

# **MSCI ACWI SUSTAINABLE IMPACT INDEX METHODOLOGY**

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## **1 INTRODUCTION**

The MSCI ACWI Sustainable Impact Index (“Index”) is designed to identify listed companies whose core business addresses at least one of the world’s social and environmental challenges, as defined by the United Nations Sustainable Development Goals (UN SDGs). The Index selects companies that contribute to the SDGs through the provision of products and services that can help address some of these challenges and meet minimum ESG standards for their operations.

## 2 MSCI ESG RESEARCH

The Index uses company ratings and research provided by MSCI ESG Research. In particular, the indexes use the following four MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Impact Monitor, ESG Business Involvement Screening Research and MSCI 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 RATINGS

MSCI ESG Ratings provide research, analysis and ratings of how well companies manage their environmental, social and governance risks and opportunities.

For more details on MSCI ESG Ratings, please refer to [https://www.msci.com/documents/1296102/1636401/MSCI\\_ESG\\_Ratings.pdf](https://www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings.pdf)

### 2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies assess 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.

For more details on MSCI ESG Controversies, please refer to [www.msci.com/documents/esg-controversies](http://www.msci.com/documents/esg-controversies)

### 2.3 MSCI ESG BUSINESS INVOLVEMENT SCREENING RESEARCH

MSCI ESG Business Involvement Screening Research is designed to identify global publicly-traded companies involved in activities such as the production of controversial weapons, tobacco products, or those that violate religious screening mandates such as Catholic or Islamic Values.

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)

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

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

### 2.4.1 MSCI SUSTAINABLE IMPACT CATEGORIES

#### 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.



### NUTRITION

This category includes products and services classified under the “basic products” category, as defined by Choices International<sup>1</sup>. According to Choices International, basic products refer to those products that contribute to the daily intakes of essential nutrients while non basic are not needed to fulfill our daily requirements.

**Figure 2 – Examples of “basic” and “non-basic” products**

Examples of Basic products	Examples of non-basic products
<ul style="list-style-type: none"> <li>• fruits and vegetables</li> <li>• beans and legumes</li> <li>• sources of carbohydrates</li> <li>• meat, fish, poultry, eggs, and meat substitutes</li> <li>• dairy products</li> <li>• oils, fats and fat-containing spreads</li> <li>• nuts</li> <li>• water</li> <li>• main meals</li> </ul>	<ul style="list-style-type: none"> <li>• soups</li> <li>• sauces</li> <li>• snacks (including pastry, ice cream, and sweet and savoury snacks)</li> <li>• beverages (excluding water) and fruit juices</li> <li>• bread toppings</li> </ul>

Source: Choices International, MSCI ESG Research

### MAJOR DISEASE TREATMENTS

This category includes drugs and healthcare equipment used to treat the world’s major diseases. Major diseases include those diseases with the highest DALY<sup>2</sup> as well as orphan diseases<sup>3</sup> and tropical neglected diseases<sup>4</sup>.

**Figure 3 – Examples of major diseases included in the category’s scope**

Major diseases	Neglected diseases	Orphan diseases
<ul style="list-style-type: none"> <li>• Ischaemic heart disease</li> </ul>	<ul style="list-style-type: none"> <li>• Schistosomiasis</li> <li>• Leishmaniasis</li> </ul>	<ul style="list-style-type: none"> <li>• Cystic fibrosis</li> <li>• Wilson’s disease</li> </ul>

<sup>1</sup> For more information on Choices International refer to <http://www.choicesprogramme.org/public/criteria/international-product-criteria-2015-def.pdf>

<sup>2</sup> The WHO daily adjusted life year (DALY) represents the number of years of life lost due to poor health/disability and earlier death. The sum of these DALYs across the population represents the global burden of disease. More information on DALY can be found here: [http://www.who.int/healthinfo/global\\_burden\\_disease/metrics\\_daly/en](http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en)

<sup>3</sup> Orphan drugs refer to treatments for orphan diseases which affect about 1 in 1500 people, as defined by the FDA. <http://www.fda.gov/ForIndustry/DevelopingProductsforRareDiseasesConditions/HowtoapplyforOrphanProductDesignation/default.htm>

<sup>4</sup> More information on neglected diseases can be found here: [http://www.who.int/neglected\\_diseases/diseases/en/](http://www.who.int/neglected_diseases/diseases/en/)

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Lower respiratory infections</li> <li>• Stroke</li> <li>• Diarrhoeal diseases</li> <li>• Chronic obstructive pulmonary disease</li> <li>• HIV/AIDS</li> <li>• Unipolar depressive disorders</li> <li>• Diabetes mellitus</li> <li>• Malaria</li> <li>• Tuberculosis</li> <li>• Trachea, bronchus, lung cancers</li> <li>• Cirrhosis of the liver</li> <li>• Meningitis</li> <li>• Kidney diseases</li> <li>• Anxiety disorders</li> <li>• Endocrine, blood, immune disorders</li> <li>• Asthma</li> <li>• Hypertensive heart disease</li> <li>• Liver cancer</li> <li>• Epilepsy</li> <li>• Hepatitis B and C</li> </ul> | <ul style="list-style-type: none"> <li>• Lymphatic filariasis</li> <li>• Rabies</li> <li>• Dengue</li> <li>• Trypanosomiasis</li> <li>• Onchocerciasis</li> <li>• Chagas disease</li> <li>• Trachoma</li> <li>• Leprosy</li> <li>• Buruli Ulcer</li> <li>• Yaws</li> </ul> | <ul style="list-style-type: none"> <li>• Gaucher disease</li> <li>• Pompe disease</li> </ul> |
|---|--|--|

Source: WHO, MSCI ESG Research

### SANITATION

This category includes products and services used for basic sanitation including:

**Figure 4 – Example of sanitation products**

Examples of basic sanitary products	Examples of non basic sanitary products
<ul style="list-style-type: none"> <li>• soaps</li> <li>• oral care (toothbrush, toothpaste)</li> <li>• detergents</li> <li>• water purifier</li> <li>• sanitary napkins (feminine pad)</li> <li>• toilet paper</li> </ul>	<ul style="list-style-type: none"> <li>• hair oil</li> <li>• deodorants</li> <li>• skin care</li> <li>• color cosmetics</li> <li>• perfumes</li> <li>• air care</li> </ul>

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• diapers (adult, child)</li> <li>• toilet basin</li> <li>• washbasins</li> </ul> | <ul style="list-style-type: none"> <li>• fragrance</li> <li>• make up</li> <li>• After shave gel</li> <li>• Sunscreen cream</li> <li>• Fabric softener</li> </ul> |
|--|---|

Source: MSCI ESG Research

**AFFORDABLE REAL ESTATE**

This category includes low income residential and commercial properties. Residential properties take the form of homes for reconstruction efforts, affordable residences for the elderly and units devoted to be managed under social rent or purchased through shared equity or shared ownership. Low income commercial properties include commercial spaces for Small and Medium Enterprises (SMEs).

**SME FINANCE**

This category includes loans provided to small and medium enterprises.

**EDUCATION**

This category includes revenues coming from educational products and services used in a school environment (i.e. training software, educational books and materials used by students and teachers as part of their education programs). General literature, illustrated books, newspaper, magazines and TV programs were not included in our assessment.

**2.4.2 RESEARCH PROCESS FOR MSCI ESG RESEARCH SUSTAINABLE IMPACT METRICS**

MSCI ESG Research includes a team of analysts dedicated to covering the companies involved in sustainable impact themes. On an annual basis, MSCI ESG Research analysts conduct a review of MSCI ACWI constituents to identify those companies that generate revenues from sustainable impact themes. In addition, MSCI ESG Research conducts data verification by engaging with subject companies in order to confirm public data concerning a company’s involvement and the nature of such involvement.

**ANNUAL UPDATES**

On an annual basis, MSCI ESG Research analysts conduct a review of companies in the MSCI ACWI for involvement. The annual update involves:

1. **Identification of Sustainable Impact Universe:** the Sustainable Impact Universe is first defined by MSCI ESG Research. For more information regarding the

Sustainable Impact Universe methodology, please refer to MSCI ESG Research Sustainable Impact Metrics methodology.

2. **The review of company's literature:** for those companies included in the Sustainable Impact Universe analysts review the company regulatory filings, annual reports, company websites, and third party sources to identify potential revenues from sustainable impact categories. For each category, analysts assess the company's product pipeline and only take into account revenues coming from products that match the sustainable impact categories definition outlined above.
3. **Company verification:** all companies in the Sustainable Impact Universe are contacted to verify the level of involvement in the sustainable impact categories.

### 3 INDEX CONSTRUCTION METHODOLOGY

The MSCI ACWI Sustainable Impact Index (“Index”) is constructed using the following steps:

- Defining the Parent Index
- Security Selection
- Weighting Scheme

The steps mentioned above are defined in detail in the subsequent sections.

#### 3.1 DEFINING THE PARENT INDEX

The Parent Index serves as the universe of eligible securities for the Index. The MSCI ACWI Sustainable Impact Indexes is constructed on the MSCI ACWI Index (“Parent Index”).

#### 3.2 SECURITY SELECTION

To be eligible for inclusion in the Index, companies must meet all of the below criteria:

##### 3.2.1 SUSTAINABLE IMPACT SALES PERCENTAGE

Companies must generate cumulatively at least 50% sales from one or more of the eleven sustainable impact categories as defined by MSCI ESG Research Sustainable Impact Metrics.

1. Alternative energy
2. Energy efficiency
3. Green building
4. Sustainable water
5. Pollution prevention
6. Nutrition
7. Major disease treatments
8. Sanitation
9. Affordable Real Estate
10. SME Finance
11. Education

##### 3.2.2 MINIMUM ESG STANDARDS

Companies must maintain all of the following minimum ESG standards:

1. **MSCI ESG Controversies:** Companies must not have faced ESG controversies as defined by an MSCI ESG Controversy Score of 0, 1 and 2 respectively (see Appendix I for more details on the definition of controversies)

2. **MSCI ESG Ratings:** Companies must have an MSCI ESG Rating greater or equal to BB
3. **Tobacco:** Companies must not generate more than 10% sales from tobacco production
4. **Alcohol:** Companies must not generate more than 10% sales from alcohol production
5. **Predatory lending:** Companies must not be involved in predatory lending practices. MSCI ESG Research defines involvement in lending practices as those companies that provide products and services associated with certain controversial lending activities and those companies that have been subject of alleged lending controversies
6. **Controversial Weapons:** Companies must not be involved in manufacture of Cluster munitions, Landmines, Blinding lasers, White phosphorus, Non-detectable fragments, Depleted uranium and Biological & chemical weapons
7. **Nuclear Weapons:** Companies must not be involved in manufacture of Nuclear weapons warheads & missiles, Intended use components, Nuclear exclusive delivery platforms and Nuclear weapons support services
8. **Conventional Weapons :** Companies must not generate more than 5% from conventional weapons and systems
9. **Civilian Firearms:** Companies must not be involved in manufacture of semi-automatic civilian firearms or should not generate more than 5% revenue from civilian firearms production

Definition of above mentioned controversial activities are available in Appendix II.

### 3.2.3 MINIMUM NUMBER OF ISSUERS

The Index is constructed with a minimum of 30 issuers. All securities from the issuer whose Sustainable Impact Sales Percentage is greater than 50% and meet minimum ESG standards as per 3.2.2 are included in the Index.

If the number of issuers selected is less than 30, remaining issuers are selected from those issuers that meet the minimum ESG Standards in decreasing order of Sustainable Impact Sales Percentage. If multiple eligible issuers have the same Sustainable Impact Sales Percentage, then the issuer having a higher weight in the Parent Index is given a higher rank.

### 3.3 WEIGHTING SCHEME

Securities are weighted on basis of sustainable impact dollar sales in proportion of the ratio of free-float adjusted market capitalization of security to total market capitalization of issuer. Sustainable impact dollar sales are computed using product of the trailing 12-month sales and the cumulative percentage of sales from the sustainable impact categories.

$$Security\ Weight = \left( Sustainable\ impact\ sales\ \% \times Trailing\ 12 -\ month\ sales \right. \\ \left. \times \frac{Free - float\ adjusted\ market\ capitalization\ of\ security}{Total\ market\ capitalization\ of\ issuer} \right)$$

For Financials companies, where trailing 12-month sales is not available, net interest income would be used to calculate security weight. For companies where net interest income is unavailable, earnings (net income from the continuing operations) would be used.

For more details on the MSCI definition of sales and earnings, please refer to MSCI Fundamental Data methodology at <https://www.msci.com/index-methodology>.

The above weights are then normalized to 100%.

Additionally, sector weights are capped at 20% and issuer weights are capped at 4%.

## **4 MAINTAINING THE MSCI ACWI SUSTAINABLE IMPACT INDEX**

### **4.1 QUARTERLY INDEX REVIEWS**

The MSCI ACWI Sustainable Impact Index is reviewed on a quarterly basis to coincide with the Quarterly Index Reviews of the Parent Index. The latest reported Sustainable Impact Sales percentage data would be used for the Index Review. Companies are evaluated for index eligibility as per security section rules defined in section 3.2. Existing constituents are retained in the index as long as they meet minimum ESG standards and their Sustainable Impact Sales percentage does not fall below 40%. Deletions from the Parent Index at the time of the Quarterly Index Reviews are simultaneously reflected in the Index.

Sector weights would be capped at 20% and issuer weights would be capped at 4% at each Quarterly Index Review.

The pro forma MSCI ACWI Sustainable Impact Index is generally announced nine business days before the effective date.

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 MINIMUM NUMBER OF ISSUERS**

At each Quarterly Index Review, the Index is constructed with a minimum of 30 issuers.

If the number of issuers selected at a Quarterly Index Review as per the index rebalancing rules mentioned in section 4.1 is less than 30, remaining issuers are selected from those issuers that meet the minimum ESG Standards in decreasing order of Sustainable Impact Sales Percentage. If multiple eligible issuers have the same Sustainable Impact Sales Percentage, then the issuer having a higher weight in the Parent Index is given a higher rank.

### **4.3 MONTHLY UPDATES ON BASIS OF CONTROVERSIES**

Index constituents would be reviewed on a monthly basis for the involvement in ESG controversies. Existing constituents would be deleted if they face controversies as defined by ESG controversy score of 0, 1 and 2. The pro forma index is generally announced nine business days before the first business day of the month.



#### 4.4 ONGOING EVENT RELATED CHANGES

The general treatment of corporate events in the MSCI ACWI Sustainable Impact 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 MSCI ACWI Sustainable Impact Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI ACWI Sustainable Impact Index.

The following section briefly describes the treatment of common corporate events within the MSCI ACWI Sustainable Impact 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 book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted indexes.

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

## APPENDIX I: DEFINITION OF CONTROVERSY SEVERITY

Each controversy case is assessed for the severity of its impact on society or the environment and consequently rated Very Severe (reserved for ‘worst of the worst’ cases), Severe, Moderate, or Minor. To reach these assessments, each case is analyzed along two dimensions: nature of impact and scale of impact. For more details on MSCI ESG Controversies please refer to [www.msci.com/documents/esg-controversies](http://www.msci.com/documents/esg-controversies)

Figure 5 – Assessment of controversy severity: the severity matrix

		Nature of Impact			
		Very Serious (Death, disability, torture, enslavement, destruction of livelihood or traditional way of life)	Serious (Livelihood seriously impaired, interference with basic needs, child labor, displacement)	Medium (Minor impairment to livelihood, denial of opportunity, most labor disputes and violations)	Minimal (Potential denial of opportunity, potential violation of rights, procedural failings)
Scale of Impact	Extremely Widespread (1000+ people)	Very Severe	Very Severe	Severe	Moderate
	Extensive (25-999 people)	Very Severe	Severe	Moderate	Moderate
	Limited (10-24 people)	Severe	Moderate	Minor	Minor
	Low (<10 people)	Moderate	Moderate	Minor	Minor

## APPENDIX II: DEFINITION OF CONTROVERSIAL ACTIVITIES

### Predatory lending

Predatory lending is defined as the “imposition of unfair and abusive loan terms on borrowers” by engaging in deception, fraud, or manipulation through aggressive sales tactics, and taking unfair advantage of a borrower’s lack of understanding about complicated transactions.

Examples of products and services associated with predatory lending include payday loans, installment loans, pawn loans, title loans, tax refund anticipation loans, doorstep loans, and check cashing.

### Defense & Weapons:

The various types of involvement in defense and weapons are defined as below:

Types of Weapon	Definition
Cluster Munitions	Companies with any industry tie to cluster munitions.
Landmine	Companies that have any industry tie to the manufacture of landmines except for Safety, which is a positive indicator.
Blinding Lasers Weapons	Companies that manufacture weapons utilizing laser technology that causes permanent blindness to the target.
Incendiary Weapons	Companies that manufacture incendiary weapons using white phosphorus.
Non-Detectable Fragments	Companies that manufacture weapons that use non-detectable fragments to inflict injury to targets.
Depleted Uranium	Companies involved in the production of depleted uranium (DU) weapons, ammunition, and armor, including companies that manufacture armor piercing, fin stabilized, discarding sabot tracing rounds (APFSDS-T); Kinetic Energy Missiles made with DU penetrators; and DU-enhanced armor, including composite tank armor.
Biological-Chemical Components	Companies that manufacture key biological and chemical weapons components.
Biological-Chemical Systems	Companies that manufacture biological and chemical weapons, including weapons that use pathogens such as viruses, bacteria, and disease-causing biological agents, toxins, or chemical substances that have toxic properties to kill, injure, or incapacitate.

Types of Weapon	Definition
Nuclear Weapons - Warheads & Missiles	Companies that manufacture nuclear warheads and/or whole nuclear missiles. Includes assembly and integration of warhead and missile body. INCLUDES companies with contracts to operate/manage government-owned facilities that manufacture nuclear warheads and missiles.
Nuclear Weapons - Intended-use Components	Companies that manufacture components which were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles). INCLUDES companies with contracts to operate/manage government-owned facilities that manufacture components for nuclear warheads and missiles, such as fissile materials, non-nuclear components, explosives, triggers and detonators, etc.
Nuclear Weapons – Exclusive Delivery Platforms	Companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons.
Nuclear Weapons – Support Services	Companies that provide auxiliary services related to nuclear weapons, such as repairing and maintaining nuclear weapons, providing overhaul and upgrade services (including engineering), stockpiling and stewardship, R&D work, testing and simulations, etc. INCLUDES companies with contracts to operate/manage government-owned facilities that conduct R&D, testing, simulations, and other essential sciences on nuclear weapons.
Civilian Firearms – Semi – Automatic Producer	<p>Companies that manufacture firearms which automatically eject the cartridge case of a fired shot and load the next cartridge from the magazine allowing the gun user to fire one round of ammunition for every pull of the trigger.</p> <p>The research specifically targets semi-automatic firearms that possess cosmetic, ergonomic, or construction features of an assault rifle. For additional detail on specific features included, please refer to MSCI ESG Research’s Firearms Screen methodology.</p> <p>The research does not cover companies that cater to the military, government, and law enforcement markets.</p>
Conventional Weapons - Total Involvement	The recent-year percent of revenue, or maximum estimated percent, a company has derived from weapons systems, components, and support systems and services.
Civilian Firearms - Producer	The recent-year percent of revenue, or maximum estimated percent, a company has derived from manufacturing firearms and small arms ammunition for civilian markets.

For more details on controversial activities, please refer to the MSCI ESG Research’s Business Involvement Screening Research

[http://www.msci.com/resources/factsheets/MSCI\\_ESG\\_BISR.pdf](http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf)

**The following sections have been modified since Feb 2016:**

Section 2.2: MSCI ESG Controversies

- Changes made to bring alignment with MSCI ESG Sustainable Impact Metrics

Section 2.4: MSCI ESG Sustainable Impact Metrics

- Changes made to bring alignment with MSCI ESG Sustainable Impact Metrics

Section 3.2.1: Sustainable Impact Sales Percentage

- Changes made to bring alignment with MSCI ESG Sustainable Impact Metrics

Section 3.2.2: Minimum ESG Standards

- Changes made to bring alignment with MSCI ESG Sustainable Impact Metrics

Section 3.2.2: Minimum ESG Standards

- Methodology enhancements due to changes in ESG Controversy Score calculation

Appendix II: Definition of Controversial Activities

- Methodology enhancements due to changes in ESG Controversy Score calculation

**The following sections have been modified since May 2016:**

Section 4.1: Quarterly Index Reviews

- Same rules are applied for Quarterly and Annual Index Reviews so the Annual Index Review section was removed. The latest reported Sustainable Impact Sales percentage data would be used for all Quarterly Index Reviews
- Buffer rules have been added so that existing constituents continue to remain in the Index unless their Sustainable Impact Sales percentage falls below 40%

**The following sections have been modified since August 2016:**

- The details on the Corporate Events treatment are now included in Section 4.4.

**The following sections have been modified since June 2017:**

Section 4.1

- Clarification on use of ESG data for securities whose data would be available after the end of the month preceding Index Review.

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