existing index constituents with the same industry-adjusted ESG score, the security with the largest free float-adjusted market capitalization is given priority.
- The cumulative sector coverage at each rank is calculated.
- In each sector, companies are selected as per the rules mentioned in Section 2.1.3 until the cumulative sector coverage crosses 25% or there are no eligible securities left to be selected.
- MSCI defines the company that increases the cumulative sector coverage above 25% as the "marginal company".
 - If the marginal company is a current index constituent, then it is always selected.
 - If the marginal company is not a current index constituent, then it is selected only if the cumulative sector coverage with the marginal company is closer to 25% compared to the cumulative sector coverage without the marginal company.

- The minimum cumulative sector coverage is set to 22.5%.
 - The marginal company is always selected if this is required to achieve cumulative sector coverage of 22.5%.
- Securities which are ineligible as per Section 3.1.1 will not be selected even if the cumulative sector coverage after selection of all eligible securities is below 25%.

Appendix 8: Barra Equity Model Used in The Optimization

The MSCI SRI Filtered PAB Indexes currently use an optimization setup using the MSCI Barra Global Equity Model for Long-Term Investors (GEMTLT).

Appendix 9: 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 10: 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 Capped Indexes Methodology – <https://www.msci.com/index/methodology/latest/Capped>
- MSCI Global Fossil Fuels Exclusion Indexes Methodology – <https://www.msci.com/index/methodology/latest/XFF>
- 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 11: Changes to this Document

The following sections have been updated as of September 2020:

- Section 3.1, 3.3 – Added reference to MSCI EM Asia SRI Filtered PAB Index

The following sections have been updated as of February 2022:

- Section 3.3: Updated to align with the minimum requirements of the EU PAB
- Appendix 1: Updated screening criteria for conventional weapons and thermal coal reserves
- Corporate Action: Updated corporate action treatment for new additions to the parent index

The following sections have been updated as of May 2022:

- Section 3.3: Added footnotes for the constraints that were relaxed during May 2022 SAIR.

The following sections have been updated as of October 2022:

- Section 3.1: Added reference to the MSCI World ex EMU SRI Filtered PAB Index

The following sections have been updated as of May 2023:

- Section 1: Updated the description of the MSCI SRI Filtered PAB Indexes and added footnote on Methodology Set
- Section 2.3.1: Clarified the exclusion criteria for companies involved in ESG Controversies
- Section 2.3.3: Added footnotes for the constraints that were relaxed during the May 2023 Index Review
- Section 3.1: Updated to reflect the transition of the MSCI Global Investable Market Indexes (GIMI) to Quarterly Comprehensive Index Reviews (all references to “Semi-Annual Index Reviews” and “Quarterly Index Reviews” of the MSCI GIMI were replaced with “Index Reviews”)
- Section 3.4: Clarified the treatment of Corporate Events
- Section 4: Moved that section after the Section 3 (Maintaining the MSCI SRI Filtered PAB Indexes)

The following sections have been modified effective July 3, 2023:

Section 3: Maintaining the Indexes

- The monthly review of ESG and Environmental Controversies is applied within the Index effective July 3, 2023, and is not applicable historically prior to that date.

The following sections have been modified effective September 1, 2023:

Section 2.2.1.3

- Clarified the exclusion criteria for companies involved in ESG Controversies.

Appendix 5:

- A new section which highlights the decarbonization trajectory of Indexes by providing the Base Date of each Index was added in Appendix 5. This covers all Indexes which are based on the MSCI SRI Filtered PAB Index Methodology.

The following sections have been modified effective March 1, 2024:

Appendix 1

- Clarified the exclusion criteria for the revenue based aggregate screen on conventional, controversial and nuclear weapons.

Appendix 4

- Removed the reference to the MSCI SRI Indexes Methodology and explicitly included the details of the ESG screening criteria.
- Clarified the exclusion criteria for the revenue based aggregate screen on conventional, controversial and nuclear weapons.

Appendix 8

- Added details on the Methodology Set for the Indexes.

The following sections have been modified effective June 3, 2024:

Section 2

- Added new steps for the construction of the SRI Filtered Universe

Section 2.2.2

- Added the regional carve-outs for the MSCI World ex EMU SRI Filtered PAB Index and noted the country SRI approach used for a few regional indexes.

Section 4:

- Updated the description and links of MSCI ESG Research Products.

Appendix 2

- Modified the guidelines on achieving the target sector coverage by removing the reference to ESG Trend.

Appendix 6

- Added the construction and maintenance steps for the MSCI Pacific ex Japan SRI Filtered PAB Index.

Appendix 7

- Added the guidelines on achieving target sector coverage for the MSCI Pacific ex Japan SRI Filtered PAB Index.

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