MSCI Plastics Transition Index Methodology

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1 MSCI Plastics Transition Index

The MSCI Plastics Transition Index (the 'Index') aims to represent the performance of a set of companies from MSCI ACWI IMI that are associated with key aspects of addressing the plastic waste issue through their products or services, and/or through their management of related issues, 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") and/or those that help enable the transition to a circular economy ("circular transition"), as defined using the following measures:

- Plastic Alternatives
- Plastic End-of-life Solutions
- Packaging Material & Waste

The MSCI Plastics Transition Index also applies a set of exclusions criteria to screen companies with business activities that are not considered aligned with the overall objective of addressing the plastic waste issue or promoting circularity. Additionally, the Index utilizes a combination of weighting strategies at both security and component levels, as well as applies issuer capping.

2 MSCI ESG Research

The MSCI Plastics Transition 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 Plastics Transition Index

3.1 Selection Universe

The underlying universe for the MSCI Plastics Transition Index is defined by the constituents of the MSCI ACWI Investable Market Indexes (IMI, the 'Parent Index'[1]), from which three separate universes of stocks are constructed (as described in Sections 3.2 to 3.4).

3.2 ESG Filtered Universe

The MSCI Plastics Transition Index methodology applies two sets of exclusions criteria to determine eligibility in the ESG Filtered Universe.

3.2.1 Plastics Transition-specific Exclusions

The MSCI Plastics Transition Index uses MSCI Impact Solutions' SDG Alignment to identify companies that have been assessed as negatively impacting the index objective. The criteria are as follows:

- SDG 14 and 15 Net Alignment: All companies that are assessed as Strongly Misaligned and Misaligned on their Net Alignment to SDG 14 (Life Below Water) and SDG 15 (Life on Land).

3.2.2 Circular Economy-related Screens

The MSCI Plastics Transition 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).

[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.

3. **Key Issue Management Score/s**: All companies that have the lowest applicable[2] key issue management score – this is defined as being at the bottom 25%.
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.](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.

<u>Notes on Unrated Securities or Securities with Missing Coverage:</u>

- 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 <u>not</u> 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 plastic alternatives and end-of-life theme, which consists of the following business activities:

- Plastic Alternatives
- Plastic End-of-life Solutions

The detailed selection rules for the theme are outlined in Appendix 2.

[2] The exclusion is applied by key issue, which means that an index using multiple key issues will exclude companies with the lowest 25% score for key issue 1, lowest 25% score for key issue 2, and so forth.

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 "Circular Transition" Universe

The MSCI Plastics Transition Index uses MSCI ESG Ratings' key issue management scores to identify companies that have better management strategies to address the plastic waste issue relative to their sector peers.

The Circular Transition Universe is constructed by selecting stocks in the top 10% of the Intermediate Universe (as described in Section 3.4.1) based on their Sector-Relative Management Score, which is computed using the following key issue management score/s:

- Packaging Material & Waste

Please refer to Appendix 3 detailing the computation steps.

3.4.1 Intermediate Universe

The Intermediate Universe is constructed by selecting stocks in the ESG Filtered Universe (Section 3.2) that are not part of the Circular Technologies Universe (Section 3.3).

3.5 Weighting Scheme

The MSCI Plastics Transition Index constituents that are determined to be part of the Circular Technologies and Circular Transition universes are weighted as follows:

3.5.1 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%.

- Circular Transition

  Securities that meet the selection criteria outlined in Section 3.4 are weighted in proportion of their free float-adjusted market capitalization. The weights are then normalized to sum to 100%.

3.5.2 Component Weighting

Each component is scaled down to the following proportion:

Component	Component Weight
Circular Technologies	50%
Circular Transition	50%

3.5.3 Issuer Capping

The maximum weight of any issuer in the MSCI Plastics Transition Index is then capped at 5% in accordance with the MSCI Capped Indexes methodology[3]. The excess weight of the capped issuers is distributed among the remaining constituents in proportion of their existing weights in the Index[4].

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

[4] Issuer capping may result in a drift in the component weights.

4 Maintaining the MSCI Plastics Transition Index

4.1 Semi-Annual Index Review

The MSCI Plastics Transition 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 Plastics Transition Index.

At each Semi-Annual Index Review, the ESG Filtered, Circular Technologies, and Circular Transition universes are updated based on the criteria outlined in Sections 3.2 to 3.4.

4.2 Quarterly Index Reviews

The MSCI Plastics Transition 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 Plastics Transition Index.

At the Quarterly Index Reviews, existing constituents in the ESG Filtered Universe are deleted from the MSCI Plastics Transition 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 2) 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 Plastics Transition 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 Plastics Transition 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.

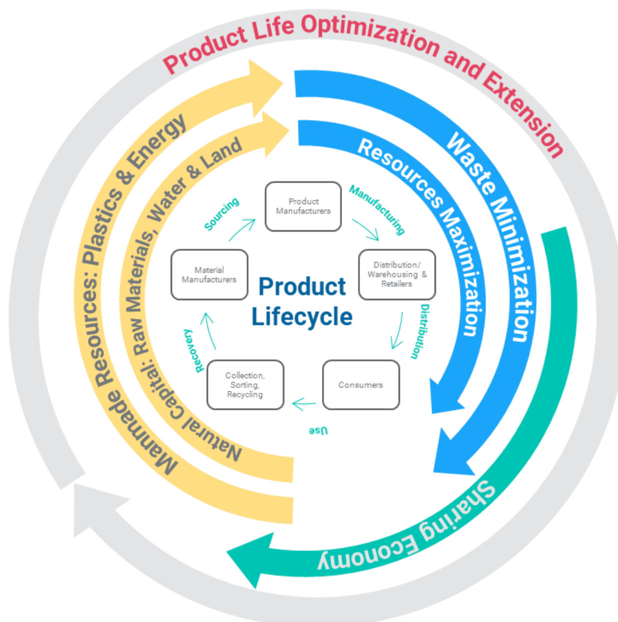
EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the Parent Index (such as IPO and other early inclusions) will not be added to the index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will not be added to the Index at 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,[5] 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

[5] 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: Plastic Alternatives and End-of-Life 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 phrases[6] 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 solve the plastic waste problem.

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 codes[7] 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.

[6] 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.

[7] 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. <u>Relevance score discount factor</u>

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. <u>Relevance score</u>

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®[8] Sector Filtering**

   Stocks mapped to the following GICS® sectors are excluded from the selected universe:

GICS® Sector	
35	Health Care
45	Information Technology

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

Appendix 3: Sector-Relative Management Score (SRMS) Calculation

Companies are selected based on their SRMS. The calculation steps are as follows:

1. An average management score (AMS) is calculated for companies in MSCI ACWI IMI using management scores based on the identified key issue/s, granted that they meet the following conditions:

    - Companies are assessed on any of the identified key issue/s listed in Section 3.4.
    - Companies have corresponding key issue weight/s greater than 5%.

    The calculation of AMS will consider the applicable number of key issues, meaning a company with two relevant scores are divided by two, for example.

2. The SRMS is calculated for companies that are identified in Step 1 by dividing the AMS by the corresponding highest (maximum) AMS based on their GICS® Sector.

    Exception clause: A GICS® Sector with a maximum AMS below 5 is excluded from scope, which in turn, results in the exclusion of all companies belonging to the excluded sector, from the calculation of SRMS.

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