

MSCI WORLD ESG MATERIALITY AND CARBON TRANSITION SELECT INDEX* METHODOLOGY

** An MSCI index that incorporates the SASB Materiality Framework*

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1 Introduction

The MSCI World ESG Materiality and Carbon Transition Select Index (the 'Index') is designed to represent the performance of companies which are assessed to be sector leaders based on a set of relevant key issues scores that are aligned with SASB's Materiality Map¹. The Index also excludes companies meeting the below exclusion criteria:

- Companies involved in Controversial Weapons
- Companies that fail to comply with the United Nations Global Compact Principles
- Companies with Low Carbon Transition (LCT) category² of Asset Stranding
- Companies involved in unconventional Oil and Gas
- Companies involved in the Tobacco-related businesses
- Companies involved in Thermal Coal mining and Thermal Coal power generation

The Index also uses the MSCI Low Carbon Transition (LCT) category to reweight constituents of the parent index to increase its exposure to companies participating in opportunities associated with the low carbon transition and decrease its exposure to companies exposed to risks associated with the low carbon transition.³

¹ SASB's Materiality Map reveals how general sustainability issues manifest across different industries. For more details, please refer to <https://www.sasb.org/standards/materiality-map/>

² For a detailed description of Low Carbon Transition Category, please refer to Appendix I.

³ The Index is governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document. The Methodology Set for the Index can be accessed from MSCI's webpage <https://www.msci.com/index-methodology> in the section 'Search Methodology by Index Name or Index Code'.

The Methodology Set includes a document 'ESG Factors in Methodology' that contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion).

2 Index Construction Methodology

2.1 Applicable Universe

The Applicable Universe includes all the existing constituents of the MSCI World Index (“Parent Index”).

2.2 Eligible Universe

The eligible securities for the Index are selected from the Applicable Universe by excluding securities based on the criteria below:

1. **Controversial Weapons:** All companies involved in controversial weapons as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes⁴.
2. **Tobacco:** All companies deriving 5% or more revenue from the production of tobacco related products. All companies deriving 15% or more aggregate revenue from the production, distribution, retail, supply and licensing of tobacco-related products
3. **Thermal Coal Mining:** All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It does not cover revenue from metallurgical coal, coal mined for internal power generation (e.g. in the case of vertically integrated power producers), intracompany sales of mined thermal coal, and revenue from coal trading (either reported or estimated)
4. **Thermal Coal Power:** All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation.
5. **Unconventional Oil & Gas:** All companies deriving 5% or more revenue (either reported or estimated) from unconventional oil & gas. It covers revenue 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.
6. **Asset Stranding:** All companies with Low Carbon Transition (LCT) category of Asset Stranding.

⁴ For more details regarding the MSCI Ex-Controversial Weapons Indexes, please refer to the MSCI Ex-Controversial Weapons Indexes methodology document at <https://www.msci.com/index/methodology/latest/XCW>.

7. **United Nations Global Compact Principles:** All companies that fail to comply with the United Nations Global Compact Principles.

2.3 Ranking of Eligible Securities

For each sector, eligible securities of the Parent Index are ranked based on the SASB aligned ESG score⁵. If two securities have the same SASB-aligned ESG score, then the security with higher market cap is given preference.

2.4 Selection of Eligible Securities

For each sector, eligible securities of the Parent Index are then selected from the ranked universe in the following order until the target 40% coverage by cumulative free float-adjusted market capitalization is reached:

- Securities in the top 25% cumulative free float-adjusted market capitalization coverage of the ranked universe, including the first security that increases the cumulative coverage above 25%
- Current index constituents in the top 50% cumulative free float-adjusted market capitalization coverage of the ranked universe, including the first security that increases the cumulative coverage above 50% if that security is a current index constituent
- Remaining eligible securities in the ranked universe

2.5 Weighting Scheme

Based on the Low Carbon Transition (LCT) category of a company, a Tilt Score is calculated as under:

LCT Category	Tilt Score
Solutions	2
Neutral	1
Operational Transition	0.75
Product Transition	0.5

All the selected securities from the Eligible Universe are weighted by the product of their weight in the Parent Index and the Tilt Score.

Security Weight = Tilt Score * Weight in Parent Index

⁵ For a detailed description of SASB aligned ESG score, please refer to Appendix II.

The weights of securities are then renormalized so that the sector weights in the tilted portfolio are same as those in the selected portfolio described in section 3.4. Additionally, at each Annual Index Review, the weight of the securities is capped at 10%.

3 Maintaining the MSCI World ESG Materiality and Carbon Transition Select Index

3.1 Annual Index Review

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

In general, MSCI uses MSCI ESG Research data⁶ (including MSCI Climate Change Metrics, MSCI ESG Ratings, MSCI ESG Controversies and MSCI ESG Business Involvement Screening Research) and the mapping of SASB factors and materiality metrics to MSCI ESG Ratings key issues for GICS®⁷ subindustries 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 Review. 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

⁶ See section 4 for details of data sourced from MSCI ESG Research used in the Indexes.

⁷ GICS, the global industry classification standard, jointly developed by MSCI Inc. and S&P Global.

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 this Index can be found in the MSCI Corporate Events Methodology book.

The MSCI Corporate Events methodology book is available at:
<https://www.msci.com/index/methodology/latest/CE>

4 MSCI ESG Research

The Index is a product of MSCI Inc. that utilizes 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 the following MSCI ESG Research products: MSCI Climate Change Metrics, MSCI ESG Ratings, MSCI ESG Controversies and MSCI ESG Business Involvement Screening Research. MSCI Indexes are administered by MSCI Limited.

4.1 MSCI Climate Change Metrics

MSCI Climate Change Metrics provides climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, 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>

4.2 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/esg-and-climate-methodologies>.

4.3 MSCI ESG Controversies

MSCI ESG Controversies provide assessments of controversies concerning the potential negative environmental, social, and/or governance impact of company

operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with “0” being the most severe controversy.

The MSCI ESG Controversies methodology can be found at:

<https://www.msci.com/esg-and-climate-methodologies>.

4.4 MSCI ESG Business Involvement Screening Research

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

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

Appendix II: SASB Aligned ESG score

The Index relies on a methodology that weights MSCI ESG Ratings-based Key Issue Scores based on a mapping to relevant General Issue Categories in the SASB Materiality Map. This mapping is presented in Table 1 below. The mapping is maintained by MSCI ESG Research and updated when there are substantive changes to the SASB Materiality Map, the GICS industry structure, or to MSCI ESG Ratings-based Key Issues. The mapping is reviewed on at least an annual basis. The mapping is available on request to joint clients of MSCI ESG Research and SASB.

The SASB aligned ESG score is calculated using MSCI ESG Ratings-based Key Issue Scores and Key Issue Weights. Specifically, the SASB aligned ESG score for a company is the weighted average of a set of relevant Key Issue Scores that are aligned with SASB’s Materiality Map, granted that they meet the following condition:

- Companies have corresponding Key Issue Weight greater than 0%.

The corresponding weights are normalized to sum up to 100%.

Based on a company’s GICS Sub-industry code, a set of relevant key issues are identified for the company. The complete list of key issues relevant for each GICS Sub-industry are shown in Table 1 and Table 2 below:

Table 1: SASB aligned ESG Key Issues for each GICS Sub-industry

GICS Sub Industry Codes	SASB Industry	ESG Key Issue Number
50201010	Advertising & Marketing	KI 4, KI 16, KI 23, KI 25
20101010	Aerospace & Defense	KI 4, KI 7, KI 10, KI 18, KI 23, KI 25, KI 30
30202010	Agricultural Products	KI 7, KI 15, KI 25, KI 26, KI 28, KI 31
20301010	Air Freight & Logistics	KI 7, KI 15, KI 17, KI 25, KI 26, KI 30
20302010	Airlines	KI 4, KI 7, KI 17, KI 25
30201010, 30201020	Alcoholic Beverages	KI 7, KI 22, KI 25, KI 26, KI 28, KI 31
25203010, 25203020, 25203030, 25504010	Apparel, Accessories & Footwear	KI 8, KI 10, KI 26, KI 28
25201040	Appliance Manufacturing	KI 11, KI 18, KI 25
40201030, 40203010	Asset Management & Custody Activities	KI 4, KI 12, KI 13, KI 16, KI 27

GICS Sub Industry Codes	SASB Industry	ESG Key Issue Number
25101010, 25101020	Auto Parts	KI 4, KI 7, KI 10, KI 18, KI 24, KI 25, KI 30
25102010, 25102020	Automobiles	KI 10, KI 17, KI 18, KI 24, KI 25
35201010, 35202010, 35203010	Biotechnology & Pharmaceuticals	KI 3, KI 4, KI 16, KI 25, KI 26
15105010, 20102010, 20201060, 25201020	Building Products & Furnishings	KI 7, KI 8, KI 18, KI 26
20304040	Car Rental & Leasing	KI 24, KI 25
25301010	Casinos & Gaming	KI 4, KI 7, KI 15, KI 25
15101010, 15101020, 15101030, 15101040, 15101050	Chemicals	KI 5, KI 7, KI 8, KI 15, KI 18, KI 24, KI 30, KI 31
10102050	Coal Operations	KI 5, KI 6, KI 7, KI 15, KI 17, KI 30, KI 31
40101010, 40101015, , 40201020	Commercial Banks	KI 2, KI 4, KI 13, KI 23, KI 27
15102010	Construction Materials	KI 4, KI 6, KI 7, KI 15, KI 18, KI 30, KI 31
40201040, 40202010	Consumer Finance	KI 12, KI 23
15103010, 15103020	Containers & Packaging	KI 7, KI 22, KI 25, KI 26, KI 30, KI 31
30101010	Drug Retailers	KI 7, KI 23, KI 25
25302010	Education	KI 23, KI 25
55101010, 55103010, 55105010, 55105020	Electric Utilities & Power Generators	KI 7, KI 15, KI 18, KI 21, KI 30, KI 31
20104010, 20104020, 20105010, 45203010	Electrical & Electronic Equipment	KI 4, KI 7, KI 8, KI 10, KI 18, KI 25, KI 30
45203020	Electronic Manufacturing Services & Original Design Manufacturing	KI 10, KI 11, KI 15, KI 17, KI 28, KI 30, KI 31
20103010, 20305020	Engineering & Construction Services	KI 4, KI 6, KI 15, KI 18, KI 19, KI 25
30101020, 30101030	Food Retailers & Distributors	KI 7, KI 17, KI 20, KI 22, KI 23, KI 25, KI 26, KI 28, KI 30
60108040	Forestry Management	KI 5, KI 6

GICS Sub Industry Codes	SASB Industry	ESG Key Issue Number
55102010	Gas Utilities & Distributors	KI 15, KI 18
25201010, 45201020, 45202030, 45203015	Hardware	KI 8, KI 10, KI 11, KI 16, KI 18, KI 23, KI 26
35102015, 35102020	Health Care Delivery	KI 3, KI 4, KI 7, KI 15, KI 16, KI 23, KI 25, KI 30
35102010	Health Care Distributors	KI 4, KI 7, KI 11, KI 22, KI 25
25201030	Home Builders	KI 6, KI 15, KI 19, KI 30
25301020	Hotels & Lodging	KI 6, KI 7, KI 17, KI 31
25201050, 30301010, 30302010	Household & Personal Products	KI 8, KI 22, KI 25, KI 26, KI 31
20106010, 20106015, 20106020, 20107010	Industrial Machinery & Goods	KI 7, KI 10, KI 15, KI 18, KI 24
40301010, 40301020, 40301030, 40301040, 40301050	Insurance	KI 9, KI 12, KI 13, KI 27
50203010	Internet Media & Services	KI 4, KI 7, KI 16, KI 23, KI 31
40203020, 40203030	Investment Banking & Brokerage	KI 4, KI 13, KI 16, KI 27
15104050	Iron & Steel Producers	KI 7, KI 15, KI 26, KI 30, KI 31
25301030, 25302020	Leisure Facilities	KI 7, KI 15, KI 25
35102030	Managed Care	KI 3, KI 23, KI 25
20303010, 20305030	Marine Transportation	KI 4, KI 6, KI 7, KI 15, KI 30
50201020, 50201040, 50202010	Media & Entertainment	KI 4, KI 25
35101010, 35101020	Medical Equipment & Supplies	KI 3, KI 4, KI 18, KI 25, KI 26
15104010, 15104020, 15104025, 15104030, 15104040, 15104045	Metals & Mining	KI 4, KI 5, KI 6, KI 7, KI 15, KI 17, KI 30, KI 31
40204010, 40201050	Mortgage Finance	KI 9, KI 12
25501010, 25503030, 25504020, 25504030, 25504040, 25504050, 25504060, 30101040, 45203030	Multiline and Specialty Retailers & Distributors	KI 7, KI 8, KI 16, KI 17, KI 18, KI 22, KI 23

GICS Sub Industry Codes	SASB Industry	ESG Key Issue Number
30201030	Non-Alcoholic Beverages	KI 7, KI 20, KI 22, KI 25, KI 26, KI 28, KI 31
10102010, 10102020	Oil & Gas - Exploration & Production	KI 4, KI 5, KI 6, KI 7, KI 15, KI 30, KI 31
10102040	Oil & Gas - Midstream	KI 4, KI 6, KI 7, KI 15, KI 30
10102030	Oil & Gas - Refining & Marketing	KI 4, KI 7, KI 15, KI 18, KI 30, KI 31
10101010, 10101020	Oil & Gas - Services	KI 4, KI 6, KI 7, KI 15, KI 30
30202030	Processed Foods	KI 7, KI 20, KI 22, KI 25, KI 26, KI 28, KI 31
20201010, 20201070, 20201080, 20202010, 20202020, 20305010	Professional & Commercial Services	KI 4, KI 16, KI 23
15105020	Pulp & Paper Products	KI 7, KI 26, KI 30, KI 31
20304010	Rail Transportation	KI 4, KI 7, KI 15, KI 30
60101010, 60102510, 60103010, , 60104010, 60105010, 60106010, 60106020, 60107010, 60108010, 60108020, 60108030, 60108050, 60201010, 60201020, 60201030	Real Estate	KI 7, KI 19, KI 31
60201040	Real Estate Services	KI 4, KI 19
25301040	Restaurants	KI 7, KI 17, KI 20, KI 22, KI 25, KI 26, KI 28, KI 30, KI 31
20304030	Road Transportation	KI 7, KI 15, KI 30
40203040	Security & Commodity Exchanges	KI 4, KI 23
45301010, 45301020	Semiconductors	KI 4, KI 7, KI 8, KI 10, KI 15, KI 16, KI 18, KI 30, KI 31
20202030, 35103010, 40201060, 45102010, 45102030, 45103010, 45103020, 50202020	Software & IT Services	KI 4, KI 7, KI 16, KI 23, KI 31
50101010, 50101020, 50102010, 50201030	Telecommunication Services	KI 4, KI 7, KI 11, KI 23

GICS Sub Industry Codes	SASB Industry	ESG Key Issue Number
30203010	Tobacco	KI 20, KI 25
25202010	Toys & Sporting Goods	KI 8, KI 28
20201050	Waste Management	KI 7, KI 15, KI 17, KI 30

Table 2: MSCI ESG Ratings-based Key Issues

Key Issue	Key Issue Number
Access to Communications	1
Access to Finance	2
Access to Healthcare	3
Governance Pillar Score	4
Community Relations Score	5
Biodiversity & Land Use Score	6
Carbon Emissions Score	7
Chemical Safety Score	8
Climate Change Vulnerability Score	9
Controversial Sourcing Score	10
Electronic Waste Score	11
Consumer Financial Protection Score	12
Financing Environmental Impact Score	13
Insuring Health & Demographic Risk Score	14
Health & Safety Score	15
Human Capital Development Score	16
Labor Management Score	17
Opportunities in Clean Tech Score	18
Opportunities in Green Building Score	19
Opportunities in Nutrition and Health Score	20
Opportunities in Renewable Energy Score	21
Packaging Material & Waste Score	22
Privacy & Data Security Score	23
Product Carbon Footprint Score	24
Product Safety and Quality Score	25
Raw Material Sourcing Score	26
Responsible Investment Score	27
Supply Chain Labor Standards Score	28
Tax Transparency	29
Toxic Emissions and Waste Score	30
Water Stress Score	31

The following sections have been modified as of May 2023:

Section 3:

- Methodology book was 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 4:

- Moved the information regarding MSCI ESG Research from Section 2 to Section 4.

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