

MSCI Sharing Economy Index Methodology

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1 MSCI Sharing Economy Index

The MSCI Sharing Economy Index (the ‘Index’) aims to represent the performance of a set of companies from MSCI ACWI IMI that are associated with the development of new products and services that potentially replaces resource-intensive products or processes, all assessed within the context of potential contribution towards a circular economy (see Appendix 1).

In particular, the Index incorporates companies that provide technologies (“circular technologies”), as defined using the following measures:

- Sharing Economy
- Smart Mobility
- E-commerce
- Social Media
- Digital Payments
- Cloud Computing

The MSCI Sharing Economy Index also applies a set of exclusions criteria to screen companies with business activities that are not considered aligned with the overall objective of promoting sharing economy or circularity. Additionally, the Index utilizes a weighting strategy at security level, as well as applies issuer capping.

2 MSCI ESG Research

The MSCI Sharing Economy Index uses company ratings and research provided by MSCI ESG Research LLC. In particular, the Index uses the following MSCI ESG Research products: MSCI Impact Solutions, MSCI ESG Ratings, MSCI ESG Controversies, 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-investing>.

2.1 MSCI Impact Solutions: SDG Alignment

MSCI Impact Solutions’ SDG Alignment is designed to provide a holistic view of companies’ net contribution – both positive and negative – towards addressing each of the 17 UN Sustainable Development Goals (SDGs). SDG Alignment assessments and scores include analysis of companies’ operations, products and services, policies, and practices and their net contribution – positive and adverse – to addressing key global challenges.

The MSCI SDG Alignment framework provides 17 SDG Net Alignment scores and 17 SDG Net Alignment assessments (including Strongly Aligned, Aligned, Neutral, Misaligned and Strongly Misaligned) for each of the 17 global goals. In addition, the model offers assessments and scores for two dimensions, product alignment and operation alignment, for each company and for each of the 17 goals.

For more details on MSCI Impact Solutions including MSCI SDG Alignment, please refer to <https://www.msci.com/our-solutions/esg-investing/impact-solutions>.

2.2 MSCI ESG Ratings

MSCI ESG Ratings provides research, data, 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, as well as underlying data and metrics used to compile the scores and ratings.

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

2.3 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>.

2.4 MSCI Climate Change Metrics

MSCI Climate Change Metrics provides climate data & tools to support investors integrating climate risk & opportunities into their investment strategy and processes. It supports investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, align with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.

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

3 Constructing the MSCI Sharing Economy Index

3.1 Selection Universe

The underlying universe for the MSCI Sharing Economy Index is defined by the constituents of the MSCI ACWI Investable Market Indexes (IMI, the ‘Parent Index’¹), from which two separate universes of stocks are constructed (as described in Sections 3.2 and 3.3).

3.2 ESG Filtered Universe

The MSCI Sharing Economy Index applies two sets of exclusions criteria to determine eligibility in the ESG Filtered Universe.

3.2.1 Sharing Economy-specific Exclusions

The MSCI Sharing Economy Index uses MSCI ESG Controversies and MSCI Impact Solutions’ SDG Alignment to identify companies that are assessed as negatively impacting the index objective. The criteria are as follows:

- Customer Privacy & Data Security Controversies
- SDG 9 Net Alignment

Please refer to Appendix 2 for details on these exclusions criteria.

3.2.2 Circular Economy-related Screens

The MSCI Sharing Economy Index uses MSCI ESG Research data to apply a set of exclusions standards which either address headline risks and/or contribute negatively to a circular economy. The exclusions filters are as follows:

1. **ESG Controversies Score:** All companies that are involved in environmental, social, and/or governance controversies assessed as Red Flags (Score of 0 or those with very severe controversies).
2. **Environmental Controversies:** All companies that are involved in environmental controversies assessed as Red, Orange, and Yellow Flags (Score of 4 and below).
3. **Environmental Pillar Quartile:** All companies that are assessed as belonging to the bottom quartile relative to their relevant ESG Ratings Industry.

¹ Other parent indexes, as a subset of MSCI ACWI IMI, may also be used. However, use of some indexes as parent indexes may result in a low number of constituents, which may affect replicability.

4. **SDG 12 Net Alignment:** All companies that are assessed as Strongly Misaligned and Misaligned on their Net Alignment to SDG 12 (Responsible Consumption and Production).
5. **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>.
6. **Thermal Coal Mining:** All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite, and steam coal) and its sale to external parties. It does not cover revenue from metallurgical coal, coal mined for internal power generation (e.g., in the case of vertically integrated power producers), intracompany sales of mined thermal coal, and revenue from coal trading.

Notes on Unrated Securities or Securities with Missing Coverage:

- Companies that are not assessed on MSCI ESG Research’s ESG Controversies (exclusion filters 1 and 2) are excluded from the final universe.
- Companies that are not assessed on MSCI ESG Research’s ESG Ratings and SDG Alignment (exclusion filters 3 and 4) are not excluded from the final universe.

3.3 “Circular Technologies” Universe

The Circular Technologies Universe is constructed by selecting companies in the ESG Filtered Universe with relevance score of 25% or more from the shared mobility and internet economy themes, which consist of the following business activities:

- Sharing Economy
- Smart Mobility
- E-commerce
- Social Media
- Digital Payments
- Cloud Computing

The detailed selection rules for the theme are outlined in Appendix 3.

MSCI may seek input from outside market experts on the ongoing evolution of the themes underlying the index. However, such input is only advisory in nature. MSCI alone decides whether to use such input at all or to what extent. Receipt of such input, like any other feedback on MSCI indexes, may or may not lead to a change to the index or index methodology.

3.4 Weighting Scheme

The MSCI Sharing Economy Index constituents that are determined to be part of the Circular Technologies Universe are weighted as follows:

3.4.1 Security Weighting

- Circular Technologies

Securities that meet the selection criteria outlined in Section 3.3 are weighted by the product of the relevance score and their free float-adjusted market capitalization. The weights are then normalized to sum to 100%.

3.4.2 Issuer Capping

The maximum weight of any issuer in the MSCI Sharing Economy Index is then capped at 5% in accordance with the MSCI Capped Indexes methodology². The excess weight of the capped issuers is distributed among the remaining constituents in proportion of their existing weights in the Index.

² Please refer to the MSCI Capped Indexes methodology at www.msci.com/index-methodology

4 Maintaining the MSCI Sharing Economy Index

4.1 Semi-Annual Index Review

The MSCI Sharing Economy Index is reviewed on a semi-annual basis, as of the close of the last business day of May and November, coinciding with the May and November Semi-Annual Index Reviews of the Parent Index. The pro forma index is generally announced nine business days before the effective date.

As a rule, MSCI uses the latest available company business segment names, business description and revenue as of rebalancing date of the Semi-Annual Index Review.

Moreover, MSCI uses MSCI ESG Research data (including MSCI SDG Alignment, MSCI ESG Ratings, MSCI ESG Controversies, and MSCI Climate Change Metrics) as of the end of the month preceding the Index Reviews for the rebalancing of the Index. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available, for the rebalancing of the MSCI Sharing Economy Index.

At each Semi-Annual Index Review, the Eligible Universe and Final Universe are updated based on the criteria outlined in Sections 3.2 and 3.3.

4.2 Quarterly Index Reviews

The MSCI Sharing Economy Index is 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 and August. The pro forma indexes are generally announced nine business days before the effective date.

For the Quarterly Index Reviews, MSCI ESG Ratings, MSCI ESG Controversies, MSCI SDG Alignment, and MSCI Climate Change Metrics data are taken as of the end of the month preceding the Index Reviews, i.e., January and July. 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 Sharing Economy Index.

At the Quarterly Index Reviews, existing constituents are deleted from the MSCI Sharing Economy Index if they do not meet the exclusions criteria described in Section 3.2. Existing constituents that meet the criteria are retained in the Index.

4.3 Annual Index Review

The set of relevant words (as described in Appendix 3) are reviewed annually by MSCI during the May Semi-Annual Index Review. In general, MSCI completes this review of relevant words nine business days before the effective date of the May Semi-Annual Index Review.

4.4 Ongoing Event-Related Maintenance

The general treatment of corporate events in the MSCI Sharing Economy Index 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.

The following section briefly describes the treatment of common corporate events within the Index.

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously.

There are no deletions from the MSCI Sharing Economy Index between Index Reviews on account of a security becoming ineligible because of decrease in MSCI ESG Controversies Score, change in SDG Alignment assessment, and/or change in business involvement.

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 not be added to the Index at the time of event implementation. Reevaluation for addition in the Index will occur at the subsequent Index Review.
Merger/Acquisition	For Mergers and Acquisitions, the acquirer’s post event weight will account for the proportionate amount of shares involved in

deal consideration, while cash proceeds will be invested across the Index.

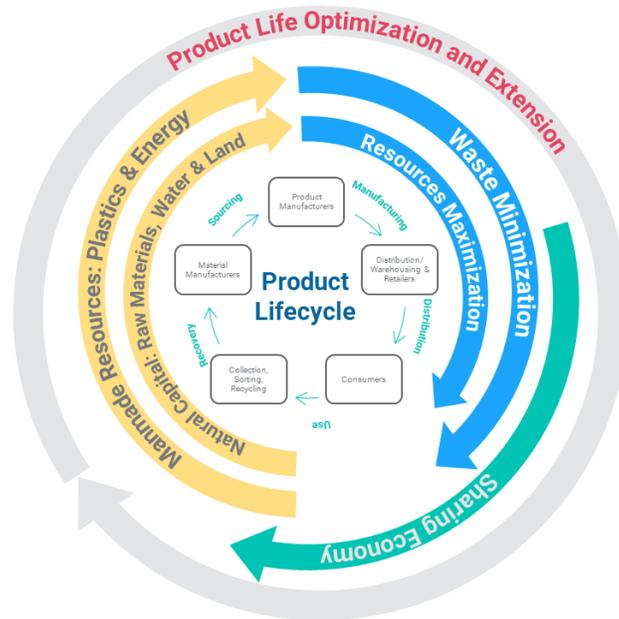
If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.

Changes in Security Characteristics A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.). Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology.

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

Appendix 1: What is a Circular Economy?



A circular economy is an economic system wherein resources are kept as long as possible within the system, whether by rethinking resource-intensive products and processes, maximizing the use of materials, extending the life of products, and/or recycling of waste materials. This is a structural shift from the current linear economy, where materials are taken, converted via a manufacturing process, used, and then disposed. Underlying to the concept of a circular economy are the 9R strategies,³ which provide a holistic view to improving circularity at each stage of a product’s lifecycle.

For more information, please see the Circular Economy Theme Insight written by Rachel A. Meidl:

<https://www.msci.com/documents/1296102/28401354/ThematicIndex-CircularEconomy-cbr-en.pdf>

³ Circular Economy: Measuring Innovation in the Product Chain, Policy Report by PBLK Netherlands Environmental Assessment Agency, (Potting, J., Hekkert, M., Worrell, E., Hanemaaijer, A.), <https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf>

Appendix 2: Sharing Economy-specific Exclusions Criteria

Companies are excluded based on the following MSCI ESG Controversies and MSCI Impact Solutions filters:

- Customer Privacy & Data Security Controversies
 - All companies that are involved in privacy and data security-related controversies assessed as Red and Orange (Score of 1 and below).
- SDG 9 Net Alignment
 - All companies that are assessed as Strongly Misaligned and Misaligned on their Net Alignment to SDG 9 (Industries, Innovation, and Infrastructure).

Appendix 3: Sharing Economy Relevance Score Calculation

Stocks from MSCI ACWI IMI with high exposure to the identified business activities listed in Section 3.3 are selected based on the following rules:

1. The set of relevant words and phrases⁴ used for constituent selection

MSCI uses a broad set of relevant words and phrases derived from the index objective which are important to describe the products and services of companies that try to replace resource-intensive products and processes.

2. Company level data used for assessing company exposure

The following data is used at the company level:

- Business segment information from company annual reports and vendor data sources: business segment names, assigned SIC codes⁵ and related revenue
- English language summary description of the company's business activities from public sources

3. Eligible universe

a. Selection on business segments

The identified business segment names are compared against the set of relevant words. Companies which include at least one relevant word in their business segment names are included in the eligible universe.

b. Selection on company's summary description

Each company's summary business description is compared against the set of relevant words. Companies which include at least two distinct relevant words in their summary description are included in the eligible universe.

4. Selected business segments

'Selected business segments' are business segments which include at least one relevant word. These are the business segments based on which stocks are selected in section Step 3a.

⁴ For more details on the steps followed to generate the set of relevant words and phrases, please refer to <https://www.msci.com/www/research-paper/indexing-change-understanding/01647260939>

⁵ Companies' business segments are assigned with a specific Standard Industry Classification (SIC) description for products and services, used by official agencies within the US government. These descriptions provide additional information on the nature of the segment.

5. SIC Code selection

Company business segments are mapped to a SIC code. The SIC code selection is a set of all the SIC codes which satisfy the following criteria:

- The SIC code is mapped to at least one of the ‘selected business segments’ as described in Step 4.
- The SIC code is assigned to the business segments of at least two different stocks from the eligible universe. The SIC code 9999 is not selected.

6. Calculating the stock relevance score

A relevance score for all stocks in the eligible universe is calculated. The relevance score for a company is calculated by taking into account the portion of a company’s revenue which is derived from the selected business segments (as described in Step 4) and business segments mapped to any SIC Code selected in the SIC Code selection step (as described in Step 5).

The relevance score is not an explicit measurement or estimate of the proportion of revenue that the company derives from business activities exposed to the theme.

a. Relevance score discount factor

A stock level relevance score discount factor is calculated by normalizing the cumulative frequency of relevant words in the company’s summary description relative to all companies selected on summary business descriptions as described in Step 3b.

At a company’s business segment level, the revenue discount factor is applied on revenue from each selected SIC code as described in Step 5. The revenue discount factor is 1 for revenue derived from ‘selected business segment’.

b. Relevance score

Relevance score for stocks in the eligible universe is calculated as follows:

Relevance score = [revenue from the selected business segments (as described in Step 4) + relevance score discount factor * revenue from the selected SIC code (as described in Step 5)] / Total company revenue.

After identifying the stocks that meet the criteria detailed in Steps 1-6, the Eligible Universe applies an additional filter, as follows:

1. GICS®⁶ Sub-industry Filtering

Stocks mapped to the following GICS® sub-industries are excluded from the selected universe:

- GICS® Sub-industry

GICS® Sector		GICS® Sub-industry
10	Energy	<ul style="list-style-type: none"> • 10101020 Oil & Gas Equipment & Services • 10102010 Integrated Oil & Gas • 10102030 Oil & Gas Refining & Marketing
20	Industrials	<ul style="list-style-type: none"> • 20104020 Heavy Electrical Equipment • 20105010 Industrial Conglomerates • 20106010 Construction Machinery & Heavy Trucks • 20201060 Office Services & Supplies • 20303010 Marine • 20305030 Marine Ports & Services
25	Consumer Discretionary	<ul style="list-style-type: none"> • 25301010 Casinos & Gaming
30	Consumer Staples	<ul style="list-style-type: none"> • 30202030 Packaged Foods & Meats
40	Financials	<ul style="list-style-type: none"> • 40203040 Financial Exchanges & Data
45	Information Technology	<ul style="list-style-type: none"> • 45102010 IT Consulting & Other Services • 45203030 Technology Distributors • 45301010 Semiconductor Equipment
50	Communication Services	<ul style="list-style-type: none"> • 50101020 Integrated Telecommunication Services • 50102010 Wireless Telecommunication Services • 50201010 Advertising • 50201020 Broadcasting • 50201030 Cable & Satellite • 50201040 Publishing • 50202010 Movies & Entertainment • 50202020 Interactive Home Entertainment
55	Utilities	<ul style="list-style-type: none"> • 55101010 Electric Utilities • 55103010 Multi-Utilities

⁶ GICS, the global industry classification standard, jointly developed by MSCI Inc. and S&P Global.

GICS® Sector		GICS® Sub-industry
		<ul style="list-style-type: none"> 55105010 Independent Power Producers & Energy
60	Real Estate	<ul style="list-style-type: none"> 60101080 Specialized REITs

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