MSCI ACWI IMI Digital Economy & Metaverse ESG Filtered Index

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Contents

1 Introduction

The MSCI ACWI IMI Digital Economy & Metaverse ESG Filtered Index (the 'Index'[1]) aims to represent the performance of companies that are associated with the development of new products and services focused on the digital economy value chain, while excluding those involved in certain controversial business activities or with relatively low ESG Controversies and Ratings scores.

[1] The Index is governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document. The methodology set for the Index can be accessed from MSCI's webpage https://www.msci.com/index-methodology in the section 'Search Methodology by Index Name or Index Code'. The methodology set includes a document 'ESG Factors in Methodology' that contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion).

2 MSCI ESG Research

The Index uses company ratings and research provided by MSCI ESG Research. In particular, the index uses the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies, MSCI Climate Change Metrics and MSCI ESG Business Involvement Screening Research.

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

2.1 MSCI ESG RATINGS

MSCI ESG Ratings aim to measure entities' management of environmental, social and governance risks and opportunities.

MSCI ESG Ratings are based on a seven-point scale from 'AAA' to 'CCC' indicating how an entity manages relevant key issues relative to industry peers.

The MSCI ESG Ratings methodology can be found at: https://www.msci.com/esg-and-climate-methodologies

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies provide assessments of controversies concerning the potential 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.

The MSCI ESG Controversies methodology can be found at: https://www.msci.com/esg-and-climate-methodologies

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 provides climate data & tools to support institutional investors integrating seeking to integrate climate risk & opportunities into their investment strategy and processes. It supports. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, alignment 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 Index

The Index is constructed by selecting stocks from the MSCI ACWI Investable Market Index (IMI) (the 'Parent Index') based on rules explained in the following sections.

The Index selects companies which are assessed to have high exposure to business activities such as –

- Metaverse Ecosystem:
  - Digital Payments
  - E-commerce
  - Social Media
  - Blockchain
  - Artificial Intelligence
- Cybersecurity
- Cloud Computing
- Robotics and Automation
- Sharing Economy

MSCI may seek input from outside market experts on the ongoing evolution of the themes underlying the Index. However, such input is advisory only 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 methodology or its constituents.

3.1 Determining the Eligible Universe of the Index

The Eligible Universe of the Index is constructed by selecting all securities from the Parent Index that have a Relevance Score[2] of 25% or more. Further filtering is applied as below.

[2] For details of calculation of Relevance Scores, please refer to the MSCI Thematic Relevance Score Methodology document (available on https://www.msci.com/index-methodology).

3.1.1 GICS®3 sector and sub industry filtering

Stocks mapped to the following GICS® sub-industries are excluded from the Eligible Universe.

No.	GICS® Sector	GICS® Sub-Industries
1	Communication Services	• Integrated Telecommunication Services • Wireless Telecommunication Services • Broadcasting • Publishing
2	Real Estate	• Other Specialized REITs • Self Storage REITs • Telecom Tower REITs • Timber REITs • Data Center REITs
3	Information Technology	• IT Consulting & Other Services
4	Industrials	• Construction Machinery & Heavy Transportation Equipment • Industrial Conglomerates • Office Services & Supplies

3.1.2 ESG exclusion criteria

Controversial business exclusion criteria

Securities of companies involved in following businesses are excluded from the Eligible Universe:

- Controversial Weapons
- Conventional Weapons
- Nuclear Weapons
- Civilian Firearms
- Tobacco
- Thermal Coal
- Unconventional Oil & Gas
- Arctic Oil & Gas
- Oil Sands

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

- UN Global Compact Violators

Please refer to Appendix 1 for more details on these criteria.

ESG Controversy Score

- ESG Controversy Score = 0 ('Red Flag' companies) – All companies assessed as having involvement in ESG controversies that are classified as Red Flags (MSCI ESG Controversy Score of 0) are excluded from the Eligible Universe. A Red Flag indicates an ongoing, Very Severe ESG controversy implicating a company directly through its actions, products, or operations.
- Missing Controversy Score – Companies not assessed by MSCI ESG Research's MSCI ESG Controversy Scores are excluded from the Eligible Universe.

ESG Rating

- Missing ESG Rating – Companies which are not rated by MSCI ESG Research for an MSCI ESG Rating are excluded from the Eligible Universe.

3.1.3 Liquidity screening criteria

Securities that have a 3-month average daily trading value (3M ADTV) less than 3 million USD are excluded from the Eligible Universe. For the calculation of ADTV, please refer to Appendix 2.

3.1.4 Size screening criteria

Securities that have a free-float market capitalization less than 200 million USD are excluded from the Eligible Universe.

3.1.5 Emerging Markets (EM) country filter

Emerging Markets (EM) securities from only the below select countries are eligible for inclusion in the final index:

- China
- Taiwan
- South Korea
- South Africa
- Brazil
- Thailand
- Malaysia
- Mexico

3.2 Filtered Universe

Filtered Universe is constructed by excluding securities from the Eligible Universe which are in the bottom quartile by ESG Industry Adjusted Score.

3.3 Security selection

Securities in the Filtered Universe are ranked in descending order of their Relevance Score. If multiple securities have the same Relevance Score, then the security having a higher weight in the Parent Index is given a higher rank.

Securities in the top half of the ranked universe are eligible for inclusion in the final index. The final number of securities in the index is determined as:

N= Minimum (Maximum (Securities in the top half of the ranked universe, 60), 250)

The top ‘N’ securities from the ranked universe are selected for inclusion in the Index. If the number of securities in the universe is below 60, all the securities in the universe are selected for inclusion in the index.

3.4 Final Universe

At each rebalancing, all the securities eligible for inclusion after step 3.3 are reweighted in line with MSCI Adaptive Capped Indexes Methodology[4], with fixed multiplier L set to 5. Further capping is applied as described below.

3.4.1 Emerging Markets (EM) weight capping

Aggregate weight of Emerging Markets (EM) securities in the final index is capped at aggregate weight of Emerging Markets (EM) in the Parent Index + 10% to limit the geographical exposure of the index to Emerging Markets.

3.4.2 Security weight capping

Additionally, index constituents’ weights are capped at 15% at the security level to mitigate concentration risk.

[4] For details please refer to the MSCI Adaptive Capped Indexes Methodology (Available on https://www.msci.com/index-methodology)

3.5 ESG Profile Check

The Final Universe calculated in Section 3.4 is assessed against the minimum requirements detailed in the below table.

In case the Final Universe is found deficient on any of the minimum requirements, then the weights of the securities in the final universe are determined through an iterative process as described in Appendix 3. The iterative downweighting process also maintains capping at 15% security level to mitigate concentration risk.

Minimum Requirements	Values	Reference Index
Carbon Emission Intensity relative to the Reference Index	Target Carbon Emission Intensity lower than the Reference Index	MSCI ACWI IMI Digital Economy Index
Weighted Average Board Independence relative to the Reference Index	Target Weighted Average Board Independence higher than the Reference Index	MSCI ACWI IMI Digital Economy Index

4 Maintaining the Index

4.1 Semi-Annual Index Review

The Index is reviewed on a semi-annual basis in May and November to coincide with the May and November Index Reviews of the Parent Index, and the changes are implemented at the end of May and November. In general, the pro forma index is announced nine business days before the effective date.

During the Semi-Annual Index Review, the Eligible Universe, Filtered Universe and Final Universe are updated.

In general, MSCI uses Relevance Score data as of two business days prior to the rebalancing date for the Semi-Annual Index Review.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Climate Change Metrics, 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. This approach aims to capture timely updates to ESG Ratings of the constituents and coincides with the rebalancing of the relevant MSCI Parent Indexes.

4.1.1 Security selection buffer rules

To reduce index turnover and enhance index stability, a buffer rule of 25% is applied during the on-going semi-annual index reviews. For example, if the 'index' targets 60 securities, buffers are applied between rank 46 and 75. The securities in the ranked universe (as detailed in section 3.3) with a Relevance Score rank at or above 45 will be added to the final index on a priority basis. The existing constituents that have a Relevance Score rank between 46 and 75 are then successively added until the number of securities in the final index reaches 60. If the number of securities is below 60 after this step, the remaining securities in the ranked universe with the highest Relevance Score rank are added until the number of securities in the final index reaches 60.

4.2 Ongoing event-related maintenance

The general treatment of corporate events in the 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.

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.

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

Appendix 1: Controversial Business Exclusion Criteria

Companies whose activities meet the following values and climate change-based criteria, as evaluated by MSCI ESG Research, are excluded from the MSCI ACWI IMI Digital Economy ESG Filtered Index.

- Values- based Exclusions Criteria:
- 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 Ex-Controversial Weapons Indexes available at https://www.msci.com/index-methodology.
- 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).
    - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons.
    - All companies that manufacture components for nuclear-exclusive delivery platforms.
- 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 revenue from the manufacture and retail of civilian firearms and ammunition.
- Tobacco
    - All companies classified as a “Producer”
    - All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products.
- Conventional Weapons
    - All companies deriving 10% or more revenue from the production of conventional weapons and components

  - All companies deriving 10% or more aggregate revenue from weapons systems, components, and support systems and services

- <u>Climate Change- based Exclusions Criteria:</u>
- Thermal Coal
  - 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 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 5% or more revenue (either reported or estimated) from the thermal coal-based power generation.
  - All companies generating 10% or more power from thermal coal.
  - All companies that own thermal coal reserves.
- Unconventional Oil & Gas
  - All companies deriving 5% or more revenues from oil sands, oil shale (kerogen-rich deposits), shale gas, shale oil, coal-seam gas, coal-bed methane as well as Arctic onshore/offshore reserves.
- Arctic Oil & Gas
  - All companies deriving 5% or more revenue from Arctic Oil
  - All companies deriving 5% or more revenue from Arctic Gas
  - All companies with evidence of producing Arctic oil. This factor does not capture revenue from non-extraction activities (e.g., exploration, surveying, processing, refining); ownership of Arctic oil reserves with no associated extraction revenues; revenue from intra-company sales.
  - All companies with evidence of producing Arctic gas. This factor does not capture revenue from non-extraction activities (e.g., exploration, surveying, processing, refining); ownership of Arctic gas reserves with no associated extraction revenues; revenue from intracompany sales.
- Oil Sands
  - All companies deriving 5% or more revenue from oil sands extraction, which own oil sands reserves and disclose evidence of deriving revenue from oil sands extraction. Companies that derive revenue from non-extraction activities (e.g. exploration, surveying, processing, refining) or intra-company sales are not excluded. Additionally, companies that own oil sands reserves with no associated revenue are also not excluded.
- Global Norms – United Nations Global Compact Compliance
  - All companies that fail to comply with the United Nations Global Compact principles.

Appendix 2: Calculation of 3-Month Average Daily Traded Value (ADTV)

$ADTV = {}^{ATV}/_{252}$

Where:

- ADTV = 3-month Average Daily Traded Value
- ATV = 3-month Annualized Traded Value

For details on the calculation of ATV, please refer to the MSCI Fundamental Data Methodology (https://www.msci.com/index-methodology).

Appendix 3: ESG Profile Check

The ESG Profile Check is applied on the securities of the Final Universe with the objective of meeting all the minimum requirements detailed in the table in Section 3.5.

Starting with the Final Universe, an iterative down weighting process is applied in order to meet with the minimum requirements for the Indexes. The iterative down weighting stops when all the requirements defined in above are met. The steps followed in the iterative downweighting are outlined below:

Step 1. Check whether all targets for the Index are met. If all targets are met, then no downweighting is required.

Step 2. Identify stocks that are either in bottom quartile by Board Independence (%) (i.e. with lowest scores) or are in the top quartile by Carbon Emissions Intensity (i.e. with highest carbon intensity). These stocks form the "downweighting group". Rest of the stocks from the Final Universe form the "upweighting group".

Step 3. Select the worst stock in the "downweighting group" and reduce its weight in steps of 25% (free weight) and distribute the free weight among the stocks of the "upweighting group" in proportion of their weight at Step 2. A stock cannot be down weighted by more than 75% of its weight in Step 2. Stock weight in 'upweighting group" is capped at 15%.

Step 4. If the targets are still not met, then select the next worst stock and repeat Step 3.

Step 5. Relaxation Steps:

a. If all stocks in the "downweighting group" have been down weighted by 75% and targets are still not met, then repeat Step 3 and 4 by down weighting worst stock by 90% of its weight from Step 2.

b. If targets are not met at Step 5a, then repeat Step 3 and 4 by excluding the worst stock – down weighting the worst stock by 100%.

Worst Stocks:

a. In Step 1, if targets are not met on Carbon Emissions Intensity, then the worst stock is the stock with largest Carbon Emissions Intensity.

b. If in Step 1, the target on Carbon Emissions Intensity is met, and the target on Weighted Average Board Independence is not met, then the worst stock is the stock with lowest Board Independence (%).

Appendix 4: Changes to this Document

The following sections have been modified as of February 2021:

Section 1.8: Filtered Universe

- Added a section on the ESG industry adjusted score filtering criteria.

Appendix 1: Controversial Business Involvement Criteria

- Added a conventional weapons screen

Section 1.12 and Appendix 3: ESG Profile Check

- Added the section on ESG Profile Check to meet Carbon Emissions Intensity and Weighted Average Board Independence targets.

The following sections have been modified as of June 1, 2022:

- Section numbering has been updated
- Section 3.1 to reference the MSCI Thematic Relevance Score Methodology
- Section 3.1.1 and Appendix 1 updated to include screens for Unconventional Oil & Gas, Arctic Oil & Gas, Weapons Systems and more Thermal coal screens.
- Section 3.3 updated to reference the MSCI Thematic Relevance Score Calculation methodology
- Section 3.4 updated to reflect the change in weighting scheme from one which re-weights constituents in proportion of fundamental scores to a new weighting scheme which uses adaptive capped weighting methodology. Hence, details of fundamental scores have also been removed from Appendix 3.

The following sections have been modified as of December 1, 2022:

- Index name has been updated
- Business activities listed in section 3 have been updated to explicitly reference the emergent concept of 'metaverse ecosystem'

The following sections have been modified as of June 1, 2023:

- Methodology book was updated to reflect the transition of the MSCI Global Investable Market Indexes (GIMI) to Quarterly Comprehensive Index Reviews.
- All references to "Semi-Annual Index Reviews" and "Quarterly Index Reviews" of the MSCI GIMI were replaced with "Index Reviews."
- Clarified the definition in Appendix I for civilian firearms revenue
- Updated names of GICS sub-industries in Section 3.1. due to GICS structural changes

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