

# **MSCI GLOBAL ENVIRONMENT INDEX METHODOLOGY**

**July 2017**

**CONTENTS**

- 1 Introduction ..... 3
- 2 MSCI ESG Research ..... 4
  - 2.1 MSCI ESG Controversies ..... 4
  - 2.2 MSCI ESG Business Involvement Screening Research..... 4
  - 2.3 MSCI ESG Sustainable Impact Metrics ..... 4
- 3 Constructing the MSCI Global Environment Index..... 6
  - 3.1 Defining the Parent Index ..... 6
  - 3.2 Eligible Universe ..... 6
    - 3.2.1 Companies having faced very severe ESG Controversies..... 6
    - 3.2.2 Companies involved in Controversial Weapons Businesses ..... 6
  - 3.3 Security Selection ..... 6
- 4 Maintaining the MSCI Global Environment Index..... 8
  - 4.1 Quarterly Index Reviews ..... 8
  - 4.2 Buffer Rules ..... 8
  - 4.3 Ongoing Event-Related Maintenance ..... 8
- Appendix I: CleanTech Themes ..... 10
  - Alternative Energy ..... 10
  - Energy Efficiency..... 10
  - Sustainable Water..... 11
  - Green Building ..... 11
  - Pollution Prevention ..... 12
- Appendix II: Methodology Transition ..... 13
- Appendix III: Regional MSCI Environment Indexes ..... 14

## **1 INTRODUCTION**

The MSCI Global Environment Index is a free float-adjusted market capitalization weighted index designed to maximize its exposure to Clean Technology environmental themes. The Index is comprised of companies that focus on offering products or services that contribute to a more environmentally sustainable economy by making a more efficient use of limited global natural resources.

The MSCI Global Environment Index aims to include companies with exposure to one or more of the following five themes:

- Alternative Energy
- Energy Efficiency
- Sustainable Water
- Green Building
- Pollution Prevention

MSCI also constructs the following indexes designed to include companies with exposure to the five individual themes:

- MSCI Alternative Energy Index
- MSCI Energy Efficiency Index
- MSCI Sustainable Water Index
- MSCI Green Building Index
- MSCI Pollution Prevention Index

## 2 MSCI ESG RESEARCH

MSCI ESG Research 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 designed to help institutional investors efficiently manage research, analysis and compliance tasks across the spectrum of ESG factors.

The Index uses company research provided by MSCI ESG Research. In particular, this index uses the following MSCI ESG Research products: MSCI ESG Controversies, MSCI ESG Business Involvement Screening Research and MSCI ESG Sustainable Impact Metrics.

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](http://www.msci.com/products/esg/about_msci_esg_research.html)

### 2.1 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (previously known as MSCI ESG 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/esg-integration>

### 2.2 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](http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf)

### 2.3 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.

For more details on the MSCI ESG Sustainable Impact Metrics, please refer to:

<https://www.msci.com/esg-sustainable-impact-metrics>

### 3 CONSTRUCTING THE MSCI GLOBAL ENVIRONMENT INDEX

The MSCI Global Environment Index (“Index”) is constructed using the following steps:

- Defining the Parent Index
- Defining the Eligible Universe
- Security Selection

#### 3.1 DEFINING THE PARENT INDEX

The parent index serves as the selection universe of securities for the Index. The parent index for the MSCI Global Environment Index is the MSCI ACWI IMI Investable Market Index (IMI).

#### 3.2 ELIGIBLE UNIVERSE

The eligible universe is constructed by starting from the parent index then excluding securities based on the following criteria:

##### 3.2.1 COMPANIES HAVING FACED VERY SEVERE ESG CONTROVERSIES

Companies having faced very severe controversies pertaining to ESG issues in the last three years, defined as companies with an ESG Controversy Score of 0, are excluded from the Index.

##### 3.2.2 COMPANIES INVOLVED IN CONTROVERSIAL WEAPONS BUSINESSES

Companies involved in Controversial Weapons (i.e. landmines, cluster munitions, depleted uranium and biological and chemical weapons), as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes, are excluded from the Index. For more details on the controversial weapons exclusion, please refer to the MSCI Global ex Controversial Weapons Indexes Methodology at:

<https://www.msci.com/index-methodology>

#### 3.3 SECURITY SELECTION

Companies remaining in the eligible universe which derives 50% or more of their revenue cumulatively from the five CleanTech (CT) themes are eligible to be included in the index. Companies are then evaluated for the level of involvement in and strategic commitment to five CleanTech themes which are as follows:

- Alternative Energy – Products, services, or infrastructure projects supporting the development or delivery of renewable energy and alternative fuels.
- Energy Efficiency – Products, services, infrastructure, or technologies that proactively address the growing global demand for energy while minimizing effects on the environment.
- Sustainable Water – Products, services, and projects that attempt to resolve water scarcity and water quality issues, including minimizing and monitoring current water use and demand increases, improving the quality of water supply, and improving the availability and reliability of water.
- Green Building – Building material suppliers; home builders; or property managers that directly support and have a confirmed commitment to achieving sustainable building standards (e.g. LEED, Energy Star Homes, or other recognized standards of sustainable building) for all new construction.
- Pollution Prevention – Products services, or projects focused on pollution prevention; waste minimization or recycling, as a means of alleviating the burden of unsustainable waste generation.

Please refer to Appendix I for a detailed description of these categories.

The individual thematic indexes are constructed by selecting securities based on their revenue exposure to the relevant CleanTech theme. For example, the MSCI Alternative Energy Index is constructed by selecting securities from the eligible universe, as defined in section 3.2, which derive 50% or more of their revenue from the Alternative Energy theme.

Since the MSCI Global Environment Index is constructed by selecting securities which derive 50% or more of their revenue from the CleanTech themes on a *cumulative basis*, and the individual thematic indexes are constructed by selecting securities which have 50% or more revenue from a specific theme, the MSCI Global Environment Index is not an aggregated version of the five individual thematic indexes.

## 4 MAINTAINING THE MSCI GLOBAL ENVIRONMENT INDEX

### 4.1 QUARTERLY INDEX REVIEWS

The MSCI Global Environment Index and the individual thematic indexes are reviewed on a quarterly basis to coincide with the regular Semi-Annual and Quarterly Index Reviews of the MSCI Global Investable Market Indexes. The changes are implemented as of the close of the last business day of February, May, August and November.

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

At the Quarterly Index Reviews, all companies in the underlying universe are reviewed and eligible companies are added to the MSCI Global Environment Index and the individual thematic indexes. Existing constituents may be deleted from the MSCI Global Environment Index and the individual thematic indexes due to declining CleanTech exposure, subject to buffer rules as described below. Any constituent that is deleted from the underlying parent index as a result of the Quarterly Index Review is also deleted from the MSCI Global Environment Index and the individual thematic indexes.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI ESG Controversies Scores and MSCI Business Involvement Screening Research) as of the end of the month preceding the Index Reviews. 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.

### 4.2 BUFFER RULES

To reduce index turnover and enhance index stability, buffer rules are applied for securities which have a relevant CleanTech exposure between 40% and 50%. Existing constituents of the MSCI Global Environment Index are retained in the index as long as they meet eligibility criteria mentioned in section 3.2 and their cumulative CleanTech exposure does not fall below 40%. For individual thematic indexes, the existing constituents are retained in the index as long as they meet the eligibility criteria and their exposure to the relevant CleanTech theme does not fall below 40%.

However, if an existing constituent remains in the buffer zone for two consecutive years, the security would be deleted at the subsequent Index Review.

### 4.3 ONGOING EVENT-RELATED MAINTENANCE

The MSCI Corporate Events Methodology is applied for the maintenance of the MSCI Global Environment Index and the individual thematic indexes between Index Reviews. There are



no additions to the MSCI Global Environment Index outside the regular Index Reviews. New additions to the underlying index due to corporate events are not added simultaneously to the MSCI Global Environment Index, but may be considered for inclusion at the following Index Review. However, companies deleted from the underlying index between Index Reviews are also deleted at the same time from the MSCI Global Environment Index and the individual thematic indexes.

The technical details relating to the handling of specific corporate event types can be found in the MSCI Corporate Events Methodology book available at:

<https://www.msci.com/index-methodology>

## APPENDIX I: CLEANTECH THEMES

The MSCI Global Environment Index includes companies based on their involvement in and strategic commitment to the following five environmental themes:

- Alternative Energy
- Energy Efficiency
- Sustainable Water
- Green Building
- Pollution Prevention

A brief description of these themes is included below.

### ALTERNATIVE ENERGY

This category includes products, services, or infrastructure projects supporting the development or delivery of renewable energy and alternative fuels, including:

- Generation, transmission, and distribution of electricity from renewable sources including wind, solar, geothermal, biomass, small scale hydro (25 MW), waste energy, and wave tidal.
- Fuels, technology, and infrastructure for the production and distribution of cleaner hybrid fuels, hydrogen, fuel cells, and alternative fuels, including biodiesel, biogas, and cellulosic ethanol. Not eligible under this category: large scale hydroelectric plants (>25 MW installed capacity)

### ENERGY EFFICIENCY

This category includes products, services, infrastructure, or technologies that proactively address the growing global demand for energy while minimizing effects on the environment, including:

- Technologies and systems that promote efficiency of industrial operations (e.g., turbines, motors, and engines), industrial automation and controls, and optimization systems (e.g., cloud computing, data optimization systems).
- Infrastructure, technology, and systems that increase the efficiency of power management, power distribution, power storage (e.g., batteries), demand-side management (e.g., wireless sensors, advanced meters, smart grid).
- Technologies and systems focused on reducing fuel consumption of transport vehicles and industrial operations (e.g., hybrid/electric vehicles)

- Sustainable transportation infrastructure including urban mass transit, efficiency improvements of public transportation fleets, electric vehicle charging, improved traffic systems.
- Architectural glass, efficient lighting, insulation, building automation and controls, and devices and systems designed to be utilized in the design and construction of environmentally sustainable buildings.

**MSCI ESG Research’s Energy Efficiency category does not include:**

- Corporate operational energy efficiency efforts, such as efficiency gains in manufacturing, transporting, or distributing standard products or services.
- Energy efficient components of finished goods.

**SUSTAINABLE WATER**

This category includes products, services, and projects that attempt to resolve water scarcity and water quality issues, including minimizing and monitoring current water use and demand increases, improving the quality of water supply, and improving the availability and reliability of water, including:

- Infrastructure and engineering projects developing new or repairing existing water and sanitation pipelines, including equipment and technology providers, resulting in improved quality and/or water use efficiency
- Technologies and products that reduce, reuse, or recycle water as a means of conservation (smart metering devices, low-flow equipment, and rainwater harvesting systems)
- Advanced materials, equipment, technologies, and services that filter or chemically treat wastewater for consumer or industrial use, including desalination

**MSCI ESG Research’s Sustainable Water category does not include:**

- Distribution of drinking water without measurable improvements to water quality
- Water efficiency

**GREEN BUILDING**

This category includes design, construction, redevelopment, retrofitting, or acquisition of ‘green’ certified properties – subject to local green building criteria, including:

- Properties that are certified as ‘green’ based on the local country’s environmental performance standard (e.g., based on Energy Star, NABERS >3, or equivalent) or environmental design standards (e.g., LEED Certified, BREEAM, or local equivalent).

**MSCI ESG Research’s Green Building category does not include:**

- Building materials, equipment, or supplies that are already included in the other themes. Examples include: Solar panels, energy efficient lighting, advanced materials used in construction, smart grids, etc.

**POLLUTION PREVENTION**

This category includes products, services, or projects that support pollution prevention, waste minimization, or recycling as a means of alleviating the burden of unsustainable waste generation, including:

- Technologies, systems, and projects aiming to reduce air pollution (environmental IT, conventional pollution control systems, CCS)
- Projects to salvage, use, reuse, and recycle post-consumer waste products
- Waste treatment and environmental remediation projects, including land treatment and brownfield cleanup, soil washing, chemical oxidation, and bioremediation
- Sustainable alternative materials including raw materials, paints, adhesives, etc. used primarily in the construction of environmentally sustainable buildings.

**MSCI ESG Research’s Pollution Prevention category does not include:**

- Landfill or incineration waste treatment projects without a specific waste-to-energy component.

## **APPENDIX II: METHODOLOGY TRANSITION**

Prior to the May 2017 Semi-Annual Index Review, the MSCI Global Environment Index (GEI) was based on the methodology described below:

[https://www.msci.com/eqb/methodology/meth\\_docs/MSCI\\_Global\\_Environment\\_Indices\\_November2013.pdf](https://www.msci.com/eqb/methodology/meth_docs/MSCI_Global_Environment_Indices_November2013.pdf)

The MSCI Global Environment Index will transition to the current methodology from the May 2017 Semi-Annual Index Review (SAIR) over two index reviews (May 2017 SAIR and the August 2017 Quarterly Index Review (QIR)).

### **APPENDIX III: REGIONAL/COUNTRY MSCI ENVIRONMENT INDEXES**

MSCI also constructs regional/country MSCI Environment Indexes by applying the index construction and maintenance rules on any regional/country subset of ACWI IMI. For example, the MSCI China IMI Environment Index is constructed by applying these rules on the MSCI China IMI.

**THE FOLLOWING HAVE BEEN MODIFIED SINCE NOVEMBER 2013:**

Methodology transitioned to the current enhanced methodology from the May 2017 Semi-Annual Index Review onwards

**THE FOLLOWING HAVE BEEN MODIFIED SINCE MAY 2017:**

Addition of Appendix III to include details on regional/country MSCI Environment Indexes

## CONTACT US

clientservice@msci.com

### AMERICAS

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
Sao Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

### EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

### ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Tokyo	+ 81 3 5290 1555

\* = toll free

### ABOUT MSCI

For more than 40 years, MSCI’s research-based indexes and analytics have helped the world’s leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking.

For more information, visit us at [www.msci.com](http://www.msci.com).



## NOTICE AND DISCLAIMER

- This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or disseminated in whole or in part without prior written permission from MSCI.
- The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.
- The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.
- Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.
- Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.
- The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.
- None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.
- It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.
- Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.
- The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.
- Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.
- Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on [www.msci.com](http://www.msci.com).
- MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company filings on the Investor Relations section of [www.msci.com](http://www.msci.com).
- MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.
- Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD, FEA, InvestorForce, and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.