Methodology Book For:

- **MSCI ACWI Select Sustainability Screened CTB Index**
- **MSCI World Select Sustainability Screened CTB Index**
- **MSCI Emerging Markets Select Sustainability Screened CTB Index**
- **MSCI Europe Select Sustainability Screened CTB Index**
- **MSCI USA Select Sustainability Screened CTB Index**
- **MSCI Japan Select Sustainability Screened CTB Index**
- **MSCI EMU Select Sustainability Screened CTB Index**

September 2022

Contents

1 Introduction

The MSCI ACWI Select Sustainability Screened CTB Index, MSCI World Select Sustainability Screened CTB Index , MSCI Emerging Markets Select Sustainability Screened CTB Index, MSCI Europe Select Sustainability Screened CTB Index, MSCI USA Select Sustainability Screened CTB Index, MSCI Japan Select Sustainability Screened CTB Index, MSCI EMU Select Sustainability Screened CTB Index (“MSCI Select Sustainability Screened CTB Indexes” or the "Indexes") are designed to meet the minimum standards of the EU Climate Transition Benchmark (CTB) as per the EU Low Carbon Benchmark Regulation[1], reduce exposure to select indicators that are associated with adverse environmental or social impact, and increase exposure to companies participating in opportunities associated with products and services that have a positive impact to the society and the environment. The MSCI Select Sustainability Screened CTB Indexes are constructed from their corresponding parent indexes and applies an optimization-based approach to meet select ESG and climate change-related objectives, such as:

- Reduce by 30% the weighted average greenhouse gas (GHG) intensity relative to EVIC and the weighted average greenhouse gas intensity relative to Sales, with reference to the underlying investment universe,
- Reduce the weighted average greenhouse gas intensity relative to EVIC by 7% on an annualized basis,
- Reduce the weighted average Water Emissions Intensity relative to EVIC by 30%,
- Reduce the weighted average Hazardous Waste Intensity relative to EVIC by 30%,
- Achieve a minimum of 10% weighted average Sustainable Impact Revenue,
- Achieve a modest tracking error compared to the parent indexes and maintain relatively low turnover, and
- Achieve a minimum of 10% increase in the aggregate weight of companies setting targets relative to the aggregate weight of such companies that meet the ESG and climate-related eligibility criteria within the corresponding parent indexes.

[1] Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks (EU Low Carbon Benchmarks Delegated Acts): https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1818&rid=1

2 MSCI ESG Research

The Indexes use company ratings and research provided by MSCI ESG Research LLC. In particular, the Index uses the following MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics and MSCI Impact Solutions.
For details on MSCI ESG Research's full suite of ESG products, please refer to https://www.msci.com/esg-investing.

2.1 MSCI ESG RATINGS

MSCI ESG Ratings provides research, data, analysis and ratings of how well companies manage environmental, social and governance risks and opportunities. MSCI ESG Ratings provides an overall company ESG rating - a seven-point scale from 'AAA' to 'CCC'. In addition, the product provides scores and percentiles indicating how well a company manages each key issue relative to industry peers, as well as underlying data and metrics used to compile the scores and ratings.

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

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies provides assessments of controversies concerning the negative environmental, social, and/or governance impact of company operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with "0" being the most severe controversy.

For more details on MSCI ESG Controversies, please refer to https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b.

2.3 MSCI ESG BUSINESS INVOLVEMENT SCREENING RESEARCH

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

For more details on MSCI ESG Business Involvement Screening Research, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf.

2.4 MSCI CLIMATE CHANGE METRICS

MSCI Climate Change Metrics provides climate data & tools to support investors integrating climate risk & opportunities into their investment strategy and processes. It supports investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, align with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.

For more details on MSCI Climate Change Metrics, please refer to https://www.msci.com/climate-solutions.

2.5 MSCI IMPACT SOLUTIONS: SUSTAINABLE IMPACT METRICS

MSCI Impact Solutions Sustainable Impact Metrics is designed to identify companies that derive revenue from products or services with positive impact on society and the environment. The Sustainable Impact Metrics are comprised of six Environmental Impact categories and seven Social Impact categories arranged by theme.

MSCI Sustainable Impact Taxonomy

Pillar	Themes	Categories
Environmental Impact	Climate Change	1. Alternative energy 2. Energy efficiency 3. Green building
	Natural capital	4. Sustainable water 5. Pollution prevention 6. Sustainable agriculture
Social Impact	Basic needs	7. Nutrition 8. Major Disease Treatment 9. Sanitation 10. Affordable Real Estate
	Empowerment	11. SME Finance 12. Education 13. Connectivity – Digital divide

Under each of the actionable environmental and social impact themes, MSCI ESG Research has identified specific categories of products and services that it has determined companies can offer as potential solutions to environmental and social challenges.

More detailed taxonomy for each category can be found in Section 2.4 of the MSCI ACWI Sustainable Impact Index Methodology available at https://www.msci.com/index-methodology.

3 Constructing the MSCI Select Sustainability Screened CTB Indexes

3.1 APPLICABLE UNIVERSE

The Applicable Universe of the Indexes includes all the constituents of their respective MSCI Parent Index (“the Parent Index”) as shown in the table below.

Table 1: Indexes and their corresponding Parent Indexes

No.	Index Name	Parent Index
1.	MSCI ACWI Select Sustainability Screened CTB Index	MSCI ACWI Index
2.	MSCI World Select Sustainability Screened CTB Index	MSCI World Index
3.	MSCI EM Select Sustainability Screened CTB Index	MSCI Emerging Markets Index
4.	MSCI Europe Select Sustainability Screened CTB Index	MSCI Europe Index
5.	MSCI USA Select Sustainability Screened CTB Index	MSCI USA Index
6.	MSCI Japan Select Sustainability Screened CTB Index	MSCI Japan Index
7.	MSCI EMU Select Sustainability Screened CTB Index	MSCI EMU Index

3.2 ELIGIBLE UNIVERSE

The Eligible Universe comprises of all securities from the Applicable Universe that meet each of the below eligibility criteria:

- Securities with an ESG Controversy score greater than 0 (‘Red Flags’)
- Securities with an Environment Controversy score greater than 1 (‘Orange Flags’)
- Securities with an ESG Rating above ‘CCC’
- Securities with a Biodiversity & Land Use Key Issue score that does not belong to the bottom quartile
- Securities that do not breach any of the values and climate change-based exclusions criteria detailed in Section 3.2.1.

<u>Note on Unrated Securities or Securities with Missing Coverage:</u>

Companies that are not assessed on MSCI ESG Research’s ESG Controversies and ESG Ratings are excluded from the final universe.

3.2.1. VALUES AND CLIMATE CHANGE-BASED EXCLUSIONS

Companies that are involved in specific businesses, which are associated with negative environmental and/or social impact are ineligible for inclusion in the Index. 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. Please refer to Appendix I for more details on these criteria.

Values-based Exclusions

- Controversial Weapons
- Nuclear Weapons
- Conventional Weapons
- Civilian Firearms
- Tobacco
- Nuclear Power
- Genetically Modified Organisms

Climate Change-based Exclusions

- Thermal Coal Mining
- Unconventional Oil and Gas (including Arctic Oil and Gas) Extraction
- Thermal Coal-based Power Generation

3.3 SECURITY SELECTION AND WEIGHTING

Securities in the Eligible Universe are selected and weighted following an optimization-based approach described below:

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 their corresponding Parent Index, subject to the following constraints:

1. Climate and other environmental or social objectives – constraints detailed in Table 2
2. Diversification objectives – constraints detailed in Table 3

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

Table 2: Constraints imposed to meet the climate and other ESG objectives

No.	Climate and Other ESG Objectives	
1.	Minimum reduction in Greenhouse Gas (GHG) Intensity relative to EVIC (Scope 1+2+3[2]) relative to the Parent Index	30%
2.	Minimum reduction in GHG Intensity relative to Sales (Scope 1+2+3[3]) relative to the Parent Index	30%
3.	Minimum average reduction (per annum) in GHG Intensity relative to EVIC relative to the GHG Intensity of the Index at the Base Date[4]	7%
4.	Minimum active weight in High Climate Impact Sector relative to Parent Index as defined in Appendix II	0%
5.	Minimum reduction in Water Emissions Intensity relative to EVIC relative to Parent Index[5]	30%
6.	Minimum reduction in Hazardous Waste Intensity relative to EVIC relative to Parent Index[6]	30%
7.	Minimum weighted average Sustainable Impact Revenue[7]	10%
8.	Minimum increase in aggregate weight in companies setting targets relative to the aggregate weight of such companies that are part of the Eligible Universe in the Parent Index	10%
9.	Maximum Weight in securities with an ESG Rating of 'BB' or 'B'	15%

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

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

[4] Prior to the May 2020 Semi-Annual Index Review (SAIR) of the Indexes, the average reduction in Weighted Average Carbon Emissions Intensity relative to EVIC has been calculated using Scope 1+2 Emissions since Inception.

[5] Minimum Reduction in Water Emissions Intensity constraint is effective from May 2021 SAIR.

[6] Minimum Reduction in Hazardous Waste Intensity constraint is effective from May 2021 SAIR.

[7] Minimum weighted average Sustainable Impact Revenue constraint is effective from May 2020 SAIR.

No.	Climate and Other ESG Objectives	
10.	Minimum increase in weighted average ESG Score relative to Parent Index	0%

Table 3: Constraints imposed to meet the diversification objectives

No.	Diversification Objective	
1.	Active Region Weight relative to the Parent Index[8]	+/- 2%
2.	Constituent Active Weight relative to the Parent Index	+/- 2%
3.	Security Weight as a multiple of its weight in the Parent Index	10x
4.	Active Sector Weights relative to the Parent Index[9]	+/-2%
5.	Country Weight as a multiple of its weight in the Parent Index	3x
6.	Active Country Weights relative to the Parent Index[10]	+/-2%
7.	One Way Turnover	10%
8.	Common Factor Risk Aversion	0.0075
9.	Specific Risk Aversion	0.075

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

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

[8] Only applicable in MSCI World Select Sustainability Screened CTB Index where active region weights of USA, Canada, Europe and Middle East, and Pacific are constrained at +/- 2%

[9] In MSCI Emerging Markets Select Sustainability Screened CTB Index active sector weight constraint is applied at +/- 5%.

[10] In MSCI Emerging Markets Select Sustainability Screened CTB Index active country weight constraint is applied at +/- 5%

- 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 Semi-Annual Index Review.

3.4 DETERMINING THE OPTIMIZED INDEX

The Indexes are constructed using the Barra Open Optimizer 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.

Please refer to Appendix III and IV for more details.

4 Maintaining the MSCI Select Sustainability Screened CTB Indexes

4.1 SEMI-ANNUAL INDEX REVIEWS

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

In general, MSCI uses MSCI ESG Research data (including MSCI Climate Change Metrics, MSCI ESG Controversies, MSCI ESG Ratings, MSCI Business Involvement Screening Research, and MSCI Impact Solutions) as of the end of the month preceding the Index Reviews for the rebalancing of the Indexes.

4.2 ONGOING EVENT RELATED CHANGES

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

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

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

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.

Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation 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

Appendix I: Values- and Climate Change-based Criteria

Companies whose activities meet the following business activities-based criteria, as evaluated by MSCI ESG Research, are excluded from the MSCI Select Sustainability Screened CTB 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

- **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

- **Conventional Weapons**
  - All companies deriving 5% or more revenue from the production of conventional weapons and components
  - All companies deriving 10% or more aggregate revenue from weapons systems, components, and support systems and services
- **Civilian Firearms**
  - All companies classified as “Producer” of firearms and small arms ammunitions for civilian markets. It does not cover companies that cater to the military, government, and law enforcement markets
  - All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use
- **Tobacco**
  - All companies classified as a “Producer”
  - All companies deriving 5% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products
- **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

Climate Change-based Exclusions Criteria:

- **Thermal Coal Mining**
    - All companies deriving any 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 and Gas (including Arctic Oil and Gas) Extraction**
    - All companies deriving 5% or more revenue (either reported or estimated) from unconventional oil and gas production. It covers revenue from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, coal bed methane, and Arctic onshore/offshore production. It does not cover all types of conventional oil and gas production including deep water, shallow water and other onshore/offshore
- **Thermal Coal-based Power Generation**
    - All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation

Appendix II: Calculation of Target Metrics

Calculation of GHG Intensity relative to EVIC

For Parent Index constituents where Scope 1+2+3 Emissions Intensity is not available, the average Scope 1+2+3 Emissions Intensity relative to EVIC of all the constituents of the MSCI ACWI in the same GICS®[11] Industry Group in which the constituent belongs to is used.

Security Level GHG Intensity relative to EVIC =

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

Enterprise Value Inflation Adjustment Factor (EVIAF) =

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

Weighted Average GHG Intensity relative to EVIC of the Parent Index =

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

Weighted Average GHG Intensity relative to EVIC of the Optimized Index =

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

Calculation of GHG Intensity relative to Sales

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

Security Level GHG Intensity relative to Sales =

$$\frac{Scope\ 1+2+3\ Carbon\ Emissions}{Sales\ (in\ M\$)}$$

[11] GICS, the Global Industry Classification Standard, jointly developed by MSCI Inc. and S&P Global

Weighted Average GHG Intensity relative to Sales of the Parent Index =

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

Weighted Average GHG Intensity relative to Sales of the Optimized Index =

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

Calculation of Average Decarbonization

On average, the Indexes follow a 7% decarbonization trajectory since the Base Date. The Weighted Average GHG Intensity relative to EVIC at the Base Date (W_1) is used to compute the target Weighted Average GHG Intensity relative to EVIC at any given Semi-Annual Index Review (W_t) as per the below formula:

$$W_t = W_1 *\ 0.93^{\frac{(t-1)}{2}}$$

Where '*t*' is the number of Semi-Annual Index Reviews since the Base Date.

Thus, for the 3rd Semi-Annual Index Review since the Base Date (t=3), the target Weighted Average GHG Intensity relative to EVIC will be W_1*0.93.

Climate Impact Sectors

NACE[12] is the European Union's classification of economic activities. As per the EU Low Carbon Benchmarks Delegated Acts, stocks in the NACE Section codes A, B, C, D, E, F, G, H, L are classified as "High Climate Impact" sectors and other stocks are classified 'Low Climate Impact' sectors. The GICS Sub-Industry code for each security is mapped to the corresponding "Climate Impact Sector" using a mapping[13] between the NACE classes and GICS Sub-Industry, which is published by MSCI. This mapping is constructed in the following steps:

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

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

1. 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
2. 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 Low Climate Impact Sector ($N_H = 0$) then the GICS Sub-Industry is mapped to the Low Climate Impact Sector
3. 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. **$N_H >= N_L$**: 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
4. 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.

Calculation of Water Emissions Intensity relative to EVIC

Security Level Water Emissions Intensity =

$$\frac{Water\ Emissions\ (metric\ tons)}{Enterprise\ Value + Cash(in\ M\$)}$$

Weighted Average Water Emissions Intensity of the Parent Index =

$$\frac{\sum(Weight\ in\ Parent\ Index_i * Security\ Level\ Water\ Emissions\ Intensity)}{\sum_{i=1}^{n} Weight\ in\ Parent\ Index_i}$$

Weighted Average Water Emissions Intensity of the Optimized Index =

$$\frac{\sum(Index\ Weight_i * Security\ Level\ Water\ Emission\ Intensity)}{\sum_{i=1}^{n} Index\ Weight_i}$$

Where:
i = index security with Water Emissions and EVIC available.

Calculation of Hazardous Water Intensity relative to EVIC

Security Level Hazardous Waste Intensity =

$$\frac{Hazardous\ waste\ (metric\ tons)}{Enterprise\ Value + Cash(in\ M\$)}$$

Weighted Average Hazardous Waste Intensity of the Parent Index =

$$\frac{\sum(Weight\ in\ Parent\ Index_i * Security\ Level\ Hazardous\ Waste\ Intensity)}{\sum_{i=1}^{n} Weight\ in\ Parent\ Index_i}$$

Weighted Average Hazardous Waste Intensity of the Optimized Index =

$$\frac{\sum(Index\ Weight_i * Security\ Level\ Hazrdous\ Waste\ Intensity)}{\sum_{i=1}^{n} Index\ Weight_i}$$

Where:

- *i* = index security with all Hazardous Waste and EVIC available.

Calculation of Weighted Average Sustainable Impact Revenue

Weighted Average Sustainable Impact Revenue of the Derived Index =

$$\frac{\sum(Index\ Weight_i * Sustainable\ Impact\ Revenue)}{\sum_{i=1}^{n} Index\ Weight_i}$$

Where:

- *i* = index security with Sustainable Impact Revenue available.

Appendix III: Barra Equity Model Used in The Optimization

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

Appendix IV: 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.

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