

MSCI ACWI IMI Water ESG Filtered Index

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1 Introduction

The MSCI ACWI IMI Water ESG Filtered Index (the 'Index') aims to represent the performance of a set of companies associated with water related businesses such as water supply, water utilities, water treatment and water related equipment while excluding those involved in certain controversial businesses, misaligned on SDG Product Alignment or with relatively low ESG Controversies and Ratings scores.

2 MSCI ESG Research

The Index uses company ratings and research provided by MSCI ESG Research LLC. In particular, this index uses the following four MSCI ESG Research products: MSCI Impact Solutions, MSCI ESG Ratings, MSCI ESG Controversies Score 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 IMPACT SOLUTIONS: SUSTAINABLE IMPACT METRICS

MSCI Impact Solutions’ Sustainable Impact Metrics is designed to identify companies that derive revenue from products or services with positive impact on society and the environment. The Sustainable Impact Metrics are comprised of six Environmental Impact categories and seven Social Impact categories arranged by theme.

MSCI Sustainable Impact Taxonomy

Pillar	Themes	Categories
Environmental Impact	Climate Change	<ol style="list-style-type: none"> Alternative energy Energy efficiency Green building
	Natural capital	<ol style="list-style-type: none"> Sustainable water Pollution prevention Sustainable agriculture
Social Impact	Basic needs	<ol style="list-style-type: none"> Nutrition Major Disease Treatment Sanitation Affordable Real Estate
	Empowerment	<ol style="list-style-type: none"> SME Finance Education Connectivity – Digital divide

Under each of the actionable environmental and social impact themes, MSCI ESG Research has identified specific categories of products and services that it has determined companies can offer as potential solutions to environmental and social challenges.

More detailed taxonomy for each category can be found in Section 2.4 of the MSCI ACWI Sustainable Impact Index Methodology available at <https://www.msci.com/index-methodology>

2.2 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>.

2.3 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>.

2.4 MSCI ESG Controversies Score

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

2.5 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

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.

3.1 Determining the Eligible Universe

The eligible universe of the Index is constructed by selecting all securities from the Parent Index which are constituents of the MSCI ACWI IMI Water Index¹. Further filtering is applied as detailed below

3.1.1 GICS® 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	Materials	<ul style="list-style-type: none"> Commodity Chemicals Diversified Chemicals Specialty Chemicals
3	Real Estate	<ul style="list-style-type: none"> Real Estate Development Diversified Real Estate Activities

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

¹ Please refer to <https://www.msci.com/index-methodology> for the methodology of the MSCI ACWI IMI Water Index

- Oil Sands
- UN Global Compact Violators

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

ESG Controversy Score

- ESG Controversy Score = 0 ('Red Flag' companies) – Companies involved in very severe business controversies as defined by the MSCI ESG Controversies Methodology are excluded from the eligible universe.
- 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.

SDG Product Alignment Screening

Securities which are classified as 'Misaligned' or 'Strongly Misaligned' with SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action) or SDG 14 (Life Below Water) on product alignment are excluded from the eligible universe

3.1.3 Emerging Markets (EM) country filter

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

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

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. Further exclusions are applied as detailed below.

3.2.1 Liquidity screening criteria

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

3.2.2 Sustainable Water Revenue screening criteria

Securities with no sustainable water revenue are excluded from the filtered universe. Please refer to Appendix 2 for a detailed description of sustainable water.

3.3 Final Universe

At each rebalancing, all the securities in filtered universe are reweighted in line with MSCI Adaptive Capped Indexes Methodology², with fixed multiplier L set to 1.5³

3.3.1 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.

3.3.2 Security weight capping

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

² For details please refer to the MSCI Adaptive Capped Indexes Methodology (Available on <https://www.msci.com/index-methodology>)

³ Fixed multiplier value is set to 2 for all rebalances prior to 28-May-2021. Fixed multiplier value of 1.5 is used from 28-May-2021 onwards (including the rebalance of 28-May-2021).

3.4 ESG Profile Check

The final universe calculated in Section 3.3 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 4. 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 Water Index
Weighted Average Board Independence relative to the Reference Index	Target Weighted Average Board Independence higher than the Reference Index	MSCI ACWI IMI Water 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 Semi-Annual 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 and filtered universe are updated.

In general, MSCI uses the company business segment names, business description and revenue data as of the rebalancing date of 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.

As an exception, the Index will not be reviewed at the November 2021 Semi-Annual Index Review. The index constituents will not be updated as per the rules described in section 3 (Constructing the Index) and there will be no update in GICS-based exclusions for November 2021 Semi-Annual Index Review. Treatment of Parent Index deletions will be as described in section 4.3 (Ongoing event-related maintenance).

4.2 Annual Index Review

The Business Segment Selection Criteria (as described in section 3.2.2.1 of the ACWI IMI Water Index Methodology) will be reviewed annually by MSCI during the May Semi-Annual Index Review. In general, MSCI completes this review nine business days before the effective date of the May Semi-Annual Index Review.

4.3 Staggering the Index Rebalancing Results

The rebalance changes of the Pro forma Index are then staggered for implementation by spreading the change in Index Number of Shares (NOS) for each security over five days leading into the rebalancing effective date (T). For each $t \in \{T-4, T-3, T-2, T-1, T\}$, the number of shares for each security included in the Index (*Staggered Index NOS (t)*) are calculated as below:

$$\text{Staggered Index NOS } (t) = \text{Pro forma Index NOS } (t) + [\text{Adjusted Pro forma Index NOS } (T) - \text{Pro forma Index NOS } (t)] * (N/5)$$

where:

t : Effective date of the staggering

T: Rebalancing effective date of the Pro forma Index

Pro forma Index NOS (t): It is the number of shares of a security in the Pro forma Index effective on *t* (as of close *t* - 1). It is calculated as a product of the end of day security number of shares on *t* - 1 and Full Market Cap Adjustment Factor⁴ in the Pro forma Index on *t*

Adjusted Pro forma Index NOS (T) : Pro forma Index NOS (T) adjusted for change in number of shares due to events like Rights Issues, Split, Consolidation, Stock Dividend, effective between *t* and *T*

N = *n*th day of staggering, e. g. *t* - 4 is 1st day of staggering

4.4 Ongoing event-related maintenance

Corporate event treatment for the index depends on whether the effective date of the event falls within the staggering period (T-4, T-3, T-2, T-1, T), or outside the staggering period.

4.4.1 Events effective outside the staggering period

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 outside the staggering period will be reflected simultaneously.

EVENT TYPE

EVENT DETAILS

⁴ Full Market Cap Adjustment Factor (FMCAF): A factor that is used in index constituent weighting calculation defined as (Inclusion Factor (i.e. FIF)) *(Constraint Factor) * (Variable Weighting Factor). For more details, please refer to section 2.7 of the MSCI corporate Events Methodology book at <http://www.msci.com/index-methodology>

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>.

4.4.2 Events effective during the staggering period

The impact of event on the Index depends on the type of event and calculation date of the Index as elaborated below.

4.2.3.2.1 CALCULATION ON T-9

a) Before effective date

The pro forma Index in general is announced nine business days before T (T-9). If there is an event already confirmed on T-9 with an effective date in the staggering period, the change in numbers of shares for the security due to the rebalancing will not be staggered for such security until the event effective date. In case of multiple events, the staggering will be postponed till the effective date of the earliest event.

b) On and after effective date

In case of Rights Issues and market neutral events (like Split, Consolidation, Stock Dividend etc.) which involve change in security number of shares but does not involve change in the full market cap adjustment factor, staggering will start from the next day of the event effective date.

For all other events, staggering will start from the effective date of the event.

4.2.3.2.2 CALCULATION AFTER T-9

a) Before Effective Date

In case of an event effective in the staggering period, the numbers of shares for the security involved in the event as announced on T-9 will hold until a day before the effective date. In case of multiple events, the effective date of the earliest event will be taken into account.

b) On and after the Effective Date

In case of Rights Issues and market neutral events (like Split, Consolidation, Stock Dividend etc.) which involve change in security number of shares but does not involve a change in inclusion factor, staggering will be applied again from the next day of the event effective date, taking into account the new post event number of shares in the Index.

For all other events, staggering will be applied from the effective date of the event incorporating the post event number of shares.

4.2.3.2.3 TREATMENT OF SUSPENDED SECURITIES

A suspension treatment will be applied to any security suspended on any day starting from T-6 until T-2. On the day of suspension (t), the pro-forma Full Market Cap Adjustment Factor in the Index announced for the security for the next day (t+1) will be held constant until T. However, in case, on T-2, if a new addition to the Parent Index is reverted due to suspension and the security is no longer a part of the Parent Index on T, the security will also be deleted from the Index effective on T.

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 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 distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.
- 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
- Climate Change- based Exclusions Criteria:
 - 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.
 - 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: Sustainable Water

Sustainable Water includes products, services, infrastructure projects and technologies that resolve water scarcity and water quality issues, through minimizing and monitoring current water demand, improving the quality and availability of water supply to improve resource management in both domestic and industrial use.

INCLUSIONS

- Products and projects that aim to address water supply and access include water infrastructure projects and distribution, water recycling technologies and smart metering devices.
- Technologies and services that use alternative water sources include desalination and rainwater harvesting systems.
- Products that improve the water efficiency and drought resiliency of agricultural operations include drought resistant seeds.

Examples of products and services typically included under the Sustainable Water category

Products	Services
<ul style="list-style-type: none"> • Specialized wastewater treatment chemicals • Smart metering devices • Drought resistant seeds • Wastewater filters • Desalination equipment 	<ul style="list-style-type: none"> • Desalination services • Maintenance of current water distribution infrastructure • Construction of wastewater plants • Construction of stormwater systems

Source: MSCI ESG Research

EXCLUSIONS

- Distribution of drinking water without measurable improvements to water quality or availability / Water treatment for potability
- Generic water treatment chemicals such as hydrogen peroxide

Appendix 3: 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 Index Calculation Methodology (<https://www.msci.com/index-methodology>)

Appendix 4: 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 3.4.

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-scoring 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-scoring 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-scoring 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-scoring stock – down weighting the worst-scoring stock by 100%.

Worst-scoring stocks:

- a. In Step 1, if targets are not met on Carbon Emissions Intensity, then the worst-scoring 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-scoring stock is the stock with lowest Board Independence (%).

The following sections have been modified effective October 2021:

Section 3.3 (Final Universe) updated for Fixed Multiplier L Value

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