MSCI ESG Leaders Select Sustainability Indexes Methodology

February 2025

Contents

1 Introduction

The MSCI ESG Leaders Select Sustainability Indexes[1] ("Indexes")[2] aim to represent the performance of an investment strategy that selects securities of companies that have high Environmental, Social and Governance (ESG) ratings relative to their sector peers, as well as meet any one of the eligibility criteria aimed at qualifying companies' positive impact. Additionally, the Indexes apply certain climate-change-based and other exclusions criteria, and follow an optimization-based approach to meet the following climate change and other objectives:

- Reduce the weighted average greenhouse gas intensity by 50% compared to the underlying investment universe[3] (the "Parent Indexes"),
- Reduce the weighted average GHG intensity by 7% on an annualized basis,
- Increase the weight of companies deriving revenues from products or services with positive environmental impact ("green revenue")relative to revenues from "fossil fuels-based" products or services compared to their corresponding Parent Indexes,
- Have a weighted average LCT Score at least equivalent to that of the corresponding Parent Indexes,
- Have a weighted average ESG Score at least equivalent to that of the corresponding Parent Indexes,
- Have a weighted average SDG Score at least equivalent to that of the corresponding Parent Indexes,
- Achieve a modest tracking error compared to the Parent Indexes and maintain relatively low turnover.

[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 IX for more details.

[2] See Appendix I for comprehensive list of the Indexes and their respective Parent Indexes[3] The underlying investment universe for the MSCI ESG Leaders Select Sustainability Indexes are referenced in Appendix I.

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2 Constructing the Indexes

2.1 Applicable Universe

The applicable universe of the Indexes includes all the existing constituents of the corresponding free-float adjusted market-capitalization weighted Parent Indexes[4].

Eligible Universe

The Indexes use company ratings and research provided by MSCI ESG Research[5] to determine eligibility for index construction

The Initial Universe is constructed from the Applicable Universe as per Section 2 of the MSCI Selection Indexes methodology[6] with the following variations:

2.1.1. Additional Exclusions Criteria

In addition to the Controversial Business Involvement Criteria in Section 2.2.3 of the MSCI Selection Indexes methodology, the Indexes also apply additional exclusions criteria detailed in Appendix II.

2.1.2. Additional Eligibility Criteria

Prior to the MSCI ESG Ratings-based ranking and selection in Section 3.1 of the MSCI Selection Indexes methodology, the Indexes apply additional eligibility criteria.

The Indexes use MSCI Impact Solutions, MSCI Climate Change Metrics, and MSCI ESG Ratings to identify companies that are assessed as having positive impact through their products, services, or operations. Companies that meet any of the following criteria are eligible for inclusion:

Inclusion Indicator	Criteria
Sustainable Impact Solutions: revenues derived from any of the thirteen social and environmental impact themes including nutrition, sanitation, major diseases treatment, SME finance, education or affordable real estate, alternative energy, energy efficiency, green building, pollution prevention and sustainable water.	20% or more revenue

[4] See Appendix I for comprehensive list of the Indexes and their respective Parent Indexes.

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

[6] For more details regarding the MSCI Selection Indexes, please refer to the MSCI Selection Indexes Methodology Book at https://www.msci.com/index-methodology.

Estimated EU Taxonomy Alignment[7]: revenues derived from products and services addressing environmental objectives, based on the MSCI Sustainable Impact Metrics framework.	20% or more revenue
Corporate Governance Percentage of Women on the Board: the number of women on the board as a percentage of total board members.	40% or higher for DM / 20% or higher for EM
SDG 1-17 Net Alignment Score: net alignment score to each SDG, based on the nature of its product and service lines and its operational alignment to the goal	Score of 2 or higher on any of the 17 SDGs
Science-based Approved Emission Target: evidence of one or more active carbon emissions reduction target/s approved by the Science Based Targets initiative (SBTi)	True

2.2 Security Selection and Weighting

Securities in the Eligible Universe are selected and weighted following an optimization-based approach to achieve replicability and investability, as well as minimize ex-ante tracking error relative to the Parent Index subject to the following constraints:

1. Transition and physical risk objectives – constraints detailed in Table 1
2. Climate transition opportunities and other ESG objectives – constraints detailed in Table 2
3. Diversification objectives – constraints detailed in Table 3

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

Table 1: Constraints imposed to meet transition and physical risk objectives

No.	Transition and Physical Risk Objective	MSCI ESG Leaders Select Sustainability
1	Minimum reduction in Greenhouse Gas (GHG) Intensity (Scope 1+2+3[8]) relative to the Parent Index	50%
2	Minimum average reduction (per annum) in GHG Intensity relative to EVIC relative to the GHG Intensity of the Index at the Base Date[9]	7%
3	Minimum active weight in High Climate Impact Sector relative to the Parent Index	0%

[7] Companies with Red and Orange Flag environmental controversies, and Red Flag social and governance controversies are excluded from the list as failing to meet the Do No Significant Harm and Minimum Social Safeguards criteria of the EU Taxonomy. Also excluded are tobacco producers; companies generating 5% or more of revenue from supply, distribution, or retail of tobacco products; and companies with any involvement in controversial weapons.

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

[9] Prior to the May 2020 Quarterly Index Review (SAIR) of the Indexes, the average reduction in WACI has been calculated using Scope 1+2 Emissions since Inception. The Base Date may be updated based on the rules identified in Appendix VI.

4	Minimum reduction in Weighted Average Potential Emissions Intensity relative to the Parent Index	50%
5	Minimum increase in weighted average Low Carbon Transition (LCT) Score relative to the Parent Index Please see more detail on LCT Score in Appendix IV	0%

Table 2: Constraints imposed in order to meet climate transition opportunity and other ESG objectives

No.	Climate Transition Opportunity and other ESG Objective	MSCI ESG Leaders Select Sustainability
6	Minimum increase in weighted average LCT Score relative to the Parent Index[10]	0%
7	Minimum ratio of Weighted Average Green Revenue/ Weighted Average Fossil fuels-based Revenue relative to the Parent Index	4 times
8	Minimum increase in weighted average ESG Score relative to the Parent Index	0%
9	Minimum increase in the weighted average SDG Score[11] relative to the Parent Index	0%

Table 3: Constraints imposed to meet diversification objectives

No.	Diversification Objective	MSCI ESG Leaders Select Sustainability
10	Constituent Active Weight relative to the Parent Index	+ 5%
11	Maximum Issuer Weight	15%
12	Security Weight as a multiple of its weight in the Parent Index	0.1x/20x
13	Active Sector Weights (the Energy GICS®[12] Sector is not constrained) relative to the Parent Index	+/- 5%
14	Active Country Weight[13]	+/- 5%
15	One Way Turnover in Feb, Aug, Nov Index Reviews	5%

[10] The constraint on increase in LCT Score is designed to underweight companies with a low LCT Score (assessed as companies facing risks from a low carbon transition) and overweight companies with a high LCT Score (assessed as companies which may have opportunities from a low carbon transition). Thus, the constraint has been repeated in Table 2 to illustrate how the constraint meets both the objectives.

[11] Security SDG Score is calculated as the sum of the SDG 1-17 Net Alignment Scores

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

[13] 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	One Way Turnover in May Index Reviews and Base Resets as detailed in Appendix V	10%
17	Common Factor Risk Aversion	0.0075
18	Specific Risk Aversion	0.075

During the Quarterly 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 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 Quarterly Index Review.

2.3 Determining the Optimized Index

The Index is constructed using the Barra Open Optimizer[14] 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 and the weights of constituents in the Index.

[14] Please refer to Appendix VII and VIII for more details.

3 Maintaining the Indexes

3.1 Quarterly Index Reviews

The Indexes are rebalanced on a quarterly basis, as of the close of the last business day of February, May, August and November, coinciding with the Quarterly 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 ESG Ratings, MSCI Climate Change Metrics, MSCI Impact Solutions, MSCI ESG Controversies, and MSCI Business Involvement Screening Research) as of the end of the month preceding the Index Reviews for the rebalancing of the Indexes.

3.2 Ongoing Event Related Changes

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

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. 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 the Indexes 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 Index uses / Indexes use the following MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics, MSCI Impact Solutions, MSCI ESG Ratings, and MSCI ESG Governance 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 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.

4.4.1 Fossil Fuels and Power Generation Metrics

MSCI ESG Research 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).

4.4.2 Greenhouse Gas (GHG) Emissions

MSCI ESG Research 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.

4.4.3 Low-Carbon Transition (LCT) Risk Assessment

MSCI ESG Research's LCT data assesses companies' exposure to risks and opportunities related to the low-carbon transition (the transition) based on the carbon-intensive nature of their business lines. In particular, in the event that the transition takes place, demand for carbon-intensive products would decline in favor of low- and zero-carbon products, which would put carbon-intensive companies and industries (for example, coal-based power generation and coal mining) at risk of having stranded assets over the long term (5+ years). MSCI ESG Research considers a company exposed to low-carbon transition risks and opportunities through two main transmission channels: (1) exposure through involvement in carbon-intensive operations, and (2) exposure through involvement in or solutions for carbon-intensive products.

4.5 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.

For more details on MSCI Sustainable Impact Metrics, please refer to https://www.msci.com/legal/disclosures/esg-disclosures.

4.6 MSCI Impact Solutions: SDG ALignment

MSCI Impact Solutions' SDG Alignment is designed to provide a holistic view of companies' net contribution – both positive and negative – towards addressing each of the 17 UN Sustainable Development Goals (SDGs). SDG Alignment assessments and scores include analysis of companies' operations, products and services, policies, and practices and their net contribution – positive and adverse – to addressing key global challenges.

The MSCI SDG Alignment framework provides 17 SDG Net Alignment scores and 17 SDG Net Alignment assessments (including Strongly Aligned, Aligned, Neutral, Misaligned and Strongly Misaligned) for each of the 17 global goals. In addition, the model offers assessments and scores for two dimensions, product alignment and operation alignment, for each company and for each of the 17 goals.

The MSCI SDG Alignment methodology can be found at: https://www.msci.com/legal/disclosures/esg-disclosures.

Appendix I: Underlying Investment Universe

The MSCI ESG Leaders Select Sustainability Indexes are constructed based on the following underlying investment universe:

Index	Parent Index
MSCI ACWI ESG Leaders Select Sustainability Index	MSCI ACWI Index
MSCI Europe ESG Leaders Select Sustainability Index	MSCI Europe Index
MSCI USA ESG Leaders Select Sustainability Index	MSCI USA Index
MSCI Japan ESG Leaders Select Sustainability Index[4]	MSCI Japan Index

[4] The MSCI Japan ESG Leaders Select Sustainability Index follows an optimization-based approach since inception, unlike the other regions

Appendix II: Additional Exclusions Criteria

The Indexes follows the Controversial Business Involvement Criteria in Section 3.2.3 of the MSCI ESG Leaders Index methodology but applies the following additional criteria:

Values-based Exclusions Criteria:

- **Civilian Firearms**
  - 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
- **Weapons**
  - All companies deriving 5% or more revenue from the production and/or provision of conventional, nuclear, or biological/chemical weapons systems, components, and/or support systems and services
- **Tobacco**
  - **Tobacco Production**: All companies that manufacture tobacco products, such as cigars, blunts, cigarettes, e-cigarettes, inhalers, beedis, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco. This also covers companies that grow or process raw tobacco leaves
  - **Tobacco Distribution**: All companies deriving 5% or more revenue from the distribution of tobacco products
  - **Tobacco Retailing**: All companies deriving 5% or more revenue from the retail sales of tobacco 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
- **Alcohol**
  - All companies deriving 5% or more revenue from the production, distribution, retail sales, licensing, and/or supply of alcoholic products
- **Adult Entertainment**
  - All companies deriving 5% or more revenue from adult entertainment-related activities such as production, direction, or publication of adult entertainment materials; distribution of sexually explicit products and services; and/or retail sales of adult entertainment products through specialty stores or online sites
- **Gambling**
  - All companies deriving 5% or more revenue from gambling-related activities such as ownership or operation of gambling facilities, provision of key products or services fundamental to gambling operations, and/or licensing of company name or brand name to gambling products

Global Norms-based Exclusions Criteria:

- **United Nations Global Compact Compliance**
  - All companies that fail to comply with the United Nations Global Compact principles
- **International Labour Organization Standards Compliance (Broad)**
  - All companies that fail to comply with the International Labour Organization's broader set of labor standards
- **United Nations Guiding Principles for Business and Human Rights Compliance**
  - All companies that fail to comply with the United Nations Guiding Principles for Business and Human Rights

Climate Change-based Exclusions Criteria:

- **Extraction & Production**
  - All companies deriving 5% or more aggregate revenue (either reported or estimated) from thermal coal mining, uranium mining, oil and gas extraction and production, and/or oil and gas refining
    - **Thermal Coal Mining**: Revenue 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
    - **Uranium Mining**: Revenue from the mining of uranium
    - **Oil & Gas Extraction and Production**: Revenue from the extraction and production of oil and gas
    - **Oil & Gas Refining**: Revenue from refining oil and gas
  - **Unconventional Oil & Gas Extraction**
    - All companies deriving 5% or more revenue (either reported or estimated) from unconventional oil and gas. It covers revenues from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane. It does not cover all types of conventional oil and gas production including Arctic onshore/offshore, deep water, shallow water and other onshore/offshore
  - **Conventional Oil & Gas Extraction**
    - All companies deriving 5% or more revenue (either reported or estimated) from conventional oil and gas. It covers all types of conventional oil and gas production including Arctic onshore/ offshore, deep water, shallow water and other onshore/ offshore

- **Oil & Gas Value Chain**
  - **Oil & Gas Equipment and Services**: All companies deriving 5% or more revenue (either reported or estimated) from equipment and services for the exploration and production of oil and natural gas. It covers revenues from oil and gas exploration services, related equipment manufacturing, seismic surveys, engineering services and heavy construction related to oil and gas exploration activities
  - **Oil & Gas Pipelines and Transportation**: All companies deriving 5% or more revenue (either reported or estimated) from oil and gas pipelines and transportation. It covers revenues from mid-stream operations but does not cover revenues from terminals and storage facilities
- **Fossil Fuel- and Nuclear-based Power Generation**
  - All companies deriving 5% or more of installed capacity, or 5% or more revenue (either reported or estimated) from power generation based on thermal coal, liquid fuel, natural gas, or nuclear sources
- **Nuclear Power**
  - All companies deriving 5% or more revenue from nuclear power activities such as ownership or operation of nuclear power plants, ownership or operation of active uranium mines, and/or supply of key nuclear-specific products or services to the nuclear power industry

<u>EU Paris-aligned Benchmarks[5] Exclusions Criteria:</u>

- **Controversial Weapons** (also applied by the ESG Leaders Methodology)
  - All companies involved in Controversial Weapons as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes[6]
- **ESG Controversies**[7] (also applied by the ESG Leaders Methodology)
  - All companies assessed as having involvement in very severe controversies that are classified as Red Flags (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

[5] 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

[6] For more details regarding the MSCI Ex-Controversial Weapons Index methodology, please refer to www.msci.com/index-methodology.

[7] 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. The MSCI ESG Controversies methodology can be found at: https://www.msci.com/esg-and-climate-methodologies.

- **Environmental Controversy**
  - All companies assessed as having involvement in very severe or severe environmental controversies that are classified as Red (score of 0) or Orange Flags (score of 1) under the MSCI ESG Controversies' Environmental Pillar. The definition of Red Flag and Orange Flag Controversies are given below:
    - Red Flag: Indicates an ongoing Very Severe ESG controversy implicating a company directly through its actions, products, or operations
    - Orange Flag: Indicates that an ongoing Severe controversy implicating a company directly, or a Very Severe controversy that is either partially resolved or indirectly attributed to companies' actions, products, or operations
- **Tobacco** (also applied as part of the Values-based Exclusions Criteria)
  - All companies that manufacture tobacco products, such as cigars, blunts, cigarettes, e-cigarettes, inhalers, beedis, kreteks, smokeless tobacco, snuff, snus, dissolvable and chewing tobacco
- **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
- **Thermal Coal Distribution**
  - All companies with evidence of involvement in thermal coal distribution.
- **Oil & Gas Value Chain**
  - All companies deriving 10% or more aggregate revenue (either reported or estimated) from the following oil and gas-related activities:
    - **Oil & Gas Extraction and Production**: Revenue from the extraction and production of oil and gas
    - **Oil & Gas Equipment and Services**: Revenue from equipment and services for the exploration and production of oil and natural gas
    - **Oil & Gas Refining**: Revenue from refining oil and gas
    - **Oil & Gas Pipelines and Transportation**: Revenue from oil and gas pipelines and transportation
    - **Oil & Gas Distribution/Retail**: Revenue from the distribution and retailing of oil and gas and related products. It covers revenues from crude and petroleum products storage facilities and terminals, bulk stations, gasoline and fuel oil retail stations as well as liquefied petroleum gas stations and natural gas distribution

- **Fossil Fuel-based Power Generation**
  - All companies deriving 50% or more aggregate revenue (either reported or estimated) from power generation based on thermal coal, liquid fuel, and/or natural gas sources[8]
- **SDG Net Alignment**
  - All companies that are assessed as Strongly Misaligned on their Net Alignment to any of the 17 SDGs

[8] 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.

Appendix III: Calculation of Target Metrics

Calculation of GHG Intensity relative to EVIC

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 Carbon Emissions Intensity =

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

Enterprise Value Inflation Adjustment Factor (EVIAF) =

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

Weighted Average Carbon Emissions Intensity of Parent Index =

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

Weighted Average Carbon Emissions Intensity of Optimized Index =

$$\sum (Weight\ in\ Derived\ Index * \ Security\ Level\ Carbon\ Emissions\ Intensity)$$

Calculation of Average Decarbonization

On average, the Indexes follow a 7% decarbonization trajectory since the Base Date. The Weighted Average Carbon Intensity at the Base Date (W_1) is used to compute the target Weighted Average Carbon 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 (QIR) since the Base Date.

Thus, for the 5th Quarterly Index Review since the Base Date (t=5), the target Weighted Average Carbon Intensity will be W_1*0.93.

Climate Impact Sectors

NACE[9] 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

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

other stocks are classified 'Low Climate Impact' sector. The GICS[10] 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 mapping[11] 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 NH) and Low Climate Impact Sector (say the number of classes is NL) is identified
3. If all the NACE classes for a given GICS Sub-Industry are identified in the High Climate Impact Sector (NL = 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 (NH = 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. **$N_H >= N_L$**: 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

Calculation of Potential Carbon Emissions Intensity

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

Security Level Potential Carbon Emissions Intensity =

$$\frac{Absolute\ Potential\ Emissions * \ (1 + EVIAF)}{Enterprise\ Value + Cash(in\ M\$)}$$

Weighted Average Potential Emissions Intensity of Parent Index =

$$\sum(Weight\ in\ Parent\ Index * \ Security\ Level\ Potential\ Carbon\ Emissions\ Intensity)$$

Weighted Average Potential Emissions Intensity of Derived Index =

[10] For further information regarding GICS, please refer to https://www.msci.com/gics

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

$$\sum(Weight\ in\ Derived\ Index * \ Security\ Level\ Potential\ Carbon\ Emissions\ Intensity)$$

Calculation of Green Revenue to Fossil fuels-based Revenue Multiple

Green Revenue

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

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

The Weighted Average Green Revenue% is calculated as:

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

Fossil fuels-based Revenue

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

- Revenue% (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading (either reported or estimated)

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

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

$$= \sum (Weight\ in\ Index * \ Brown\ Revenue\%)$$

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

$$= \frac{Weighted\ Average\ Green\ Revenue\%}{Weighted\ Average\ Brown\ Revenue\%}$$

Appendix IV: MSCI Low Carbon Transition Risk Assessment

MSCI ESG Research's Low Carbon Transition Risk assessment[12] is designed to identify potential leaders and laggards by holistically measuring companies' exposure to and management of risks and opportunities related to the low carbon transition.

The final output of this assessment is two company-level factors as described below:

(1) **Low Carbon Transition Category**: This factor groups companies in five categories that highlight the predominant risks and opportunities they are most likely to face in the transition (Exhibit 1).

(2) **Low Carbon Transition Score:** This score is based on a multi-dimensional risks and opportunities assessment and considers both primary and secondary risks a company faces. It is industry agnostic assessment of a company's position vis-à-vis the transition.

Exhibit 1: Low Carbon Transition Categories and Scores

LOW CARBON TRANSITION SCORE	LOW CARBON TRANSITION CATEGORY		LOW CARBON TRANSITION RISK / OPPORTUNITY	INDUSTRY EXAMPLES
SCORE = 0	ASSET STRANDING		Potential to experience "stranding" of physical / natural assets due to regulatory, market, or technological forces arising from low carbon transition.	Coal mining & coal-based power generation; industries in the Oil & Gas value chain
	TRANSITION	PRODUCT	Reduced demand for carbon-intensive products and services. Leaders and laggards are defined by the ability to shift product portfolio to low-carbon products.	Petrol/diesel-based automobile manufacturers
		OPERATIONAL	Increased operational and/or capital cost due to carbon taxes and/or investment in carbon emission mitigation measures leading to lower profitability of the companies.	Cement, Steel
	NEUTRAL		Limited exposure to low carbon transition carbon risk. Though companies in this category could have exposure to physical risk and/or indirect exposure to low carbon transition risk via lending, investment etc.	Consumer Staples, Healthcare
SCORE = 10	SOLUTIONS		Potential to benefit through the growth of low-carbon products and services.	Renewable electricity, Electric vehicles, Solar cell manufacturers

Calculation methodology

The Low Carbon Transition Categories and Scores are determined by a combination of each company's current risk exposure and its efforts to manage the risks and opportunities presented by the low carbon transition. The 3-step process followed by MSCI ESG Research is explained below.

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

Step 1: Measure Low Carbon Transition Risk Exposure

The first step towards measuring the Low Carbon Transition Risk Exposure for a company is the computation of its estimated total net carbon intensity – which considers operational and product carbon emissions. In the next step, we compute Low Carbon Transition Risk Exposure Category and Score based on total net carbon intensity.

Step 2: Assess Low Carbon Transition Risk Management

In the second step, MSCI ESG Research assesses a company's management of risks and opportunities presented by the low carbon transition. This assessment is based on policies and commitments to mitigate transition risk, governance structures, risk management programs and initiatives, targets and performance, and involvement in any controversies.

Step 3: Calculate Low Carbon Transition Category and Score

In the final step, the Low Carbon Transition Risk Exposure Category and Score that was calculated in Step 1 is adjusted for the strength of management efforts. Following this adjustment, Low Carbon Transition Risk Exposure Score of companies with top or second quartile risk management improves and some top and second quartile companies may move up one category.

Appendix V: Decarbonization Trajectory of Indexes

The Weighted Average Carbon Intensity on the Base Date (W_1) is used to compute the target Weighted Average Carbon 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 Carbon Intensity on the Base Date (W_1) for each of the regions where the Indexes are constructed:

Index	Parent Index	Base Date	W_1 (tCO2/M$ Enterprise Value + Cash)
MSCI ACWI ESG Leaders Select Sustainability Index	MSCI ACWI	May 28, 2021	254.37
MSCI Europe ESG Leaders Select Sustainability Index	MSCI Europe	May 28, 2021	536.48
MSCI USA ESG Leaders Select Sustainability Index	MSCI USA	May 28, 2021	181.58
MSCI Japan ESG Leaders Select Sustainability Index	MSCI Japan	May 28, 2021	418.41

Appendix VI: Implementation of New Base Date

The following steps are used to identify a whether the MSCI ESG Leaders Select Sustainability Indexes will implement a new Base Date during any Quarterly Index Review:

Step 1. Calculate the median Scope 3 Emissions of all companies in MSCI ACWI within each GICS Industry Group

Step 2. Out of the 24 GICS Industry Groups, identify the top 18 GICS Industry Groups with the highest median Scope 3 Emissions.

Step 3. The percentage change in the median Scope 3 Emissions for each of the 18 GICS Industry Groups is calculated relative to their median Scope 3 Emissions as of the previous Quarterly Index Review.

Step 4. If either of the following conditions are met, then a new Base Date would be implemented for the MSCI ESG Leaders Select Sustainability Indexes based on the change in Scope 3 Emissions–

a. Out of the 18 GICS Industry Groups, at least 2 Industry Groups see a 50% change in the median Scope 3 Emissions

b. Out of the 18 GICS Industry Groups, at least 6 Industry Groups see a 20% change in the median Scope 3 Emissions

A new Base Date may also be implemented based on the change in median Scope 1+2 Emissions by applying Steps 1-4 above using Scope 1+2 Emissions instead of Scope 3 Emissions.

When a new Base Date is implemented, either due to the change in median Scope 1+2 Emissions or due to the change in median Scope 3 Emissions, the Indexes will not apply the “Minimum average reduction (per annum) in WACI relative to WACI in the Base Date” as per Table 1 in Section 3.3 as a minimum requirement for the index. After the rebalance of the Index, the Base Date and Weighted Average Carbon Intensity on the Base Date (W_1) as per Appendix VI will be updated. For all subsequent Quarterly Index Reviews, the decarbonization targets will be calculated with the updated Base Date.

Appendix VII: Barra Equity Model Used in the Optimization

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

Appendix VIII: 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 IX: 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 Selection Indexes Methodology – https://www.msci.com/index/methodology/latest/Selection
- ESG Factors In Methodology*

The Methodology Set for the Index 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 X: Changes to this Document

The following sections have been modified since May 2021-

Introduction

- Change in approach from an iterative process to an optimization-based approach and added objectives on ESG Score and LCT Score

Section 3

- Updated to reflect change in approach from an iterative process to an optimization-based approach and added objectives on ESG Score and LCT Score

Appendix II

- Added additional screen for Alcohol

Appendix IV

- Added definition for Climate Impact Sectors

Appendix V

- Updated decarbonization trajectory based on new Base Date as per the methodology rules in Appendix VI.

Appendix VI

- Deleted appendix detailing iterative process. Appendix VI now contains details on “Implementation of new Base Date”

Appendix VII and VIII

- Added for details on Barra Equity Model and Barra Optimizer

The following sections have been modified effective September 15, 2022-

Introduction

- Added the MSCI Japan ESG Leaders Select Sustainability Index

Section 3.5

- Added a footnote highlighting the application of optimization constraints to the MSCI Japan ESG Leaders Select Sustainability Index on its initial construction and subsequent Quarterly Index Reviews
- Provided clarity on the constituent active weight constraint

Appendix V

- Added relevant information for the MSCI Japan ESG Leaders Select Sustainability Index on its decarbonization trajectory

The following sections have been modified effective November 18, 2022-

Introduction

- Added reference to the new eligibility criteria

Section 3.2

- Moved the reference to additional exclusions criteria to the newly added Section 3.2.1
- Added Section 3.2.2 to include information on the additional eligibility criteria
- (Previous) Section 3.3 Minimum Requirements: Removed section

Appendix I:

- Added to reference the underlying investment universe

Appendix II:

- Modified to include the new and/or revised exclusions criteria
- Moved the exclusions criteria referenced in (Previous) Appendix III

Appendix III and Appendix IV:

- Re-ordered to follow chronological reference in Section 3.3

The following sections have been modified effective November 18, 2022

Appendix II

- Added additional screens for SDG Net Alignment

The following sections have been modified effective February 2025

Section 4: MSCI ESG Research

- Moved that section after the Section 3 (Maintaining the MSCI ESG Leaders Indexes)
- Added a sub-section under Climate Change Metrics to provide additional details on Fossil Fuels related activities, Greenhouse Gas Emissions and Low Carbon Transition (LCT) Risk Assessment

Appendix II: Additional Exclusion Criteria

- Added the description for Thermal Coal distribution

Appendix IV: MSCI Low Carbon Transition Risk Assessment

- Updated language and the Low Carbon Transition Categories and Scores table

Appendix IV: Methodology Set

- Added details on the Methodology Set of the Indexes

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