

MSCI SRI Indexes Methodology

November 2019

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1 Introduction

Globally, institutional investors are increasingly seeking to invest in companies that operate in accordance with their values and meet stringent best-of-class criteria for managing their environmental, social and governance (ESG) risks and opportunities.

Examples of values driven investing include the avoidance of companies that sell products that have high negative social impact (for example – alcohol, gambling, and tobacco), a commitment to high human rights standards in a company’s supply chain, and general adherence to established international normative standards of corporate behavior as represented by organizations such as the UN Global Compact.

The MSCI SRI Indexes are free float-adjusted market capitalization weighted indexes that exclude companies that are inconsistent with specific values based criteria focused on products with high negative social or environmental impact. Additionally, these indexes are designed to represent the performance of companies that have high Environmental, Social and Governance (ESG) ratings relative to their sector peers, to ensure the inclusion of the best-in-class companies from an ESG perspective. Further, these Indexes aim to target sector weights that reflect the relative sector weights of the underlying MSCI Global Investable Market Indexes to limit the systematic risk introduced by the ESG selection process. Overall the MSCI SRI Indexes target coverage of 25% of the underlying MSCI parent index (“Parent Index”).

Currently MSCI constructs MSCI SRI Indexes for the Standard size-segment in all Developed Markets and Emerging Markets.

2 MSCI ESG Research

The MSCI SRI Indexes use company ratings and research provided by MSCI ESG Research. In particular, these indexes use the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies, MSCI Business Involvement Screening Research and MSCI Climate Change Metrics.

For details on MSCI ESG Research's full suite of ESG products, please refer to: <https://www.msci.com/esg-integration>

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 (formerly 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, please refer to : <https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b>

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>

3 Constructing the MSCI SRI Indexes

3.1 UNDERLYING UNIVERSE

The selection universe for the MSCI SRI Indexes is defined by the constituents of the MSCI Global Investable Market Indexes (GIMI).

3.2 ELIGIBILITY CRITERIA

The MSCI SRI Indexes use company ratings and research provided by MSCI ESG Research to determine eligibility for index inclusion.

3.2.1 VALUES-BASED EXCLUSIONS

The MSCI SRI Indexes use MSCI ESG Business Involvement Screening Research to identify companies that are involved in the following business activities. Companies that meet the business involvement criteria are excluded from the MSCI SRI Indexes. Please refer to Appendix 1 for details on these criteria.

- Controversial Weapons
- Civilian Firearms
- Nuclear Weapons
- Tobacco
- Alcohol
- Adult Entertainment
- Conventional Weapons
- Gambling
- Genetically Modified Organisms
- Nuclear Power
- Thermal Coal

3.2.2 ESG RATINGS ELIGIBILITY

The MSCI SRI Indexes use MSCI ESG Ratings to identify companies that have demonstrated an ability to manage their ESG risks and opportunities. Companies are required to have an MSCI ESG Rating of 'A' or above to be eligible for inclusion in the MSCI SRI Indexes.

3.2.3 ESG CONTROVERSIES SCORE ELIGIBILITY

MSCI SRI Indexes use MSCI ESG Controversies Scores to identify those companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. Companies are required to have an MSCI ESG Controversies Score of 4 or above to be eligible for inclusion in the MSCI SRI Indexes.

3.3 INDEX CONSTRUCTION

Currently MSCI constructs MSCI SRI Indexes for the Standard size-segment in all Developed Markets and Emerging Markets.

The MSCI SRI Indexes for the Standard size-segment are constructed at a regional level, with the exception of North America which is built separately for Canada and the USA. Each regional SRI index targets 25% of the free float-adjusted market capitalization within each Global Industry Classification Standard (GICS®) sector of the underlying Parent Index.

The following regional SRI Indexes are aggregated to construct the MSCI World SRI Index.

MSCI Regional SRI Index	Region	Parent Index
MSCI Pacific SRI Index	Developed Asia Pacific	MSCI Pacific Index
MSCI Europe & Middle East SRI Index	Developed Europe & Middle East	MSCI Europe & Middle East Index
MSCI Canada SRI Index	Canada	MSCI Canada Index
MSCI USA SRI Index	USA	MSCI USA Index

The following regional SRI Indexes are aggregated to construct the MSCI EM SRI Index.

MSCI Regional SRI Index	Region	Parent Index
MSCI Emerging Markets Asia SRI Index	Emerging Asia	MSCI Emerging Markets Asia Index
MSCI Emerging Markets Europe, Middle East & Africa SRI Index	Emerging Europe, Middle East & Africa	MSCI Emerging Markets Europe, Middle East & Africa Index
MSCI Emerging Markets Latin America SRI Index	Emerging Latin America	MSCI Emerging Markets Latin America Index

The MSCI World SRI Index and the MSCI EM SRI Index are aggregated to construct the MSCI ACWI SRI Index.

The Large Cap and Mid Cap size-segments of the MSCI SRI Indexes are derived from the Standard size-segment.

The MSCI SRI Indexes for other regions and countries are determined by including securities from the particular region/country from the MSCI ACWI SRI Index and weighting them according to their free float-adjusted market capitalization. For example, the MSCI EAFE SRI Index and the MSCI China SRI Index are constructed by including those securities from the MSCI ACWI SRI Index which are a part of the MSCI EAFE Index and the MSCI China Index respectively and weighting them in the proportion of their free float-adjusted market capitalization.

4 Maintaining the MSCI SRI Indexes

4.1 ANNUAL INDEX REVIEW

The MSCI SRI Indexes are reviewed on an annual basis in May to coincide with the May Semi-Annual 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 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 the rebalancing of the MSCI SRI Indexes. 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 MSCI SRI Indexes.

At each Annual Index Review, the eligible universe is updated and the composition of the index is reassessed in order to target 25% free float-adjusted cumulative market capitalization of each sector of the Parent Index.

4.1.1 UPDATING THE ELIGIBLE UNIVERSE

The eligible universe is updated during each Annual Index Review.

Companies that are currently not constituents of the MSCI SRI Indexes are evaluated using the same eligibility criteria described in Section 3.2.

Existing constituents of the MSCI SRI Indexes are maintained in the eligible universe if they meet all the following conditions:

- MSCI ESG Rating of 'BB' or above
- MSCI ESG Controversies Score of 1 or above
- Not screened by the business involvement criteria described in Section 3.2.1

4.1.2 RANKING OF ELIGIBLE SECURITIES

For each sector, eligible securities of the regional Parent Index are ranked based on the following criteria:

- ESG Rating

- ESG Trend¹ (positive ESG Trend preferred to neutral ESG Trend and neutral ESG Trend preferred to negative ESG Trend)
- Current index membership (existing constituents above non-constituents)
- Industry adjusted ESG scores
- Decreasing free float-adjusted market capitalization.

4.1.3 SELECTION OF ELIGIBLE SECURITIES

For each sector, eligible securities of the regional Parent Index are then selected from the ranked universe in the following order until the target 25% coverage by cumulative free float-adjusted market capitalization is reached:

- Securities in the top 17.5% cumulative free float-adjusted market capitalization coverage of the ranked universe
- 'AAA' and 'AA' rated securities in the top 25% cumulative free float-adjusted market capitalization coverage of the ranked universe
- Current index constituents in the top 32.5% cumulative free float-adjusted market capitalization coverage of the ranked universe
- Remaining eligible securities in the ranked universe

Please see Appendix 2 for additional details on the ranking and selection rules.

4.2 QUARTERLY INDEX REVIEWS

The MSCI SRI Indexes are also reviewed on a quarterly basis to coincide with the regular Index Reviews of the Parent Indexes. The changes are implemented at the end of February, August and November. The pro forma indexes are in general announced nine business days before the effective date.

For the Quarterly Index Reviews, MSCI ESG Ratings, MSCI ESG Controversies Score assessments and MSCI BISR data are taken as of the end of the month preceding the Index Reviews, i.e., January, July and October. For some securities, this 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 MSCI SRI Indexes.

¹ ESG Trend is defined as the latest change in ESG Rating over the previous 12 months. A security without any change in ESG Rating over the previous 12 months will have a neutral ESG Trend.

At the Quarterly Index Reviews, existing constituents are deleted from the MSCI SRI Indexes if they do not meet the eligibility criteria described in Section 4.1.1. Existing constituents that meet the eligibility criteria are retained in the index.

Additions, from the eligible securities as per Section 3.2, are made only to those sectors where the current market capitalization coverage is less than 22.5%, until the 25% target is reached.

Market price movements may cause small deviations in the sector coverage between two Index Reviews. Therefore, in order to minimize turnover, a buffer of 10% is used on the target coverage of 25% to define under-representation.

4.3 ONGOING EVENT-RELATED MAINTENANCE

The following section briefly describes the treatment of common corporate events within the MSCI SRI Indexes.

No new securities will be added (except where noted below) to the Index between Index Reviews. For cases where additions are noted below, securities will be added to the index only if added to the Parent Index.

Parent Index deletions will be reflected simultaneously.

There are no deletions from the MSCI SRI Indexes between Index Reviews on account of a security becoming ineligible because of MSCI ESG Rating downgrade and/or decrease in MSCI ESG Controversies Score and/or change in business involvement.

EVENT TYPE

EVENT DETAILS

New additions to the Parent Index

New securities added to the Parent Index (such as IPOs, other early inclusions and migrations from a different size-segment) will be added to the MSCI SRI Indexes on the date of security inclusion only if they meet the eligibility criteria described in Section 3.2 and the market capitalization coverage of the sector to which the security belongs is less than 22.5%.

Spin-Offs

All securities created as a result of the spin-off of an existing Index

constituent will not be added to the MSCI SRI Indexes at the time of event implementation. Reevaluation for addition in the Indexes will occur at the subsequent Index Review.

Merger/Acquisition

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>

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 three tolerance levels: Zero Tolerance, Minimal Tolerance and Low Tolerance.

Each controversial activity screened by the MSCI SRI Indexes (except Thermal Coal) is assigned to one of these tolerance levels.

Activities classified under “Zero Tolerance”

- **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>

Activities classified under “Minimal Tolerance”

- **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

Activities classified under “Low Tolerance”

- **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
- **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
- **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

Activities not classified under any specific tolerance level

- **Thermal Coal**
 - All companies deriving 30% 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 excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading
 - All companies deriving 30% or more revenue (either reported or estimated) from the thermal coal based power generation

Appendix 2: Guidelines on Achieving the Target Sector Coverage of 25%

The MSCI SRI Indexes target 25% coverage of the free float-adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the regional Parent Index (“cumulative sector coverage”). The underlying principle in the construction of the indexes is to achieve cumulative sector coverage closest to 25%, while aiming to maintain index stability.

The following guidelines are used in achieving the target cumulative sector coverage of 25%:

- For each sector, the eligible companies of the regional Parent Index are first ranked based on the company level ESG Rating.
- If two companies have the same ESG Rating, the company with better ESG Trend is given priority (positive ESG Trend preferred to neutral ESG Trend and neutral ESG Trend preferred to negative ESG Trend).
- In case of two companies with the same ESG Rating and the same ESG Trend, an existing SRI index constituent is given priority to maintain index stability. Between two existing constituents with the same ESG Rating and the same ESG Trend, the company with the higher industry adjusted ESG Score is given priority. For two existing SRI index constituents with the same industry adjusted ESG score, the security with the largest free float-adjusted market capitalization is given priority.
- The cumulative sector coverage at each rank is calculated.
- In each sector, companies are selected as per the rules mentioned in Section 4.1.2 until the cumulative sector coverage crosses 25% or there are no eligible securities left to be selected.
- MSCI defines the company that increases the cumulative sector coverage above 25% as the “marginal company”.
 - If the marginal company is a current SRI index constituent, then it is always selected.
 - If the marginal company is not a current SRI index constituent, then it is selected only if the cumulative sector coverage with the marginal company is closer to 25% compared to the cumulative sector coverage without the marginal company.

- The minimum cumulative sector coverage is set to 22.5%.
 - The marginal company is always selected if this is required to achieve cumulative sector coverage of 22.5%.
- Securities which are ineligible as per Section 4.1.1 will not be selected even if the cumulative sector coverage after selection of all eligible securities is below 25%.

Appendix 3: Methodology Transition

June 2012

Prior to May 2012 Index Review, the MSCI SRI Indexes were constructed using the Global Socrates ESG ratings. Any company that had an ESG rating of 'BB' or lower was not eligible for inclusion in the MSCI SRI Indexes. The underlying universe for the MSCI Global SRI Indexes was defined by the constituents of the MSCI Global ESG Indexes. The MSCI SRI Indexes were constructed by targeting 50% of the free float-adjusted market capitalization of each Global Industry Classification Standard (GICS) sector of the underlying MSCI regional ESG Index.

Effective May 2012 Index Review, MSCI SRI Indexes transitioned to MSCI ESG IVA Ratings and using the regional GIMI Indexes as the Parent Index.

June 2016

Effective May 2016 Index Review, the MSCI SRI Indexes reflected enhancements to the MSCI ESG Controversies (formerly known as MSCI Impact Monitor). The details of the changes are as given below.

The changes to MSCI ESG Controversies included adjusting the scoring model to align the scores with individual controversy case levels, including the introduction of an Orange flag, and the removal of specific controversial business involvement (CBI) criteria from the model to refocus the ESG Controversies scores on event-driven controversies.

MSCI implemented the following changes to the MSCI SRI Indexes methodology effective June 1, 2016 to maintain consistency with the existing index construction objectives:

1 - As per the old MSCI ESG Impact Monitor methodology, securities which had an Impact Monitor score of 0 and 1 had a Red controversy flag. Under the new methodology, only securities with an ESG controversies score of 0 have a Red controversy flag. For indexes where constituents were ineligible to be included in the index if their Impact Monitor score was 0 or 1 (current Red controversy flag), the exclusion criteria was changed to ESG Controversies score = 0 in order to continue to only exclude securities with Red controversy flag in the MSCI SRI Indexes.

2 - MSCI Impact Monitor earlier incorporated exclusion rules based on controversial business involvement criteria related to alcohol, tobacco, gambling, nuclear power, conventional weapons and controversial weapons. The values based exclusion criteria that were already a part of the MSCI SRI Indexes were more stringent than most of these rules. Therefore, there is no additional impact, over the existing values-based exclusion criteria, of applying controversial business involvement exclusion

related to alcohol, tobacco, gambling, conventional weapons and controversial weapons. Only the 'Nuclear Power' screen was updated to reflect the additional rules that were earlier incorporated in the MSCI Impact Monitor. The details of the exclusion rules are mentioned in Appendix 1.

June 2018

Effective from the May 2018 Annual Index Review, the Values Based Exclusion Screens have been enhanced to reflect a new framework designed by MSCI ESG Research to define significant involvement in controversial activities. According to this framework, there are three tolerance levels: Zero Tolerance, Minimal Tolerance and Low Tolerance. Also, a controversial business screening criterion for Thermal Coal was added.

Appendix 4: MSCI Country and Region SRI Indexes

The MSCI Country and Region SRI Indexes are constructed with an aim to represent the performance of companies that have high Environmental, Social and Governance (ESG) performance.

The MSCI Country SRI Indexes aim to target sector weights that reflect the relative sector weights of the underlying country Index to limit the systematic risk and country specific risk introduced by the ESG selection process. Currently the MSCI Country SRI Indexes can be constructed for the Standard size-segment in any Developed and Emerging Markets.

The MSCI Region SRI Indexes can be constructed for regions different than those used in the construction of the MSCI SRI Indexes and aim to target sector weights that reflect the relative sector weights of the underlying regional Index. Currently the MSCI Region SRI Indexes can be constructed for the Standard size-segment in any regions in Developed and Emerging Markets.

The MSCI Country and Region SRI Indexes are constructed by applying the index construction rules detailed in Section 3 at the level of the respective country or region covered by the index, instead of the specific regional level used in the construction of MSCI SRI Indexes.

The MSCI Country and Region SRI Indexes target 50% of the free float-adjusted market capitalization of each GICS® sector of the Parent Country or Region Index. The MSCI Country and Region SRI Indexes follows the same index review cycle, maintenance rules and corporate events treatment as the MSCI SRI Indexes as described in Section 4.

Appendix 5: Initial Construction of the MSCI Emerging Markets SRI Index at Launch

The MSCI Emerging Markets SRI Index was launched with an initial construction as of the November 2013 Index Review.

In order to achieve free float-adjusted market capitalization coverage close to the target of 25% at launch, the entry rules for the MSCI Emerging Markets SRI Index were slightly relaxed at the initial construction. Specifically, the ESG Rating threshold was lowered to a minimum rating of 'BBB' at the initial construction instead of the threshold of a minimum ESG Rating of 'A'. The Impact Monitor threshold was not relaxed and was kept at a minimum of '4'.

Note that this relaxation was done only for the initial construction.

Appendix 6: MSCI Extended SRI Index

The MSCI Extended SRI Indexes are constructed with an aim to reflect the performance of companies that are consistent with specific values based criteria, have high minimum level of ESG performance. The Index is also designed to more broadly cover the underlying investment universe. Extended SRI Indexes can be constructed on the Standard or the IMI size-segment in Developed and Emerging Markets.

Companies that fail the values based exclusion criteria as described in Section 3 are excluded from the MSCI Extended SRI Indexes. Any company that has an ESG Rating of 'BB' or lower or has an MSCI ESG Controversies Score of 0 is not eligible for inclusion in the MSCI Extended SRI Indexes.

The MSCI Extended SRI Indexes target 50% of the free float-adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the Parent Index. The MSCI Extended Global SRI Indexes follows the same index review cycle and corporate events treatment as the MSCI SRI Indexes as described in Section 4.

MSCI currently offers the following Extended SRI Indexes:

1. MSCI UK IMI Extended SRI Index

Appendix 7: MSCI SRI S-Series and MSCI SRI S-Series Capped Indexes

The MSCI SRI S-Series Indexes are constructed with an aim to represent the performance of companies that are consistent with specific values- and climate change-based criteria, as well as high minimum level of ESG performance.

In addition to the values-based exclusions described in Appendix 1, these indexes also exclude companies flagged by the below criteria.

Additional screens incorporated for the S-Series Indexes

- **Thermal Coal Mining**
 - All companies deriving more than 10% revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It excludes: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading
- **Unconventional Oil & Gas Extraction**
 - All companies deriving more than 10% revenue (either reported or estimated) from unconventional oil and gas production. It includes revenue from the production of oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal seam gas, and coal bed methane, as well as revenue from onshore or offshore oil and gas production in the Arctic region. It excludes revenue from conventional oil and gas production including deepwater, shallow water, and other onshore/offshore oil and gas.
- **Conventional Oil & Gas Extraction**
 - All companies deriving more than 0% revenue (either reported or estimated) from conventional oil and gas production. It includes revenue from the production of deepwater shallow water, and other onshore/offshore oil and gas. It excludes revenue from unconventional oil and gas production (oil sands, shale oil, shale gas) and onshore/offshore oil and gas production in the Arctic region.
- **Thermal Coal-based Power Generation**

- All companies generating more than 10% of their total electricity from thermal coal in a given year
- All companies that have more than 10% of installed capacity attributed to thermal coal in a given year
- All companies deriving more than 10% revenue (either reported or estimated) from thermal coal-based power generation
- **Oil & Gas-based Power Generation**
 - All companies generating more than 30% of their total electricity from liquid fuel and natural gas in a given year
 - All companies that have more than 30% of installed capacity attributed to liquid fuel and natural gas in a given year
 - All companies deriving more than 30% revenue (either reported or estimated) from liquid fuel- and natural gas-based power generation
- **Nuclear Power-based Power Generation**
 - All companies generating more than 30% of their total electricity from nuclear power in a given year
 - All companies that have more than 30% of installed capacity attributed to nuclear sources in a given fiscal year
 - All companies deriving more than 30% revenue (either reported or estimated) from ownership or operation of nuclear power plants

TIMELINE OF SCREEN ADJUSTMENT

Some criteria from both Appendix 1 and the above-mentioned screens for the S-Series Indexes, including Tobacco, Thermal Coal Mining, Thermal Coal-based Power Generation, and Unconventional Oil & Gas Extraction, will adjust between 2020 and 2025 to reflect the adoption of stricter thresholds over time. The changes will be implemented at the November Index Review of the preceding year, so that the indexes reflect the thresholds for the relevant calendar year.

Screens that will be modified

- **Tobacco**

2019 to 2024	2025 onwards
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<p>All companies classified as a "Producer";</p> <p>All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products</p>	<p>All companies that have an industry tie to tobacco products through the distributor, licensor, retailer, supplier, or ownership categories.</p>
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- Thermal Coal Mining**

2019 to 2021	2022 to 2024	2025 onwards
All companies deriving more than 10% revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties.	All companies deriving more than 5% revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties.	All companies deriving more than 0% revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties.

- Thermal Coal-based Power Generation**

2019 to 2024	2025 onwards
<p>All companies generating more than 10% of their total electricity from thermal coal in a given year;</p> <p>All companies that have more than 10% of installed capacity attributed to thermal coal in a given year;</p> <p>All companies deriving more than 10% revenue (either reported or estimated) from thermal coal-based power generation</p>	<p>All companies generating more than 0% of their total electricity from thermal coal in a given year;</p> <p>All companies that have more than 0% of installed capacity attributed to thermal coal in a given year;</p> <p>All companies deriving more than 0% revenue (either reported or estimated) from thermal coal-based power generation</p>

- Unconventional Oil & Gas Extraction**

2019 to 2021	2022 to 2024	2025 onwards
All companies deriving more than 10% revenue (either reported or estimated) from unconventional oil and gas production.	All companies deriving more than 5% revenue (either reported or estimated) from unconventional oil and gas production.	All companies deriving more than 0% revenue (either reported or estimated) from unconventional oil and gas production.

The MSCI SRI S-Series Capped Indexes are capped variants of the MSCI SRI S-Series Indexes.

The following sections have been modified as of September 2014:

Appendix 6: MSCI Extended SRI Index

- Addition of appendix 6 containing the methodology details of MSCI Extended SRI Indexes

The following sections have been modified as of November 2014:

Section 2: MSCI ESG Research and Section 3: Constructing the MSCI SRI Indexes

- Clarification of MSCI SRI Index construction rules

Section 4: Maintaining the MSCI SRI Indexes

- Enhancement of treatment of corporate events

Appendix I: Values Based Exclusion Criterion

- Correction to the Values Based Exclusion Criterion

The following sections have been modified as of May 2016:

Section 2: MSCI ESG Research

- Updated to include the impact of the change in the MSCI ESG Controversies Scores methodology on MSCI SRI Indexes methodology

Section 3: Constructing the MSCI SRI Indexes

- Changed Section 3 to update the eligibility criteria for inclusion in MSCI SRI Indexes and to include clarification on the construction of regional and country level SRI Indexes

Section 4: Maintaining the MSCI SRI Indexes

- Updated to clarify the treatment of ESG Rating downgrade or decrease in ESG Controversies scores between index reviews

Appendix 1: Values-Based Exclusion Criteria

- Updated the screening criteria for companies involved in 'Nuclear Power'

Appendix 2: Guidelines on achieving the target sector coverage of 25%

- Added a clarification to specify that non-eligible securities would not be included to increase the sector coverage to 25%

Appendix 3: Methodology Transition

- Added details which highlight the changes to the MSCI SRI Indexes effective June 2016

The following sections have been updated as of May 2017:

Section 4: Maintaining the MSCI SRI Indexes

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

The following sections have been updated as of June 2017:

- Methodology book updated to reflect change in name of MSCI Global Socially Responsible Indexes to MSCI SRI Indexes.

The following sections have been updated as of December 2017:

Section 4.2: Quarterly Index Reviews

- Correction of the target coverage percentage in the last paragraph

Appendix 2: Guidelines on achieving the target sector coverage of 25%

- Correction of the sector coverage percentage in the last bullet

The following sections have been updated as of February 2018:

Appendix 4: MSCI Country and Region SRI Indexes

- New appendix detailing the construction methodology for the MSCI Country and Region SRI Indexes

The following sections have been updated as of May 2018:

Section 3: Constructing the MSCI SRI Indexes

- Added “Thermal Coal” to the list of controversial business activities
- Removed the references to minimum ESG Ratings and ESG Controversies Score for existing constituents

Section 4: Maintaining the MSCI SRI Indexes

- Added references to minimum ESG Ratings and ESG Controversies Score for existing constituents
- Updated the ranking rules to reflect the addition of the ESG Trend criterion

Appendix 1: Values-Based Exclusion Criteria

- Updated the controversial business screening criteria for each controversial activity according to the new framework designed by ESG Research to define significant involvement in controversial activities
- Added a controversial business screening criterion for Thermal Coal

Appendix 2: Guidelines on Achieving the Target Sector Coverage of 25%

- Added clarifications

The following sections have been updated as of February 2019:

Appendix 2: Guidelines on Achieving the Target Sector Coverage of 25%

- Updated the guidelines to reflect the addition of the ESG Trend criterion

The following sections have been updated as of April 2019:

Section 2: MSCI ESG Research

- Introduced the MSCI Climate Change Metrics product used in the MSCI SRI S-Series and MSCI SRI S-Series Capped Indexes

Section 4: Maintaining the MSCI SRI Indexes

- Clarified the Ongoing Event-Related Maintenance section

Appendix 1: Values-Based Exclusion Criteria

- Clarified the screening criteria for companies involved in 'Nuclear Weapons'

Appendix 7: MSCI SRI S-Series and MSCI SRI S-Series Capped Indexes

Addition of Appendix 7 containing the methodology details of MSCI SRI S-Series and MSCI SRI S-Series Capped Indexes

The following sections have been updated as of May 2019:

Appendix 1: Values-Based Exclusion Criteria

- Clarified the screening criteria for companies involved in 'Tobacco'

The following sections have been updated as of November 2019:

Appendix 1: Values-Based Exclusion Criteria

- Clarified the screening criteria for companies involved in 'Civilian Firearms' and 'Conventional Weapons'

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