

Methodology Book for:

- **MSCI Europe Select ESG Leaders Low Carbon Impact G Series Index**
- **MSCI World Select ESG Leaders Low Carbon Impact G Series Index**

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Contents	1	Introduction	3
	2	ESG Research Framework	4
	2.1	MSCI ESG Ratings.....	4
	2.2	MSCI ESG Controversies.....	4
	2.3	MSCI ESG Business Involvement Screening Research	5
	2.4	MSCI Climate Change Metrics.....	5
	2.5	MSCI ESG Sustainable Impact Metrics.....	6
	3	Constructing the MSCI Select ESG Leaders Low Carbon Impact G Series Indexes.....	7
	3.1	Applicable Universe	7
	3.2	ESG Screened Universe.....	7
	3.3	Low Carbon Universe.....	7
	3.4	Weighting of securities in Eligible Universe.....	8
	3.4.1	Calculation of Tilt score	8
	4	Maintaining the MSCI Select ESG Leaders Low Carbon Impact G Series Indexes.....	10
	4.1	Quarterly Index Reviews.....	10
	4.2	Ongoing Event-Related Changes	10
		Appendix 1: Values-Based Exclusion Criteria.....	12
		Appendix 2: Definitions of Clean Technology and Sustainable Impact Revenue Metrics.....	15

1 Introduction

The MSCI Europe Select ESG Leaders Low Carbon Impact G Series Index and the MSCI World Select ESG Leaders Low Carbon Impact G Series Index (“MSCI Select ESG Leaders Low Carbon Impact G Series Indexes”) aim to represent the performance of a set of companies that have high Environmental, Social and Governance (ESG) ratings relative to their sector peers and low carbon footprint. Additionally, security weights are tilted in proportion of the aggregate revenue from 6 Sustainable Impact themes:

1. Alternative Energy
2. Energy Efficiency
3. Green Building
4. Major Disease Treatment
5. Nutrition
6. Pollution Prevention

2 ESG Research Framework

MSCI ESG Research LLC provides in-depth research, ratings and analysis of the environmental, social and governance-related business practices of thousands of companies worldwide. It consists of an integrated suite of tools and products to efficiently manage research, analysis and compliance tasks across the spectrum of ESG factors.

The MSCI Select ESG Leaders Low Carbon Impact G Series Indexes use research provided by MSCI ESG Research. In particular, these indexes use the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies Score, MSCI ESG Business Involvement Screening Research, MSCI Climate Change Metrics and MSCI ESG Sustainable Impact Metrics Data.

For details on MSCI ESG Research’s full suite of ESG products, please refer to: http://www.msci.com/products/esg/about_msci_esg_research.html

2.1 MSCI ESG RATINGS

MSCI ESG Ratings provides research, 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.

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

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (earlier known as MSCI Impact Monitor) 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 Score, please refer to <https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf85e957245b86b>

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 is designed to support investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, and factoring climate change research into their risk management processes. It provides Carbon Emissions, Fossil Fuel exposure, environmental impact (i.e., clean technology) data and screens, as well as climate-related risk exposure and management assessment on companies.

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

2.5 MSCI ESG SUSTAINABLE IMPACT METRICS

MSCI ESG Research’s Sustainable Impact Metrics is designed to identify companies that currently offer products or services that address at least one of the major social and environmental challenges as defined by the UN Sustainable Development Goals. Designed as a positive screen, it is designed to highlight companies that are deriving sales from products or services that may have a positive impact on society and the environment under the following categories:

Figure 1 – MSCI Sustainable Impact Taxonomy

Pillar	Themes	Categories
Environmental*	Climate Change	<ol style="list-style-type: none"> 1. Alternative energy 2. Energy efficiency 3. Green building
	Natural capital	<ol style="list-style-type: none"> 4. Sustainable water 5. Pollution prevention
Social	Basic needs	<ol style="list-style-type: none"> 6. Nutrition 7. Major Disease Treatment 8. Sanitation 9. Affordable Real Estate
	Empowerment	<ol style="list-style-type: none"> 10. SME Finance 11. Education

* note that the environmental metrics are based on MSCI ESG Research Cleantech Metrics

3 Constructing the MSCI Select ESG Leaders Low Carbon Impact G Series Indexes

3.1 APPLICABLE UNIVERSE

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

Index Name	Parent Index
MSCI Europe Select ESG Leaders Low Carbon Impact G Series Index	MSCI Europe Index
MSCI World Select ESG Leaders Low Carbon Impact G Series Index	MSCI World Index

3.2 ESG SCREENED UNIVERSE

The ESG Screened Universe is constructed from the Applicable Universe by including the securities that meet the below selection criteria.

1. Securities of companies that have an MSCI ESG Rating of ‘BB’ or above
2. Securities of companies that have an MSCI ESG Controversies Score of 3 or above
3. Securities of companies that do not meet any of the Values-based exclusion criteria detailed in Appendix 1
4. Securities selected as per the security selection rules in Section 4.1 and Section 4.2 of the MSCI ESG Leaders Index methodology¹

3.3 LOW CARBON UNIVERSE

- Constituents of the ESG Screened Universe are ranked by the carbon emission intensity, and the top 20% of securities, by number, are excluded from the ESG Screened Universe. The cumulative Parent Index weight of securities excluded from any sector is less than 30% of the cumulative Parent Index weight of the sector in the ESG Universe. In case this limit is reached for any sector, no further securities from that sector are excluded.

¹ For further details regarding the MSCI ESG Leaders Index Methodology, please refer to <https://www.msci.com/index-methodology>

- Constituents of the ESG Screened Universe are ranked by the potential carbon emissions per dollar of the market capitalization of the company. Securities are excluded until the cumulative potential carbon emission of the excluded securities reaches 50% of the sum of the potential carbon emission of the constituents of the ESG Screened Universe.

3.4 WEIGHTING OF SECURITIES IN ELIGIBLE UNIVERSE

3.4.1 CALCULATION OF TILT SCORE

The Tilt Score is calculated for each security in the Low Carbon Universe based on the “Total Revenue” calculated as the aggregate percentage of revenue derived from the following revenue components:

1. Alternative Energy
2. Energy Efficiency
3. Green Building
4. Major Disease Treatment
5. Nutrition
6. Pollution Prevention

Details regarding the definitions of the above revenue components is available in Appendix 2.

The Tilt Score is assigned to each security in the Low Carbon Universe based on the Total Revenue as per the table below:

Total Revenue	Tilt Score
Total Revenue unavailable / equal to 0	1.00
Total Revenue less than 5%	1.25
Total Revenue between 5% and 20%	1.50
Total Revenue between 20% and 50%	1.75
Total Revenue between 50% and 100%	2.00

All the securities from the Low Carbon Universe are weighted in proportion of the product of their weight in the Parent Index and the Tilt Score

$$\textit{Security Weight} = \textit{Security Weight in Parent Index} * \textit{Tilt Score}$$

The above weights are normalized to 100%. As a final step, security weights are capped at 5% to mitigate concentration risk. Note that the capping of the security weight is done for the pro forma index as of the effective date, based on the closing prices as of the index review announcement date. In cases where the security weight breaches the cap as a result of market price movements or corporate events between the announcement date and the effective date, the capping is not applied again. Similarly, even if any security weight breaches the cap as a result of market price movements or corporate events between two Quarterly Index Reviews, no capping is applied.

4 Maintaining the MSCI Select ESG Leaders Low Carbon Impact G Series Indexes

4.1 QUARTERLY INDEX REVIEWS

The MSCI Select ESG Leaders Low Carbon Impact G Series Indexes are reviewed on a quarterly basis, coinciding with the February, May, August and November Index Reviews of the Parent Index. The pro forma Index is typically announced nine business days before the effective date.

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

4.2 ONGOING EVENT-RELATED CHANGES

The general treatment of corporate events in the MSCI Select ESG Leaders Low Carbon Impact G Series 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 corresponding MSCI Select ESG Leaders Low Carbon Impact G Series Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the corresponding MSCI Select ESG Leaders Low Carbon Impact G Series Indexes.

The following section briefly describes the treatment of common corporate events within the MSCI Select ESG Leaders Low Carbon Impact G Series Indexes.

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

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

Appendix 1: Values-Based Exclusion Criteria

MSCI ESG Research has developed a framework designed to define significant involvement in controversial activities. According to this framework, there are four levels of restrictiveness: Most Restrictive, Highly Restrictive, Moderately Restrictive, Least Restrictive.

Each controversial activity screened by the MSCI SRI Indexes (except Fossil Fuel Reserves Ownership, Fossil Fuel Extraction and Thermal Coal Power) is assigned to one of these restrictiveness levels.

"Most Restrictive" screen applied

- **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>

"Highly Restrictive" screen applied

- **Civilian Firearms**
 - All companies classified as "Producer" of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets
 - All companies deriving 5% or more aggregate revenue from the production and distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use
- **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
- **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

“Moderately Restrictive” screen applied

- **Adult Entertainment**
 - All companies deriving 5% or more revenue from the production of adult entertainment materials
 - All companies deriving 15% or more aggregate revenue from the production, distribution and retail of adult entertainment materials
- **Alcohol**
 - All companies deriving 5% or more revenue from the production of alcohol-related products
 - All companies deriving 15% or more aggregate revenue from the production, distribution, retail and supply of alcohol-related products
- **Conventional Weapons**
 - All companies deriving 5% or more revenue from the production of conventional weapons and components
 - All companies deriving 15% or more aggregate revenue from weapons systems, components, and support systems and services
- **Gambling**
 - All companies deriving 5% or more revenue from ownership of operation of gambling-related business activities
 - All companies deriving 15% or more aggregate revenue from gambling-related business activities

- **Genetically Modified Organisms (GMO)**
 - All companies deriving 5% or more revenue from activities like genetically modifying plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption
- **Nuclear Power**
 - All companies generating 5% or more of their total electricity from nuclear power in a given year
 - All companies that have 5% or more of installed capacity attributed to nuclear sources in a given fiscal year
 - All companies deriving 15% or more aggregate revenue from nuclear power activities

No specific restrictiveness level applied

- **Fossil Fuel Reserves Ownership**
 - All companies with evidence of owning proven & probable coal reserves and/or proven oil and natural gas reserves used for energy purposes, as defined by the methodology of the MSCI Global Ex Fossil Fuels Indexes available at <https://www.msci.com/index-methodology>
- **Fossil Fuel Extraction**
 - All companies deriving any revenue (either reported or estimated) from thermal coal mining or unconventional oil and gas extraction.
 - *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
 - *Unconventional Oil & Gas Extraction:* 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.
- **Thermal Coal Power**
 - All companies deriving 5% or more revenue (either reported or estimated) from thermal coal-based power generation.

Appendix 2: Definitions of Clean Technology and Sustainable Impact Revenue Metrics

- **Alternative Energy** - The recent-year percentage of revenue, or maximum estimated percent, a company has derived from products, services, or infrastructure projects supporting the development or delivery of renewable energy and alternative fuels.
- **Energy Efficiency** - The recent-year percentage of revenue, or maximum estimated percent, a company has derived from products, services, infrastructure, or technologies that proactively address the growing global demand for energy while minimizing impacts to the environment.
- **Green Building** - The recent-year percentage of revenue, or maximum estimated percent, a company has derived from design, construction, redevelopment, retrofitting, or acquisition of 'green' certified properties – subject to local green building criteria.
- **Major Disease Treatment** - The recent-year percentage of revenue, or estimated revenue percentage, a company has derived from drugs for top worldwide diseases in the following sub-industries: Healthcare Equipment, Biotechnology, Pharmaceuticals and Life Sciences Tools & Services. Examples of top diseases include HIV/AIDS, TB, Malaria, Stroke, Diarrhea and orphan diseases.
- **Nutrition** - The recent-year percentage of revenue, or estimated revenue percentage, a company has derived from nutritious products in the following sub-industries: Packaged Foods & Meats, Soft Drinks, Food Distributors, Food Retail, and Hypermarkets & Super Centers.
- **Pollution Prevention** - The recent-year percentage of revenue, or maximum estimated percent, a company has derived from products, services, or projects that support pollution prevention, waste minimization, or recycling as a means of alleviating the burden of unsustainable waste generation.

The following sections have been modified since January 2020-

- Appendix 1 - Effective from the November 2020 Index Review, new controversial business involvement criteria were added for Fossil Fuel Reserves and Fossil Fuel Extraction, and the screen for Thermal Coal was adjusted.

The following sections have been modified since November 2020-

- Section 3.1 – Added the MSCI World Select ESG Leaders Low Carbon Impact G Series Index with the Parent Index as MSCI World

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